

Silicon Welly: The Rise of Platform Capitalism and the Paradoxes of Precarity in Wellington City

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Abstract

This thesis addresses a central question: why do digital workers in Wellington's tech sector persist despite the inherent precarity of platform capitalism? Examining the career histories of members of the Enspiral Network, a community focused on social entrepreneurship, reveals the paradoxical nature of subjectivity in digital labour.

The research employs ethnographic methods, including life histories and narrative analysis, to explore the intersection of software materiality, neoliberal political economy, and Silicon Valley-inspired discourses. It investigates how digital workers navigate the precariousness of platform capitalism through emotional investment in programming and strategic career adaptations.

Findings highlight the distinctive influence of Wellington's cultural, political, and economic landscape on digital labour. The city's counter-cultural ethos and state-driven entrepreneurial initiatives foster unique collaborative practices and open-source contributions within the tech sector. These elements collectively shape a hybrid form of platform capitalism that challenges traditional capitalist models.

In conclusion, this thesis contributes to the understanding of contemporary labour by emphasizing the role of place, subjectivity, and paradox in the production end of platform capitalism. It underscores the active agency of digital workers in constructing their careers and identities amidst precarious conditions, offering insights into the broader implications of digital labour in the twenty-first century.

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Chapter One - Introduction

About 2 years ago I failed and folded my first company. Naivety and idealism can fade quickly when you run out of money. Starting a business is hard work. The opportunity costs, in lifestyle, in finances, in friendship, are large and real. The chances of success are slim. Focusing on business as a vehicle for systemic change, slimmer still — so, when you're getting back up from a fall with skinned knees and finally have time to breathe and decide what to do next — why stick around? (Matt, 2015).

The preceding narrative was derived from a blog post titled *Know People, Love People, Serve People: A 6-year Reflection on Work and Purpose*. Penned by one of my research participants, referred to as "Matt," Matt characterizes himself as an entrepreneur, freelancer, and hustler deeply immersed in the Enspiral Network. This network comprises a closely-knit community of digital workers predominantly situated in Wellington, Aotearoa¹. Enspiral members share a common interest in establishing businesses that prioritise social outcomes over profit. Its members create alternative enterprises that challenge the prevailing norms of platform capitalism, actively integrating social enterprise structures. Numerous enterprises emerging from this network are centred around new software platforms, where computer programming serves as a fundamental tool for crafting innovative ventures. In this context, my research seeks to address a critical question: What are the lived experiences of individuals working at the production point of platform capitalism? In this world of work, the computer programs produced begin with an idea, a building of thought, and are constructed relatively cheaply. From here, they grow into software products under the steady rhythm of typing hands.

Within Wellington's vibrant startup economy, the convergence of computer programming and the city's brand of counter-culturalism intertwine, giving rise to a distinct iteration of platform

¹Aotearoa is the Māori name for New Zealand, used by the indigenous Māori people to refer to their homeland. The term is commonly employed alongside or in place of the English name "New Zealand" and is significant for recognizing the cultural and linguistic heritage of the Māori population in the country.

capitalism that actively shapes the digital labour market. This unique milieu serves as a generative force, influencing the dynamics of platform capitalism and shaping the experiences of digital workers and entrepreneurs seeking to establish livelihoods within the Wellington tech sector.

In his 2009 book titled "*The Soul at Work: From Alienation to Autonomy*," Berardi delves into thought-provoking inquiries regarding the significance of work, particularly in relation to digital workers. Within the context of late capitalism, Berardi argues that subjectivity has been reduced, confined primarily to the realm of work, stating "workers tend to consider labour as the most essential part in their lives" (Berardi, 2009, p. 44-45). For members of Enspiral, digital work takes on a distinct character or subjectivity as they strive to establish spaces of existential resistance against the overpowering influence of "big tech." In this pursuit, computer code assumes a central and multifaceted role, not only in terms of its practical functionality but also in its ability to elicit deep emotional responses. The transformative power of code becomes evident as it generates specific emotions, as exemplified by Rosenberg's (2008) following exploration of a basic program.

'Hello World' looks more forbidding in Java, one of the workhorse programming languages in today's business world:

```
class HelloWorld {  
  
    public static void main(String args[]){  
        System.out.println("Hello, World");  
    }  
  
}
```

Public static void: gazillions of chunks core program code written in Java include that cryptic sequence. The words carry specific technical meaning. But I've always heard them as a bit of machine poetry, evoking the desolate limbo where software projects that begin with high spirits too often end up (Rosenberg, 2008, p. 5).

Rosenberg's portrayal of the dynamic and at times, enervating nature of software projects serves as an illuminating microcosm for comprehending the intricacies of life within platform capitalism's

production point. The journey from 'high spirits' to 'desolate limbo' that he poetically describes encapsulates the often challenging and unpredictable trajectory of digital work in the platform economy. In this context, entrepreneurship transcends conventional notions, encompassing the deliberate crafting of an "entrepreneurial identity." Through the adept use of life histories and storytelling, digital workers skilfully navigate uncertainties, rationalise career choices, and reconcile their beliefs. By examining this phenomenon, my research contributes to ongoing dialogues surrounding precarity. It goes beyond analysing the precariousness experienced by middle-class digital workers and delves into their self-reflexive awareness of this very precarity.

Here, the question of, "Why stick around?" posed by Matt resonates, reverberating in my own reflections time and time again. In this context, mere comprehension of the socioeconomic forces that shape the very essence of precarious digital labour does not provide an escape from precarity itself. Thus, the fundamental query persists: why embark on the arduous task of carving out a livelihood in a market riddled with stacked odds?

To unravel this conundrum, each chapter of my thesis endeavours to explore the intricate interplay between computer code, its material manifestations, and the unique geographical and historical positioning of Wellington. It is within this confluence that a distinct breed of digital workers emerges, compelled to invest their subjectivity into their labour. Their work environment becomes a fertile ground for the cultivation of subjectivity, deeply intertwined with the counter-cultural flavours that permeate Wellington's ethos.

Matt's story acknowledges the convergence of three crucial factors that underpin a paradox at the core of these people's lives: a reflexive awareness of the inherent challenges and shortcomings of their chosen path, an active and deliberate engagement with it, and an inherent valuation of their work. Paradoxically, through their labour, they actively contribute to the very world they perceive as flawed, shaping it through the medium of code.

1.1 The Placeness of Platform Capitalism: Hybridising Counter-Culturalism and Capitalism in Wellington

The last five decades have seen substantive changes to ideas of 'work' and what it means to build a

life through work. Global capitalism has significantly transformed job markets by fostering the interconnectedness of economies and the outsourcing of jobs, while simultaneously limiting the regulatory powers of states, promoting increasingly free markets, eroding the influence of unions, facilitating a shift towards creative work, accelerating deindustrialisation, and advancing digital technologies. An ever-changing technological landscape has seen the formerly described gig economy converge with digital platforms, enabling platform capitalism.

Platform capitalism emerged in the 2000s, as businesses began leveraging digital platforms to disrupt existing markets. This model has since expanded through convergence with AI, automotive technologies and ubiquitous mobile technology. Today platform-enabled businesses can offer services or goods to customers at minimal cost using these automated processes, reshaping how work is generated and organised. Companies like Uber, Airbnb, and Amazon exemplify the ways platform capitalism gives rise to increasingly flexible, open, and on-demand forms of employment (Sundararajan, 2016; Frenken & Schor, 2017; Belk, 2014). At the same time, these companies have effectively leveraged technology to reorganize low-wage labor. Through algorithms and data analytics, these companies manage and allocate work, assign tasks, and monitor worker performance. This algorithmic management can exert significant control over workers, shaping their work schedules, pay rates, and overall working conditions. It's important to note that this level of control extends beyond the service providers who offer rides, accommodations, or goods. It also impacts the workers at the production end of these platforms, including software developers and digital workers responsible for the maintenance and evolution of these platforms. Across these platforms, digital workers are organized by a production methodology known as Agile, which emphasizes collaboration, adaptability, and iterative development. Agile methodologies play a crucial role in shaping the work processes and experiences of those involved in platform capitalism, bridging the gap between software engineering practices and the broader dynamics of the gig economy.

Moreover, we are seeing platform capitalism begin to reorganise other forms of work in the twenty-first century. For example, gig work has become more common in all its forms. Within this context, insecure working conditions are not limited to developing economies and working-class communities. Instead, a wide array of labour markets have been saturated with increasingly less stable working conditions (R. Charo, D. Kevles & R. Benjamin 2016; P. Langley, & A. Leyshon

2017; K. Frenken, & J. Schor 2017; K. Thelen, 2018) Here new ways of thinking about work and a changing relationship between work and self emerge.

In the study of work and subjectivity, platform capitalism is a crucial concept for understanding contemporary work structures and digital labour. Wellington's software sector is both a producer of platform capitalism and organised by this emerging economy. Here, digital workers produce software products that further enable a platform economy; ironically, they are included in its changing employment structures. Digital workers are fundamental to the production of these changes and are also at the frontline of experiencing their impacts.

Undoubtedly, platform capitalism is inherently entangled with the concept of "placeness," giving rise to distinctive forms of entrepreneurship and a unique breed of digital workers within Wellington. Within the realm of social sciences, "placeness" serves as a lens through which we explore the intricate layers of meaning, identity, and significance that individuals, communities, and societies attach to specific geographic locations (Lynch, 1960; Relph, 2008; Seamon & Sowers, 2008). In the context of my research, this concept becomes a pivotal tool for understanding how the dynamics of platform capitalism in Wellington are deeply rooted in the city's historical, geographical, and cultural context.

Wellington's tech sector isn't just a product of global trends but also an outcome of its unique local environment. The ways in which digital workers engage with platform capitalism here are inherently shaped by the city's rich history, its cultural diversity, and its distinct position within New Zealand's political and economic landscape. As such, this research seeks to unravel the historical, geographical, and cultural particularities that define the local expression of platform capitalism and its impact on entrepreneurship and digital labor in Wellington.

Wellington-based technology companies market their services through counter-cultural aesthetics, distinguishing themselves from other kinds of labour across the city and from platform capitalism in other places in Aotearoa and globally. Simultaneously, as the capital city of New Zealand, Wellington is influenced by state-level initiatives and policies, creating a complex interplay between public and private sectors. The networks that form between state and private industry projects are integral to the city's technology ecosystem. These networks, driven by both government initiatives and entrepreneurial endeavours, further reinforce Wellington's identity as a hub for technological

innovation.

In a city with abundant bohemianism, progressive political agendas cultivated by activists are also taken up by industry leaders and promoted within the context of a hyper-capitalist technology market. This challenge of hybridising counter-culturalism and capitalism remains a central component of Wellington's startup economy. The web of intersecting networks between the state and the creative industries makes Wellington a rich ethnographic site for exploring changing relationships with labour in the twenty-first century. By documenting the career histories of workers in this economy, this PhD will explore these intersecting forces.

In addition to examining the particularities of platform capitalism within Wellington, and the hybridization of specific forms of software developer subjectivity, my research also sheds light on the widespread precarity that defines both the contemporary work environment and the very essence of work itself. Digital workers navigate uncertainties, instabilities, and challenges within the dynamic landscape of platform capitalism. Indeed, working within Wellington's software sector means nothing is guaranteed; change occurs rapidly in response to technological infrastructures and the materialities of computer code. While digital work under this model offers flexibility and access to new opportunities, it simultaneously comes with a lack of job security. Digital workers must be prepared to change their working conditions as the demand and supply of services change. Regulations, payment types, and how work is organised remain uncertain.

1.2 The Precarity of Computer Code

In general, ethnographic work focused on labour and livelihoods has tended to overlook production processes, favouring more social analysis (Godoy, 1985). In such cases, technology and tools are depicted as infinitely yielding to human requirements. Indeed, an analysis of 'how' and 'when' to use technology is often absent from anthropological enquiry. Moreover, in the body of research focused on digital worlds, anthropology rarely puts computer code itself under the microscope. Although computer code has insinuated itself into many aspects of daily life and work, it remains opaque, a hidden reality that lies behind software interfaces. This oversight concerning the underlying code supporting platform capitalism presents a challenge: to fully understand the experiences of workers in this context, we need to explore the nature of their daily work as programmers, as it is through

their coding practices that the foundations of platform capitalism are established and perpetuated. Moreover, the daily work of computer programming has an impact on subjectivity and is generative of a digital worker that copes with uncertain work environments.

1.3 Subjectivity, Self and Identity & Positionality

To grasp the nuances of platform capitalism in Wellington, I needed to learn the fundamentals of computer programming. This voyage led me to enrol in a Dev Bootcamp, an educational endeavour that extended beyond a mere learning experience. Dev Academy was distinct; it operated as a dedicated startup, nurtured by the abundant resources and extensive support of a larger professional network known as Enspiral. As my fieldwork unfolded, I found myself immersed within the Enspiral network, where the shared open-plan office space accommodated not only my endeavours but also those of various Enspiral-affiliated startup companies. This program offered an apprenticeship; here, I had the opportunity to meet potential research participants, forge connections to other tech startups and participate in the job, that is, working as a developer to build online platforms. Following the code itself, I found that it can take many forms. Code amalgamates and hardens at specific points, becomes more fluid, and can even disappear at other stages. As computer code is written into being and put to work, all information is reduced to a binary language of zeros and ones. Rosenberg (2008) pinpoints the space between these zeros and ones as the transitory difference in how machines and humans make sense of information. In this space, developers grapple with machine resistance to human desires. Here the work of computer programming is a profoundly emotional process materially constituted by precarity.

Moreover, the dynamic and ever-evolving material infrastructures within which code is produced continually reshape the industry. In this landscape, an individual's career and sense of security are firmly tied to the outcomes of computational processes. Software developers and entrepreneurs find themselves navigating this changing socio-digital terrain, often in a state of subjugation to its forces.

To tell this story, I adopt a semi-auto-ethnographic lens, particularly in Chapter 4, intertwining my experiences of this city as a teenager with narratives from my fieldwork. This approach effectively highlights the many paradoxes and contradictions occurring within creative markets and digital work across the city. One of the most surprising discoveries arising from the narratives collected in

this study was the participants' acute awareness of the paradoxical nature of their situations and the positionalities that resulted from them.

For example, in narrating their career histories, my participants pointed to socio-economic structures both inside and outside these systems, underscoring the juxtapositions they confronted as digital workers striving to build a livelihood in Wellington. This nuanced understanding gives rise to a compelling research inquiry: given this awareness of the complex socio-economic landscape, why do my participants choose to adhere to specific self-enterprising subject positions over others? Bourdieu's theoretical framework provides invaluable insights. In the context of this project, "subjectivity," "identity," and "the self" emerge as pivotal concepts offering distinct perspectives into the experiences of digital workers within Wellington's platform capitalism. These concepts shed light on the intricate dynamics that influence their choices and actions within this evolving digital landscape.

Subjectivity, a cornerstone in social science philosophy, encapsulates the distinct outlooks, lived encounters, and interpretations forged by individuals under the sway of their social, cultural, and historical milieus. Esteemed scholars such as Foucault (2019), Butler (2011), and Bourdieu (1977) have thoroughly investigated the formation, negotiation, and articulation of these subjectivities within diverse power dynamics and societal contexts.

In this research, subjectivity is employed to characterize the internalized states, perceptions, and emotions that digital workers grapple with throughout their careers, especially within the domains of code, software, and digital media. It encompasses their personal convictions, values, and responses to the inherent challenges embedded within the digital labor market. I employ the term "intersubjective" to encompass the personal and emotional interactions that digital workers engage in with computers. This concept draws influence from philosopher Alfred Schutz (1970) and underscores the intertwined and mutually constituted relationships individuals develop with the elements that contribute to their identity construction. A pivotal aspect to note is that learning computer programming necessitates an emotional investment in one's interaction with the computer. This phenomenon fosters an intersubjective relationship in which computers wield the power to either advance or impede career trajectories. This ongoing dynamic necessitates continuous investment in the broader technological infrastructure that preserves code, resulting in a sense of

"illusio" – a deep-rooted commitment to this infrastructure. Ultimately, this cultivates an intuitive understanding of the dynamics within Wellington's tech market.

In contrast to subjectivity, which primarily pertains to individuals' unique perspectives, experiences, and interpretations influenced by their social, cultural, and historical contexts, *identity* in the social sciences encompasses a broader and more encompassing understanding of how individuals perceive and express their selfhood. Identity takes into account not only the internalized aspects of self but also how individuals position themselves within larger social, cultural, and historical frameworks, including group affiliations, roles, and collective identities. It involves a more outwardly directed aspect of self that is shaped by interactions with others and societal norms, often reflecting broader cultural and social categories. (Geertz, 2012; Appadurai, 1998; Asad, 1990) In the context of this research, the term "identity" is employed to denote the deliberate construction and presentation of digital workers in their professional domain. It encompasses the strategic formation of a distinct image or persona aligned with their desired positioning within the industry and broader sociocultural context. This process often entails the adroit use of narratives, storytelling techniques, and self-presentation strategies to mould perceptions and cultivate meaningful connections within social, professional, and online networks. The exploration of this work provided valuable insights into the intricate processes of shaping both identity and subjectivity, concurrently revealing the personal challenges inherent in navigating a dynamically evolving job market.

Within my research framework, the *self* serves to identify moments of connection or disconnection between subjectivity and identity. It captures instances of participants' conscious awareness where they recognize their positionality, thoughts, feelings, and actions. The self represents the interplay between an individual's subjectivity (personal thoughts, emotions) and their identity (how they present themselves to others) (Turner, 1987; Mauss, 1973; Rousseau, 2016). There are also instances wherein subjectivity and identity may not align due to the influence of computer code and shifting market trends. During these moments, I and my participants engaged in intricate modes of storytelling in order to reconcile the disparities. As both a researcher and digital worker, the concept of the self also highlighted my self-awareness of my position within the field, how social structures shaped my career decisions, and the strategies I adopted to navigate the uncertainties of precarity. Amid the dynamic landscape of platform capitalism, digital workers adroitly navigate the convergence of their aspirations and the demands of the market.

In summary, *subjectivity* delves into unique personal embodied experiences, *identity* encompasses defining characteristics within various contexts, and the *self* captures the dynamic interaction between internal awareness and external presentation. These concepts collectively contribute to unravelling the intricate tapestry of digital workers' lives within Wellington's platform capitalism and underpin the methodological approach to this research.

1.3.1 Coding Alongside, Ethnography & Narrative Research

My research aims to contribute to an under-explored terrain by offering an ethnographic account of life working at the production point of platform capitalism in Wellington. Platform capitalism, in conjunction with the materialities of computer code, engenders a distinct form of subjectivity that endures the uncertain forces rooted within this labour market. This subjectivity is not only defined by its productive and critical abilities in shaping this world but also by its inherent vulnerability to precarious conditions. To document this mode of production, this project focused on a particular kind of worker, that is, digital workers of the tech sector. By participating in the construction software and digitalised career profiles, and interviewing those around me about their career histories and experiences of this work, I captured the increasingly complicated, multi-sited spaces digital workers are compelled to occupy. This world of work is deeply insecure, both materially and immaterially. The digital landscapes within which my participants work enable and constrain the experiences of precarity; by exploring the daily work of producing software, my research documents the particular kind of self emerging from this labour market.

These uncertain times have profound implications for young people forging their careers in this evolving market. Anthropologists have extensively documented the diverse strategies individuals and groups employ to navigate these changes (Allison, 2014; Pozniak, 2013; Sanchez, 2018). A discernible trend emerges from this body of work. In conversations with my participants, a recurring theme surfaced wherein they conveyed that their career paths deviated from conventional trajectories. These experiences led to a perceived lack of stability in their work identities and some participants responded by actively cultivating what I term as an entrepreneurial self," a deliberate strategy driven by the imperative to navigate the inherent insecurity prevalent in the platform economy. This approach aligns with the findings from narrative research (Moen, 2006; Andrews, Squire, & Tamboukou, 2013), which shed light on how participants can exhibit striking levels of

reflexivity and self-awareness, especially concerning the inherent contradictions within their lives. Although fully engaged in platform capitalism, they simultaneously offer a substantive critique of it. This critique is not simply individual and does not emanate from outside of this economy. Instead, it is organised by and central to this particular instance of platform capitalism. Wellington platform capitalism produces companies and individuals with a strong interest in social enterprise businesses. By "Focusing on business as a vehicle for systemic change", as Matt so aptly describes, the young people working in these networks imagine themselves contributing to a better world by transforming existing market practices. They endeavour to create alternative and fairer economies.

Wellington's digital workers take individual responsibility for their career trajectories, they choose this work and enjoy its flexibility, yet they are aware and conscious of the economic structures that compel them to do what they do. This is unlike previous observations of neoliberal subjectivities, whereby people are not conscious or reflexive about the ideologies of individualism that they have taken on and that shape their engagement with work (for example Ong, 2006; Harvey, 2006; Nairn, Higgins and Sligo, 2012). Instead, it demands a particular subjectivity authored across increasingly complicated, multi-sited, and often virtual profiles. In this sense, living with precarity is not just a feature of these workers' lives, but it is both ironically and aesthetically embraced as a way of coping. I began this research imagining my participants as the ultimate neoliberal protégés, attempting to solve social, environmental, and even personal problems through a market-based framework and using innovative new technologies. In many ways, this is precisely what my participants do at work. However, I did not imagine that I would encounter an enduring critique of this market economy and the social consequences of platform capitalism itself. I thought that this would be my analysis, not theirs. Instead, the stories I collected are layered with self-reflexive analysis. They often pondered their futures within this field of work and offered thoughtful critiques of the personal costs of their jobs. Moreover, this level of reflexivity is a source of resistance against the exploitative nature of the platform economy but also a way of marketing oneself in a city marked by counter-culturalism. Indeed a more profound research question lies within this paradox; why do these digital workers continue to invest in the platform economy knowing what they know?

1.4 A Chapter Summary

The ensuing chapter systematically reviews the literature focusing on platform capitalism and the changing nature of work. As the remnants of late industrial life continue to crumble in Aotearoa, a new phenomenon emerges, platform capitalism, marked by instability and rising sociotechnical systems. As I tell this story, the term precarity becomes increasingly apt. The literature demonstrates that modes of precarity experienced under platform capitalism are culturally particular. Moreover, the materialities of the technical systems embedded in platform capitalism are generative of subjectivities that seek to cope with rising precarity. Here this review will document a diverse range of responses to platform capitalism - from those who accept their fate to those who creatively adapt to it and those who are determined to resist, thwart or even overthrow the system entirely (Tsing, 2015; Hamnett, 2000; Comaroff, & Comaroff, 2000; Fortun, 2012).

Next we take a deeper dive into the cultural fabric of my research, zeroing in on the creative city of Wellington and the elusive hybrid of counter-culturalism and capitalism that marks particular forms of work. Here chapter 3 provides a journey through Wellington's socio-economic evolution - once known simply as a bureaucratic hub, this city has rebranded itself as the self-proclaimed 'cultural capital' of Aotearoa. For Wellington digital workers, a fundamental element of career curation lies in the capability to navigate counter-culturalism adeptly. To this extent, I am reminded of Bourdieu's notion of "a feel for the game" which emphasises the importance of an intuitive understanding of the unspoken rules and norms governing a given field or industry.

In Chapter 4, I delve into this project's methodological frameworks and establish the context. At the outset of this research, I needed to gain the technical expertise of a software developer. Thus, my entree in this field began through Enspiral Dev Academy, where I learned computer programming. In this chapter, I discuss the practicalities of my fieldwork, defining the ethnographic field of Wellington's startup economy and situating my thesis within this context.

Chapter 5 delves into Bourdieu's theoretical framework, emphasizing habitus, capital, field, and *illusio*. It thoroughly examines how digital workers in Wellington's platform capitalism develop strategies, cultivating a distinct habitus to navigate the complex landscape. The chapter explores the tension between external social structures and individual choices, utilizing Bourdieu's frameworks

as a bridge.

The concept of "field" is employed to illustrate how individuals navigate their professional lives within specific social arenas, with a focus on Wellington's city, the dynamic tech sector, and the Enspiral network. The experience of precarity generates unique forms of 'technical, cultural capital,' exploring how capital is accumulated within various social fields.

Illusio becomes instrumental in understanding individuals' motivations and investments in specific fields, serving as a subjective belief in the value and rules of a social field. This chapter illuminates the intricate landscape of career strategies within the platform economy, showcasing the dynamic interplay between habitus, field, and capital.

Frequently, the participants in my study referenced the impact of social structures on their career paths. Additionally, many of the narratives featured instances wherein the participants deliberately rejected these structures or felt like outsiders to them, deviating from the prescribed norms these structures imposed. The interplay between structure and agency was a recurring theme that permeated all facets of my fieldwork, ranging from the collection of career histories to the inherent materialities of computer programming. As we shall see, my participants view their career trajectories, not as mere products of either social structure or free will, but rather as relational projects to be actively managed, in line with Bourdieu and Wacquant's "bundles of relations" concept (1992, p. 16). In this perspective, human action is seen as inherently relational, a worldview shared by my participants and Bourdieu.

Chapter 6 and onwards encompasses my ethnography, detailing my journey of learning a new language through the process of building software platforms. Similar to acquiring any language, immersing oneself in computer code proves to be the most effective method of comprehension. While computer code might appear rigid and inflexible at first to novices, experienced software developers view it as a pliable and adaptable tool.

Chapter 6 offers insight into the opaque domain of computers. This chapter contains code, but it is crucial to note that it will not be inordinately technical. Instead, I utilise the introspective approach that characterises autoethnographic writing, delving into emotional labour entangled within the job. After all, working with computer code is an emotional experience. The narratives explored in this

chapter highlight a distinct dynamic between the programmer and the computer. Here the code possesses magical qualities that extend beyond its functionality, including its ability to augment or impede a developer's sense of *illusio* within this field. Bourdieu's concept of objectified cultural capital and *illusio* provide generative frameworks for exploring the working relationships my participants share with their computers and the digital infrastructures they spend their time on.

Next, we delve deeper into the digital materialities of this world. Within Chapter 7, I explain how open-source principles - namely, rapid innovation, experimentation, and transparency - have brought about significant changes in software production. In Wellington's technology sector, open-source code is a form of objectified cultural capital. The material foundations of open-source software have created a distinctive working culture. For those I interviewed, active involvement in open-source archives and repositories is integral to their daily work. Despite the constant and unchanging underlying core logic of computer code, there are still opportunities for creative practices to emerge through this infrastructure.

Building on this idea, Chapter 8 delves deeper into software production methods employed in Wellington, with a specific focus on Agile methodology. Exploring Agile methodology throughout history takes us from Japan to California before returning to Wellington. Through this historical account, I illustrate how *habitus* and computer algorithms are intricately intertwined with ongoing iteration cycles. By examining Agile methodology, we gain insight into the governing principles that shape practices within this field.

Having closely examined the materialities of this world, my focus moves to the subjectivity work occurring within Wellington's tech sector. Focusing specifically on the social enterprise movements within the tech sector, I unpack my participants' self-enterprising strategies to build a livelihood as digital workers in Wellington. Chapter 9 begins with an exploration of the Enspiral network. Here we shall see how Enspiral members seek to transform the software development industry in several ways. First, they actively challenge the traditional capitalist model, building businesses that prioritise community and social responsibility over profits through a social enterprise approach. By leveraging their socio-economic insights into Wellington's market, Enspiral businesses distinguish themselves from the broader software sector in the city, thus positioning themselves as a counter-cultural alternative to the hyper-capitalist tech marketplace. Enspiral members discussed their

strategies for acquiring social capital across the city. Their counter-cultural positionality within this field requires the ability to market themselves in dynamic and oddly personal ways. Drawing on Bourdieu's notion of a 'feel for the game' - Chapter 10 explores these stories. Here I focus on the often intuitive practice of establishing and maintaining professional networks within Wellington's software industry. These strategies are extensively discussed and often referred to as 'soft skills', 'networking', or 'relationship building'.

In the process of 'networking:' storytelling is widely practised. The participants I interviewed shared their life stories with me. Like skilled politicians, their narratives were carefully crafted, balancing personal vulnerability with a polished analysis of their experiences. Throughout my research, I collected two main types of stories: self-published blogs and life histories. In Chapter 11, I explore the common themes that emerged from both types of stories. The stories, whether self-published or personal, revolve around the theme of work. The entrepreneurs featured in these stories have complex relationships with their work, and the narratives highlight how work in this context must fulfil more than just financial obligations

In many ways, the story of platform capitalism in Wellington is unresolved. The digital materialities of this field reduce hierarchy in almost every respect. It is often unclear when a person's career starts, when it ends, when a business launches, and when it concludes. Moreover, the mediating forces within this field, such as code, opensource networks, Agile methodology and the Enspiral network, are each mutually constituted. These circumstances made it challenging to structure this thesis. Considering this, Chapter 12 offers a conclusion that brings these tensions together and grapples with the unresolved nature of life under platform capitalism. Notably, the practice of software production is a profoundly human process marked by failure, exhaustion, and ongoing negotiations with computers. By examining the lives of people working in the digital sector of Wellington at different points in time and in various ways, I have identified patterns and choices that define a shared experience of precariousness. However, it is essential to note that the workers in this sector are not a homogenous group. Their career paths, professional practices, and aspirations for the future are diverse and often inconsistent. Although it is not possible to provide a comprehensive ethnographic account of these complexities, it is evident that hope and precarity coexist in this uncertain and evolving field.

Chapter Two - Platform Capitalism and Work

These Days: A Review of the Literature

2.1 Introduction

In the twenty-first century, the emergence of platform capitalism has sparked a profound transformation in the nature of work, giving rise to increasingly precarious working conditions (Charo, Kevles & Benjamin 2016; Langley & Leyshon 2017; Frenken & Schor 2017; Thelen 2018). This chapter illuminates the widespread presence of "precarity" within the platform economy, investigating the diverse sociocultural and subjective reactions to this phenomenon. To achieve this, I conduct a thorough exploration of three significant subcategories beginning with *Rise of the Platform Economy: Insights into Precarity*. This section provides insight into dynamic shifts within the labour market and explores the diverse modes of employment which have emerged in conjunction with this economy. Significantly, a recurring thread becomes apparent throughout this segment: platform capitalism assumes a significant role in shaping and facilitating entrepreneurial subjectivities. This body of literature sheds light on the intricate interplay between platform economies and digital technology. Precarity is understood as not just an abstract concept, but as deeply felt on a personal level, often revealing itself through intimate and occasionally contradictory experiences (Greshon, 2016; Urciuoli, 2008; Dunk, 2002). While digital platforms serve as centralised hubs for seeking employment opportunities, they concurrently encourage users to construct self-driven versions of themselves. In this context, the concept of the 'self' transforms into a project that is meticulously crafted and promoted via specific digital platforms. Delving into the intricacies of these subjectivities provides a valuable lens through which to understand the contemporary manifestations of precarity.

Following on, *Building Platform Capitalism* directs focus toward the digital platforms themselves and the individuals responsible for crafting these underlying frameworks. This research makes significant progress in documenting the technical networks that coordinate labour. Nonetheless, an inconsistency arises in how scholars address the topic of software. What often goes unexplored is an in-depth comprehension of software production, particularly from the vantage point of computer

programming's productive end. Unlike software users, engineers don't merely view software as a finished product; instead, they perceive it as an evolving language, gradually etched into existence through a sequence of precarious error messages. In this section, we will witness how the individuals engaged in constructing these platforms remain subject to the commonplace experience of precarity that the platform economy perpetuates. Moreover, the material essence of computer code introduces an additional layer of distinct instabilities unique to this domain. Indeed, computer code itself is moulded by unpredictability and abrupt shifts. Within this section, I will demonstrate how shifting our focus to technology provides a valuable perspective, revealing that the tangible nature of code is as vulnerable as the labour it facilitates. This dynamic significantly moulds work within the platform economy, as computers don't simply submit to human intentions, they also profoundly shape states of precarity. Code embodies unique cultural characteristics and is intricately entwined with specific local narratives, offering profound insights into the very fabric of the platform economy it actively shapes and reflects.

Concluding this review, *Entrepreneurialism and Subjectivity* will scrutinise social science research focusing on entrepreneurialism, emphasising its digital manifestations. A recurring thread across these analyses highlights the escalating complexity of entrepreneurial life. For instance, digital labourers acquire the skills to market not just their businesses but themselves, employing uniquely personalized strategies to establish a viable livelihood within the platform economy. The literature, both from Wellington and beyond, highlights that in the twenty-first century, entrepreneurial narratives can intersect with local dialogues about social responsibility. This phenomenon highlights a strategy for addressing precarity, a way for individuals to cope with uncertainty. Similarly, my own research participants employ a comparable approach through a counter-cultural distinction—initiating social enterprises as a means of responding to and navigating the challenges of precariousness. Navigating and aligning with the differentiating aspects of counter-cultural identity emerges as a coping strategy for entrepreneurs in the face of precarity.

This chapter, in its entirety, contributes to my overarching argument that an enduring sense of precariousness significantly shapes work in this contemporary landscape. The literature compilation reveals how digital technology has deepened the aspects of precarious labour at both structural and subjective levels, consequently leading to the emergence of new forms of entrepreneurship that involve identity construction.

2.2 Rise of the Platform Economy: Insights into Precarity

Social science research continues to identify particular sites of insecure labour (Niebler, Pirina, Secchi, Tomassoni, 2023; Langley & Leyshon, 2023; Hidalgo, Riccaboni, Velazquez, 2023). This collection of literature highlights how insecure working conditions are not limited to developing economies and working-class communities. Rather, a wide array of labour markets have been saturated with increasingly less stable working conditions. Digital technologies continue to replace human labour and disrupt traditional markets by enabling a platform-based gig economy.

The platform economy has subsequently reorganised work; increasing the availability of temporary/flexible conditions for workers. Marketing the self proficiently is a key element of this economy. This research explores the increasingly complicated, multi-sited, and often virtual profiles platform workers are forced to assume in the twenty-first century. In their negotiations with these platforms, workers are often required to reconstruct their subjectivities. Here individuals learn to market themselves as adaptable bundles of valuable skills. Unpacking self-enterprising narratives provides a window of insight into contemporary experiences of precarity.

2.2.1 Self-Enterprising Subjects

Ethnographic literature continues to demonstrate that finding work in a contemporary neoliberal context requires particular sets of self-enterprising skills. Some studies refer to this as 'the enterprising self' (Gooptu, 2009, p. 45) or 'entrepreneurial subjectivities' (Scharff, 2016, p. 108). The emergence of entrepreneurial subjectivities is a widely documented consequence of a neoliberal economy (Duffy, 2017; Gershon; 2011; Cahn, 2008; Rose 1996). In her article *Mind- Body Problems*, Martin (2000) makes this connection explicit by illustrating the various ways self-enterprising discourses saturate self-employed job markets, stating:

The person comes to be made up of a flexible collection of assets; a person is the proprietor of his or her self as a portfolio. In the 1990s, there was an increase in home-based work (telecommuting), which separates the worker from the traditional workplace. According to a 1996 poll, 19 per cent of U.S. citizens were self-employed, freelance, or sequential temporary workers (Saltzman 1996:71). 'People need to invest in their development as if they were a corporation,' says Anthony Carnevale, chairman of the National Commission

for Employment Policy at the Department of Labor (Saltzman 1996:71)" (Martin, 2000, p. 582).

Here Martin highlights how processes of "neo-liberalisation" allow for the construction of self-enterprising subjects. In documenting particular sites of neo-liberalisation in different parts of the world, scholars continue to highlight the insurgence of entrepreneurial subjectivities (Gershon & Alexy 2011). Morgan and Nelligan's (2018) book *The Creativity Hoax: Precarious Work in the Gig Economy* is one such example. Morgan and Nelligan's (2018) research has been of particular influence for scholars focusing on the creative industry. In the opening chapter, they explore the generational changes in attitudes about work through two personal anecdotes. Below they outline two successful methods necessary for securing a summer job.

I applied for a labouring job and promptly received a letter inviting me to an interview for a job at 'Number One Merchant Mill'. The problem was that I only intended to stay for five months before going off to study, and didn't want them to know this. As a skinny nerdy 19-year old, I bore little resemblance to anyone's idea of factory fodder. So I clearly needed a plan for the interview and decided (with a youthful arrogance I cringe to recall) that I would need to conceal my instinctive eagerness, intellect and all-round talent! It would be vital, I thought to masquerade as an inarticulate, working-class youth, slightly perplexed by the situation in which I found myself. Otherwise, I reasoned, they would see me for who I was: a high achieving, middle class kid, with big plans for his future, likely to grow restless and leave.

Fronting the drab company offices a short walk from the blast furnaces on a sweltering afternoon, I was summoned before a fierce-looking man in his fifties who had probably served his time on the shop floor before graduating to a desk job. He quizzed me about my work experience - to that point restricted to minor retail and clerical jobs - and I responded with mumbles and fragments, avoiding eye contact. This seemed to furrow his brow. 'So, where are you going with your life? Where do you see yourself in 10 years' time?' he barked. Expecting questions like this, I responded with a flat bat 'I dunno really' and let an uneasy silence fall between us. I thought it wouldn't help my cause to show too much ambition...

Some 30 years later, my own children were young adults and one of them was looking for part-time work to subsidize his art college studies. So I scanned a job website to see what sort of thing was available. One advertisement jumped out at me: 'ARE YOU PASSIONATE ABOUT PET ACCESSORIES?' it bellowed without a trace of irony, inviting young people to apply for a marketing position. Enthusiasm and talent were apparently not enough. The prospective appointee would be required to summon up genuine passion to the cause of selling budgie mirrors and dog collars. A homely childhood interest in hamsters or tropical fish, a particular fondness for the family dog would not cut the mustard. Only those who could mobilize the most intimate of emotions would be suited to a career selling pet accessories. The world had changed a lot since 1979: lumpen labour was apparently no longer required (Morgan and Nelligan, 2018, p.viii).

In juxtaposing these two anecdotes Morgan and Nelligan (2018) detail particular generational changes in the role work plays in identity construction. The use of the word 'passion' within the pet accessory job advertisement indicates the personal way work is tethered to subjectivity. Work has become an expression of identity. Indeed a common theme within this literature is an increasing demand for self-enterprising actors within a neoliberal job market (Duffy, 2017; Gershon; 2017; Urciuoli, 2008).

Gershon's research has been particularly influential in exploring the relationship between work and subjectivity. Gershon's (2011) article, *Neoliberal Agency*, charts changes in subjectivity, noting how selves are now managed as businesses within a neoliberal context. As she explains:

From a liberal perspective, people own their bodies and their capacities to labor, capacities they can sell in the market. In contrast, by seeing people as businesses, a neoliberal perspective presumes that people own their skills and traits, that they are 'a collection of assets that must be continually invested in, nurtured, managed, and developed' (Martin 2000:582)." (2011, p. 539)

Here Gershon outlines the coercive impact of neoliberal ideology on subjectivity. In later publications, Gershon (2016) critically examines the 'self' hopeful employees are attempting to market.

I have been discussing some of the practical dilemmas that come up when people try to use

personal branding techniques that were initially developed to endow objects and companies with recognisable personalities. People have trouble reducing their complex and context-dependent personalities into three or four positive qualities. They also have trouble figuring out how to present themselves as properly unique, while at the same time providing evidence that they fit a relatively standard job description and set of workplace requirements (2016, 241-242).

In this study Gershon (2016) outlines the techniques promoted within personal branding workshops. She focuses on the challenges individuals encounter as they apply these methods. For Gershon, personal branding is a space to explore how neoliberal subjectivities are shaped and the individual costs of this new job market. Gershon expands on personal branding in her book *Down and Out in the New Economy: How People Find (or Don't Find) Work Today* (2017). Here she provides detailed accounts of the complicated technological infrastructures individuals must learn to manoeuvre within to source work.

Over a decade since LinkedIn's founding, many people are confused about what it is good for. What are you supposed to do with your profile? To what extent is it similar to a resume? To Facebook? And, as importantly, are there ways that you can use LinkedIn that risk offending people inadvertently because you violate a widespread rule of etiquette? Almost everyone believed there was a LinkedIn etiquette, and part of why someone might attend a workshop on using LinkedIn was to learn what this etiquette might be. But what exactly this etiquette is isn't always clear, leaving me to wonder how a new medium acquires widely acknowledged social rules. At the same time, LinkedIn is purposefully designed to reflect the new metaphor of self-as-business; that is, your LinkedIn profile is meant to be a marketing document through which you can not only showcase your skills, your experiences, and your alliances — all part of the self-as business bundle — but also continually reveal how you are enhancing yourself. LinkedIn effectiveness and LinkedIn etiquette — these were the concerns that dominated the workshops I attended and the conversations I had with job seekers about LinkedIn, concerns that at the same time address the complicated question of how to operate as a self that is also a business (2017, 121-122).

Within online professional networking platforms such as LinkedIn, the self is publically curated as a business and a brand. In addition to Gershon's work, Urciuoli (2008) has also made significant

contributions to the relationship between subjectivity and work. Focusing on internet sites that market related services, Urciuoli (2008) identifies a move towards self-enterprising subjectivities. Of particular interest to Urciuoli is the phrase "bundle of skills" (2008). Here she notes that this specific term references a set of vague and unclear skills; what are most important are the statement's malleable intentions. The individuals applying for these jobs must be willing to market themselves as adaptable bundles of useful skills. For Urciuoli (2008), this example demonstrates how one's relationship to the job market reflexively shapes subjectivity. Both Gershon (2016) and Urciuoli (2008) demonstrate selling oneself in a neoliberal job market demands an ongoing willingness to be flexible.

Building on Urciuoli's work, Okura Gagné's (2019) research focused on employees of a Japanese corporation called STEP, and their responses to corporate reforms designed to produce 'self-enterprising' workers. Such reforms resulted in less secure work arrangements marketed to employees under the guise of 'flexibility'. Okura Gagné (2019) shows that while employees were forced to adapt to such reforms, they resisted adopting a self-enterprising subjectivity by maintaining a "critical distance from the ideological assumptions and subjectivising effects of neoliberal logics" (2019, p. 485) As Okura Gagné (2019) explains:

Japan's rigid internal labor market meant that the positive possibilities of "flexibility" were outweighed by the difficulties of re-employment. Rather than reframing their situation in positive cultural idioms such as 'a bundle of skills' (Urciuoli, 2008) or a 'company of one' with autonomous employment potential (Lane, 2011), as occurs in many post-industrial capitalist economies, many STEP employees simply worried about securing their jobs (2019, p. 487).

Okura Gagné's (2019) work is interesting because it illustrates how particular neoliberal reforms and attempts to encourage self-enterprising subjectivities can result in failure. This literature is influential in threading together the particular and culturally relative ways in which self-enterprising subjectivities are taken-up across Japan. In this sense, Okura Gagné's (2019) research demonstrates the importance of a culturally relative approach to understanding precarity.

Examining how employees react, resist, and reflect on neoliberal reforms reveals how new ideological projects feed into, and feed upon local ideologies and subjectivities,

unexpectedly reviving and retrenching seemingly anachronistic values and meanings of self, society, and citizenship (Okura Gagné, 2019. p. 463).

In Japan, neoliberal reforms have witnessed the resurgence of traditional values like job loyalty and community ties, which were previously considered outdated but have regained importance in the face of economic uncertainty (Okura Gagné, 2019). These studies collectively exemplify how the notion of 'the enterprising self' is championed within social structures and institutions. However, a consequence of this narrative is that precarious livelihoods often become solely the individual's responsibility to manage. Dunk's (2002) research on retraining services for the unemployed illustrates this phenomenon, revealing how 'self-enterprising subjectivities' are endorsed as political projects through state institutions.

One of the key concepts used in the discourse about economic restructuring since the 1980s is flexibility. As Emily Martin suggests, there is a "tense dichotomy" in the vogue for flexibility in organizations and production systems (1994:145,143-159, 207-225). On the one hand, the discourse celebrates individual initiative and creativity. On the other hand, it celebrates the flexibility of corporations and states to respond rapidly and easily to market, budgetary, or political fluctuations and opportunities by hiring, firing, reclassifying, or reassigning workers at will. The tension emerges from the contradiction inherent in a theory that celebrates both individual and systemic flexibility because the latter depends on a degree of individual and group passivity and acquiescence on the part of employees that is in some respects at odds with the exhortation to take initiative and be creative (2002, p. 883-884).

Here Dunk (2002) notes how a demand for 'flexibility' from prospective employees contains particular contradictions of subjectivity that job applicants are required to resolve.

Researchers such as Sanchez (2018) have documented the onset of temporary or gig-based employment contracts within the parameters of traditionally white-collar work. Here the conditions of insecure employment have moved beyond working-class jobs, infiltrating all manner of industries, from creative sectors to public services. Sanchez (2018) traces the particular ways temporary contracts have become normalised. Temporary contracts are instead replacing jobs that were traditionally permanent positions. Such temporary/flexible contracts function within a broader

context of full-time, permanent roles.

First, the erosion of job security is such a pervasive tendency in almost all areas of modern capitalism that precarization breaks down distinctions between permanently and temporarily employed persons within the same sector, as traditionally secure labor forces begin to share their homes and workplaces with casually employed younger colleagues. (Sanchez, 2018, p. 235).

Sanchez argues this serves to disguise an increasingly insecure workforce. In addition to Sanchez, Cahn's (2008) research on the rise of multi-level marketing companies² within Mexico documents a similar trend. Cahn (2008) examines self-enterprising narratives in a Mexican context. He notes how multi-level marketing companies are particularly attractive to local workers who are simultaneously facing dwindling purchasing power. This way, precarious work gains acceptance, as individual workers feel empowered to take sole responsibility for their insecure livelihoods. As Cahn explains: "Without the assurance of a salaried job, members of the middle class become free agents who sell on commission, fueling others' needs for consumption to satisfy their own" (2008, p. 442).

Urciuoli's (2008) research follows similar themes, focusing on the significance of "soft skills". Urciuoli (2008) shows how skills, such as communication and leadership, are increasingly valued in a labour market that prioritises information and service. Unlike manual skills, soft skills can be tethered more readily to one's subjectivity and identity. The demand for such skills is indicative of a broader neoliberal trend; a need for workers to reconstruct and align their subjectivities with both their career paths and the demands of the job market.

Soft-skills discourses are largely about persuading workers that these skills are what they are made of: Soft skills become objectified as workers learn to regard themselves and their education (incl. expensive liberal-arts education) in this way. These discourses draw heavily on the rhetoric of quantification, a strategy that fits the grammatical and semiotic

²Multilevel companies, often referred to as MLM or network marketing companies, are business models that rely on a hierarchical network of independent distributors or sales representatives who earn commissions not only from their direct sales but also from the sales made by their recruits or downline members.

structure of the message and reinforces its gravity. Skills that can be counted, rated, measured, and so forth, can also come up short, and whose fault is that but one's own? The deployment of quantification rhetoric becomes part of the loose association of terms in this register, suggesting that all these disparate skills are commensurable. Their commensurability lies not in explicitly comparable qualities but implicitly in the notion that they can be assessed and inculcated in the same ways. This presupposition of workers as a set of measurable capacities is, in effect, an update of the Enlightenment notion of an abstract human that can be segmented into pieces, with each piece individually designed into what Dipesh Chakrabarty calls "the very shape and movement of the machine itself" (2000:662), or, if not machine, then some kind of cybernetic social process (Urciuoli, 2008, p. 217).

Urciuoli highlights how soft skills are objectified within the discourse of employability, where individuals are persuaded to view themselves and their education primarily through the lens of these quantifiable skills. This discourse relies heavily on quantification rhetoric, emphasizing the measurability and assessability of skills, which, in turn, places the responsibility for any shortcomings squarely on the individual. This perspective on workers as bundles of measurable capacities is problematic because it reduces individuals to quantifiable components.

However, while these approaches allow researchers to trace the pathways that lead to precarious circumstances, this method is often unable to account for the increasingly complicated, multi-sited, and often virtual profiles precarious workers are forced to assume in the twenty-first century. Through narratives, individuals make sense of their lives and positions within the social order (Andrews, Squire, & Tamboukou, 2013). This is particularly relevant in the study of career histories (for example, Lane, 2011, Umney and Kretsos, 2015, Achtenhagen & Welter, 2003). However, as Senette (2001) highlights, increasing demands for a flexible labour force makes the work of stitching together a cohesive narrative all the more complicated.

The labours of modern flexible workplace pose quite a different challenge to the task of narrating ones work, how can one create a sense of a personal continuity in a labour market in which work stories are erratic and discontinuous rather than routine and determinant? (2001, p. 183).

In analysing self-enterprising narratives, our methodological approach must allow for the discontinuous and erratic. So far, we have seen how this relationship with work and these particular subjectivities are embedded in a socio-economic history of neoliberalism. Here, there is a vast pool of research documenting a connection between entrepreneurial subjectivities and experiences of precarity. An emerging subsection of this research has begun to document the intersection of platform capitalism within these labour markets. Here platform capitalism plays a substantial role in curating and enabling entrepreneurial subjectivities in a neoliberal job market.

2.2.2 Platform Capitalism

The social science literature focused on late capitalism has reached a common consensus; neoliberal reforms have resulted in progressively insecure employment relations (for example; Allison, 2013; Sanchez, 2018; Nairn, Higgins & Sligo, 2012). This literature provides a generative context for anthropologists to make cross-cultural comparisons. Of particular interest is an emerging gig economy that is enabled and propelled through digital technologies and increased online connectivity. The gig economy refers to a labor market characterized by short-term, temporary, or freelance work arrangements, where individuals often work on a project or task basis rather than holding traditional full-time employment positions. It is characterized by a high degree of flexibility for workers but can also result in job insecurity and lack of employment benefits.

Furthermore, global capitalism has significantly transformed job markets by transcending national boundaries and creating interconnected networks of production and consumption. This has limited the regulatory powers of individual states over industries, as multinational corporations can operate across various jurisdictions, often exploiting disparities in labor and environmental regulations (Allison, 2013). In this context an ever changing technological landscape has seen the formerly described gig economy converge with digital platforms, enabling a particular form of platform economy. As anthropologists continue to document the diverse strategies individuals and groups utilise to endure these changes (Allison, 2014; Pozniak, 2013; Sanchez, 2018), a common characteristic trend emerges. Gig work in all its forms, has become more accessible and globalised through the onset of cloud based technological platforms. Here new ways of thinking about work and what work does to the self have emerged. This next section will explore various ways the platform economy has resulted in new and creative ways of coping with increasingly less secure work.

Indeed, there is an emerging body of research focused on gig workers who sell their services on sharing platforms, including ride sharing, food delivery, manual labour and care work (Schor, 2016; Vallas, & Schor, 2020; Ravenelle, 2019). Researchers in this field raise concerns about increasingly flexible employment contracts, highlighting the particular ways platform economy workers are excluded from the various protections afforded to traditional employment relations, as Vallas and Schor (2020) note:

The notion here is that Fordist organizations have been flexibilizing employment relations for decades—for example, by outsourcing and subcontracting work or using contingent forms of employment with increasing regularity (Beck, 2014; Smith, 2010). Thus, platforms represent a manifestation of a much broader trend that has enabled firms to externalize risks they had previously been compelled to shoulder. The effect, initially evident in temporary work and subcontracting, is to commodify labor time and disembed the worker from prior systems of social protection (Polanyi 1944, Wood et al. 2019). What platforms provide, then, is a convenient, readily available infrastructure with which to limit the firm's obligation to the workforce on which it relies. From this point of view, platforms provide business organizations with yet another way of achieving what Harvey (2005) has called accumulation through dispossession—that is, the use of legal and financial mechanisms with which to uproot the economic rights that workers had previously enjoyed. The issue, in this view, is not so much technology but a broad socioeconomic shift that dismantles many of the labor market shelters workers had previously enjoyed (Kalleberg & Vallas 2018, Vallas 2019) (Vallas & Schor, 2020, p. 280).

Platform workers are often required to take sole responsibility for their operational expenses, furthermore, they receive none of the standard protections contained within traditional employment models. Instead, to build substantial livelihoods from this work, platform workers are required to subject themselves to the rhythmic needs of the market, greatly diminishing a sense of freedom surrounding when and for how long one works (Ravenelle, 2019; Rosenblat, 2018; Schor, 2020; Vallas, & Schor, 2020).

Ethnographic research also reminds us that the impact of an insecure labour market is experienced differently by different social demographics. Indeed, a collection of research explores an increasing gig economy among technical skilled workers. Instead of establishing permanent positions,

technical industries, such as graphic design, software development, journalism and social media marketing, are increasingly outsourcing project-based work (Vallas & Schor, 2020; Vallas & Christin, 2018; Osnowitz, 2011). Technical workers who contract their labour can remain untethered to an individual workplace, digital platform and even a geographic location (Richardson, 2017; Liegl, 2014). Nevertheless, they face the same limited repertoire of protections experienced by other platform economy workers. Some research indicates that these workers are able to find various forms of stability if they succeed in promoting themselves and thus maintain a comfortable rotation of clients (Berg, Furrer, Harmon, Rani, & Silberman, 2018). However, this of course requires particular techniques of self-promotion and networking. An ongoing question within this field is whether platforms that connect digital workers to projects enable and facilitate the outsourcing of labour that would otherwise remain included within traditional employment frameworks (Drahokoupil & Piasna; 2019).

A common area of interest among social scientists focused on the platform economy is workers' relationships with the platforms they utilise. Of particular interest is how digital workers thwart or circumvent certain rules of the platforms. Rahman (2018) illustrated how users found ways of outmanoeuvring the reputational metrics within the platform. Here Rahman (2018) notes how users came to agreements with their clients, essentially gaming the public evaluation system. Jarrahi & Sutherland's (2019) research on UpWork saw similar findings. They observed how users learned to manipulate algorithms within UpWork by inputting their profile data from external sources. An additional body of research focuses on the tactics Uber drivers used to circumvent particular rules (Chen, 2018; Robinson, 2017) and built a sense of solidarity as they worked together to control the price of their labour. Each of these studies provides qualitative accounts of the consequences of work within platform capitalism and some of the strategies deployed to counter it. Ultimately the gig economy is entangled with precarity as Vallas and Schor (2020) describe; "gig workers must not only assume responsibility for operating costs and risks and forego protections enjoyed by employees but also conform to the temporal rhythms of customer demand, which can reduce their autonomy substantially" (2020, p. 275). Here we see a common theme emerge; increasingly insecure working conditions and the onset of work practices which are constituted by precarity. This labour market is reinforced by neoliberal discourses which encourage the self-enterprising worker subjectivities required to adapt to the needs of an ever- changing market (Allison, 2013; Duffy, 2017; Standing, 2018).

In this context, Sennett's (1998) book, *The Corrosion of Character: The personal consequences of work in the new capitalism*, is important. Sennett (1998) offers a comprehensive analysis of these changing work practices. Drawing on his previous work with Jonathan Cobb (1972), *The Hidden Injuries of Class*, Sennett (1998) outlines the paradoxes that surround ideas of flexibility in the context of late capitalism.

It is quite natural that flexibility should arouse anxiety: people do not know what risks will pay off, what paths to pursue. To take the curse off the phrase 'capitalist system' there developed in the past many circumlocutions, such as 'free enterprise' or 'private enterprise' system. Flexibility is used today as another way to lift the curse of oppression from capitalism. In attacking rigid bureaucracy and emphasising risk, it is claimed, flexibility gives people more freedom to shape their lives. In fact the new order substitutes new controls rather than simply abolishing the rules of the past - but these new controls are also hard to understand. The new capitalism is often an illegible regime of power (1998, p. 9-10)

In this context, Sennett posits that the unpredictability of the job market carries profound implications for both individual subjectivity and the broader fabric of community networks. At the heart of Sennett's argument lies the notion that the amalgamation of late capitalist conditions and a labour market characterised by growing flexibility leads to tangible effects on identity and subjectivity. For Sennett, however limited one's career options were, it was at least possible to develop a relatively stable identity around one's labour. A job for life made it possible to be a 'good' worker and thus be a 'good' member of society. However, in the context of platform capitalism, understandings of 'work' have been radically changed. Work is no longer a stable foundation on which to build an identity, rather, working identities are increasingly defined through short-lived experiences and expectations. For Sennett (1998), being a 'good' worker in the context of platform capitalism demands constant mobility and a willingness to be flexible. This literature has highlighted an economically diverse gig economy, which poses particular challenges in understanding this labour market through a Marxist lens of class struggle (Sanchez, 2018). In this context, freelancers, often referred to more broadly as gig economy workers, can utilize online platforms to promote themselves. However, these workers face a limited range of protections compared to the comprehensive safeguards found in traditional employment agreements. Additionally, the

configuration of this job market perpetuates advantages for an ever-narrowing circle of economic elites (Harvey, 2005a).

2.2.3 A Sharing Economy

Platform capitalism often takes the form of what is commonly referred to as the sharing economy, exemplified by prominent platforms like Airbnb and Uber. These platforms operate within the sharing economy³ framework, facilitating direct connections between users and service providers, allowing them to rate and review each other. Characteristics of the sharing economy framework also includes the exchange of goods, services, resources, or assets, often facilitated through digital platforms or online marketplaces. Participants in the sharing economy typically engage in peer-to-peer transactions, allowing them to rent, share, or trade resources such as accommodation, transportation, tools, or skills directly with one another.

While the majority of tech startups in Wellington are business-to-business focused and not directly participating in the sharing economy, it's noteworthy that many of these businesses have absorbed shared characteristics and ethos. This includes their interest in reorganising labour markets and ownership structures, wherein communities can collectively share services. The literature examined in this section delves into these shared characteristics. Notably, these researchers suggest that digital technology has the potential to reshape the relationship between consumerism and individual identity

Platform capitalism and ubiquitous mobile technology have enabled a 'sharing economy' (Sundararajan, 2016; Frenken & Schor 2017; Belk, 2014). Here a variety of rental and service-based platforms have emerged, Airbnb and Uber being the most widely referenced examples. The increasing popularity of these platforms has provoked discussions about sharing economies in the context of late capitalism. Within this literature, two distinct analyses emerge - some scholars

³The sharing economy, also known as the collaborative economy or peer-to-peer economy, is a socio-economic system characterized by individuals or organizations sharing. This phenomenon has gained prominence in recent years due to the growth of online platforms like Airbnb, Uber, and TaskRabbit, which connect providers and consumers of these shared resources. The sharing economy is known for its potential to increase resource utilization efficiency and create new income opportunities, but it has also raised questions regarding regulatory, labour, and ethical issues.

suggest that sharing economies are reorganising labour markets into more local and ultimately sustainable commodity chains. On the contrary, other scholars take a more cynical position, arguing that sharing economies are simply a more acute and digitally empowered form of neoliberalisation.

Botsman and Rogers (2010) point to new ideas of ownership made possible through shared economies. These platforms enable communities to collectively own assets. Thus, ideas of individual ownership are increasingly challenged. The popularity of Uber is a good example of this; individuals are no longer required to own a vehicle personally, rather communities can collectively share and maintain a driving service. The emergence of the sharing economy, facilitated by accessible internet and the rise of sharing platforms connecting users with service providers, has the potential to disrupt the traditional consumer dynamic. Consumerism, deeply intertwined with identity in various capitalist economies, is fundamentally transformed by sharing economies, according to Botsman and Rogers (2010). They argue that the arrival of the sharing economy will disrupt the established position of the consumer, altering how identities are organized within a capitalist economy.

Comparatively, Morozov (2013) describes sharing economies as "neo-liberalism on steroids" (para, 10). In an op-ed entitled *The 'sharing economy' undermines workers' rights*, Morozov (2013) raises concerns about sharing economies, outlining how aspects of private life, which existed outside of the market's grasp, can be more easily reached and thus commodified through the ubiquitous nature of digital technology and a new sharing economy. While Morozov (2013) and Botsman and Rogers (2010) highlight starkly different outcomes, there are common themes within both arguments; both authors acknowledge that sharing economies ultimately decentralise established market structures.

2.2.4 Digital Work and Platform Capitalism

The literature presented in this section significantly highlights the perpetuation of new forms of precarious labour within platform economies. Through the works of researchers such as Greshon (2016), Urciuoli (2008), and Dunk (2002), it becomes evident that precarity is not only a mere condition but an experience that traverses personal, intimate, and often paradoxical dimensions. While substantial attention is given to the social implications of platform work, it is essential to acknowledge that relatively little research has been devoted to examining the technical underpinnings of this rapidly expanding economy. A smaller body of work, however, does delve

into the ways in which digital technologies have shaped new economic practices (Fish & Srinivasan, 2012; Fuchs, 2014; Kalleberg, 2009; Terranova, 2000). Much of this literature focuses on the commodification of big data. Social media sites such as Facebook are particularly interesting (Fumagalli, Lucarelli, Musolino, & Rocchi, 2018; Fuchs, 2015). These websites profit from the free labour of their users, who often, unknowingly, share their data through their social interaction within the website itself. In his research on the diverse market structures of the internet, Scholz (2012) accounts for this process, stating:

the Internet has become a simple-to-join, anyone-can-play system where the sites and practices of work and play increasingly wield people as a resource for economic amelioration by a handful of oligarchic owners (2012, p. 1).

This digital life, including digital labour, can be problematic for social scientists as traditional research methodologies are geographically grounded. Duffy's (2017) research demonstrates the value in exploring digital labour from the point of production. Her book *(Not) getting paid to do what you love: Gender, social media, and aspirational work* unpacks the work of aspirational fashion bloggers. Here Duffy (2017) demonstrates how this labour is both embodied and digitally constructed through a series of online networks, as she explains:

One way to understand aspiration labor is a particular form of hope labor, one that foregrounds participation in the consumer circuit as part of the recursive process. In addition to investing in various commodities, the work of aspirational laborers is often physically embodied in the blogger vlogger or instagrammer as she models her newly purchased wares. In a reprise of the female body's visibility in twentieth century consumer culture, the digitally networked pixalitized version not only shops but also 'tags', 'likes' and most importantly 'recommends' branded goods (2017, p. 10).

In Duffy's exploration of fashion bloggers, she astutely recognizes the profound embodiment of their work. This recognition resonates with my own research into the realm of software development, where I, too, encountered the intrinsic presence of embodiment. The process of computer programming unfolds as a unique and intricate intersubjective engagement, where the developer's interaction with the computer becomes a physical and emotional experience.

This engagement demands the physical labor of typing hands, the rhythmic flow that accompanies

moments of achievement, and even the tangible tensions that arise when projects encounter setbacks. In this context, Bourdieu's (1977) insights prove invaluable. Bourdieu argues that our bodies and physical experiences are intricately tied to our socialization, molding our habits, dispositions, and cultural tastes.

He emphasizes that much of our knowledge and behavior in the social world is acquired through practice and repetition, not limited to intellectual understanding but extending to bodily engagement. Furthermore, Bourdieu (1977) introduces the concept of embodied and tacit knowledge—knowledge that individuals may not be fully conscious of but intuitively employ in their daily lives. For instance, skilled craftspersons possess tacit knowledge that guides their hands and actions without requiring constant conscious thought.

This notion of embodied and tacit knowledge encapsulates the way individuals engage with their work in a profoundly physical and emotionally connected manner. While a comprehensive exploration of these dynamics awaits Chapter 5, it is crucial to emphasize the ethnographic significance of delving into the production processes.

Indeed much of the research surrounding digital work focuses solely on the ongoings of digital platforms; much less attention is paid to the experiences of producers. Fuchs' (2014) research on digital labour documents the insidious ways ICT corporations exploit human labour, here he echoes this point, as Fuchs (2014) explains:

Studies of the information economy, or what some term the creative or cultural industries, have been dominated by the capital side of the analysis, whereas the labour side has been rather missing (2014, p. 5).

Here Fuchs points to a gap within the literature; in the study of digital labour, there is room for empirically grounded research at the production point of the platform economy. Indeed, digital labourers remain on the precipice of a changing job market and socio-digital landscape. Documenting their experiences can tell us much about how subjectivities are shaped online and the personal costs of this new job market.

In a later publication, Duffy and Wissinger (2017) focus on influencers, addressing the complicated self-branding labour they take on. Although these influencers present an image of an idealised self-

starter life, the realities of their work are somewhat less glamorous, as Duffy and Wissinger explain:

Despite the cheering — even intoxicating — tone of such articles, the reality of work in the media and culture industries is much less glamorous. Often, creative laborers are located in industries and organizations marked by staggeringly high barriers to entry, periodic instability, and structural forms of inequality and discrimination (Blair, 2001; Freidman, Laurison, & Miles, 2015; Gill, 2010, 2014). Moreover, these workers are expected to engage in persistent forms of entrepreneurial labor, in which they internalize the risks of independent employment, roused by the "promise of one Big Job being right around the corner" (Neff, Wissinger, & Zukin, 2005, p. 319). The rapid rise of the digital economy has done little to challenge the most formidable features of creative work; instead, recent scholarship suggests that new media technologies seem to amplify some of the less idealized features, including the itinerant nature (Gill, 2010), the reliance on discourses and practices of risk (Cohen, 2015; Neff, 2012), and the requisite blurring of one's personal and professional lives (Duffy & Hund, 2015; Gregg, 2011). Taken together, these perspectives signal a patent disparity between the rhetoric of creative work — with its profound idealization of entrepreneurial careers enabled by social media — and the realities of precarious labor in the digital economy (2017, p. 4653).

For Duffy and Wissinger, the impact of the platform economy has done little to reduce the realities of precarity for creative work; instead, there are more tools and platforms available for curating one's online identity. This leads to the blurring of personal and professional lives. In the construction of entrepreneurial subjectivities, the various professional risks taken by creative workers are often unacknowledged (Duffy and Wissinger, 2017).

Here the platform economy has fundamentally reshaped this digital work giving rise to new forms of temporary labour and providing decentralised space to find work opportunities which require radically new skill sets. In their article *Precarity and Gig Literacies in Online Freelancing*, Sutherland, Jarrahi, Dunn, & Nelson (2020) focus on the freelancing platform Upwork. The authors show how these digital platforms both enable and constrain the impact of precarity among freelancers. Their research provides intricate insights into the multifaceted expertise that freelancers must cultivate in order to adeptly promote themselves and access fresh work opportunities. As they elaborate, a significant portion of their self-marketing endeavours involves mastering the intricacies

of Upwork's algorithms: "Establishing good ratings was a complex task, however, as it required understanding the algorithms behind the platform's automated evaluation system, and constant monitoring of one's own ratings" (Sutherland et al., 2020, p. 464). Within this context, Sutherland et al. (2020) illuminate how freelancers dependent on Upwork for securing future contracts are compelled to consistently evolve their online strategies to effectively harness the platform's potential.

In addition to the gig economy, as noted the last decade has seen the rise of the sharing economy, primarily enabled through digital technology. The most notable example of this dynamic is ride-sharing apps such as Uber. Malin and Chandler's (2017) research documents ride-sharing drivers make sense of their digital labour. In deconstructing their stories, Malin and Chandler use the term 'splintering precarity' (2017, p. 384) to account for the complicated economic positions the drivers learn to straddle. Although many interviewees claimed to enjoy the freedom offered by flexible work, they also acknowledged the sense of risk that accompanies most forms of irregular employment in a neoliberal economy. As Malin and Chandler explain:

Even as they enjoy their presumably flexible labor, however, our interviewees disclose a number of anxieties and risks that mitigate this flexibility and freedom, such as having to deal with the uncertainties of their independent status or to navigate the late night streets of Pittsburgh's bar scene—a predominant work "choice" for most of these drivers (2017, p. 384).

Malin and Chandler's (2017) research highlights how precarity in the context of digital labour is often described as a feeling, a sense of enduring uncertainty. Here, the platform economy has induced exhaustion and suspicion, coupled with nostalgia for simpler times. Gershon's (2011) research also explores these themes. She documents the boycott of Facebook among graduate students. Gershon shows how these students felt Facebook was subtly transforming them into versions of themselves that made them notably uncomfortable; "suspicious and jealous selves based on neoliberal principles" (2011, p. 867). Here Gershon's research highlights the coercive ways social media platforms can apply forces of market rationality to one's personal relationships.

2.2.5 Precarity

The literature in this section will demonstrate that precarity transcends mere economic insecurity; it extends its influence to shape subjectivity, identity, and one's sense of self. As a global phenomenon, its manifestations are not uniform but rather culturally nuanced. The ensuing discussions will capture the wide spectrum of responses to this multifaceted issue. Some individuals attempt to resist it, striving to counteract its effects. Some engage in accommodation, adopting rationalising discourses to reconcile its challenges, while others fully embrace its characteristics.

The restructuring of labour into more flexible tenures is an ongoing area of interest for anthropologists (Armano, Bove, & Murgia, 2017; Duffy, 2017; Kofti, 2016). In exploring these outcomes, anthropologists use the concept of precarity (Bourdieu 1998; Comaroff and Comaroff 2001; Armano, Bove, & Murgia, 2017). Precarity is widely understood as a state of persistent insecurity. Recent ethnographic work has moved away from a more traditional class-oriented analysis of precarity (Lazar, & Sanchez, 2019; Cangià, 2018). Here, precarity is not used to reference a return to insecure livelihoods in a post-industrial economy; rather, precarity highlights a more subtle and tangential experience of insecurity. Precarity in the twenty-first century encompasses a broader and more personal feeling of uncertainty. As a result, recent scholarship on precarity highlights it as a personal and isolating experience influenced by intersecting forces. For anthropologist Anne Allison, precarity begins with loss in all its forms.

Precarity references a particular notion of, and social contract around, work. Work that is secure; work that secures not only income and job but identity and lifestyle, linking capitalism and intimacy in an affective desire for security itself. Precarity marks the loss of this – the loss of something that only certain countries, at certain historical periods, and certain workers ever had in the first place (Allison 2013, p. 5).

An emerging theme within this literature is that the impact of precarity has profoundly influenced young people, who are more at risk of an informal labour market (Furlong & Cartmel, 2006; Standing, 2014). Pugh's (2015) text, *The tumbleweed society: Working and Caring in an age of insecurity*, examines the complicated relationship between gender and precarious work. Pugh highlights the insidious ways neoliberalism has come to shape the more intimate aspects of life. She concludes that a common outcome of this is the pernicious under valuing of personal commitments as neoliberal pressures have given way to increasingly demanding employment relationships. Pugh (2015) demonstrates how this is particularly problematic for women for whom the burden of

emotional labour falls. Here Pugh (2015) reminds us that the impact of precarity is gendered and nuanced.

As this research demonstrates, precarious working conditions are not a monolithic phenomenon; rather, the social outcomes of such work are nuanced, intersectional and often contradictory. Given the time required and a focus on the emic perspective, ethnography is well-positioned to document this theme. Allison's (2013) ethnography *Precarious Japan* provides such an account. In the chapter *Ordinary Refugeeism*, Allison shows how insecure economic conditions have spawned a sense of disillusionment, which has resulted in various forms of social withdrawal. In particular, she explores 'hikikomori'. Hikikomori is a widespread social problem in Japan, where young people abscond from daily life only to live in rooms in their parents' homes, refusing to leave these rooms and effectively withdrawing from society for long periods. These studies each highlight a sense of insecurity and marginalisation surrounding one's livelihood and future opportunities.

Drawing on Allison's (2013) work, Khosravi (2017) provides an ethnographic enquiry into precarity in Iran. His book *Precarious lives: waiting in hope in Iran* documents a sense of hopelessness shared by young Iranians regarding their future possibilities. Khosravi (2017) provides a culturally relative analysis, paying close attention to the intricacies of Iranian culture, politics and socio-economic circumstances. As the following account details:

An unequal distribution of hope is characteristic of shrinking societies, 'when such inequality reaches an extreme, certain groups are not offered any hope at all' (Hage, 2003, p. 17). In recent years, particularly after the 2009 election, I frequently heard young Iranians - or read in their blogs, Facebook pages, books and journal essays - make references to minority experiences, interestingly often to the experiences of the Jews in Europe during the first half of the past century. A popular quote used by Iranians comes from Franz Kafka - 'there is hope, but not for us' - cynical words from a German-speaking Jew living in Prague, who embodied the continuum of exclusion in early twentieth-century Europe. In the mouths of young Iranians, who are not in the minority in terms of ethnicity or religious belief but feel they live a life like 'in France under Nazi occupation'." (Khosravi, 2017, p. 13)

Rather than concentrating solely on a specific form of insecure employment, both Allison (2013)

and Khosravi (2017) delve into the broader concept of precarity, viewing it as a culturally constructed emotion — a deeply personal and intuitive sense of deprivation. Recent scholarly works have shown a growing fascination with understanding how individuals and collectives navigate their way through precarious labour, a theme that is prevalent in the contemporary literature. An illustrative instance of this can be found in Manky's (2018) research. Focusing on Chilean mineworkers, Manky demonstrates the importance of groups with leverage, collectively challenging precarity. Manky (2018) outlines the underestimated power industrial employees can wield, even context precarious employment relations. Manky's (2018) research highlights the crucial role the Communist Party played in organising the subcontracted Chilean mineworkers. This research demonstrates that given the right support networks, it is still possible for production workers to seize power, thus challenging their precarious positions.

Similarly, Oudenampsen & Sullivan (2004) demonstrate how the concept of 'The précarité' has filtered into public discourse and been adopted by leftist movements to challenge unequal work opportunities. In their work, Oudenampsen and Sullivan (2004) demonstrate how certain individuals resist precarity as a political endeavor. They do so by examining a speech delivered by union and media activist Alex Floti regarding MayDay demonstrations taking place across Europe.

If young people stop working in Amsterdam, Amsterdam shuts down. No bars can operate; no tourist hotel can operate; no fucking newspaper can be ever produced; no theatre play can run. Amsterdam is a factory shut for business. This is what Amsterdam says to the world, its image brand and sociability, which occurs through bodies and minds of thousands of young temps, precarious freelancers coming from all over the world. This is what precarity is - it's both a condition of exploitation and an opportunity (Oudenampsen & Sullivan, 2004).

As Foti explains, the goal of these demonstrations is a diverse array of 'flexible' workers organising around the theme of precarity, thus raising awareness about increasingly insecure working conditions across Europe.

Indeed, Kalleberg's (2009) research on employment relations in transition highlights how precarity generates not only complex cultural outcomes but complex personal outcomes.

Precarious work has far-reaching consequences that cut across many areas of concern to

sociologists. Creating insecurity for many people, it has pervasive consequences not only for the nature of work, workplaces, and people's work experiences, but also for many nonwork individual (e.g., stress, education), social (e.g., family, community), and political (e.g., stability, democratization) outcomes. It is thus important that we understand the new workplace arrangements that generate precarious work and insecurity." (Kalleberg, 2009, p. 2)

Precarity in the twenty-first century encompasses uncertainty about the future. Kalleberg (2009) argues that precarity should not be narrowly defined as a resurgence of insecurity within a post-Fordist context. Instead, he contends that a more complex and subtle phenomenon is at play. Indeed this is a common theme circulating ethnographic literature about precarity. For Allison (2013), precarity also involves the loss of an imagined future that was once assumed to be possible. Allison (2013) and Khosravi (2017) follow the particular ways their participants cope with an emerging sense of loss. Additionally, the literature indicates there is a generational difference in the ways this sense of loss is experienced. Young adults seem to endure the presence of a precarious life more acutely. For Neilson and Rossiter (2005) precarity gains traction when the needs of a neoliberal economy "extend beyond the world of work to encompass other aspects of intersubjective life." (Neilson & Rossiter, 2005, p. 10). As Kalleberg's (2009) research demonstrates, the middle classes are no longer immune from such experiences. Aside from Manky's (2018) findings on resistance to precarity, there are few success stories. This highlights a need for social scientists to reconsider what constitutes the security of people. Indeed there is a need for more politically innovative and progressive ways of rethinking livelihoods and subjectivity, which is, perhaps, disentangled from labour.

Yet social science research continues to show us that different groups of people respond differently to such conditions. Umney and Kretsos's (2015) research on the precarious lives of London's jazz musicians illustrates such complexities. To establish a career in music, Umney and Kretsos (2015) show how some participants embraced their precarious lives and at times, reject more stable conditions for themselves. As the following account details:

The widespread view, however, was that regularised jobs like these were not musicians' *raison d' être* and should support, not replace, self-directed original projects. As noted, some reacted very negatively to the idea of future stability, and some had even given up

supposed tenets of adulthood (e.g., home ownership) to enter a new, risk-laden phase. Most importantly, participants tended not to envision clear transitions to stability in the future, instead seeking to cultivate limited quantities of more regularised work—this is an opportunity afforded by the project-based structuring of the labor market. Hence, while participants could potentially seek to access more formalised types of work, the salient issue for most was the extent to which these opportunities should figure in their own balancing of regularity and creativity (2015, p. 13-14).

While Umney and Kretsos's (2015) participants appear to embrace certain facets of their precarious lives, Lane's (2011) research on tech workers in Dallas piques interest. Lane's study delves into the discourses that compel individuals to acquiesce to a life of precarious work. Focusing in particular on the narrative of "career management" (Lane, 2011, p. 61). Lane (2011) highlights a recurring 'self as a business' metaphor within their stories, wherein discourses of "career management" are taken up by unemployed men in their attempts to redefine masculinity and to adhere to volatile and insecure employment circumstances. Lane (2011) explores how participants would describe themselves as a business or a brand, highlighting the "long history of management theory and American mythologies of meritocratic individualism and masculine agency" (Lane, 2011, p. 13). Lane shows how adopting these particular narratives allows precariously employed male tech workers to "adopt a posture of self-reliance that shored up his threatened masculinity" (2011, p. 45). Here Lane provides an example of how uncertain working conditions are rationalised and embedded into a wider narrative of enterprising subjectivities.

The literature examined thus far holds significant sway in highlighting the intricate manner in which platform capitalism, facilitated by digital infrastructures, are reshaping labour dynamics. This research, as it unfolds, underscores that precarious working conditions are far from a uniform, singular phenomenon. Instead, the repercussions of such work manifest as multifaceted, interconnected, and frequently paradoxical outcomes. While this perspective effectively illustrates the inseparable integration of digital life into the work landscape for numerous individuals, it fails to encompass the digital platforms themselves and the human agents engineering these essential infrastructures.

2.3 Building Platform Capitalism

The exploration of software underpinning the platform economy through ethnographic analysis has been notably limited. Anthropological investigations into the dynamics of digital infrastructures and the pivotal juncture where computer programs evolve into software remain scarce. Wilson and Peterson (2003) contend that this dearth is attributed to a broader lack of interest in the material aspects of technology within the field. Within studies of the platform economy, technology often assumes the role of a passive tool — a blank canvas onto which individuals superimpose culturally specific meanings (Miller, 2011; Treré, 2012; Van Dijck, 2013). In this section, I will illustrate that directing attention towards technology yields the insight that the material essence of code is just as precarious as the labor it supports, profoundly shaping work practices throughout the platform economy.

2.3.1 Stories Within Software

Ekbia & Kling's (2005) provide an ethnographic example of the work stories which can be collected through the study of software. Their research focused on the financial crash of the energy corporation Enron. By tracing Enron's digital platforms, Ekbia & Kling reveal the stories buried within the company's computers. Here, they unpack the technologies that enabled Enron's managers to disguise their accounting practices. "Without understanding the technical network, it is impossible to get to the bottom of Enron's demise; we cannot tell a decisive part of the story— the one that uncovers how the technology massively scaled corruption within the virtual space of the machine" (Nardi, 2015, p. 16).

This research goes some way to documenting the technical networks that organise labour. There is, however, an inconsistency in how we write about software. Neglected is an understanding of software from the productive end of computer programming. In constructing this literature review, I struggled to find an analysis of 'software' that fits how engineers describe it. Thrift and French's (2002) study; best describes the 'software' my participant's reference.

Software is often considered to be part of a more general structure of writing, a vast Derridean intertext that has gradually become a system without edges and that includes all manner of 'coded' writings rooted in a base cybernetic metaphor (Johnson 1993; Hayles 1999; Kay 2000). In such a conception, software is both a measure of how writing is now done, and a new kind of cultural memory based upon discourses of information as pure

digital technique (Hobart and Schiffman 1998). In a second guise, software can be considered as another step in the history of writing as a supplement to spoken language (Thrift & French, 2002, p. 310).

Unlike software users, engineers describe software not as a product but as an evolving language written into being through a series of precarious error messages.

2.3.2 "Software Is Always Unstable"

The code, acknowledged among developers for its inherent fragility and unpredictability, becomes the central focus of my discussion on precarity in this section. The literature examined here strives to encapsulate the unstable and uncertain relationship between developers and the code they generate. Rosenberg's (2008) work, 'Dreaming in Code,' presents a chronological account of a software project from inception to completion. Within its pages, Rosenberg vividly captures the capricious nature of computer algorithms and the day-to-day frustrations experienced by developers immersed in the binary realm of coding. He particularly delves into the emotional labour inherent in crafting computer programs that align with human reasoning, as he explains:

Some dream of ripping down the entire edifice of today's software and replacing it with something new and entirely different. Others simply yearn for programs that will respond less rigidly to the flow of human wishes and actions, for software that does what we want and then gets out of our way, for code we can count on. We dream of it, then we try to write it – and all hell breaks loose (Rosenberg, 2008, p. 10).

Here Rosenberg highlights the intersubjective experience of computer programming. His research documents the ritualised processes surrounding tinkering with, maintaining and writing computer code. In addition to Rosenberg's analysis, Lowrie's (2018) research represents an attempt to document the fickle and unstable relationship between developers and the code they write. To do this, Lowrie (2018) unpacks the algorithm itself, explaining the information that is exchanged across the technical infrastructures. It is within these technical infrastructures that software developers and algorithms coexist:

[Algorithms] are busy assembling and being assembled, sharing information, and distributing their processing loads as they make decisions and enact plans. At the same

time, they are refusing connections, maintaining their immune systems, performing network security, managing their boundaries, and controlling access. Human bodies move among this flexible, securitised meshwork of silicon, electricity, code, fibre optics, and data: building, maintaining, and restructuring. Their activity ensures that aesthetic, epistemological, economic, and political structures are thoroughly woven into these computational networks, tightly coupling the technical to the social as they experiment with new forms of work and life (Lowrie, 2018, p. 349).

To understand this technical work within the context of the platform economy, scholars often focus on particular areas of society where automation processes are beginning to colonise standard practices. For example, Duffy (2017) and Ekbia and Nardi (2017) document how algorithmic software keeps humans in the loop as free content/data creators. Ekbia and Nardi coin the term "deterioration" (Ekbia & Nardi, 2017, p. 360) to account for the 'human' work that contributes to capital accumulation across automated processes.

Additional scholarship has more broadly examined how automation is shaping and reorganising space. Mackenzie (2006) endeavours to offer such an analysis in his text entitled *Cutting code: Software and sociality*. Here, Mackenzie argues that computer code is an opaque or hidden reality, a phenomenon that functions mainly behind the scenes through the software's interface. While technology and software have infiltrated many aspects of daily life and work, most users never come to see this code. By following the code itself, Mackenzie found that it can take many forms. The best way to make sense of this process was to borrow a concept used in physics. Here Mackenzie outlines the various ways code undergoes 'phase transitions' or 'changes of state'. In its functioning, code amalgamates and hardens at specific points, becomes more fluid, and can even disappear at other stages. Mackenzie describes the on goings of code as "a multivalent index of the relations running among different classes of entity: originators, prototypes and recipients. These classes might include people, situations, organisations, places, devices, habits and practices" (2006, p. 169).

2.3.3 Computers and Engineers; an Intersubjective Relationship.

As computer code is written into being and put to work, all information is reduced to a binary language of zeros and ones. Rosenberg (2008) pinpoints the space between these zeros and ones as the transitory difference in how machines and humans make sense of information. In this space,

developers grapple with machine resistance to human desires. Indeed, there is a mutually constituted relationship between teams of developers and the digital infrastructures they build (Raymond, 1996). As Seaver outlines, "Social structures emboss themselves onto digital substrates; software is a kind of print left by inky institutions" (Seaver, 2018, p. 375). However, while these findings offer insight into the working relationship between humans and software, researchers often depicted algorithms as stable, rigid, reliable, and devoid of uncertainty (Totaro & Ninno, 2014; Harari, 2016; Cheney-Lippold, 2017).

Nevertheless, my fieldwork underscored that the act of composing and overseeing computer code stands as a uniquely uncertain, adaptable, and exacting endeavour. It necessitates perpetual adjustments and remedies, typically undertaken by teams of developers. The interactions, nuances, and interpersonal proficiencies within these teams intricately mould the resulting algorithm. As aptly elucidated by Seaver:

But press on any algorithmic decision and you will find many human ones: people like Brad or his manager deciding that a certain error threshold is acceptable, that one data source should be used over another or that a good recommendation means this, not that. These systems are, as a former head of recommendation at Spotify put it, "human all the way down" (Heath 2015). There is no such thing as an algorithmic decision; there are only ways of seeing decisions as algorithmic (Seaver, 2018, p. 378).

Consequently, Seaver (2018) argues that an anthropology of code must attempt to unpick the wider sociological stories engineers share about the platforms they build.

In many ways, anthropology's engagement with platform technology and its prevailing infrastructures is still in its infancy. Nevertheless, anthropological research thus far has demonstrated a tendency to favour the user's perspective. Few studies focus on the producers of digital technology and indeed the code itself. Perhaps this reflects the various barriers involved in accessing these worlds. Among the primary obstacles encountered, computer code looms as a substantial barrier. The process of becoming proficient in reading and writing programming languages is difficult. Acquiring these skills demands a significant investment of time, often spanning years — an endeavour that not everyone researching this field can readily undertake. Through participant observation, I discerned that engaging with computer code constitutes an

inherently volatile endeavour, marked by emotional strain and uncertainty. This research aims to elucidate the fact that computers do not readily conform to human intentions. Furthermore, computer code serves as a social artefact, not only documenting but also contributing to the state of precarity. It possesses cultural particularities and is intertwined with local discourse, offering profound insights into the platform economy it helps shape.

2.4 Entrepreneurialism and Subjectivity

In recent years contributions to the study of entrepreneurship have focused on 'opportunity' (Dana & Dana, 2008; Bruni, Gherardi, & Poggio, 2004; Thai, Turkina, & Lalonde, 2013). Such studies have focused on the various personal and community strategies that enable individual entrepreneurs to start a business. This literature represents an attempt to understand the early stages of starting a business, particularly how entrepreneurs source and leverage various forms of capital (Alveraz, 1998; Rutherford, (2010); Duffy, 2017). Nevertheless, entrepreneurialism is complicated; entrepreneurship experiences are diverse and often mitigated by one's socioeconomic background. A common theme across this body of literature is an interest in migrant businesses or entrepreneurial projects occurring in underdeveloped countries. While these experiences cannot be ignored, a smaller pool of research focuses on entrepreneurship among less vulnerable groups. What follows is an explorative account of literature focused on tech startups. Here we shall see a common theme emerging; ethnographic enquiries show how these precarious conditions can affect individual working subjectivities in culturally specific and contradictory ways.

2.4.1 Silicon Valley and Precarity

There is a body of literature forging connections between precarity and digital entrepreneurship; much of this research is located in San Francisco and Silicon Valley (Pratt, 2006; Cockanye, 2015; Fraser, 2017). A common theme emerging from these studies is precarious working conditions disguised and even celebrated by discourses of entrepreneurialism. These precarious working conditions can take diverse and invisible forms across the technology sector and have been enabled by the arrival of platform capitalism (Christopherson, 2002; Peck and Theodore, 2010). Indeed Silicon Valley and San Francisco's distinct history is significant when considering the circulation of neoliberal philosophy underpinning this market, its exported technology and its models of product

development that have been taken up worldwide.

Turner's (2006) research traces the work of Stewart Brand, a journalist and entrepreneur who founded the Whole Earth Network. The Whole Earth Network is widely credited as brokering connections between the bohemian world of San Francisco and the newly emerging technology industry of Silicon Valley. Turner's book; *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* explores the ideological histories underpinning the labour market within Silicon Valley. Turner (2006) argues liberal values enabled a view of computer technology as an individual and egalitarian practice. As he explains:

Young Americans encountered a cybernetic vision of the world, one in which material reality could be imagined as an information system. To a generation that had grown up in a world beset by massive armies and by the threat of nuclear holocaust, the cybernetic notion of the globe as a single interlinked pattern of information was deeply comforting in the invisible play of information, many thought they could see the possibility of global harmony (Turner, 2006, p. 5).

Drawing on Turner's work, Cockayne (2015) explores how a liberalised view of computer technology has ultimately reinforced neoliberalism by forging a coalition between libertarianism and Californian counterculture.

This 'Californian Ideology' maintains its enduring and influential history of promoting the beneficial and revolutionary potential of technology. Beyond merely being an 'incubator for newborn technologies,' Silicon Valley also nurtures novel forms of social organization and 'cultural philosophies' (English-Lueck, 2002). In today's landscape, the 'disruption' narratives within this sector exemplify this trend, often serving as a neoliberal endorsement of flexible, precarious, and impermanent work structures facilitated by technological platforms such as Uber and TaskRabbit. These platforms undermine conventional business models and extol the liberal individual as an independent contractor—manifesting as on-demand, temporary, and inadequately compensated labour (English-Lueck, 2002, p. 460).

Much like Silicon Valley, Wellington's technology sector also features prevalent flexible and temporary work arrangements. Despite the limited body of research from Aotearoa on these employment models, similar instances can be identified within various cultural contexts. This is

where the link to counter-culturalism becomes pronounced. Embedded within Wellington's unique tapestry as the 'cultural capital' of Aotearoa, there lies an amalgamation of counter-culturalism and capitalism evident in specific work structures. Through my research, I aim to capture the dynamics of this negotiation within Wellington's startup ecosystem, uncovering the diverse modes of distinction rooted in counter-culturalism that manifest here.

2.4.2 Digital Entrepreneurs

We know much about digital entrepreneurialism from publicly accessible online spaces (Malaby, 2012; Heeks, 2008; Nardi & Kow, 2010; Lee & Lin, 2011; Tempini, 2015; Terranova, 2000; Van Dijk, 2009). Most of this literature unpacks the transactional relationship between online platforms and users supplying free content. A smaller pool of ethnographic research has made connections between digital entrepreneurs and precarity. Duffy's (2017) analysis of fashion bloggers and aspirational work is one such study. On precarity Duffy (2017) writes:

While critical discourses of precarity and instability offer a bleak reckoning of the contemporary labour market, individualist appeals to passion and entrepreneurialism temporarily reroute employment concerns. That is, effective mantras like "Do What You Love" shift workers focus from the present to the future, dangling the prospect of a career where labor and leisure coexist. In his widely invoked 2005 commencement speech at Stanford University, Apples late co-founder Steve Jobs told newly minted grads:

Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do. If you haven't found it yet, keep looking. Don't settle. As with all matters of the heart, you'll know when you find it. And, like any great relationship, it just keeps getting better and better as the years roll on. So keep looking until you find it. Don't settle (2017, p. 226-227).

Kaplan's (2013) research on entrepreneurs alludes to a similar phenomenon occurring among startup networks in New Zealand; she uses the word 'dreams' to describe this, as she states:

They view entrepreneurship as a mindset. This generation, defined by instant digital access, mobile phones and global awareness, has the inclination and the tools to co-create new

products and institutions that better match their dreams for the future (Kaplan, 2013, p. 11).

In addition to Duffy's work, Lukacs' (2013) research traces the sudden popularity of cell phone novels within Japan. This trend saw young people in Japan engaging in the writing and self-publishing of their own cell phone novels, despite the absence of monetary compensation. Japanese youth aspired to eventually transform this endeavour into a viable livelihood. Lukacs (2013) provides further insight into this phenomenon:

My point of departure is that writing cell phone novels is not a pastime to escape from the present, but a means to confront it. The themes of work and collectivity have consistently surfaced in my interviews with novelists. Drawing on this observation, I interpret the cell phone novel phenomenon as a response of young people to their incorporation into a precarious labor regime and their concomitant exclusion from collectivities, such as the workplace and the family, which offered their parents key resources for self-determination. The cell phone novel phenomenon evolved in a particular moment (Lukacs, 2013, p. 45).

This phenomenon highlights a strategy for addressing precarity, a way for individuals to navigate uncertainty. Similarly, my own research participants employ a comparable approach through a counter-cultural distinction—initiating social enterprises as a means of responding to and navigating the challenges of precariousness.

In Wellington, these counter-cultural distinctions manifest prominently within specific geographic locations. Cafes, restaurants, and shared coworking spaces serve as focal points where countercultural ideologies intersect with capitalist dynamics. These spaces become gathering points where individuals congregate to collectively muddle through the uncertainties inherent in the tech market. In Melia's (2018) ethnography of the French startup Copass, he describes the coworking spaces that early-stage startups share. Here he draws on the term 'soul precarity' to illustrate the ongoings of these work environments.

I suggest that coworking was a response to 'soul precarity' in France — its well-to-do populations with clammy hands and crumpled CVs mentioned above — to make space for people 'who needed new horizons in societies that progressively destroyed traditional forms of communities' (Van den Broek 2015c). Reflecting on Berardi's question of, *today, what does it mean to work?* For French coworking entrepreneurs the answer had surprisingly

little to do with work. It had to do instead with establishing spaces of existential resistance against Fordist expectation. Spaces where, as Allison put it, 'the soul can be soulful again' (2012: 362). Entrepreneurship came to encapsulate not only the search for non-institutional business opportunities, but moreover the non-institutional pursuit of self-understanding: 'the ways we define (and find) meaning, energy, and worth' (2012: 349) (Melia, 2018, p. 21).

Melia's (2018) exploration of coworking in France reveals a response to 'soul precarity,' where individuals sought spaces that allowed for existential resistance against Fordist expectations. In a similar vein, my research in Wellington draws parallels as digital workers in this context also seek out spaces where they can collectively address 'soul precarity.' However, it's important to note that while this literature explores the experiences of digital entrepreneurs and precarity, much of it focuses on 'creative work.' Few studies, provide a nuanced account of precarity specific to software engineering. Robehmed's (2015) research *Developing Apps Developing Jordan*, provides this example by exploring how software developers in Jordan make sense of their work within broader labour markets. Robehmed's (2015) research illustrates how tech startup entrepreneurs have incorporated development systems into the stories they tell about their labour. These young people consider their country to be underdeveloped but then distinguish themselves by identifying as progressives. As progressives, they developed subjectivities by taking on the entrepreneurial rationale common across tech startups in Silicon Valley. Here Robehmed argues that the subjectivities of these young entrepreneurs may signify a newly found characteristic of middle-class identity within Jordan (Robehmed, 2015).

So far we have explored how individuals, particularly digital entrepreneurs, respond to precarity through a combination of entrepreneurialism, and non-conformist strategies. In the following section I delve deeper into how both notions of meaningful work and self-worth intersect with entrepreneurial endeavours and how similar dynamics play out within the realm of software engineering. The overarching theme centres on how individuals navigate and challenge precarity through distinctive approaches across different contexts.

2.4.3 Building A Business and Saving The World

Of the ethnographic literature focused on entrepreneurial subjectivities, a common theme emerges. Entrepreneurial narratives amalgamate with local discourses about social responsibility. Achtenhagen & Welter's (2003) research on the success stories of female entrepreneurs published in German business magazines explores the iteration of such themes. Here, female entrepreneurs are celebrated for their business success and sense of social responsibility. In this sense, the 'ideal' entrepreneur can successfully incorporate local community values, discourses of collective benefit, and humanity into their professional subjectivity (Achtenhagen & Welter, 2003).

Within Wellington's startup culture, there is a growing movement toward social enterprise-based business. Here, startup owners endeavour to establish a business model that reinvests profits to advance a particular social purpose or political project rather than distribute them to shareholders. Kaplan's (2013) research on young New Zealand entrepreneurs highlights this theme. As she states:

Young people, in particular, turn to social enterprise, applying their passion for social change and technological savvy to develop startups. The Millennial generation, raised in an online environment, applies digital tools to take ownership over their role as students, consumers and citizens. They use open-source platforms and diverse networks to create new products and services for social good (Kaplan, 2013, p.v).

In building businesses that reject traditional for-profit models these young entrepreneurs position their enterprises as counter-cultural disruptors. Nevertheless, they exist within the context of a hyper-capitalist technology sector. Here resistance to mainstream models is complicated. Egan-Wyer, Muhr, & Rehn's (2018) research on the startup venture SoundCloud saw similar themes, as they explain:

At SoundCloud, both the founders and the employees struggle to negotiate their positions between being a successful company within an obvious corporate growth discourse, and having an organisational identity that emphasises resistance to the former. In both their discourse and their acts, employees at SoundCloud attempt to highlight how working in a startup represents resistance to assumedly more restrictive and less ethical forms of corporate engagement, yet they are embedded in discourses of contemporary capitalism such as market share, growth, valuation, return on investment and the likes, and to a great extent it is this embeddedness that makes it possible to continue upholding a resistance

discourse (Egan-Wyer, Muhr, & Rehn, 2018, p. 59).

Here, Egan-Wyer, Muhr, & Rehn make an essential point; 'resistance' within entrepreneurialism is a paradox that requires negotiation. My research will document how this negotiation occurs within Wellington's startup ecosystem. Here we will see various modes of distinction rooted in counter-culturalism. Although this field seeks to distinguish itself from Wellington's established tech corporations, it is compelled to engage with these organisations. Therefore it must adhere to platform capitalism in many ways. These tensions will be explored in detail in later chapters.

2.5 In Summary

The last five decades have seen substantive changes to ideas of 'work' and what it means to build a life through work. Many scholars point to deindustrialization as the beginning of these changes. Indeed, deindustrialization has resulted in a less secure workforce. A post-industrial economy (Boltanski & Chiapello, 2005) allowed for liberal ideas of individualism and career fulfilment to expand. Morgan and Nelligan's (2018) anecdote about a job advert for a pet accessories marketing role best exemplifies this generational shift. As they explain, "The world had changed a lot since 1979: lumpen labour was apparently no longer required" (Morgan and Nelligan, 2018, p.viii). Indeed, work has moved from a rite of passage into adulthood to an expression of identity within the world. In this context jobseekers are now required to market themselves in new and oddly personal ways. Terms like 'flexibility' (Okura Gagné, 2019, p. 487) and 'bundles of skills' (Urciuoli, 2008, p. 211) are cited by scholars as examples of the problematic ways work is now tethered to subjectivity.

To make sense of an increasingly insecure labour market, scholars in this field utilise the concept of precarity. Within a platform economy the rationalities and unpredictability of market forces intersect with interpersonal life, and experiences of precarity are increasingly common. The literature shows that precarity in the twenty-first century cannot simply be defined through economic insecurity. Rather it encompasses a more ubiquitous deeply unsettling angst-ridden phenomenon which manifests across the multiplicities of social worlds and daily lives. Simply put, precarity needs to be accounted for in the most unexpected places.

Platform economies play a significant role in shaping and constraining the experience of precarity

in intriguing ways. As highlighted in the literature, many platforms rely on 'free labour' from users who share their data through online interactions, perpetuating neoliberal structures within these technologies. For freelancers, the emergence of the new digital landscape has both reduced and enabled the impact of precarity, revealing an intersection between research focused on self-enterprising and digital labor. This intersection underscores the platform economy's role in fostering entrepreneurial subjectivities among digital workers. Nevertheless, there is still a need for qualitative research to explore how producers reject or subvert these processes, as Gershon's (2011) study indicates.

Anthropology's exploration of platform technology and its underlying structures is still at a nascent stage. Existing anthropological research, to a large extent, demonstrates a bias towards the user's perspective, leaving the producers of digital technology, and the code itself, relatively unexamined and in the shadows. This perhaps mirrors the complexities involved in accessing these domains. Among the formidable barriers faced, computer code emerges as a significant challenge as navigating the intricacies of programming languages, both in terms of reading and writing, presents a considerable hurdle. Chapter 6 will delve into the enigmatic field of computers, a domain that includes code. I employ an introspective approach that characterises autoethnographic writing, plunging into the emotional labour intertwined with the job. This is because working with computer code is an experience that tugs at the emotions. The narratives explored within this chapter 6 shed light on a unique interplay between the programmer and the computer. Here, the code possesses almost magical attributes that transcend mere functionality, influencing a developer's sense of immersion within this field, whether augmenting or impeding their sense of *illusio*.

This literature review has illuminated an array of strategies employed by digital workers to establish sustainable livelihoods within precarious markets. A key insight gleaned is that the material components of the technical systems ingrained in platform capitalism play a role in shaping distinct subjectivities that endeavour to contend with increasing precarity. Furthermore, platform capitalism assumes varying local forms, adapting to distinct cultural nuances.

In Wellington, platform capitalism is intertwined with a unique counter-cultural ethos. Navigating and aligning with the differentiating aspects of counter-cultural identity emerges as a coping strategy for my participants in the face of precarity. Moving forward, the subsequent chapter delves deeply into the cultural fabric of my fieldsite, zooming in on Wellington's identity as the creative heart of

Aotearoa and the intricate interplay between counter-culturalism and capitalism that characterises specific work contexts in the city. In this context, Bourdieu's concept of "a feel for the game" becomes pertinent, underscoring how digital workers navigate this multifaceted landscape, offering crucial context for dissecting the entrepreneurial journey and its intricate ties to the phenomenon of precarity.

Chapter Three - Wellington and Digital Labour



Figure 1 Te Whanganui-a-Tara

3.1 Te Whanganui-a-Tara

Māori mythology intricately weaves an illustrative tableau of New Zealand's North Island. The landmass we tread upon, according to this lore, was once the body of a colossal sea creature, Te ika a Māui. The mythical demigod Māui, renowned in legends, hauled Te ika a Māui from the depths of the ocean's expanse (Keenan, 2014). Within this mystic narrative, the eyes of Te ika a Māui find form in the contours of Wellington Harbour and Lake Wairarapa. Other Māori taonga cast Wellington Harbour as a secluded lake, once the dwelling place of taniwha, sea monsters of old. One such taniwha, Ngake, found himself constricted within this aquatic enclave, summoning his might to rupture the lake's boundaries and forge a passage to the Cook Strait Ocean (Keenan, 2014). From the apex of Makara peak, an eminent ridge of Wellington, one gazes upon the vista of Ngake's emancipation: Wellington city harbour.

Expanding upon this mystical landscape, Wellington's geography is a paradoxical interplay of steep hills that converge towards the watery edges. Houses cling to these slopes, nestled in valleys at every turn, and people inhabit the enclaves—those small flat areas between the undulating landscape. This unique topography naturally encourages clustering, fostering a sense of community and facilitating collaborative endeavours. Unlike the sprawling mass of Auckland, Wellington's geographic layout forms a distinctive characteristic, shaping the city into an intriguing cluster of interconnected spaces.

This geographical quirk, with houses pressed tightly together on precipitous slopes, winding streets and corners that seem to defy reason, ranging from century-old residences cradled between ancient church graveyards from a bygone era to modern monoliths of gleaming glass, weaves Wellington into a sprawling tapestry of unforeseen epochs and mesmerizing juxtapositions. This unique topography not only molds the city's physical contours but also begets a symphony of unexpected and enchanting outcomes

This chapter embarks on a journey tracing Wellington's particular evolution — from being a city of bureaucrats to earning the distinction of Aotearoa's 'cultural capital.' To unveil the factors that propelled Wellington into its role as a 'creative city,' we delve into Aotearoa's socio-economic transformation over the past half-century. This exploration involves a close scrutiny of how Aotearoa has navigated the tides of global capitalism, particularly the shift toward neoliberal economics and its far-reaching effects on Wellington's workforce. Amidst these changes, a paradox emerges: as life becomes more uncertain within a neoliberal framework, individuals are concurrently tasked with assuming greater responsibility for their own fortunes.

My writing in this chapter I adopt a semi-autoethnographic tone, interweaving my own teenage encounters with the city alongside narratives gleaned from my fieldwork. This weaving juxtaposes intricate contradictions woven into the fabric of creative markets, while also demonstrating how personal stories shared in this section intersect with narratives of place; ultimately highlighting the foundational roots of creative cities.

The rise of online social platforms has led to the digitisation of the economy, pushing creative workers to curate digital personas across various social media platforms in pursuit of contract-based opportunities. Notably, the connections between Wellington's identity as a creative hub and its burgeoning technology startup sector are significant. As my research will illustrate, the growth of small businesses in this sector is intricately woven into a fabric of interconnected networks shaped by historical contexts, technological advances, and local expertise. As Wellington underwent a profound transformation, shedding its bureaucratic image to emerge as a haven for culture and innovation, this shift, widely acknowledged in academic discourse and celebrated by scholars (Volkerling, 2006; Florida 2005; Tennant, 2012), provided the fertile ground for the subsequent rise of the platform economy.

The concluding section of this chapter delves into a well-documented facet of Wellington's economic evolution across the last two decades: the gradual ascent of café culture. These cafes have evolved into pivotal hubs, carefully engineering connections within the creative workforce while seamlessly integrating their designs into public spaces. Throughout interviews conducted, a recurring theme resonates — Wellington's vibrant culinary scene operates as a dynamic catalyst, providing a platform for startups to thrive and networks to blossom. At this crossroads, a paradox emerges within creative markets where nonconformity transforms into a sought-after commodity embraced by the market. This paradox finds its unique expression in the boutique cafes scattered across Wellington, notably surfacing in the seemingly everyday ritual of enjoying a cup of coffee. It is within this context that this chapter explores the fusion of counter-culturalism and capitalism, an enigmatic characteristic at the heart of Wellington's startup ecosystem.

The city's unique ambiance is marked by a pervasive theme of nonconformity, which also permeates the tech sector job market. Ross (2006) highlights how nonconformity serves as an emblematic symbol of success within creative markets, as demonstrated in his publication *Nice Work if You Can Get It: The Mercurial Career of Creative Industries Policy*. As we shall see, navigating this intricate enigma becomes a pivotal facet of carving one's professional trajectory. Within this context, Bourdieu's concept of "a feel for the game" resonates as a testament to this intricate work. Amidst these contemplations, the most poignant revelation gleaned from these narratives remains the acute self-awareness my participants possess regarding this paradox and their position within the Wellington tech sector.

3.2 Aotearoa and Neoliberalism

To understand the story of how Wellington became a 'creative city'; it is necessary to examine the shifting socioeconomic context of Aotearoa over the last five decades. This requires a closer look at Aotearoa's engagement with global capitalism and, more specifically, the transition into a neoliberal economy and the impact this had on New Zealanders. Aotearoa presents a unique case study in the field of neoliberalism; consequently, there is a wide array of research focused on the transition into a neoliberal economy (Kelsey, 1997; Larner; 1997; Roper, 2006; Humpage, 2014). Compared to other countries, the neoliberal project occurring within Aotearoa emerged as a relatively rapid venture. As Nairn, Higgins and Sligo (2012) state, "New Zealand gained the reputation of going the

furthest and the fastest in the Western world in reforming its economy along these lines" (Nairn et al., 2012, p. 11). Larner (1997) attributes this rapid restructuring to Aotearoa's smaller population and single tier government.

New Zealand has only a single tier government and, because of a small population base, closely linked political, social and economic networks. It is argued that as a consequence of the thin nature of the state in New Zealand, and the paucity of checks and balances, the country was opened to neoliberal reform more completely than most other places. This facilitated rapid adoption of the deregulatory approach, and "a true policy hegemony for the supply-siders" (Larner, 1997, p. 11).

In quick succession the David Lange led government of 1984 undertook a stark change in policy direction. This resulted in a series of large-scale structural changes across Aotearoa's social institutions (Boston, Dalziel, & St John; 1999).

There is a body of Aotearoa based research that documents the impact of these changes had on children and young people (Atwool, 1999; Nairn, Higgins and Sligo, 2012; Humpage, 2010). These authors note how economic inequality began to increase within Aotearoa as a consequence of neoliberalism. During this time, social citizenship was tactfully reframed by governments around the world through discourses of self-responsibility (Fraser & Gordon, 1992). While the project commenced with the Fourth Labour government in 1984, it was maintained by consecutive administrations going forward (Janiewski & Morris, 2005). As Roper (2011, p. 37) highlights "neither the 1999 nor the 2008 elections constitute major turning points in New Zealand's political history because neither government has removed any of the central features of the neoliberal policy regime".

As we have seen so far, this political project is described within literature as an expansive reorganisation of state power and social institutions in the interest of market capitalism (Ong, 2006; Harvey, 2006; Larner, 2003). Consequently, underpinning each restructure was the ideological view that free market logic produces the best socio-economic outcomes for the most people. Internationalisation was also a key feature in Aotearoa's early neoliberal transition. Here the Lange-led government held that New Zealand Markets must further integrate with global capitalism. As Larner (1997, p. 11) explains, this strategy of internationalisation is rooted in Aotearoa's history as

a settler colony.

Commentators who explicitly connect internationalization with the reform program of the Labour government attribute internationalization to the underdeveloped nature of the Aotearoa state. They point out that because Aotearoa was integrated into the capitalist system as a settler colony there has been a long history of foreign involvement in the domestic economy.

The deregulation that occurred across a multitude of markets is described by Peck and Tickell (2002, p. 380) as the 'rollback' stage of neoliberalism. Most notably this stage involves the restructuring of institutions which were formerly instruments of social citizenship; in Aotearoa this also involved restrictions on social welfare and deregulating employment relations.

In discussing these changes, Larner (1997) reminds us of their complexity, highlighting that we must be careful to not exclude the agency of individuals in our descriptions of neoliberalism, as she explains:

Many New Zealanders have begun to frame their political claims in the language of choice, flexibility and the market. To argue that this phenomena is simply the outcome of effective "political manipulation" is an inadequate response that does no justice to the capabilities of those involved (Larner, 1997, p. 12).

Indeed, the sudden impacts of neoliberalism in Aotearoa produced notable changes to public understandings of education, healthcare, and social welfare. Exploring changes across these institutions has been a focus point for social scientists (Kelsey, 2015; Piketty, 2014; Davies, & Bansel, 2007; McGregor, 2001)

Across this literature, a common theme emerges. There is an underlying change in public perceptions about the role social resources should have within society, particular resources like healthcare and education, which were once universally accessible. Here, a common critique of neoliberalism is present, as social services become commodified, welfare reforms reduced, it is assumed that new communities will emerge through markets. Fitzsimons (2000) research explores this idea of market-based communities. Focusing on the relationship between welfare and education Fitzsimons (2000) demonstrates, how community has been reimagined in Aotearoa through the lens

of market mechanisms; "the 'new' approach to social policy depended on reinventing community through their version of social capital" (Fitzsimons, 2000, p. 2).

Aotearoa-based research highlights the impact of neoliberal reforms on citizenship concepts. Kelsey's (1997) critique of such reforms underscores their diverse social consequences. Aotearoa's deregulated economy, prone to instability, accumulates capital faster than other outputs, fostering socioeconomic inequality and shaping citizenship perceptions (Kelsey, 1997). Louise Humpage's work further confirms that neoliberal reforms shifted citizenship perceptions toward market participation over geography and community (Humpage, 2014). This change marginalizes groups less engaged with markets (Humpage, 2010), reflecting the lasting influence of neoliberalism on citizenship and inequality in Aotearoa. As Humpage explains: "feeling undervalued [means that] social cohesion at the society level will remain vulnerable" (Humpage, 2010, p. 21). Woolford & Nelund's (2013) research explores neoliberal citizenship through focusing on bureaucracy, and highlighting how neoliberal citizens are required to be autonomous, self-reliant, entrepreneurial, and actively engaged in organising their life outcomes. Accordingly, they must assume responsibility for their role as citizens. Under this model, citizenship is not universal rather it is obtained through innovation and participation in the market.

In examining this literature, I was often reminded of a poem titled *Wellington* by Bill Manhire. Here Manhire offers an elegant commentary on the weight of 'personal responsibility' and the severity of rising housing inequality, as a lasting consequence of a post neoliberal Wellington.

It's a large town

full of distant figures on the street

with occasional participation.

Someone buys some shares,

Another gets a piece of the action.

Foreign languages are spoken.

A good secretary

is worth her weight in gold.

The man himself

is sitting on a little goldmine.

And down on Lambton Quay

the lads in cars go past, it's raining,

and the boys from Muldoon Real Estate

are breaking someone's arm.

They don't mean harm, really,

it's nobody's business, mainly free

instructive entertainment,

especially if you don't get close

but keep well back like

all the distant figures in the crowd.

So you watch what you can

but pretend to inspect with interest instead

the photographs of desirable private

properties, wondering how close they go

to government valuation. That one's nice.

The question is, do you put your hands

above your head or keep

them in your pockets. Do you want a place

without a garage, could you manage

all those steps. The answer is

the man would simply like you off the streets.

You haven't even got a window

and his is full of houses (Manhire in O'Brien & John, 2018, p. 30)

3.3 Reorganising Labour and State

Indeed, Aotearoa based research continues to demonstrate that neoliberalism is rooted in public discourse in subtle yet pervasive ways. This has significant impacts on socioeconomic practices and individual subjectivity. Here many studies highlight the increasing and distinct challenges individuals face in 'life planning' (Nairn, Higgins & Sligo, 2012). However, neoliberal constructs of citizenship require individuals to be actively engaged in problem-solving, taking risks and thus taking sole responsibility for their circumstances (Woolford & Nelund, 2013). Here a contradiction emerges; as life becomes more precarious within a neoliberal economy, individuals are simultaneously required to take greater responsibility for their fortunes. In documenting this contradiction, one question remains how do individuals grapple with 'life planning' while navigating an increasingly unstable labour market? Larner's (2001) work on Aotearoa call centres is particularly useful here.

To outline the changes in Aotearoa's labour markets, Larner utilizes a Foucauldian analysis of 'governmentality' in documenting the arrival of call center work in Aotearoa. Foucault (2019) argues that governmentality, as examined through institutions, discourses, and practices, shapes the dynamics of power, control, and regulation within societies, influencing the emergence and evolution of various social and economic structures. In this context, Larner employs Foucault's framework to elucidate how governmentality influences the establishment and operations of call centres, shedding light on the intricate relationship between power structures and evolving labour markets. For Larner (2002) a neoliberal economy has enabled 'post-welfarist' (Larner, 2002, p. 652)

possibilities whereby private industry is expanding into what was traditionally state-occupied terrain. As Larner (2001) explains:

Most immediately, this discussion of the CCAI [Call Centre Attraction Initiative] makes a theoretical contribution to the literature on globalisation and governance. It is well understood that new ways of governing are designed to reduce public expenditure and subordinate state activities to the market (Larner, 2001, p. 297).

Here individuals who are marginalised from the workforce are organised by a series of private sector factions. As the aftermath of Aotearoa's neoliberal reforms are experienced individually in diverse ways, yet a common outcome is more complex life transitions (Heinz & Kruger 2001). This is particularly true for young New Zealanders, as Nairn Higgins & Silgo explain:

Individuals move between education and employment on an ongoing basis they develop significant intimate relationships at relatively young ages; they move in and out of the parental home, sometimes well into their twenties; and many embark comparatively late in young adulthood on purchasing a home and starting a family. This complexity contributes to the understanding of many participants that everything is 'up for grabs' and that they are individually responsible for making the 'right choices' about every aspect of their lives (Nairn Higgins & Silgo, 2012, p. 17).

Increasingly uncertain pathways through key life transitions have notable consequences on subjectivity and identity work. As individuals and places become incorporated into the flows and networks of the global economy, processes of neoliberalisation are actively produced and propagated in different ways by institutions, particular labour markets, state actors and individuals (Leyshon, 1997). An example of this is Larner's (2002) research on the call centre labour force, which outlines the importance of unpacking ideas of 'agency' and 'choice':

In this case, state agencies are becoming more market oriented, and private sector agencies are moving into terrain once understood as that of the state. Nor is it being argued that New Zealanders are somehow forced into these new forms of training and employment. Quite obviously, many of those who participate in low wage, part-time, temporary and casualized forms of employment do so by 'choice' because it suits their needs as mothers, home-makers, students etc. Another contribution of the

governmentality literature has been to show how advanced liberalism governs through freedom, that is, through the regulated and accountable 'choices' of autonomous subjects. In this case, the apparent exercise of 'choice' is producing workers for jobs that no one else wants (see also Peck et.al 2001) (Larner, 2002, p. 668).

Here Larner draws attention to the complicated narratives that surround terms such as 'choice' within discussions of neoliberal subjects. By reading this literature I found myself reflexively examining my own life 'choices' in relation to the post neoliberal Wellington that shaped my life as a teenager. Born in the 1990s, I am what Nairn, Higgins & Sligo (2012) would describe as a 'child of Rogernomics'. In the following section I offer a semi-auto ethnographic analysis of Wellington as an emerging 'creative city', drawing connections between the academic literature and my experiences as a teenager. The personal stories shared in this section will demonstrate how creative cities are rooted in intersecting narratives of place.

3.4 Life in Wellington

Wellington as a region comprises five key suburbs; Wellington City, Lower Hutt, Upper Hutt, Porirua suburbs and the Kapiti Coast. I grew up in Porirua where I attended a standard state primary school. Classrooms contained 30+ students. Consequently, one on one teacher time was a scarce resource. While I remained a motivated student, I was diagnosed with dyslexia early on in my primary school education. In a crowded classroom environment, it was challenging for me to keep up academically. My mum was determined for my high school experience to be different. Here she sought out alternative education options. She wanted a smaller classroom environment for me and enrolled me in a Montessori secondary school. The word 'small' in this context, feels like an understatement; at its peak, 80 students were enrolled. The school operated from the floor of an office building on Willis Street in central Wellington. As there were no formal classes, no dedicated schedules and no school fields or outdoor areas, students were encouraged to venture beyond the office walls and find learning in the city. As a teenager I relished this independence.

The city I explored has a rich history of civil-servant employment. Throughout the 20th century, as the capital city and the government's seat, Wellington's economy thrived on the bedrock of civil service work (Zealand, 2015). However, the advent of neoliberal reforms resulted in smaller governments and an expanded private sector (Larner, 1997). The deregulation of various industries

meant businesses had less need to be close to the government. Consequently, many companies relocated to Auckland. Here, the 1980s saw a period of economic downturn for Wellington as unemployment numbers increased. Wellington's economy remained primarily dependent on civil services in the early 1990s (Larner, 1997). However, transformative opportunities were on the horizon. Creative industries such as the film and technology sectors began to grow. A gradual increase in civil service employment opportunities under Prime Minister Clark's Fifth Labour government supported this growth across the city. By the time I started secondary school in 2003, the government employed 14% of Wellington's workforce (Zealand, 2013).

The onset of new civil service jobs saw changes in Wellington's population. Before the 1990s, Wellington was a primarily Pākehā region. By the start of the 21st century, Wellington was markedly more diverse; more Maori and Pasifika communities had moved to the capital (Farmer, 1996). Migrants from India, China, Cambodia, and Vietnam had also relocated to Wellington (Farmer, 1996). The demographic changes of the 1990s saw the establishment of Wellington's various cultural and artistic festivities.

This eclectic and multi-cultural city I had the freedom to explore as a teenager had been undergoing significant change. The state-funded museum Te Papa Tongarewa opened in 1998, echoed these changes and new attempts to market the city as a 'cultural capital'. Indeed, Te Papa Museum is cited by scholars as a deliberate turning point in Wellington's reputation (Brabazon, 2009; Hall & Kearsley, 2001). The museum was established on Wellington's waterfront and opened in 1998. During this time, the *Absolutely Positively Wellington* campaign launched. This campaign centred on promoting Wellington as a tourist destination (Pearce, 2007). Images from the campaign cleverly incorporated an array of distinct but correlative industries, from film, arts and culture, to food and wine; each was bundled together within this campaign in a bid to launder Wellington's image, from a city of bureaucrats to the cultural capital of New Zealand.

I started secondary school in 2003; more than a decade after Wellington had begun this rebranding process. The city council invested heavily in arts and culture to curate this reputation. There were numerous free and low-cost events for a teenager with little money but plenty of time to soak up. I spent time in various city art galleries. I knew the names of regular street performers. I frequented the greenrooms of Wellington's various theatres, talking to the actors. I often went to protests and political demonstrations. I visited the city library every day. I could attend every Te Papa exhibition

for five years in a row.

Looking back on this time, I suspect my parents underestimated just how unstructured my secondary education was. While my newfound freedom left little time for maths and science (something I now regret not prioritising more), these experiences were nevertheless educationally formative. Wellington city challenged my sheltered, middle-class, Pākehā childhood. I first encountered ideas of radical feminism by talking to street artists who were assembling a series of protest pieces to defend Louise Nicholas⁴. I was fourteen when the streets of Wellington flooded with a hikoi.⁵ This was the foreshore and seabed protests of 2004.⁶ Attending these protests introduced me to indigenous land rights; here, I learned about the broken promises and genocidal history that encompasses Ti Tiriti O Waitangi. Much to my parent's horror, radically progressive politics became a crucial part of my political identity from a young age. When I reflect on my teenage years, it is clear that Wellington city, and all it offered, fertilised my interest in the social sciences.

My teenage experiences in Wellington city occurred during what Prime Minister Helen Clark termed as the era 'after neoliberalism.' It was a time when the government fostered tight industry partnerships to cultivate a burgeoning 'knowledge economy' (Lewis et al., 2008). At the time, I was unaware that my own subjectivities were being subtly molded amidst this transformative period. To grasp Wellington's identity as a 'creative city,' it is essential to delve deeper into the post-neoliberal landscape of New Zealand.

⁴Louise Nicholas ONZM is a prominent New Zealand advocate known for her dedicated campaign on behalf of women who have experienced sexual violence. Her efforts have significantly contributed to raising awareness about the rights and support for survivors. In 2022, she was appointed an Officer of the New Zealand Order of Merit (ONZM) in recognition of her impactful work.

⁵A hikoi is a walk or march, and especially a protest march or parade, in New Zealand. The word comes from the Māori language, and often implies a long journey taking many days or weeks.

⁶In April 2004 a hikoi began in Northland in protest against proposed legislation to vest ownership of New Zealand's foreshore and seabed in the Crown. The hikoi arrived in Wellington on 5 May 2004, after picking up numerous supporters on the way south.

3.5 Aotearoa 'after-neoliberalism'

By the late 1990's Aotearoa's Labour government under then-Prime Minister Helen Clark was focused on evolving the neoliberal reforms of the 1980s. A decade after such restructures had shifted the political landscape dramatically, as Lewis, Larner, & Heron (2008) explain:

The grid lines of 'more market' and the 'entrepreneurial self' have given way to the more complex and contested contours of an as yet poorly mapped political terrain (Lewis, 2008, p. 43).

Here the 'knowledge economy' (Lewis et al., 2008) gained traction, and Aotearoa saw a rise in tertiary education. This occurred during a period of rapid technological change, as digital technology began to disrupt large industries. Within this context, the state renegotiated its relationship with the market. Instead of opting for a purely state-owned or purely market-owned enterprise, the Clark-led government sought to develop partnerships with industry. Here innovative and creative projects could access state funding, opening up new possibilities for an emerging creative industry within Aotearoa's primary cities. Clark aimed to repair particular institutions that had been failed by the promise of market-led neoliberalism. During this period, various social science-based research emerged that charted the emerging "creative economies" and the resulting demand and commodification of 'soft-skills' as a fundamental component of a labour market that had transitioned from industrialism to information and service (Urciuoli, 2008; Norman, 2015; Brabazon, 2009). Scholars such as Lewis et al. (2008) have recognized a particular ideological turn in the state's role within the 1990s and have thus described this period as 'after neoliberalism'. As Lewis et al. (2008) explain:

The term 'after-neoliberalism' gives expression to this sense of emergence, its embeddedness in neoliberal governing mentalities extended in new directions, and Prime Minister Helen Clark's claim that 'neoliberalism is over' (Clark, 2002, p. 43)"

Building upon Larner's research, Lewis et al. (2008) explore Aotearoa's designer fashion industry as a focal point of their investigation. This industry is an example of co-constitution projects emerging within an economic context these authors define as 'after-neoliberalism' (Lewis et al., 2008, p. 42). Here designer fashion is not simply a site to promote clothing and fashion trends;

instead, this space also functions to launch and promote particular political projects. Lewis et al. (2008) explore how the industry must negotiate and accommodate a series of intersecting state aspirations:

In these ways, designer fashion enables regional development in the form of clusters and incubators, and community development via workfare and identity production. Much of this work is performed around youth – a recurring trope in both fashion and social development. Targeting young and/or marginalised groups through activities like fashion aims to generate inclusive effects whilst stimulating entrepreneurial and worker subjectivities. It turns attention away from old models of welfare and the bodies of the welfare dependent, and redirects this attention to a new generation that might yet fashion itself as entrepreneurial, global and successful (Lewis et al., 2008, p. 54).

In the aftermath of neoliberal reforms, the lines between the state and the market are blurred. Co-constituted projects like the designer fashion industry represent a new role style of political economy. For Lewis et al. (2008), Aotearoa's designer fashion reveals much about life 'after neoliberalism' (Lewis et al., 2008, p. 45), whereby a new style of political economy is developing. The intersection of state and private ventures entrenches globalisation and promotes ideas about 'Aotearoa' to a global market. As the authors explain:

The DFI [designer fashion industry] is imagined, invented and deployed by multiple state and other agencies as a space for mobilising multiple political projects. It is imagined as an export earner, a set of representations for adding new cultural values to Brand Aotearoa, a basis for reinvigorating the clothing industry, a platform for selling Aotearoa products off-shore, and a frame for promoting economic nationalism, the new economy and social development. It is being asked to play a part in imagining and creating new subjects and spaces such as creative cities, clusters, and globalising, cosmopolitan and socially connected Aotearoaers (Lewis et al., 2008, p. 56).

This research demonstrates that the political projects the designer fashion industry must inhabit are far from singular; moreover, state engagement with this industry is dispersed and messy. More broadly, there is a similar dynamic between Wellington's tech sector and government. The demand for bespoke technology is crucial to Wellington's startup economy. Many of the tech startups began

by developing particular products for government departments and subsequently expanded. The influence of the government has played a role in the expansion of this market; many of the technologies produced have core 'social missions' due to this relationship, as my participants explain:

That all comes back to government, yeah? You can't underestimate the impact of the government on Wellington tech. So much of the growth has come from government partnerships, and that kinda demands a different focus point, you know? So instead of thinking about profit, you also need to demonstrate the social good your product would provide. Because that's what these guys are interested in, they all want something that will make their job easier in the long run.

This story draws attention to the particular intersections of state and market forces. Such intersections can reveal much about how labour informs subjectivity. İşleyen & Kreitmeyr (2021) encountered similar themes. Focusing on the fostering tech markets in Jordan, İşleyen & Kreitmeyr noted how the state assumes complicated positions. Here İşleyen & Kreitmeyr (2021) show how King Abdullah II bin Al-Hussein's 'youth empowerment' strategy, through tech entrepreneurship, allows the state to manage and encourage particular modes of citizenship.

Larner's (2003) research also points to the complex ways the state and market intersect and offer further scholarship about neoliberal subjectivities. For Larner, the mundane and bureaucratic processes that encompass particular labour markets can reveal much about how neoliberal subjects are constituted in Aotearoa but are often overlooked.

'Best practice, audit, contracts, performance indicators, and benchmarks are all techniques worthy of geographical attention, but these were rarely mentioned' (Larner, 2003, p. 511).

The research explored in this section has charted changing labour markets within a post-neoliberal context. Indeed, social science research focused on Aotearoa and neoliberalism continues to demonstrate that we have more to learn about the mundane ways labour is organized in a post-neoliberal economy (Larner, 2001; McGregor and Tweed, 2002). The 'creative city' has provided an influential framework for exploring these labor changes from an emic perspective. This perspective, rooted in the intrinsic values and behaviors of the local workforce, unravels a complex tapestry of interactions and adaptations. My personal experience growing up in this city as a teenager during

the early 2000s allowed me to witness its post-neoliberal changes firsthand. It was a time marked by a myriad of countercultural contradictions, a motif that I will unpack in the ensuing sections through the lens of 'creative cities.' This unique positioning offers valuable insights into the city's transformation and the intricate interplay of these dynamics.

3.6 Becoming a Creative City

Policy discourse promoting the concept of creative industries was popularised by British Prime Minister Tony Blair during the late 90s. Throughout this decade, the concept of a creative labour force gained global momentum. Here governments, particularly in the global north, began introducing policies designed to enable a 'knowledge economy' over traditional industries such as manufacturing. In New Zealand, this shift followed the rapid introduction of neoliberalism, as Tennant (2012) explains:

The emergence late last century of the creative industries concept in New Zealand forms part of a shift in government economic policy that began in 1984. From 1984 New Zealand's economy was radically reformed, with successive Labour and National-led governments introducing and promoting neoliberal economic policies (Tennant, 2012, p. 18).

An analysis of Wellington's economy in the late 1990s affirmed that the city experienced conservative growth (Volkerling, 2008). To further develop its economy, the Wellington city council took note of creative city theorist Richard Florida's research. Florida's (2002) research on American cities and Dublin offered an analysis of new labour markets that were rapidly transforming cities. The city council began implementing a collection of strategies designed to attract the creative industry, as Volkerling (2008) explains:

Under the banner Creative Wellington - Innovation Capital...the Wellington City Council agreed that the city's vision would be based around themes of innovation and creativity- a strategic direction aimed at building on the city's economic performance by attracting and retaining creative people (WCC 2003) (Volkerling, 2006, p. 298).

The 1990s became a period of rapid transformation for Wellington. This sudden transformation would eventually become the first subject of Florida's next (2005) book. Wellington's evolution from a bureaucratic hub to a creative city has been a site of interest for many scholars. Birchfield's (2002) publication, entitled *Absolutely, Positively Leadership. The Story Behind Wellington's Regional Revival* highlights the circumstances that enabled this transformation. A key component was Wellington's compact city planning, an educated population, and space for new industries to supplement recently disassembled manufacturing sectors (Birchfield, 2002). For Wellington, one such industry was film and television production.

As highlighted earlier in this chapter, a distinguishing feature of creative cities is more complicated and transactional relationships between private industry projects and the state. Under Clark's fifth Labour government, the state became more entangled in sectors such as the 'arts'. As Tennant (2012) explains, this relationship shifted "from the traditionally held role of arts patron to advocate of creative output as a viable and thriving contributor to the economy" (Tennant, 2012, p. 18). These new and entangled relationships between state and private partnerships are often inaccessible and challenging for scholars to trace. Fortunately, in focusing on Wellington, much has been documented about the production of Peter Jackson's trilogy films *Lord of the Rings* (LOTR). The industry surrounding these films provides an accessible example for observing how the local and state governments enable and promote the creative industry.

3.6.1 Lord of the Rings Momentum

Arguably one of the most noteworthy breakthroughs in Wellington's reputation unfolded between 1997 and 2000, as Peter Jackson's trilogy films, *Lord of the Rings*, took place. Jackson and his associates Richard Taylor and Tania Rodger established Weta Workshop, a cinematic special effects company, in 1987, and then Weta Digital in 1993 (Brabazon, 2009). Both Weta Workshop and Weta Digital were involved in the production of the trilogy films. These organisations fuelled opportunities for creative work in the city, as both companies began advertising various employment opportunities. The three films were shot simultaneously across Aotearoa New Zealand. The Weta brand became fundamental to the production of these films essentially, propelling Wellington's reputation as a city marked by creative opportunities and connections to Hollywood, as Brabazon explains:

By using Wellington as a base for Peter Jackson's operation and as a filmmaking and creative 'hub', affiliations were formed between cities and regions. Not all of these imaging strategies were 'real' and 'authentic'. For example, during Christmas 2001, Wellington was renamed Middle Earth for the premiere of *The Fellowship of the Ring*. This was not a 'real' relationship, but scaffolding advertising and marketing initiatives (Brabazon, 2009, p. 266).

Brabazon goes on to trace how Weta has forged relationships across Wellington City in order to diversify and expand creative work:

The Lord of the Rings was the moment that thrust Wellington into visibility in the international creative economy. Weta, based in Miramar, which is 15 min from central Wellington and 5 min from the airport, continues this profile not only through effects, but through merchandise, and even a chainmail company. In June 2008, Weta completed the full circle and commenced tours through 'Weta Cave', and an affiliated mini-museum. Entry is free and – not surprisingly – merchandise is available for purchase (Weta Cave, 2009). Weta is a part of a considered building of relationships between diverse sectors, including museums. What ended with Weta Cave commenced with Te Papa (Brabazon, 2009, p. 266).

I have distinct memories of these films and their connection to the city from my teenage life. The world premiere of *Return of the King* was on December 1st, a Monday, a typical school day for me. Instead of heading to my school campus on Willis Street, I hung around the already crowded streets of Courtney Place. I preserved a spot to watch from which to watch the red-carpet event unfold in full view. While this would not be the only film premiere I witnessed during my secondary school years, it is difficult to articulate just how important this event and these films were for Wellingtonians at this time. In his 2005 book *The Flight of Creative Class*: Florida provides some context:

In his words, Jackson had done something unlikely in Wellington, a smallish but exciting cosmopolitan city of roughly 400,000, and one certainly not previously considered a global cultural capital. He has built a permanent facility there that is considered one of the world's most sophisticated filmmaking complexes (Florida, 2005, p. 1.)

In celebration of this project, each year, the city was decorated in the theme of the next film to be

released within the trilogy. See the images below.



Figure 2 Gollum - A Lord of the Rings art display in Wellington



Figure 3 Ringwraith - A Lord of the Rings art display in Wellington



Figure 4 Arrow - A Lord of the Rings art display in Wellington



Figure 5 Nazgul - A Lord of the Rings art display in Wellington



Figure 6 Gandalf on an eagle - A Lord of the Rings art display in Wellington

These films continue to be promoted by the Wellington City Council and the New Zealand Government. The LOTR trilogy has become a creative city success story. The creative industries that emerged from these films' production have continued in film production long after LOTR. The industries rely on temporary and short-term contracts; this is a labour model that remains controversial within the literature. Scholars such as (Banks & O'Connor, 2009) describe these temporary structures as a liberating arrangement for workers, which, unlike traditional employment models, offer a more individualised mode of career curation that promotes freedom (Florida 2002). Comparatively, scholars such as Ross (2006) argue that the "self-promoting rhetoric" (Ross, 2006, p. 14) circulating creative industries only serves to disguise poorer working conditions such as longer hours, less security and traditional employment benefits. Ross (2006) explores how these industries are promoted by governments, citing government press releases highlighting growth in the creative sector. Here Ross (2006) points out a significant blind spot, while these industries are promoted by government; government policy surrounding work-life balance, and job security, have not been enforced within the sectors. As Ross (2006) explains:

The newfound affection of governments all over the world for boosting their 'creative

industries' presents a conundrum. This emerging policy consensus assumes that culture-based enterprise can be promoted as a driver of economic development for cities, regions and nations that want to keep up, catch up, or not be left out of the knowledge society. At the very least, then, the policy spotlight ought to present some new, long-term opportunities for cultural workers accustomed to eke a fragile, makeshift living out of art, expression, design, and performance. So far, however, the terms and framework of the kind of development envisaged by policy-makers seem guaranteed merely to elevate this traditionally unstable work profile into an inspirational model to be emulated by employees in related industrial sectors. If the creative industries become the ones to follow, jobs, in short, may well look more and more like gigs; nice work if you can find it (Ross, 2006, p. 13).

Indeed the emergence of 'gig-like' employment structures within these creative sectors, while celebrated by some as a form of individual autonomy, casts a broader light on labour instability and the persistent imperative to seek work opportunistically. This situation underscores the inherent paradox within the 'creative city' discourse, where governmental advocacy for the expansion of these industries often occurs without commensurate attention to the precarious nature of employment and the absence of conventional labour benefits. The creative economy, as elucidated by Ross (2006), embodies a dualistic character: it offers prospects for cultural practitioners while concurrently potentially normalizing employment insecurity and a 'gig' mindset. This legislative and economic unpredictability within the confluence of state and private sector domains accentuates the formidable challenges confronting individuals endeavouring to secure stable employment within the dynamic milieu of creative industries.

3.6.2 Quantifying a Creative Workforce

With exception of the LOTRs films as an acute and well-documented example, identifying a creative workforce can pose challenges to scholars. Morrison (2011) highlights the difficulties of identifying creative workforces through quantitative data alone. The New Zealand census is commonly utilised to identify this network of professionals. However, restrictive questions make it difficult to capture 'creative work', which relies on flexible and unstable work regimes. Here Morrison (2011) highlights how identifying a 'creative workforce' remains challenging for scholars, some of which continue to question its existence in the first place. Peck's (2005) article *Struggling with the creative class* raised

concerns about Florida's theories, arguing that his book offers little more than a script for urban elites to position themselves in new economic roles. As Peck explains:

The creative-cities script has found, constituted and enrolled a widened civic audience for projects of new-age urban revitalization, anointing favored strategies and privileged actors, determining what must be done, with whom, how and where. And the tone is appropriately declarative and direct: 'I like to tell city leaders that finding ways to help support a local music scene can be just as important as investing in high-tech business and far more effective than building a downtown mall' (Florida, 2002: 229). This is a script that gives urban actors significant new roles, while prodding them with talk of new competitive threats, and on recent evidence they have been extremely keen to get in on the act. A strikingly large number of cities have willingly entrained themselves to Florida's creative vision (2005, p. 742).

While identifying a creative workforce in the industry is complex, Morrison (2011) argues that tertiary education is a common and more easily identifiable feature of a creative class. Taking Wellington City as an example, Morrison (2011) explains:

On the basis of such measurable criteria, Wellington city stands out, not just within the wider Wellington region, but also within the country as a whole. In 2006 an impressive 41.3 percent of 25-60 year olds living in Wellington City had post-secondary degrees, compared with well under half that proportion in the rest of the Wellington region and 18.9 percent in New Zealand as a whole (Morrison, 2011, p. 487).

In addition to Morrison (2011), other research focuses on specific industries, such as film and tourism, in order to document Wellington's creative sector (Leotta & O'Regan, 2014; Pearce, 2007). Brabazon's (2009) opinion piece on Brand Wellington unpacks how creative industries commodify national narratives and imagery.

One way to understand New Zealand's place in international creative industries is to apply an oddly appropriate advertising slogan for a local beverage . . . The slogan that has stayed with the company is 'World Famous in New Zealand' (2009). This phrase captures the paradoxes, confusions, irony, disappointment and confidence in and with the country. A tiny place can be world-famous – in New Zealand. In the context of international creative

industries though, New Zealand is simply world-famous (Brabazon, 2009, p. 262).

Using L&P as an illustrative example, Brabazon (2009) explains how creative industries are rooted in intersecting narratives of place. The economies surrounding these projects are maintained through a networked chain of correlative activities consisting of dense exchanges of data, goods and services; and tangled distributions of labour (Rantisi, Leslie, & Christopherson, 2006). Indeed, there are many connections between Wellington's establishment as a creative city and Wellington's technology startup industry. As my research will demonstrate, the small businesses established within this industry emerge from a chain of interrelated and collaborative networks embedded in history, technology and local knowledge.

There is much debate about the commodification of 'cultural capital' as a branding project within the literature about creative cities. While Florida's (2005) focus on Wellington detailed a positive account of this transformation. In making this case, Florida cited an emerging creative class and the economic benefits Wellington will likely acquire due to this investment.

Comparatively, scholars like Volkerling (2006) speculate about the accuracy of Florida's analysis. Volkerling points out that Florida's analysis ignores the inner workings of creative economies, stating, "Florida made little attempt to account for the origin of the qualities of Wellington's current urban culture" (Volkerling, 2006, p. 296). Additionally, Peck (2005) argues theories of creative cities ultimately reduce the focus of 'city life' to a market model. Here Peck critiques Florida, suggesting that his theories; "work quietly with the grain of extant "neoliberal" development agendas, framed around interurban competition, gentrification, middle-class consumption and place-marketing" (Peck, 2005, p. 740). Indeed, Florida's frameworks for identifying creative cities can help to trace the emergence of post-Fordist economic structures, yet he is often critiqued for placing too much emphasis on consumption, as Brabazon states:

Florida's work offers methods to codify and map the transformation from Fordism to post-Fordism and the new manufacturing economy to a new knowledge economy. But there is a cost when activating this vocabulary. Consumption becomes not only a method of acquisition, but a way of being (2009, p. 251).

Drawing social science beyond New Zealand reveals much about the inner workings of creative economies. Lovink and Rossiter (2007) put together a collection of multi-disciplinary research

exploring creative industries in all forms. This study emerged from the 2006 *Convention on International Creative Industries Research*, held in Amsterdam. While the research demonstrates that work in the creative sector is a consequence of post-Fordism and neoliberal policy, a lack of critical analysis regarding working conditions within the 'creative industries' is highlighted. Lovink and Rossiter (2007) also found that economic insecurity and precarity are increasing conditions among 'creative workers'. Neilson and Rossiter's (2008) research puts 'precarious labour' within the creative industries in a historical context. They explain how precarious labour has long been a condition of capitalism:

Precarity appears as an irregular phenomenon only when set against a Fordist or Keynesian norm. To this, we can add other factors, such as the overproduction of university graduates in Europe or the rise of China and India as economic 'superpowers' in which skilled work can be performed at lower cost. But the point remains. If we look at capitalism in a wider historical and geographical scope, it is precarity that is the norm and not Fordist economic organization (2008, p. 54).

Neilson and Rossiter (2008) show that economic security in such industries is primarily accessible to limited demographics, namely, white men working in the global north. De Peuter (2011) explores the expansion of precarity across creative industries. These scholars highlight how standard employment relationships are undermined, giving way to more flexible working conditions, including a rise of short-term contracts for creative industries workers. Their research demonstrates how freelancing is more accessible than permanent positions, enticing creative industry workers to build careers as freelancers. Indeed many of my participants saw similar themselves as 'freelancers' or 'hustlers', as the following conversations reveal:

So the thing that I like about freelancing is that it teaches you to hunt, right? You know if you're a house cat and you get fed all the time, you forget how to go out and source your own meat. But once you start too..., especially if you can do within a community context, it actually changes your life. You're basically a hustler. You're constantly on the hunt for your next gig, like, it's fun. You never know what you'll be doing next. For sure, it has its stressful times, but it is possible to make a decent living if you figure out how to do it right.

The research conducted thus far reveals varied perspectives on comprehending creative cities and

the internal mechanisms shaping post-Fordist economic frameworks. While Wellington's evolution from a city primarily defined by bureaucrats to a cultural and creative hub has been extensively chronicled and frequently lauded within academic discourse, there exists a notable gap in the examination of the intricate operational dynamics within this transformed economy. Consequently, there is an unexplored terrain awaiting investigation, one that delves into the intricacies of daily labour within this realm.

3.7 Platform Capitalism in Wellington

Job listings across Wellington city enticed my interest in this project early on. A scroll through vacancies websites illustrates the demand for software developers and information technology workers across the city. However, a limited pool of research focuses on Wellington's information & technology sector. Since the early 2000s, Wellington's technology sector has seen significant growth, as Norman (2015) details:

During the past two years, 20 Wellington technology companies have been listed in the top 100 of Deloitte's fastest growing 500 tech companies in Asia Pacific. Wellington now employs 20 percent of New Zealand's information, media and telecommunications workforce the 'quaternary sector' of higher value-adding, knowledge-based service industries. Wellington has 47.8 percent of its economy in this sector compared with the national average of 31.3 percent (Norman, 2015, p. 4).

While Trademe⁷ and Xero⁸ remain the most widely recognised technology companies to emerge from Wellington, many smaller technology companies specialise in building software to service businesses and government. Norman's (2015) research digs deeper into this network; he highlights how the starting point for many of these businesses is identifying a niche problem and developing a technical solution. According to Norman, a network of startups has evolved within a culture of

⁷ Trade Me is New Zealand's largest and most popular online platform for auctions and classified advertisements. The website has become a significant part of the country's online marketplace, connecting buyers and sellers across various categories.

⁸ Xero is a leading provider of cloud-based accounting software designed primarily for small businesses. Headquartered in Wellington, New Zealand, Xero not only offers essential financial management tools but also stands as a notable contributor to the digital workforce in the region.

competition and collaboration. In Wellington, professional networks are concentrated. Small-scale, competing startups experience a cross-pollination of staff and regularly collaborate to solve more widespread problems. Katz and Bradley's (2013) research on entrepreneurial ecosystems in Ohio supports this analysis, as they explain:

The notion of competitiveness between firms and people is deeply ingrained, but in fact, innovation is often collaborative and networked. John Seely Brown, a former chief scientist at Xerox, and John Hagel, of Deloitte Consulting, explain: 'If we look at historical periods and geographical regions characterized by significant economic growth, we certainly find bright individuals and innovative organisations, but we also find something else. These individuals and organisations come together and collaborate in evolving networks of creation, or creation nets. They play off each other, appropriating each other's work, learning from it, building on top of it and then watching and learning from what others do with their own creations (Katz and Bradley, 2013, p. 79-80).

In Wellington, it is not unusual for competing enterprises to collaborate and share data to solve broader industry problems. My participants would often describe this collaborative network as "mission-based"; the primary goal is to discover technical solutions to industry problems. This collaborative approach is also made possible through the production of open-source code. Unlike other commodities, open-source code is freely available; this removes a layer of competitiveness between businesses. I will expand on open-source code and its impact on Wellington networks in later chapters.

In acknowledging this collaborative culture, Norman's (2015) participant has identified the city's density and accessibility as a critical enabler of entrepreneurial networks and tech ecosystem.

One described the compactness of a city focused around its harbour and hemmed in by its hills. Wellington is "a big friendly village ... where it's possible to walk down Lambton Quay and bump into 20 people you know—they can be customers, they can be employees." Another said the city made it 'much easier to maintain networks ... so I think encouraging our staff to get out and walk around is important. How we do social events and catch ups down here is completely different to Auckland' (Norman, 2015, p. 4).

This connection between accessibility and innovation is further supported in my research findings.

Indeed my participants often drew clear distinctions between Wellington and Auckland to emphasise the impact of lifestyle across Wellington's startup economy. Norman's (2015) research saw similar findings. His participants also highlighted the compactness of Wellington city as a substantial advantage in growing their enterprises. As he explains:

This relatively small city means in the words of one ICT developer that "we talk a different language, we talk about relationships first, money second ... in other cities they will switch suppliers at a heartbeat if they can save any money" (Norman, 2015, p. 5).

Indeed Florida's research makes the case such ecosystems are 'place based', as he explains:

Place has replaced the industrial corporation as the key economic and social organizing unit of our time. Cities have always been important engines of economic growth, but they are assuming an even greater importance in today's knowledge-driven innovation economy, in which place-based ecosystems are critical to economic growth (Florida, 2012, p. 188).

These observations reflect my experiences as a teenager roaming the city and anthropologist utilising Wellington as a fieldwork site. Both experiences involved walking. As a teenager, the city was easily accessible to me, and whilst I occasionally caught the bus, events and resources were always within walking distance. During my fieldwork, I would walk across the city to meet various research participants for interviews. These interviews happened in cafés, restaurants and bars, which points to another distinguishing feature of Wellington City.

3.8 Wellington and Coffee

Similarly to LOTR, another well-documented aspect of Wellington's economic transition over the last three decades is a boom in café culture. Cafés have become vital conduits, connecting creative workforces together in carefully crafted public spaces. Throughout my interviews, my participants continued to point to Wellington's food and eating culture as a crucial enabler of their ability to network and grow their startups. Easy access to restaurants and cafés was an ongoing theme within my research findings. This café culture is also enabled by Wellington's particular geography, as Morrison explains:

[Wellington] amplifies communities. It's a crescent of hills pressing the city against the harbour creating a densely packed urban atmosphere where cars intrude on pedestrians and you're never more than 100 metres from a café (Morrison, 2011, p. 489).

Wellington's food and eating culture distinguishes the city from other parts of New Zealand. A sense of irony and counterculture marks the restaurant scene throughout the city; patronising particular restaurants, bars and cafés, displays cultural capital in a city where bohemianism is abundant. In his PhD dissertation, *The Representation of Wellington in New Zealand Tourism Film from 1912 to 2017*, Bonelli (2018) documents how food and eating are distinctly tied to Wellington's identity as a creative city.

Its cultural urban world is then extensively displayed and celebrated: art and craft studios, restorers, street artists and street dancers, theatres, outdoor cultural events, sophisticated restaurants and similarly sophisticated restaurant owners (in fact café and food & wine culture are increasingly becoming an integral and essential part of Wellington's identity) and vintage car exhibitions draw the portrait of a thriving, intellectual and non-conformist urban environment (Bonelli, 2018, p. 158)

Indeed, Wellington's café culture has a particular history that begins with establishing milk bars within the 1930s. This dining culture expanded in the 1950s as tea and coffee houses became prevalent (Ministry for Culture and Heritage, 2014). Today Wellington's culinary landscape is diverse; there are more than 300 cafés throughout the city. There are more cafés per capita in Wellington than that in New York City (Ministry for Culture and Heritage, 2014). This café culture has been promoted and avidly incorporated into Wellington's marketing as New Zealand's creative city. Wellingtonians are avid coffee drinkers; it is common knowledge that a basic flat white contains two shots of espresso coffee. Comparatively, a flat white in Auckland only uses one shot of espresso coffee. The vernacular-style cafés common within Wellington remain artistic spaces that display and document local materials and knowledge.

The establishment of a café culture across Wellington emerged from the social changes I documented earlier, a post-industrial economy, and the propagation of neoliberalism (Bonelli, 2018). Within the 1980s, opportunities for government-based employment were increasingly limited. This resulted in a rise of small businesses, some of which were cafés. The Wellington City

Council aided this process by loosening regulations to encourage investment in small businesses (Bonelli, 2018). As Brabazon (2013) explains, Wellington "in the post-manufacturing age, with population haemorrhaging and economic growth stagnant at best, a new rationale and reason for both economic and social development had to be found" (2013, p. 242).

During the 1980s and the 1990s, Wellington city reinvented its urban identity; cafés across the city are tethered to these changes. As Harvey (1984) points out, the arrival of diverse and new forms of entertainment and consumption identifies a post-industrial economy. A distinguishing component of Wellington cafés is the amalgamation of arts, intellectualism, and consumption. Here the spread of cafés and a related café-culture in the late 1980s and early 1990s can be considered a dawning of Wellington's post-industrial economic structure and identity.

Today, coffee remains a practical way to network within the city. Norman's (2015) research identified coffee as a particular feature of Wellington's tech ecosystem. Norman argues that Wellington's specific geography also enables this café culture. As Norman explains:

In A Roadmap for the Creative City, Charles Landry (2011) noted that creative cities are distinguished by connectivity, networking and liveability. Ways in which Wellington enables this were expressed this way by interviewees: "It's a city where you're surrounded by people with IT specialisations ... entrepreneurial people whose brains can be picked over a cup of coffee (Norman, 2015, p. 5).

Indeed my participants frequently pointed to Wellington's café culture as an important way to network in the city. Many of my participants identified as freelancers or had been freelancing before their current roles. Freelancers, in particular, were explicit about Wellington's many cafés' roles in facilitating their professional networking and landing future work opportunities.

So when I came back to New Zealand, I had this idea of 4 million cups of coffee, and I had been overseas, and I had this idea and sense that, like, I want to understand and sense the potential of New Zealand. You know, I want to just figure out what's going on, and really spend time deep listening and connecting back in with the culture. And one does that through having cups of coffee, and I was like 'well there's only 4 million people in New Zealand, you could actually have 4 million cups of coffee'. So it must have been 2011, and so I didn't quite have 4 million, but I really spent most of 2011 having cups of coffee.

When I started at Enspiral Dev Academy, many of my fellow students were excited to be working so close to Raglan Roast, a coffee shop distinguished by a purposefully simple menu and good coffee. Raglan Roast was founded by a few self-described "barefoot surfers". As a café, it is known for serving the cheapest coffee in Wellington, charging \$3.00 for a flat white. On their website, they explain their story:

It all started back in early 2000 when a few barefoot surfers went seeking a strong brew to power them through their day. With an old coffee machine out the back of their surf shop they started serving cups to their mates and local community all based on a koha⁹ payment system.

With a little curiosity and a touch of kiwi ingenuity, Tony and Bobo decided they would have a crack at creating their own coffee blend. Armed with an old roaster, a weed killer blow torch and some found parts they soon began to see some consistent results. The crowd started growing and the hole in the wall down Volcom Lane started drawing a consistent flow of locals and tourists alike (Raglan Roast, 2020).

In the Wellington café, there is no kitchen; the business operates within a refurbished garage, the walls are lined with old surfboards and the furniture is made from pallets and second-hand pieces, as the photos below detail.

⁹ Koha, rooted in tikanga Māori (Māori customs and traditions), embodies the act of giving. In a formal context, it involves presenting gifts or monetary contributions by visitors (manuhiri) to a host marae as an integral part of a traditional pōwhiri, or welcoming ceremony. Beyond its ceremonial use, koha is a prevalent practice in Aotearoa, encompassing various informal expressions. It is customary to offer a koha, such as food or gifts, when visiting friends and whānau (family), reflecting the significance of reciprocity and mutual support within Māori and New Zealand culture.



Figure 7 Inside Raglan Roast Cafe



Figure 8 A photo captured during fieldwork of me having coffee at Raglan Roast

Throughout my fieldwork, I spent lots of time in this café with other Dev Academy students; they often joked that the closeness of this café motivated them to enrol in the course. In the book *Coffee Culture, Destinations and Tourism*, Jolliffe (2010) noted similar themes about café culture in Wellington.

Some consumers display a preference for cafés that offer unique or alternative products. These cafés may seek to evoke a bohemian atmosphere. Countercultural expressions are characterised by politically motivated art, music produced by small independent record companies, and furnishings that resemble those found in a second hand shop. Even the cafés coffee cups may not match. Furniture and fixtures may be an eclectic mix, such as in the Wellington café, named Offbeat Originals. The staff in bohemian cafés may proudly display distinctive tattoos, body piercings, hairstyles and clothing (2012, p. 45)

By drinking coffee in these spaces, consumers can announce something about themselves and curate a particular professional identity. Roseberry observed a similar trend in his research on American class structures; here he uses the term 'yuppie coffees'

The spread of 'yuppie coffees' has been portrayed as indicative of a desire by certain sections of the middle class to differentiate themselves from the banality of mass culture by consuming exotically 'traditional' products that evoke other, presumably, more intriguing places and times (Jolliffe, 2010, p. 44).

Wellington's particular café scene presents distilled examples of the complicated and contradictory components that enable livelihoods in creative cities. In his 2006 publication *Nice work if you can get it: The mercurial career of creative industries policy*, Ross notes how labour profiles marked by nonconformity are symbolic representations of "successful" creative markets. As Ross (2006) explains:

Maps of the 'creative industries,' as pioneered by the DCMS, include the traditionally unionised commercial sectors, but the entrepreneurial paradigm touted by the policy-makers defiantly points away from the fair standards commonly associated with a union job. The preferred labour profile is more typical of the eponymous struggling artist, whose long-abiding vulnerability to occupational neglect is now magically transformed, under the new order of creativity, into a model of enterprising, risk-tolerant pluck. So, too, the quirky,

nonconformist qualities once cultivated by artists as a guarantee of quasi-autonomy from market dictates are now celebrated as the key for creative souls with portfolio careers to integrate into the global value chains that are central to the new topography of creative markets (Ross, 2006, p. 15).

A contradiction occurs within creative markets. Modes of non-conformity become commodified. Boutique coffee spaces across Wellington are a prime example of this. It is as Rossiter (2006) outlines, creative markets maintain a distinct "Third Way ideology, a centrist political position combining right-wing economic policy with left-wing social policy that celebrates culture, but only if it can translate to financial remuneration" (Rossiter, 2006, p. 19). Much of my fieldwork involved time in cafés and pubs. The countercultural and 'socially progressive' atmosphere of these spaces resonated with my previous teenage life; however, the anthropologist in me remained focused on the many contradictions I observed. I took notice of the particular patrons purchasing coffee at Raglan Roast. Many of these folks were dressed in corporate clothing, heading to work. Some of my participants would meet with potential angel investors to discuss their startup at Raglan Roast. In this example, successful business players negotiated investment arrangements with young tech entrepreneurs in a café that distinguishes itself by its anti-capitalist values. The irony of this dynamic continued to draw my attention. In the book *Coffee Culture, Destinations and Tourism*, Jolliffe (2010) noted similar themes:

Cities as 'places to play' (Fainstein & Judd, 1999: 261-272) are manifestly designed for the middle classes. The city, in other words, conforms to the expectations of the affluent consumers it wishes to attract. In Wellington there has been an interest in hosting events and overseas entertainment acts. cafés have figured in this rise in culture and entertainment...Contemporary café culture intersects with the rise of a knowledge-based and experience oriented economy that valorizes communication, creativity and cosmopolitanism (Jolliffe, 2010, pp. 48-49).

Within these distinctive domains, a discernible anti-corporate ethos permeates the atmosphere, paradoxically serving as the backdrop for extensive corporate networking. In a nuanced twist, the act of partaking in coffee consumption within these precincts transforms progressive and countercultural ideals into commodities tailored for a middle-class clientele—a subtlety that eluded my adolescent self.

In addition to café culture, I noticed similar counter-cultural practices occurring in the startups I worked around. During this time, there was a movement to create 'inclusive' work cultures which can accommodate 'diverse teams' in creative ways. Reducing gender inequality within the Wellington tech sector was a big priority for both Enspiral and Dev Academy. The importance of this work is nearly always justified through an economic lens; 'diverse teams deliver better tech products'. Here progressive political agendas once cultivated by activists are taken up by industry leaders and promoted within the context of a hyper-capitalist market. This hybrid of counter-culturalism and capitalism remains an elusive component of Wellington's startup economy, and navigating this ambiguous arrangement is a critical aspect of career curation, prompting a reflection on Bourdieu's concept of 'a feel for the game'— wherein individuals, through practice, develop an intuitive understanding of the unspoken rules, practices, and social dynamics within a particular field or context, enabling them to adeptly navigate and succeed within it (Bourdieu & Wacquant, 1992).

Yet, perhaps the most striking finding from the stories I collected was how aware my participants were about this paradox and their positions within it. They would narrate their careers histories, pointing to structures inside and outside these systems. For instance, discussing capitalism and concerns about its failures was a frequent interview topic. This level of subjectivity will be unpacked in later chapters. For now, this speaks to the limitations of strictly framing my participants as neoliberal subjects entirely. Nairn Higgins and Sligo (2012) emphasise the importance of striking a balance in the way social scientists write about agency in the context of neoliberalism. When discussing narratives of transition shared by their participants, they make the following argument:

They did use discourses of neoliberalism, and the narratives these discourses inform in their identity work. We want to walk a reasonably fine line here between recognising, on the one hand, that our participants are not the straightforward neoliberal subjects that policy sometimes assumes and, on the other, that they nevertheless make use of the discursive resources of neoliberalism, drawing on these to craft identity and rework the narratives in which they locate themselves (Nairn Higgins and Sligo, 2012, p. 23).

3.9 In Summary

In conclusion, Aotearoa's neoliberal journey stood out for its swift and pronounced transformation compared to other nations. Each restructuring phase was driven by the overarching belief that the principles of a free market yield the most favourable socio-economic outcomes. This ideological stance, however, engenders a paradox: as the neoliberal economy fosters greater precarity in people's lives, it simultaneously demands they shoulder greater responsibility for their own destinies.

Neoliberalism, and post-neoliberalism provide valuable insights into Wellington's history and evolution as a creative city. However, it is crucial to recognise that this concept can sometimes be all-encompassing, risking oversimplification of the choices made by our participants, such as career paths, as mere products of indirect neoliberal constraints. Larner (2002) and Nairn, Higgins & Sligo (2012) demonstrate that a top-down analysis focused solely on the origins of neoliberal subject positions may not yield a comprehensive understanding. Instead, a more compelling inquiry stems from a qualitative perspective that delves into why individuals consciously choose to embrace specific neoliberal subject positions over other alternatives.

Amid these changes, a transformation of labour markets was observed, marked by the rise of "creative economies" and the burgeoning commodification of 'soft-skills' to meet the demands of an evolving labour landscape. The post-neoliberal era has blurred the boundaries between state and market. Within this evolving paradigm, the interplay between Wellington's tech sector and governmental initiatives has demonstrated a similar dynamic, where bespoke technology solutions are crucial for the city's startup ecosystem, often driven and measured by their social impact.

The next chapter delves into the methodological frameworks guiding this research. My journey into this field began at Enspiral Dev Academy, where I immersed myself in computer programming. This chapter elucidates the practical aspects of my fieldwork, defining Wellington's startup economy as the ethnographic field and situating the thesis within this context. By understanding the intricacies of these choices and entry points, we can effectively address the central research question: Why do individuals actively pursue digital work despite its inherent instabilities and uncertainties?

Chapter Four - Bridging the Digital Landscape: Ethnographic Methodology and Entrepreneurial Insights



Figure 9 A photo of me and my team at Dev Academy working on software

Anthropology has a historical tendency to focus on marginalised communities and overlook the powerful elites shaping our modern societies. Laura Nader (1972) astutely highlighted this oversight in her influential article, "Studying Up." In her work, Nader urged anthropologists to venture into the elusive terrain of bureaucratic power structures, revealing how distant corporations and large-scale industries intricately influence the everyday minutiae of our lives (Nader, 1972, p. 5). Nader's call to action resonated within the field, inspiring scholars like Ho (2009) and Mackenzie (2003) to embark on ethnographic journeys within the financial realms sculpted by these elites.

However, gaining access to these spheres of influence often proved to be a formidable challenge, requiring persistence and extensive time investments. As a consequence, our understanding of the entrepreneurial experience in anthropology has largely evolved from a 'study down' approach. This inclination is also mirrored in ethnographic accounts that primarily focus on publicly accessible digital spaces, overlooking the hidden intricacies of institutionally protected background infrastructures, digital archives, and forums.

The purpose of this methodology chapter is twofold. Firstly, it serves as a response to this critical gap in anthropological research. My research endeavours to address this underexplored territory by providing a comprehensive ethnographic account of life within the production point of platform capitalism. In doing so, I aim to reveal the hidden workings of the digital world and the entrepreneurial actors who shape it.

Secondly, this chapter lays out the foundations upon which my research is built. It presents a detailed overview of the methodology employed during my fieldwork, offering transparency to readers regarding the methods used to gather data, conduct interviews, and immerse myself in the multifaceted landscape of digital work and entrepreneurship within the Enspirial network.

The subsequent sections of this chapter will delve into the specific methods, ethical considerations, and theoretical frameworks that guided my research. By the chapter's conclusion, readers will have a clear understanding of how I navigated the intricate terrain of platform capitalism and the Enspirial network, gathering the rich data that forms the basis of this ethnographic exploration.

4.1 Learning to Code and Developer Engagement

The first part of my research revolved around acquiring the technical skills required for this field. As someone not initially proficient in software development, I embarked on a year-long journey of learning computer programming. This process involved immersing myself in the languages of code, gaining proficiency through participation in the Dev Academy boot camp. Over the course of 18 weeks, I collaborated with fellow developers, honing my skills through real-world problem-solving and algorithm development. This educational endeavour allowed me to understand the technical intricacies of digital work, although I recognised that certain aspects would only become comprehensible with extensive experience.

Navigating this highly digitised field posed a unique challenge for my participant observation. Unlike traditional work environments defined by physical spaces, the digital landscape of platform capitalism is characterised by flexibility, with field access defined more by internet connectivity than geography. My limited technical knowledge initially positioned me as a somewhat distant observer. However, as my immersion deepened, I uncovered profound parallels between my role as a young academic and the entrepreneurial pursuits of my research participants.

4.1.1 Engagement with the Enspiral Network

The second component of my research delves into the expansive Enspiral network, a collective of tech entrepreneurs striving to effect positive social and environmental change through entrepreneurial initiatives. Founded in 2008, Enspiral operates as a decentralised network of individuals and organizations. To explore Enspiral ethnographically, I engaged in various activities within the network. I participated in initiatives like the Low Carbon Challenge, a crowdfunding campaign co-founded by Wellington City Council and Enspiral. This experience granted me access to a diverse array of entrepreneurs and venture capitalists, all connected to Enspiral and driven by the goal of launching tech startups with low carbon solutions.

4.1.2 Interviews and Autoethnographic Approach

Throughout my fieldwork, I conducted twenty semi-structured interviews with software developers, tech entrepreneurs, and digital workers, forging connections with individuals deeply embedded in the gig economy. These interviews unearthed narratives intricately woven into the economic context of platform capitalism.

I began these interviews in November 2017 and manually transcribed them, concluding this process in March 2018. This chapter adopts an autoethnographic approach, allowing me to recount my fieldwork experiences. It offers insights into the distinct identity and subjectivity work required of those involved in Wellington's tech sector.

My fieldwork journey illuminates several central themes, including the precarity of digital work, the entrepreneurial spirit within Enspiral, and the construction of self, subjectivity, and identity within the context of platform capitalism. In this chapter, I explore these themes, showcasing the intricate tapestry of digital workers' lives within this evolving realm.

Given the specificity of temporal and situational contexts in shaping professional and social subjectivities and identities, it is crucial to provide comprehensive context and information about participants in order to make sense of excerpts in the text. However, there was an overriding ethical imperative in this study. The participants, many of whom are intimately acquainted with one another and actively engage with academic literature, navigate a professional environment in Wellington where their businesses and livelihoods are deeply interconnected.

Wellington's tech sector is characterized by its tight-knit community, where individuals can easily recognize each other through shared stories and experiences. This interconnectedness, coupled with the participants' engagement with academic publications, raises significant ethical considerations. The potential for participants to read this research and identify themselves or their peers could have serious repercussions, including job loss, damage to business reputations, or exacerbation of already precarious working conditions.

To mitigate these risks, I deliberately chose to limit details about participants. This decision was guided by a commitment to protect the social capital and professional integrity of the participants, many of whom operate within precarious employment contexts. By exercising this discretion, I aimed to avoid contributing to the precarity of their lives and to uphold an ethical standard that prioritizes their well-being and professional security.

In summary, while providing additional context and information about participants' excerpts would have enriched the analysis, the ethical imperative to safeguard participants' identities and livelihoods necessitated limiting that information.

4.1.3 From Resettlement Studies to Software Development

My initial interest in understanding technology startups stems from my Master's research. This project focused on the resettlement experiences of young Bhutanese refugee women. During my fieldwork, I discovered that social media was essential to these young women. Through visual methodologies, I traced the various ways that mobile phone technology and social media are instrumental in helping these young women to adjust to their new lives in New Zealand (Halley, 2014). This study spurred my interest in technology and the unique relationships different groups share with technology. Through my master's research, I knew much had already been written about consumer relationships with technology and digital platforms (for example, Golub 2010, Horst &

Miller 2020, Tufekci & Wilson 2012). However, I found little ethnographic research focused on the production end of this supply chain and most importantly, the computer code itself.

For those unfamiliar with computer programming, code can appear rigid and inflexible; but for software developers, code can be a malleable and compliant tool. To understand computer code, you need to work with it. Mackenzie (2006) argues that "this mutability perhaps explains why software remains surprisingly on the peripheral of many academic and non-academic accounts of new media" (p2). Considering this gap within the literature, my curiosity for the hidden world of computer code grew. Instead of exploring the various ways we consume technology, I decided to approach this world from the perspective of its producers and explore the relationship between software developers and computer code.

4.2 Why Wellington?

Traditional methods of anthropological research are embedded in a geographical context and bounded territories. This has proved more challenging for digital researchers, whose research focus is not always geographically located. Instead, digital activity can be mapped as bursts of intersectional movement. As a result, there is a growing subsection of the discipline focused on digital activity and the internet (Beaulieu, 2004; Boellstorff, 2020; Burrell, 2009; Hine, 2000, 2008; Kozinets, 2010; Postill & Pink, 2012; Postill, 2010). Indeed the internet has transformed social action; this has led to new territories for ethnographic investigation, allowing for creative research methodologies that are no longer entirely geographically grounded but instead emphasise routine, mobility and connectivity (Postill & Pink, 2012).

However, this does not mean that digital activity is entirely divorced from localities. Ethnographic research focused on social media highlights the interplay between local history and politics across online activity. For these reasons, social media scholars such as Kozinets (2010) argue that in the study of "mobile online community use, or video blogging, it might make sense to go to the countries and the people within the countries who are in some senses demonstrating the most advanced or sophisticated uses of technology" (2010, p. 17). As noted, Wellington's technology sector is situated within key intersecting forces, as a creative city, digital workers make use of its various cafés, while working across with multi-sited digital terrains. This research shall explore the various ways these digital sites converge across Wellington to shape particular subjectivities.

In the last decade, Wellington has experienced rapid growth across its technology sector. Many small businesses emerging from this space are started by young entrepreneurs who are building software to mobilise their ideas. Indeed by situating this project within Wellington, I was able to identify connections between online and locality-based realities; this enabled me to ethnographically trace the intersections and juxtapositions between daily work within Wellington's startup economy and the practice of developing software.

4.2.1 Dev Academy

Wellington developers work across an array of rapidly changing digital infrastructures. As a result, their work is constituted by a sense of impermanence and unpredictable outcomes (Rosenberg, 2007). Within this context, the daily practice of tinkering with computer code often relies on an embodied/intuitive understanding of how computers communicate, which is learned through mistakes and daily practice. In this sense, Wellington's technology startups are a shared world produced by ongoing encounters between software developers, entrepreneurs and non-human actors. Here, both developers and entrepreneurs share the same spaces, the same professional networks, and are often the same individual taking on two roles. Like other forms of 'practical' labour, capturing this aspect of the daily work could only be ascertained through participant observation. In speaking with software developers about how to best undertake this research, I soon realised that gaining an emic perspective of the world of computer code required me to learn how to work with computer code myself. I was repeatedly advised to partake in a Dev Bootcamp.

Dev boot camps are growing in popularity throughout the global tech industry (Mulas, Minges, & Applebaum, 2016). They are accelerated apprenticeships designed to give students the technical skills required to attain a developer role at a graduate level within a large technology company. Dev Bootcamps primarily attract students wishing to retrain and enter a new industry quickly. The office space I worked in is open-plan and shared by several tech startup companies. Here, I had the opportunity to meet potential research participants and forge connections to other tech startups and participate in the job itself, that is, working as a developer to build online platforms. My path into this market space was made possible by my participation in Enspiral Dev Academy Bootcamp.

Non-traditional training programs have become more common in a 21st-century context, whereby education is commodified and time spent in educational training is increasingly compressed (Arbeit,

Bentz, Cataldi, & Sanders; 2019). This process has occurred both inside and outside of tertiary institutions; boot camps are one such outcome. Boot camps market themselves as delivering industry-specific skills in a short time frame with high job placement rates for graduating students (Arbeit et al., 2019). These programs are often promoted by policymakers as solutions to retraining or upskilling a 21st-century workforce with the necessary technical skills for a rapidly digitalised economy. As Arbeit et al. (2019) explain:

Bootcamps have differentiated themselves through short, intensive, in-person programs boasting both high placement rates and high beginning salaries (Lohr, 2015). According to popular media and industry players, the boot camp industry has grown rapidly in the number and types of programs offered since it started in 2012 (Eggleston, 2017). However, despite the impact this emerging industry has made on higher education over the past 6 years, the size and scope of the sector and its impact remain unclear. Until now, the only data on these programs and outcomes of attendees have come from industry affiliated groups (Arbeit et al., 2019, p. 1).

In 2015 Wellington's tech sector experienced significant growth; demand for software developers across the city was unrelenting. During this time Wellington tech companies embraced Dev Academy and the steady stream of graduates it could supply. Here a mutually constituted relationship was forged, as Dev Academy was able to produce skilled graduates faster than traditional tertiary training programs. Today Dev Academy has a breadth of relationships across the Wellington tech sector, with many of their former students now in hiring positions themselves.

I began engaging in discussions with Dev Academy about my research goals and possible participation in their Bootcamp program. I sought written consent from them and applied to participate as a regular student. I used anthropology's traditional method of participant observation while upholding anthropological ethical norms, as I did not conduct this research covertly.

Upon enrolment with Dev Academy, I explained my research project to the Dev Academy founders and my tutors. I had initially put together a PowerPoint presentation that would explain my research to my fellow students and other software developers and entrepreneurs working out of the shared office space within Dev Academy's campus. However, in the first week of the course, I was the only student that elected to work from campus. My fellow students did not start working from campus

until the second week of the course; many of them continued to work from home until the boot camp stage of the course commenced, and they were required to be on campus. Moreover, in this first week, I realised that other software developers and entrepreneurs used the working space flexibly. They came and went from the office at different times, often electing to work from home or out of a cafe. I realised it would be challenging to guarantee a time where everyone was in the office to explain my research. It is important to note that this was 2017, before the covid-19 pandemic, in which working from home has become more normalised. I realised that this flexible working culture was enabled by technology, more specifically, Slack¹⁰. Slack was the primary space for circulating information between teams and around the wider office. The most efficient way for me to explain my project was to do this via Slack. So I posted the following message:

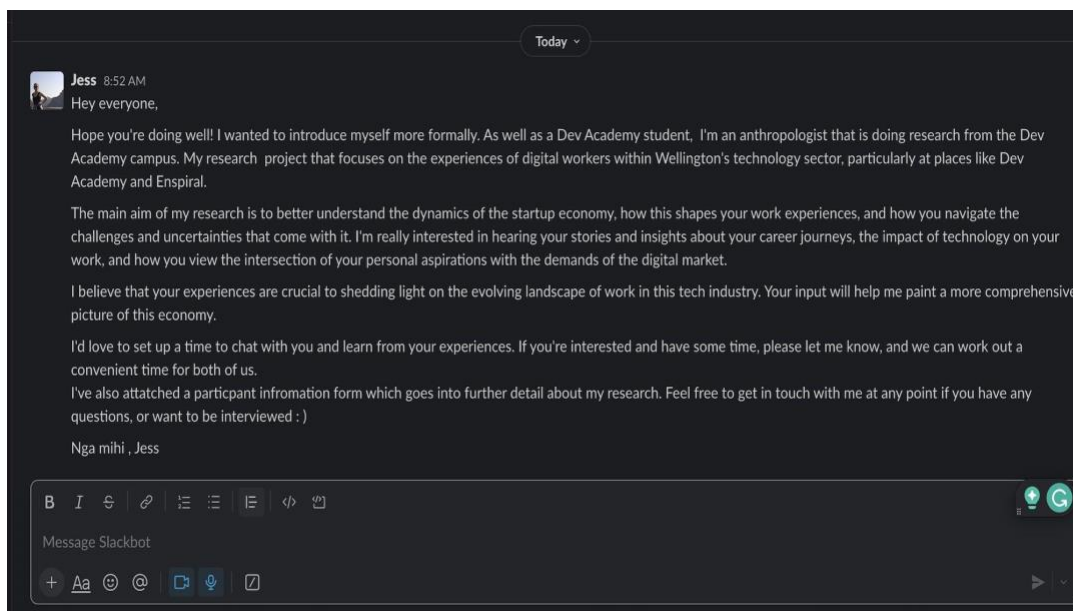


Figure 10 Message posted to Slack, outlining my PhD project

During this phase of my research, a significant development occurred – myself and fellow Dev Academy students were introduced to a broader Slack channel named Enspiral. Intrigued by this new dimension, I decided to share my post in this Enspiral channel as well. As I engaged with this Slack channel, a clearer picture began to emerge: the Dev Academy I was currently enrolled in was more than just an educational program; it was a specific startup, nurtured by the resources and

¹⁰ Slack is a widely used collaborative messaging and communication platform designed for teams and workplaces. It allows for real-time messaging, file sharing, and integration with various third-party applications, facilitating efficient and organised communication within organizations.

support of a larger professional network called Enspiral.

Exploring the concept of Enspiral revealed its complexity. Members often described it as a non-hierarchical collective. Founded in 2008, Enspiral operates as a decentralized network of individuals and organizations, all driven by a shared mission to effect positive social and environmental change through entrepreneurial initiatives. Enspiral's financial structure stands out for its participatory funding model. Here, members contribute a portion of their income to a collective fund, which is then redistributed to back various initiatives within the network. This approach fosters financial transparency, shared ownership, and equitable resource distribution among the members.

One remarkable aspect of Enspiral is the array of businesses and projects that have flourished within its ecosystem. These ventures span diverse sectors but share a common thread of creating bespoke software and technological platforms. For instance, the collaborative decision-making platform Loomio traces its origins to Enspiral, gaining global recognition for its role in participatory decision-making processes. Similarly, Dev Academy, offering coding boot camps to cultivate software developers, plays a part in bolstering New Zealand's tech workforce. Adding to the mix is Chalkle, an online platform facilitating the exchange of community learning events.

Enspiral's distinctive funding and support mechanisms have propelled these ventures, enabling them to expand and contribute meaningfully to their respective domains. The network's core values of collaboration, social responsibility, and entrepreneurship, position it as an exemplar of collective efforts fostering positive change within communities and industries. This facet is explored in depth in the academic literature, a topic I'll delve into further in a later chapter.

For now, it's important to grasp that Enspiral is a renowned network of professionals primarily based in Wellington. As my research continues, I will uncover more intricacies and explore Enspiral's ongoing impact, shedding light on its dynamic role within Wellington's tech sector.

After posting my message in these channels I was surprised to find most people had an understanding of the discipline of anthropology. While I received a few encouraging comments about my project, I was surprised that no one asked me any questions. I worried that I was not clear about this research in these early stages, so I spent time explaining my research to people around the office whenever I had the opportunity. However, as the weeks went by, I saw many posts on the office slack channel about different projects, social experiments, and tests taking place by the

startups working out of this shared space. There was a culture of experimentation across these networks. This was later confirmed to me during interviews.

Yeah, I guess one way to think about Enspiral is, we've done like hundreds of experiments in how we work together, some of those experiments die, some of them get turned into software like Lumio or Co-Budget, some of those experiments sort of fade away, so Better-Means was an experiment that we did around 2010-2011, and it was definitely one of the ones that sort of faded away. The idea was figuring out a new system for paying people, so how you can pay people with like pseudo equity and future money, rather than right now. It informed some thinking, but it didn't last very long.

It's worth highlighting that the Dev Academy campus shares office space with Enspiral. An intriguing aspect of Enspiral's culture is its members' familiarity with engaging in a diverse array of projects and endeavours. Experimentation is ingrained in the workplace ethos. This culture is particularly evident due to the way members seamlessly embrace various roles and initiatives within the Enspiral umbrella. As I started sharing my project within the Enspiral Slack channel, I observed the collaborative spirit first hand. Interestingly, the response to my project was quite seamless and in line with their culture. It seemed that my project was just one more piece in the mosaic of initiatives and projects that Enspiral members were already actively participating in.

During my time at Dev Academy, I was a friend first, a student second, and a fieldworker third. Consequently, I did not secretly conduct fieldwork in this office space; instead, to document the early foreignness that surrounded my ethnographic encounters with this world, I kept a journal of my personal experiences, taking care not to detail the thoughts and actions of my fellow students and friends who—although they had been informed about my research project—were at work.

Dev Academy offers a comprehensive curriculum tailored to the skills graduates require to attain a tech job within Wellington. Although most of my time was spent learning how to code in different languages, other components of the curriculum were not about computer code. Most importantly, every Thursday afternoon, we engaged in a group-facilitated workshop called Engineering Empathy (EE). This work was based on a book entitled *Search Inside Yourself* (Goleman, Tan, & Kabat-Zinn, 2014) and used a method developed by Chade-Meng Tan, a former software engineer at Google who began running mindfulness workshops with his co-workers.

As an outsider's to the world of computer programming, I had assumed working with code involved following formulas and logic and that this work was largely independent with individual developers working on their separate components. Indeed walking into a tech office might feel this way. Everyone is working on their laptops, headphones on, not talking to each other. However, by learning to work with code myself, I came to see that building software is a radically intersubjective process. Professional success as a developer often depends on a strong team and the open-source infrastructure within which your code is situated.

In many ways, this infrastructure is profoundly human and prone to failure. In this context, securing a job in tech requires a particular subjectivity, someone who can work effectively in a team. Dev Academy works closely with a series of Wellington employers; here the request for graduates who can adapt to a team environment is explicitly outlined. Consequently, the Engineering Empathy (EE) component of my training was designed to teach empathy skills specific to the context of highly technical work, work which is dependent on communication within teams, as Beckett, the cofounder of Dev Academy explains:

Employers generally want grads who understand how to work in teams, even if their technical skills are limited. Coding is a skill that can be easily taught. Many of these bigger tech companies have the infrastructure to teach that stuff. But teamwork? That gets a little more complicated. How do you teach someone how to be a good team member? That's complicated. Employers don't want to have to go down that route. So that's one of the reasons why we do the EE stuff. We want our grads to go into the workforce with empathy for others.

Indeed most of the software projects that I was involved in producing were achieved within a dev team, in which I had a particular role. Alternatively, a form of peer-to-peer programming was practised. Here, the Dev Academy course is designed this way in order to reflect the demands of Wellington employers, giving students a practical experience of work within the industry. Most software produced within Wellington emerges through a collaborative process involving multilevel dev teams; each team being responsible for a specific product outcome. At Dev Academy, students are taught to work in this collaborative style by following the Agile methodology and using GitHub, an open-source code repository used across Wellington's tech industry. By building software in teams, using these methods, I was able to experience the intersubjective nature of this work.

When we built recyclehack, communication between all three of us was so essential. Like we all became experts at pushing code into GitHub¹¹, and also deploying to Heroku¹². That process was really complicated. We made a few errors early on because we didn't keep our master file separate. When we merged our code on GitHub, everything was a mess. You can really see how necessary Agile frameworks are. Because we treated that moment, as disappointing as it was, as a learning opportunity. If we didn't have good team communication, I don't reckon we would have recovered from that hurdle."

Moments like this are then able to be leveraged in job interview scenarios. As Beckett explains:

The real value of teaching these skills through teamwork and peer to peer programming is it gives students a taste of the industry itself, and some personal experiences that they can draw from in interview scenarios to demonstrate their ability to work in teams to employers. I tell students all the time, talk about the moments of failure in your interviews, and tell the interviewer what you learned from that situation.

Dev Academy positions itself as counter-cultural, a progressive alternative to tertiary education that reflects the industry itself. In addition to EE, public speaking, Te Reo Māori¹³ and discussions about gender inequality within the tech industry were embedded in the course curriculum. Having skills and a competent understanding of the structural barriers specific to the tech industry is a deliberate way Dev Academy prepares its students for the workforce. It ultimately seeks to transform the sector

¹¹ GitHub is a web-based platform used for version control and collaborative software development. It provides tools for developers to manage and track changes to their code, collaborate with others on coding projects, and maintain a history of their work. GitHub allows multiple individuals to work on the same project simultaneously, managing different branches of code and merging changes seamlessly. It has become a fundamental tool in the field of software development, enabling developers to coordinate their efforts, review code, and contribute to open-source projects effectively.

¹² Heroku is a cloud platform that provides a platform-as-a-service (PaaS) environment for deploying, managing, and scaling applications. It allows developers to focus on writing code without worrying about the underlying infrastructure, servers, or configurations. Heroku supports multiple programming languages and frameworks, making it convenient for developers to deploy web applications, APIs, and other software projects quickly. With its ease of use and scalability features, Heroku has gained popularity as a solution for deploying and hosting web applications without the complexities of traditional server management.

¹³ Te Reo Māori, commonly referred to as Te Reo, is the Māori language of New Zealand. Te Reo is an official language of New Zealand, and its promotion and use are actively encouraged in various aspects of society, including education, media, and public discourse.

into a more equitable field. As Beckett explains

Our students will one day be in positions where they are hiring graduates. Many of our former students already are in that position. And for them to enter the industry with not only technical skills, but an awareness of the structural barriers that affect marginalised groups in this industry, well that's a powerful thing. It's one small way we can participate in positive change and a more inclusive industry.

In addition to this, Dev Academy strives to mirror the workplace practices of Wellington's tech economy. This includes teaching their students the dominant programming languages, and using platforms and open-source packages that are widely integrated into this economy.

By specialising in producing work-ready, graduate-level developers, Dev Academy has developed an array of connections to Wellington's various tech companies.

Across Wellington's startup economy, digital technology is both the primary commodity and an organising infrastructure encompassing this field. Here digital life represents a new and rapidly changing field of work. I found that the 'field' in this context, was a flexible force, untethered to a particular location but always accessible by my mobile phone. When I logged in to various technical infrastructures to produce computer code, I worked in teams, both face to face and through digital portals. In this world, the field moved with me and was defined by my interaction with the various digital spaces I was connected to. For example, after working at Dev Academy for the day, I often took the 6 pm train home. During this time, I remained in constant dialogue with my fellow students, revisiting the files of computer code I had produced that day and talking with them through Slack. In documenting these encounters reflexively, this project observes how digital and face to face encounters intersect in producing software.

Wellington's technology sector has attempted to mirror the performative and more superficial elements of Silicon Valley's workspaces in many ways. Companies are organised as flat corporate hierarchies, which are reflected in open-plan workspaces. Office space has been intentionally designed as a rejection of individualised cubicles. Instead, a wide array of working environments are available; colleagues and teams can choose from couches and bean bags to shared hotdesks. Moreover, recreational and entertainment facilities are always provided. This included a ping pong table, board games, a mediation swing, and an Xbox at the Dev Academy campus. My participants

often explained that organising an office in this way fosters highly productive clusters of teamwork followed by necessary breaks, promoting collaboration and creativity through recreational activities. Google was repeatedly identified as the genesis of this working environment and as the benchmark of a 'fun' work environment. Indeed Google's offices have set a standard across Silicon Valley, as Baldry and Hallier (2010) describe:

Recreation facilities – Workout room with weights and rowing machine, locker rooms, washers and dryers, massage room, assorted video games, Foosball, baby grand piano, pool table, ping pong, roller hockey twice a week' (Google, 2008). It goes on to describe the Google cafe, the snack rooms and to give the address of the nearest 24-hour doughnut shop. Other accounts of the Googleplex mention the volleyball pitch, rock-climbing wall and the facility for staff to travel round the 'campus' on push-scooters (The Sunday Times, 2007b). The message sent by this kind of symbol-rich environment is one of youthfulness (and not necessarily chronological age – the 'inner child' crops up a lot in this kind of discourse), creativity, collaboration and autonomy (Baldry & Hallier, 2010, p. 156).

In Wellington, tech offices are designed to cater to their employees as a 'holistic individual'. While the offices are open plan, employees can work wherever they choose. There is particular space dedicated to wellbeing and entertainment. There are subtle rules to how this space gets used over a working day. Dev Academy is no exception to this as the following stories from my field diary detail:

Today while I was working, all of the lights in the building switched off. Everyone began closing the laptops and leaving the office space. At first, I thought, perhaps this was a fire alarm or something, but instead, everyone seemed to go into the office bathrooms, one at a time. I don't really know anyone yet; it's only my second day here. So I just sat at my desk on my laptop, unsure of what to do. A few minutes later, many people returned in exercise attire and gathered on the floor after moving tables and chairs. They then commenced an hour-long yoga and meditation session. Eventually, a colleague came over and explained what was happening. I was invited to continue working in a separate office where other people, who did not want to participate in the yoga, had moved to. Here the light coming from our laptops would not distract the yoga/mediation session at hand.

Gently, I reached for my laptop and shifted to a different place. It became evident that, in these initial stages, I had not yet acquired the intuitive grasp of the field, or what Bourdieu describes as a 'feel for the game.' There were still rules to be grasped, practices to learn, forms of cultural capital to accumulate, and knowledge to be acquired.

Starting my fieldwork at Enspiral Dev Academy propelled me into a series of networks to explore on completion of the Bootcamp, most crucially the more comprehensive Enspiral network of young entrepreneurs. Additionally, all my fellow students consented to be interviewed for this research. I have conducted semi-structured interviews which focus on their understandings of human relationships with computer code and their position into the broader tech industry. This collection of stories, some of which are my self-reflexive learnings, others shared by participants, detail very personal experiences such as isolation, fear, and triumphs; all generated through the emotional work of producing software. These stories provide an ethnographic eye into Wellington's technology markets from the perspective of young entrepreneurs and junior developers.

4.2.2 Enspiral

Upon completing the Dev Academy program, I worked alongside a small group of my classmates to sell one of the digital platforms we had built (an online recycling index for the Wellington region) and turn a classmate's website into a profitable business. To do this, we leveraged the connections the Dev Academy program has within the more comprehensive Enspiral network. During this time, the wider Enspiral network had formed a partnership with Wellington City Council and had launched the low carbon challenge, a crowdfunding promotional campaign designed to launch startups that deliver low carbon solutions to the community. By participating in the Low Carbon Challenge, I extended my connections within the Enspiral network and met other young entrepreneurs. I interviewed eleven key active members of this network throughout my fieldwork; many of these participants identified as entrepreneurs or freelancers. My interviews with this group circulated different themes compared to my interviews with software developers. Instead of focusing on the intersubjective relationships between computer programs and humans, these participants offered detailed discussions about the realities of establishing social enterprises in precarious economic conditions.

The Enspiral network was launched in 2008 by a group of software engineers working in

Wellington. This network of developers shared an interest in working on projects that are socially driven. Over time Enspiral grew to become an intentionally decentralised collective governed by its more than 300 participants, who work primarily in various technical and creative industries. People working within the Enspiral network share a common interest in redefining boundaries about 'meaningful work' and 'livelihoods' by challenging traditional entrepreneurial methods through the model of social enterprise (a startup that deploys commercial strategies to build a financially sustainable business but is grounded in social impact, and reinvests its profits back into the community).

There is a distinct, socially progressive culture apparent within Enspiral work environments. This is marked by an appreciation of technology and an interest in experimenting with and building technological solutions to social and environmental problems. However, Enspiral members are also aware of the global market forces within which they are embedded. As the following blog excerpt details:

Since the Industrial Revolution commerce has transformed our planet and our society. Our economic systems are shaped and ruled and created by market forces. The global reach of food corporations — like Coca Cola, Nestle, and Unilever, media corporations like Disney, CNN and Fox News, and financial corporations like Citigroup, JP Morgan Chase, and Bank of America — shape the lives of billions of people. But what if rather than trying to ignore (or fight) this unprecedented historical force — we embraced it, and applied it to the creation of positive social and environmental impact? (Zuur, 2016)

Here Zuur acknowledges that global economic forces impact local markets. However, she poses a question to her audience: Can such a force be utilised to create 'positive social and environmental impact?' Enspiral members remain staunch critics of global capitalism, yet they are hopeful; they view the 'market' as a tool to be harnessed for social and environmental good. These young entrepreneurs are aware of the economically precarious conditions surrounding their work, and yet they want to change the world through the businesses they start. This tension is frequently explored through the practice of storytelling.

I conducted interviews with developers throughout my fieldwork and interviews with entrepreneurs and freelancers working within the Enspiral network. While my interviews between these groups

circulated different themes, there were some common interests between the developers working within Enspiral and the wider Enspiral workforce. For instance, both groups of participants shared a criticism of late-capitalism and an interest in climate justice and increasing economic inequality. More importantly, however, is the widespread appreciation of technology across this network. As a professional network founded by developers, there is a culture of problem-solving through experimentations with technology. In particular, the Enspiral network has played a key role in advocating for the expansion of open-source software across Wellington, including hosting various open-source events, and promoting the transition to open-source software within Wellington's established tech businesses.

However, even though there are shared interests between these two groups of professionals, there are also discernible thematic differences. While my interviews with developers offered insights into the intricate relationships between humans and computers, the entrepreneurs and freelancers exhibited another facet of their skills. Unlike many of the software developers I interviewed, these entrepreneurs and freelancers showcased proficiency as skilled storytellers. They provided meticulously detailed and well-practiced accounts of their career trajectories. Furthermore, their narratives were enriched with layers of self-reflective analysis concerning their personal positioning within the structural dynamics of Wellington's technology market.

This level of self-reflection and introspection carried over to their written works, including their blogs and other promotional platforms. Within these platforms, Enspiral members engaged in contemplation about their future prospects within the industry, offering astute critiques of the constraints within the job market. This self-awareness and thoughtfulness set this group apart, highlighting their ability to not only navigate the professional landscape but also to critically examine it from various angles.

In many ways, Enspiral members are the ultimate neoliberal protégés, attempting to solve social and environmental, and even personal problems through a market-based framework. Their stories illustrate the complicated relationships these entrepreneurs have with the businesses they build. These young entrepreneurs are aware of the economically precarious conditions surrounding their work, they reconcile this paradox through the practice of storytelling.

At first glance one might assume that Enspiral members are naive about the realities of

entrepreneurial life and the potential for the free market to be a 'force for good'. This was the assumption I made early on in my fieldwork. However, after spending more time in this network I came to see how reflexive Enspiral members are about the role their work plays within the world. Talking points that framed creative work as socio-economically problematic circulated in this community. In particular, Enspiral members were aware of exploitative structures surrounding digital, immaterial and free labour. The exploitative realities of the gig economy were thoughtfully considered in the construction of their own businesses.

Much like anthropologists, Enspiral members were interested in the points of conflict, tension and intersections that occur in their work. One way they introspect about these moments is through the publication of online blog entries. The stories published in this space are intensely self-reflexive. The authors of these publications share my interests in livelihood building in the gig economy. Through writing, they reflect on the future of work and the economic and environmental forces with which they are embedded. A common topic is the struggles of starting a business.

[Company name], you helped me cut my entrepreneurship teeth. You are the initial reason I ever thought to call myself a social entrepreneur. I'd never even entertained the idea that I could be a business owner (and now I'm the director of four!).

Over the last five years I've seen (and supported) many people start their entrepreneurial journey and start a business. But I have not read many stories about the process of ending a business. And I'm keen to talk about that. I'm keen to share my learnings of what it is like to pour hours into a business and after five years of effort realise that it needs to be something else (Zuur, 2017).

These excerpts illustrate the similarities in our work. Enspiral members speak back to their professional network through writing and publishing about their experiences. In *Dear Chalkle*, Zuur identifies a gap within the literature, stating; 'I have not read many stories about the process of ending a business' (Zuur, 2017). This sentence demonstrates that she is reading other blog entries and responding in turn. Like academia, in this world, publishing writing is an intersubjective process. Her blog documents the experience of closing a business and highlights that there is a lack of understanding about the emotional labour involved in entrepreneurialism. This interest in exploring the obscure and implicit commonalities that occur within entrepreneurial life is a

consistent theme in her writing.

Blog entries like Zuur's will be explored in detail in the following chapters, for now however, they demonstrate our shared interests. Enspiral members are trying to understand the contours of Wellington's startup economy, just as I am. Our shared interest in this topic circulates our interviews. I found Enspiral members would often anticipate the theoretical framework I was interested in through my questions. In many ethnographic texts there is a common boundary held between the work we do as anthropologists and the work our participants do as 'subjects'. But the more I ventured into this world, the more these boundaries fractured.

Within the Enspiral network, self-enterprising is not just a collection of narratives, but a technical skill that gets discussed explicitly. Throughout my fieldwork, I attended various workshops about how to curate particular social media platforms to best market myself. Here I came to see similarities between my career in academia, and that of an entrepreneur or freelancer. The most enduring overlap being the individualised nature of our career paths. Like entrepreneurship and freelancing, a career in academia is ours to construct. Though academics belong to departments, the focus of our research, the curriculums we design, are ours to curate. In this sense, the lessons I learned from Enspiral members about personal branding and marketing felt strangely applicable and useful to my career in academia. I related to the complicated feelings my participants experienced in the work of maintaining a digital presence. I too feel hesitant to share my accomplishments online. However, I also experience a sense of guilt surrounding my lack of activity on digital publishing sites such as ResearchGate and Academia.edu. The expansion of these platforms reflects the ongoing corporatisation of academia, where universities are increasingly influenced by market forces and entrepreneurial models. This shift has significant implications for the subjectivities of academics and scholars, as the traditional notions of stable and collective employment are challenged. There are more extensive conversations to be had about the parameters of such marketplace practices within the university system. For now, this serves to remind us that self-enterprising strategies are pervasive within a wide array of traditionally stable employment sectors, further individualising one's relationship with work. To this extent entrepreneurial subjectivities, in particular, are increasingly complicated, technically fashioned, precarious, and always in the making.

The participants in this study comprise freelancers and business owners within the Enspiral network; a group of well-educated youth with a strong social progressive stance. A significant part of their

work involves unpaid efforts and considerable time spent on social networking tasks. Within the Enspiral community, there's a self-awareness about the challenges of their work and the uncertainties it brings. They also recognise how their social privileges, influenced by factors like class, ethnicity, and gender, play into their situations. This dual awareness is often discussed within Enspiral, and members frequently write blog posts analysing how their socio-economic identities intersect with their work, which also contributes to shaping their online entrepreneurial image.

These young individuals frequently draw upon concepts from Marxist and feminist philosophies, positioning themselves within the sphere of critical scrutiny directed at profit-driven business models while championing the cause of social enterprise. Their purpose is to amass social and cultural capital, a framework expounded upon by Bourdieu (1977). Social capital, in Bourdieu's schema, encompasses the web of connections and networks an individual possesses, which can be strategically employed for personal or collective advantage. Conversely, cultural capital pertains to the reservoir of knowledge, competencies, and cultural assets that individuals hold and can wield effectively within specific social contexts (Bourdieu, 1977).

In Chapter Five, a more comprehensive exploration of these concepts will be undertaken. Nevertheless, it is crucial to underscore at this juncture that as these individuals align themselves with principles drawn from Marxist and feminist philosophies, they fortify their socio-economic principles, augment their reservoir of social and cultural capital, and undergo a transformation in their roles within Wellington's startup ecosystem. However, within a fiercely competitive job market, the embrace of social and cultural capital introduces intricate dimensions to their employment experiences.

Nevertheless, the most remarkable observation was the extensive level of self-reflective engagement manifest within this network. The participants were actively engaging with and critically examining their own environment, drawing on specific socio-economic theories to dissect its intricate dynamics. This occurrence highlights a distinct challenge that my doctoral research addresses, which might have relevance in other realms of digital anthropology. In this landscape, where proponents and creators of social enterprise actively participate in conceptualising and recording their community's condition, a pertinent query arises: what can the anthropologist offer in such a context?

4.2.3 My Participants

After completing the Dev Academy program, I was invited by one of my fellow students to participate in a crowdfunding campaign to launch her startup. The startup drew on an idea she had during our time at Dev Academy. She had built a retail website for recycled baby clothing. The crowd funding campaign she had enrolled her website idea in was called The Low Carbon Challenge (LCC). LCC involved twelve weeks of evening workshops, twice a week. This workshop was created through a partnership between Wellington City council, Enspiral and BNZ. Here participants were offered support growing their ventures, through business mentoring and crowdfunding campaign planning. To be accepted into the program the ventures needed to provide solutions for reducing carbon emissions in Wellington. Engaging in LLC allowed me to meet a variety of entrepreneurs connected into the Enspiral network. This group of entrepreneurs were particularly interested in my PhD. Explaining the focus of my research often resulted in lengthy conversations about a limited job market, and the socio-economic problems that derive from late capitalism. Many of the participants of this group volunteered to be participants in my research. Here I collected interviews about their career trajectories, their strategies for finding employment or marketing their startup, and their hopes and concerns for the future.

During this point in my fieldwork, I found myself drifting through Wellington City. I was no longer working out of the Dev Academy campus every day (though I still worked from the office space while working on the LCC program). Consequently, I would meet people at various cafes for interviews. Through Slack, I was invited to attend particular public 'meetups'. Meetups are workshops, or discussion forums hosted across Wellington's startup networks on various specialist topics. During this time, I would attend the CSS (CSS is a particular computer language) meetup, a woman in tech meetup, and social media marketing meetups. By participating in these events, I became more familiar with the broader startup community and the work these young people were taking on. Many of the discussions at these events were about changing the industry for the better, seeking better working conditions through a more secure gig economy and marketing oneself effectively. Within this period of my fieldwork, I was also invited by Dev Academy's cofounders to participate, alongside my fellow students, in a hackathon hosted by Westpac and Robert Walters recruitment. Hackathons are typically 48 hour events, the goal of which is to generate a functioning piece of software by the end of the period. My team proposed a shared communication platform for

long distance friends to be able watch sports games together, experiencing a virtual stadium. We would eventually win this hackathon. The prize was a full-time permanent employment contract for one of our team members, as one participant describes:

I mean, it was a fucking hunger games style lottery, and only one of us got offered the job in the end.

My participants often vented their frustrations within an insecure job economy, yet they simultaneously pinpointed experiences of insecurity to be a turning point in their lives, a moment whereby they reassessed their career/life choices and resolved to retrain, or journey into entrepreneurship by starting a small business.

Indeed most of the people I met during my fieldwork had worked much of their lives within the 'gig economy', never experiencing reliable, salaried paid employment. They are establishing new businesses and retraining as software developers in the hope of exiting the gig economy and attaining a more stable income. Consequently, the stories about their labour and working subjectivities are framed by the economic circumstances that surround them.

4.3 Digital Work and Wellington

Digital communication is fundamental to the social relationships and professional practices that occur across Wellington's startup economy. Consequently, access to my phone and constant access to the internet were integral to this research. Whilst a large portion of this project was conducted at Enspiral Dev Academy's campus, I also spent time in different startup workspaces across Wellington. For example, I would meet with research participants at particular cafes and pubs. More distinctly, however, was the constant access we had to each other through asynchronous digital communication. This was enabled by Dev Academy, which connected us through an instant messaging application called Slack. Slack forums became a general source for group knowledge, planning, and problem-solving. Importantly, Slack is not specific to Dev Academy; this instant messaging software is used across Wellington's technology sector. Asynchronous communication is enabled by connecting with fellow professionals on Slack.

Consequently, Slack became a primary field site in this research project. I used this tool to learn

about computer code and connect with people working across Wellington's startup economy, organise interviews, share research documents, explain my project, and so on. Consequently, locations and geographical space changed throughout my fieldwork as digital and physical realms diverge and converge. In this context, technology in a variety of forms is an integral part of daily practice and cannot be separated from face-to-face encounters. Indeed many professional relationships across Wellington occur and are maintained exclusively within technology. Consequently, familiarising myself with particular technologies became crucial to accessing this field.

4.3.1 Entrepreneurial Identities

In Wellington entrepreneurs are not solely celebrated for their business achievements but also for their commitment to societal well-being. This 'ideal' entrepreneur successfully integrates local community values and discourses of collective benefit into their professional identity (Achtenhagen & Welter, 2003).

During my initial fieldwork stages, I was struck by the participants' deep reflexivity about their industry's impact on the world. In Wellington's startup culture, a rising movement toward social enterprise-based businesses prevails. Startup owners aim to establish a business model that channels profits into advancing specific social purposes or political causes instead of distributing them among shareholders. Kaplan's (2013) research on young New Zealand entrepreneurs reinforces this trend, as she highlights:

Young people in particular turn to social enterprise, applying their passion for social change and technological savvy to develop startups. The Millennial generation, raised in an online environment, applies digital tools to take ownership over their role as students, consumers and citizens. They use open-source platforms and diverse networks to create new products and services for social good (2013, p.v).

In this context, businesses must do more than make a profit; they are also charged with saving the world. To tell the ethnographic stories of this economy, my research draws not only on academic theory but on my participant's economic theories about this world of work. Their stories highlight explicit connections between 'Wellingtonness' and the day-to-day practice of working with code.

4.4 In Summary

At the outset of my fieldwork journey, I delved deep into the intricate world of computer programming, a realm teeming with uncertainty, adaptability, and the quest for precision. As I navigated this complex landscape, I realized that coding is more than just a mechanical task—it's an interplay of human intellect, emotions, and digital algorithms. The dynamics between developers and the intricate web of computer code form an intersubjective relationship, rich with interactions, subtleties, and collaborative efforts within developer teams.

Learning computer programming was not just about mastering technical skills; it demanded an emotional investment in my interaction with the computer. This emotional connection meant that the computer held the power to shape my career path. The ongoing relationship required a continuous dedication to the technological infrastructure preserving the code, reflecting what Bourdieu termed 'illusio'—a deep-seated commitment to this digital framework.

As I delved deeper into my fieldwork, I began to notice the high levels of 'illusio' among the Enspiral network members, signifying their intuitive understanding of how to navigate the complex world of tech work and their own positioning within Wellington's tech market. This awareness of their place in the industry became increasingly evident as they contemplated the societal responsibilities and impact of their work. For these individuals, work extended beyond mere financial commitment; it morphed into a curious blend of personal and political endeavours.

These young entrepreneurs harnessed the market not solely for monetary gain but, they claimed, to tackle pressing social and environmental challenges. They adeptly fused their business acumen with a mission to effect positive change in the world. The ethnographic narratives that emerged from these interactions drew from academic theories and the participants' own economic philosophies, shedding light on the intricate interplay between 'Wellingtonness' and the everyday work of producing software. These narratives provided an insider's perspective into Wellington's startup culture, emphasizing the fusion of personal values and professional missions in this counter-cultural ecosystem.

Transitioning to the next chapter, I employ Bourdieu's theoretical framework to understand the rationale behind individuals' decisions to venture into an unpredictable job market. The participants

engaged in dialogues which deeply probed the influence of social structures on their career paths while also revealing their agency; the times in which they were able to resist imposed norms. The interplay between structure and agency emerged as a recurring theme, with structure more often exerting its influence over career trajectories and shaping responses to the persistent precarity that characterised the digital labour market. Using Bourdieu and Wacquant's concept of 'bundles of relations,' participants viewed their career paths as dynamic relational endeavours under their active stewardship (1992, p. 16). This intricate exploration shed light on the driving forces behind individuals' pursuit of professional paths despite daunting odds, ultimately highlighting the roles of both social structures and human agency in shaping the unique experiences of digital workers in Wellington.

Chapter Five - Navigating the Paradox:

Bourdieu's Lens on Wellington's Platform Economy

This project delves into an ethnographic examination of work practices, working identities, and subjectivities, particularly focusing on the paradoxical lives of my participants. In this endeavour, Bourdieu's theoretical concepts prove highly generative, providing a robust framework for understanding and unravelling these paradoxes. Bourdieu's theory, developed through meticulous ethnographic practices and an inductive approach, offers valuable insights into the complexities of real-world social action. Key theoretical concepts such as habitus, capital, field, and *illusio* enable a comprehensive analysis of how individuals navigate their work contexts, revealing the intricate interplay between social structures and individual agency. By applying these theoretical concepts, my research seeks to elucidate the experiences faced by digital workers, shedding light on their negotiation processes between prescribed social rules, subjectivity and agency. By using Bourdieu in this way, I aim to deepen our understanding of the nuanced lives of digital workers, thus contributing to a broader scholarly comprehension of the multifaceted dynamics inherent in contemporary workplaces.

5.1 Bourdieu and Wellington's Digital Workers

Despite being keenly aware of the inherent precarity embedded within the broader market and maintaining a critical stance towards it, digital workers in this economy persist in creating new digital platforms and launching businesses. This juxtaposition of attitudes and actions exemplifies the paradoxical dynamics that permeated every facet of my fieldwork, ranging from examining participants' career histories to observing the intricacies of writing computer code. To grasp the intricacies of these contradictory lives, it became imperative to employ a theoretical framework capable of navigating and addressing such contradictions. This led me to consider the tension between structure and agency, an ontological theme addressed by numerous social theories. At its core, this dichotomy raises a fundamental question: to what extent are peoples' actions shaped by

external social structures, such as institutions, norms, and power relations (structure), versus the intentional actions and decisions made by individuals (agency)?

For the purposes of this research, Bourdieu's theoretical tools of habitus, field, capital, and *illusio* provide a robust lens to examine the paradoxical elements of my fieldwork. What sets Bourdieu's framework apart is its ability to go beyond narrative analysis, providing a systematic exploration of social actions within specific social environments. By employing Bourdieu's framework, I can shed light on how participants reconcile the paradoxes they encounter through their everyday choices, and why individuals make choices that may appear contradictory to their own interests, uncovering deeper insights into the complex dynamics of digital work in contemporary society.

Through the concept of habitus, Bourdieu captures the relational dynamic between wider social structures and personal history. Habitus is understood as the mediator of practice, encompassing the internalised dispositions, habits, and cognitive frameworks individuals acquire through socialisation (Bourdieu, 1991). It operates as a guiding force, shaping their perceptions, judgments, and actions by providing a set of embodied dispositions. In essence, habitus offers valuable insights into the formation of "selves," presenting a relational perspective on how individuals shape their identities and subjectivities within a social context (and are simultaneously shaped by that context). These dispositions are not only individual attributes but also reflect the collective experience and influence of social groups, institutions, and cultural norms (Bourdieu, 1990c). To this extent, habitus is a property of both individuals and collectives (Bourdieu, 1990c).

In articulating this relational dynamic, Bourdieu recognises that social life is characterised by the presence of various social arenas known as fields, including the economy, education, art, politics, and more. Each field possesses its own distinct set of rules, hierarchies, and practices (Bourdieu, 1991). Through the concept of fields, scholars can chart how individuals navigate each field and strategically adopt particular practices and strategies in their pursuit of acquiring resources—both material and immaterial—that hold value within those fields. These resources are referred to as capitals by Bourdieu. To understand the motivations and driving forces that propel individuals to engage and compete within specific fields, Bourdieu employs the concept of '*illusio*'. *Illusio* refers to the subjective belief and investment individuals have in a particular field, wherein they find meaning, purpose, and satisfaction in participating and striving for success within that field (Bourdieu & Wacquant, 1992). It helps us make sense of why individuals choose to invest their

time, efforts, and aspirations in specific fields, despite the inherent risks and uncertainties involved.

His theory acknowledges that modes of practice are not uniform across all social contexts but are field-specific. Finally, Bourdieu allows for an analysis of symbolic meaning. In analysing daily practice, Bourdieu acknowledges that different social practices and behaviours carry symbolic as well as material value (capital) and also contribute to the reproduction of social structures and their inherent hierarchies (Bourdieu, 1986). For example, the ability to write beautiful code amongst programmers enables the accrual of both economic and symbolic capital. Bourdieu's theory allows an examination of how individuals engage in and interpret these symbolic practices, contributing to the reproduction or transformation of social hierarchies.

The interplay between habitus, field, and capital contributes to a wider theory of identity formation (Bourdieu, 1990c). Individuals' habitus, shaped by their social background, influences the types of capital they possess and value. The field provides the social context and rules within which individuals navigate and compete for different forms of capital. By accumulating and deploying capital in a particular field, individuals position themselves and establish their identities within that field. Overall, Bourdieu's concepts of habitus, field, capital and *illusio* provide a framework for understanding how social structures, individual dispositions, and the dynamics of specific social arenas interact to shape peoples' identities subjectivities and positions within society (Bourdieu, 1990). He offers a flexible theory of human action that emphasizes the importance of personal strategies in understanding subjectivity while simultaneously attending to the shaping power of structures.

The participants in my study frequently discussed the influence of social structures on their career paths. Many of these accounts highlighted instances where people intentionally rejected or felt alienated from these structures, deviating from the norms they imposed. This creates tension between social structures and individual agency, which is evident in the paradoxes observed within Wellington's startup economy. This research delves into the tension between individuals' self-reflexive awareness of social structures shaping and determining their experiences, and the realities of limited agency and potential for change. It aims to illuminate the personal strategies that drive these workers and shape their subjectivity within this complex interplay. To accomplish this, I draw on the four key ideas from Bourdieu (habitus, field, capital and *illusio*) that I have introduced. I now delve into those concepts more deeply and explain what work they will do in my analysis.

5.2 Navigating Precarity: The Generative Habitus of Digital Work

To put it plainly, habitus is useful in understanding life projects, as Flisbäck (2014) explains:

Individuals pursuing their life projects always find themselves situated in different fields and spaces at different points in time. The individual mark of each one's habitus is thus always a relatively unique set of life experiences that unfold over time and that combine in different social settings. In other words, our habitus is created processually in the face of the rules and rewards derived from diverse and simultaneously constituted social environments (Flisbäck, 2014, p. 57).

Bourdieu views social structures as enduring patterns of social organisation shaped by institutions, norms, values, roles, and hierarchies. These structures provide a framework that both shapes and constrains individuals' behaviours, interactions, and opportunities within a specific social context. Habitus encompasses the internalisation of external social structures, reflecting how individuals assimilate and embody the social norms, expectations, and patterns of the fields in which they operate. It refers to the dispositions acquired through ongoing socialization, operating at a pre-reflective level to shape individuals' perceptions, judgments, and actions.

Bourdieu describes habitus as a 'generative principle of regulated improvisations' (1990, p. 57), highlighting its role in guiding individuals' practices. Once internalised, habitus becomes transposable, shaping an individual's actions across various fields of engagement. In essence, habitus is formed through daily practice, serving as a guiding force that influences individuals' behaviours and responses within their social contexts.

I will use the concept of habitus to make sense of digital workers' daily work practices in the field of platform capitalism. Through deep, practical engagement in the field, these workers develop the kinds of knowledges and strategies that enable them to negotiate and operate within Wellington's tech sector. Through minutiae of trial and error and working out what does and doesn't work, people come to know the shape of the field. As Bourdieu observes, it is our daily practices which expose us to "obligatory routes and impassable barriers" that shape our "common sense" and expectations

of the world (2000, p. 225).

I will also use the concept of habitus to investigate the work of computer programming, showing how this routine work is productive of subjectivity and identity. I will demonstrate that programming itself shapes both the broader platform economy and the people who engage in this field. Specifically, computer programming creates a distinct self that can endure periods of material and subjective uncertainty. This labour perpetuates platform capitalism, in turn engendering the particular kind of habitus necessary for the strategic navigation of the uncertainty inherent to the field.

The habitus formed through programming and working in Wellington's platform economy reflects a distinctive blend of technical proficiency, adaptive learning, and strategic relational skills. This amalgam is cultivated in response to the constantly evolving language infrastructures and the pervasive forces of obsolescence within the digital sector. The platform economy in Wellington offers diverse career options for digital workers, necessitating continuous learning, adaptation, and innovation of technical and relational skills to navigate the uncertainties of the field. Achieving ongoing employment in this context requires the cultivation of a particular habitus, which also serves as a space for personal strategy development. For my participants, career trajectories are seen as relational projects or 'bundles of relations' (Bourdieu & Wacquant, 1992, p. 16), emphasizing the importance of managing relationships alongside technical expertise. In chapters 9-11, I delve into the subjectivity work within this economy, revealing how digital workers grapple with persistent paradoxes and strategically craft their identities in response to the shaping influence of the field. Within this analytical framework, habitus provides a lens to examine moments of discontinuity and paradox, allowing a nuanced exploration of how digital work shapes subjectivity in the context of an inherently paradoxical field.

To gain a comprehensive understanding of my participants' precarious lives and selves, it is crucial to document the numerous paradoxes that shape their career projects. Indeed, there are several shared characteristics within the habitus of Wellington digital workers.

Firstly, habitus is generated by code and cultivated through learning and practical experience with coding. The ability to navigate and work effectively within this technological domain is a central aspect of their habitus. Additionally, the habitus includes the ability to cope with the lack of control

inherent in the field. Participants must adapt to the unpredictable nature of the industry, where outcomes can be uncertain and beyond their immediate influence. This necessitates a resilience and flexibility that becomes ingrained in habitus.

Another crucial characteristic is the capacity to cope with failure. In this dynamic and rapidly evolving field, failures and setbacks are common. In this world of work, individuals are encouraged to learn from failures, iterate, and persist when confronted with challenges. This ingrained disposition also includes a drive for continuous learning and upskilling. Given the ever-changing nature of technology and the constant obsolescence of knowledge, participants in the field of the Wellington tech sector possess a habitus that embraces lifelong learning and the necessity of continuous self-improvement.

Self-confidence is another defining trait of the habitus. Participants possess a belief in their ability to solve problems, overcome obstacles, and make things happen. They invest in themselves and their identities as capable agents within the field. Moreover, aspects of this habitus are marked by introspection and self-analysis. This paradoxical environment fosters heightened self-reflection, encouraging people to critically examine their actions, decisions, and place within the larger social and economic context.

In the field of Wellington's tech sector, habitus is shaped by the specific conditions of platform capitalism, which engender precarity and uncertainty. To build a livelihood in this field individuals must cope with the precarious nature of work. Moreover, this reality nurtures a particular politics, with participants often adopting a critical social activist stance. They are attuned to the social implications of technology and the need to challenge dominant power structures, advocating for more equitable and inclusive practices within the industry.

As individuals move through life, their dispositions and social experiences shape a profound understanding of the world and how to manoeuvre within it. Mahar (1987) describes this as the 'feel for the game,' whereby habitus generates adaptive strategies for endless situations (Mahar, 1987, p. 44). In the context of digital work, developing a 'feel for the game' involves cultivating a career strategy and a subjectivity that can cope with enduring change and respond to the demands of the platform economy.

5.3 Introducing Three Key Fields: Enspiral, the Tech Sector and Wellington City

The concept of habitus prompts the exploration of the factors influencing people's choices and actions. Bourdieu's concept of the field provides an analysis of the social context and rules that play a crucial role in shaping these choices and actions. Bourdieu's conceptualisation of the "field" serves as a framework to delineate specific realms of social activity. Fields are characterised by structured sets of social relations, both objective and symbolic, and the presence of different forms of capital. Hence, habitus and field engage in a reciprocal process of influence and mutual shaping, whereby the dynamics of fields exert an impact on individuals' subjectivities, identities, and strategies. Rather than purely theoretical constructs, fields are practical apparatuses designed to facilitate specific activities.

Fields are not neutral spaces; instead, they are competitive arenas where individuals strategically navigate to amass capital. In Bourdieu's framework, a field represents a distinct domain of social activity characterised by objective relations and rules. These fields are considered battlegrounds, where actors engage in competition to accumulate diverse forms of capital and, in turn, acquire power. Consequently, fields are structured by both objective power relations and symbolic dynamics, which become evident through the distribution of various types of capital, as Bourdieu explains; "The field as a whole is defined as a system of deviations on different levels and nothing, either in the institutions or in the agents, the acts or discourses they produce, has meaning except relationally, by virtue of the interplay of oppositions and distinctions" (Bourdieu; 1991, p. 185). Crucially, fields are sites of social distinction. Strategies of distinction involve displaying cultural markers, engaging in specific practices, or associating with certain social groups that are perceived as prestigious or valuable within the field. Through distinction, individuals accumulate and deploy various forms of capital, aiming to gain an advantage or achieve symbolic recognition. The concept of the field proves crucial in understanding how social structures shape individual actions, as well as how actors actively engage in shaping and contesting those very structures.

Chapters 7-8 of my research interrogate how my participants' strategies are both constrained and enabled by the fields they engaged in. I uncover a range of logics that my participants have acquired

to develop a keen "feel for the game," enabling them to build a livelihood within Wellington's platform economy. Within this research, three key fields have been analysed: Enspiral (a countercultural alternative to big tech), Wellington City (encompassing public sector and creative city work), and the Wellington tech sector (including commercial tech companies). Each field operates within specific structural frameworks that contribute to the production of precarity, introspection, and other elements of habitus. Enspiral's countercultural position challenges traditional structures, fostering a space of non-conformity and critical self-reflection. The non-hierarchical structure of this field necessitates constant ambiguity, intensifying the sense of precarity. In Wellington City, the public sector operates within budget constraints and changing policies, while creative city work offers expressive opportunities but often involves project-based and short-term contracts, leading to job insecurity. The diverse range of organisations in Wellington City creates a competitive environment, spurring individuals to continually prove their worth and fostering introspection. Similarly, within Wellington's tech sector, despite job availability, the industry's high competitiveness and rapid technological advancements contribute to job insecurity and the need for ongoing upskilling. These structural elements, combined with the social, economic, and cultural contexts of each field, shape the habitus of individuals and provide the necessary space for cultivating specific dispositions. Within these fields, a distinct habitus emerges characterised by self-confidence, introspection, and an entrepreneurial mindset. As a response to precarity, individuals adopt roles such as social entrepreneurs or activists, actively employing strategies to address the challenges they encounter.

5.4 A Nexus of Cultural Capitals Circulate within Wellingtons Platform Economy

The discussion of capital serves the purpose of illuminating the stakes within the field, identifying what holds value and why people choose to enter and invest themselves in it. Economic, social, and cultural capitals play integral roles in shaping the dynamics of the analysed fields. Economic capital assumes crucial significance in this sector, empowering individuals to invest in their career trajectories, fund entrepreneurial ventures, and pursue opportunities for further accumulation. The desire for financial gains and rewards propels individuals to seek lucrative projects and secure high-paying positions. Simultaneously, social and cultural capitals come into play, influencing

networking opportunities, access to resources, and social recognition. By exploring the value and distribution of capital within the field, we gain a deeper understanding of what individuals hope to gain and the incentives driving their active engagement in the competitive landscape of Wellington's tech sector.

Social capital further describes the particular networks available to people within a given field. As Bourdieu explains, "The extent of an agent's social capital depends on the size of the network of connections he or she can effectively mobilise, as well as the amount of economic, cultural, or symbolic capital possessed by each individual in that network" (Bourdieu, 1986, p. 84). During my fieldwork, my participants frequently referred to the concept of social capital, actually drawing upon Bourdieu's framework to articulate their career strategies and decision-making processes. Inspired by their perspectives, I employ Bourdieu's concept of capital to explore the forms of value within the field and make sense of why people engage in it despite its precarity and paradoxical nature.

5.4.1 Cultural Capital in Wellington

Wellington's tech sector provides a unique context for examining the intricate accumulation of cultural capital. Bourdieu's broad definition of cultural capital encompasses all the valued and valuable knowledge possessed by individuals or social groups within a particular social formation (Bourdieu, 1977, p. 178). Within different social fields, cultural capital manifests in three ways: institutionalised (e.g., educational credentials), objectified (e.g., possessions and activities), and embodied (e.g., mannerisms and tastes specific to the field). It is essential to recognise that cultural capital extends beyond the bourgeoisie, as various social classes and subcultures possess specific modes of it.

In my research, cultural capital holds particular significance as economic capital is not always the primary focus among Wellington's digital workers. While there are standardised definitions of cultural capital established by elite social classes, it is crucial to acknowledge the existence of subtle and specialised forms that are relevant only within specific social fields.

Computer programming skills represent a prominent form of objectified cultural capital across Wellington, extending beyond the tech sector to various industries within the city. Developers frequently transition between the tech sector and government institutions throughout their careers, illustrating the transferability and value of these skills. The materiality of code itself serves as a

significant cultural artefact, preserved and disrupted through open-source infrastructures or repositories. In the ensuing chapters, I will delve into how code acquires meaning within specific technical infrastructures and explore the rapid transformation of the field, which influences particular strategies and habitus. The accumulation of cultural capital in software development involves creating a record of accessing, tinkering, and contributing to these infrastructures. This materiality of code not only impacts how developers work and their available career trajectories but also exerts a tangible and quantifiable influence on their cultural capital, even affecting less technical forms of digital work within this field.

Within Wellington's tech sector, objectified cultural capital assumes a crucial role in shaping social dynamics and positionalities. The experience of precarity, often intertwined with technical work, has generated distinctive forms of objectified cultural capital that hold transactional value across fields, for example, frequent contributions to open-source archives. Developers employ various strategies to accumulate objectified cultural capital, with active participation and contributions to open-source software (OSS) enhancing their reputation and visibility. Additionally, the concept of "beautiful code" emerges as another form of objectified cultural capital, representing developers' embodied knowledge through their ability to produce aesthetically pleasing and efficient code.

Shipping tickets, the practice of completing assigned tasks, serves as a primary strategy for accruing objectified cultural capital within teams. The agile nature of the technical field necessitates constant adaptation as the tickets and dispositions of a team continually evolve. By strategically regulating their ambitions based on observable opportunities and utilising kanban¹⁴ boards to organize work, developers navigate the field's dynamics. Thus, objectified cultural capital manifests through the possession of objects that hold cultural value, with code itself assuming a central role in the Wellington software sector.

5.4.2 Modes of Distinction in the Tech Sector and Enspiral

In Bourdieu's framework, cultural capital is dynamic, enabling the classification of valued resources

¹⁴ Kanban boards are visual project management tools that help individuals and teams to visualise, organise, and manage tasks or work items. Originating from lean manufacturing principles, Kanban boards use columns and cards to represent different stages of a workflow. Tasks or work items move through the columns from left to right as they progress. This method provides a clear overview of work in progress, bottlenecks, and overall flow, facilitating efficient task management and collaboration.

and the acquisition of status in specific social fields. While dominant cultural capital comprises widely recognised knowledge, contested cultural capital remains linked to particular fields. In the Wellington tech sector, the ability to read and write computer code represents a dominant form of cultural capital. Conversely, forms of contested cultural capital are more context- dependent and localised in their significance. The following forms of cultural capital hold significant value specific to Wellington's tech sector and Enspiral.

Aesthetic and Embodied Modes of Distinction: Rooted in counterculturalism, cosmopolitanism, and bohemianism, these aesthetic modes are prominent cultural features of the city. Tech workers in Wellington distinguish themselves through these aesthetic codes, embracing casual dressing, frequenting countercultural cafes and restaurants, and creating open-plan office spaces with recreational areas.

Minority Identities: In the context of Wellington's technology sector, the valuation of cultural capital varies across social fields, resulting in shifts in power dynamics. While cis Pākehā men dominate this sector, counter-cultural fields like Enspiral actively seek to attract and retain more minority digital workers. Enspiral, positioning itself as an alternative to the dominant 'big tech' industry, places value on diverse identities as a form of cultural capital within their specific field. As a cis Pākehā woman, I found myself in a minority position within the tech sector. However, my identity became an asset in the Enspiral network, leading to the opportunity to receive a scholarship into the Dev Academy program, leveraging my 'diverse' cultural capital. This practice of recognising and valuing diverse identities as cultural capital is gaining traction in the big tech sector as well, with larger companies deploying campaigns to market their "inclusivity" by promoting women and Māori representation on their boards of trustees and throughout their organisations. These strategies indicate how cultural capital can influence recruitment and position individuals in specific social fields, generating opportunities for the accumulation of economic capital.

Social Enterprise and Activism: Enspiral positions itself as a countercultural alternative to big tech, emphasising socially progressive politics, activism, and the cultivation of social enterprises as forms of cultural capital that distinguish it. Rooted in activism, the projects and enterprises emerging from Enspiral not only provide a structural critique of mainstream capitalism but also offer digital workers a distinctive mode of engagement and meaning within the field.

Storytelling as Cultural Capital in the Tech Sector: Storytelling is a compelling form of cultural capital particularly valuable in both the big tech sector and Enspiral. The ability to craft a coherent and self-reflective narrative about one's career history, values, and identity plays a vital role in securing a job within the tech sector. In addition to assessing technical skillsets, employers often seek interpersonal and self-enterprising skills, making the ability to tell a compelling life story crucial in landing a job.

Bourdieu is clear that all forms of capital can be reinvested and exchanged to build other capitals. By exchanging economic capital for coding courses or training programs, individuals can invest in skill development, ensuring the accumulation of cultural capital. This investment can increase economic capital in the long run, as higher-income opportunities become accessible through the leverage of cultural capital, represented by technical expertise. The availability and distribution of capital directly shape the positions individuals can vie for within both the broader field of Wellington's tech sector and Enspiral. Notably, the Enspiral network and its associated startups actively position themselves as counter-cultural alternatives to larger tech corporations, creating specific forms of objectified cultural capital that hold value within this field. In subsequent chapters, I will delve more deeply into each of these variations of cultural capital.

In the intricate landscape of Wellington's platform economy, the interplay of economic, social, and cultural capitals shapes the dynamics and power relations within various social fields. Computer programming skills emerge as a dominant form of cultural capital, extending beyond the tech sector and influencing multiple industries within the city. The materiality of code itself becomes a significant cultural artefact, representing objectified cultural capital that holds tangible value. As developers navigate the ever-changing terrain of this field, the accumulation and exchange of cultural capital play a vital role in positioning individuals and shaping their career trajectories. Furthermore, the recognition and valuation of diverse identities as a form of cultural capital by countercultural fields like Enspiral offer new perspectives on inclusion within the tech sector. By exploring the nuances of cultural capital circulation, we gain insight into how individuals leverage their resources and networks to achieve their goals within Wellington's dynamic platform economy.

5.4.3 Insights through Bourdieu's Illusio: Motivations in a Paradoxical Landscape

In the context of platform capitalism, career trajectories undergo notable transformations compared to traditional employment models. Research by Morgan and Nelligan (2018) reveals a shift towards shorter-term gigs and gig economy work, demanding continuous upskilling and adaptability. The stories I collected echo this reality, portraying a prevailing sense of enduring temporariness inherent in gig economy engagements, where temporary contracts and the centrality of computer code as a primary commodity fuel a persistent state of precarity. Additionally, the ever-evolving nature of language infrastructures necessitates a constant need for learning and adaptation in the realm of digital work. As such, career paths within platform capitalism are marked by dynamic challenges and the imperative to remain flexible and responsive to the ever- changing demands of the market.

However, in the face of such precarity, a paradox emerges: Why do individuals actively engage and invest in a field that seems inherently uncertain? The answer lies in Bourdieu's concept of *illusio*. Despite the challenges, people are drawn to this world due to the potential for capital accumulation of all sorts and the pursuit of identity projects. Within this paradoxical landscape, they navigate the pursuit of both economic gains and meaningful endeavours, such as building social enterprises and effecting positive change through the lens of capitalism. Through the perspective of Bourdieu's *illusio*, we gain insight into the complex motivations that underpin their investment in a world seemingly characterized by precarity and paradox.

To put it plainly, Bourdieu uses this concept to explain why people engage in particular fields: As Bourdieu explains:

We have stakes (*enjeux*) which are for the most part the product of the competition between players. We have an investment in the game, *illusio* (from *ludus*, the game): players are taken in by the game, they oppose one another, sometimes with ferocity, only to the extent that they concur in their belief (*doxa*) in the game and its stakes; they grant these a recognition that escapes questioning. Players agree, by the mere fact of playing, and not by way of a 'contract', that the game is worth playing, that it is 'worth the candle', and this collusion is the very basis of their competition (Bourdieu & Wacquant, 1992, p. 98, emphasis in the original).

Bourdieu's concept of *illusio* refers to the subjective belief and investment that individuals have in a particular field, giving meaning and purpose to their actions within it. *Illusio* drives their

motivations and determines their level of commitment to the field, often manifested through a willingness to compete for capital. It serves as the relational point between the field and habitus (Colley & Guéry, 2015; Rowlands & Rawolle, 2013; Gouanvic, 2005). This reciprocal relationship influences the formation and transformation of habitus—the ingrained dispositions, behaviours, and tastes individuals acquire through socialisation and experience.

In explaining this relationship, Bourdieu employs the metaphor of a sports game, where players collectively agree on the "stakes" and rules of the game, known as "doxa" (Bourdieu & Wacquant, 1992, p. 98). Within the context of software development, we observe varying commitment levels among participants to continuously adapt their technical skillset. Some developers are highly committed, engaging in personal software projects, actively participating in the open-source community, and attending code-related meetups in Wellington. These actions reflect a deep investment in the field and the pursuit of a steady software development career.

Through the lens of *illusio*, we gain insight into why individuals actively engage and invest in a particular field, despite its challenges and uncertainties. Understanding the interplay between *illusio*, the field, and habitus offers a comprehensive view of the motivations and strategies that shape individual trajectories in the dynamic and competitive world of platform capitalism.

For Bourdieu, the capital available for accumulation within the field influences a person's commitment to the game. Across any given field, some players will be more invested than others. There will always be some people who feel 'out on a limb' (Bourdieu, 2000, p. 157). The concept of *illusio* goes beyond assuming that every player is deeply engaged with the field. Instead, it highlights the strategic alignment between habitus and the rules of the game. Through *illusio*, we can explore how individual players bring their habitus into the field and understand their varying degrees of adherence to the rules. Additionally, the concept of *illusio* helps identify participants who exhibit indifference towards the rules of the game and sheds light on evolving relationships with a given field. According to Bourdieu, individuals navigate the world by consciously or unconsciously regulating their aspirations and aligning them with the observable opportunities that are available to them in specific fields, as Bourdieu explains:

This tendential law of human behaviors, whereby the subjective hope of profit tends to be adjusted to the objective probability of profit, governs the propensity to invest (money,

work, time, emotion etc.) in the various fields. One is always surprised to see how much people's wills adjust to their possibilities' (2000, p. 215-216).

I will utilise Bourdieu's concept of *illusio* to document the varying levels of commitment exhibited by software developers and entrepreneurs amidst the context of temporary work and precarious livelihoods. Understanding these commitments through the lens of *illusio* contributes to answering the broader question of why individuals choose to invest in this field, despite its challenges and uncertainties. The concept of *illusio* helps elucidate the driving forces that underpin their involvement, encompassing both the potential for capital accumulation and the pursuit of identity projects, such as building social enterprises within the framework of platform capitalism.

5.5 In Summary

The paradox of why individuals actively engage and invest in a precarious field like Wellington's platform economy is a complex question that requires a multifaceted approach. Drawing upon Bourdieu's sociological framework, I explore the interplay of economic, social, and cultural capitals within the tech sector. The concept of *illusio* serves as a guiding lens to understand the subjective beliefs and investments that drive individuals' motivations and strategies within this field. Bourdieu's concept of *illusio* serves as the relational point between the field and *habitus*, offering insight into the complex motivations behind their investment in a seemingly uncertain field. As individuals navigate the pursuit of both economic gains and meaningful endeavours, the reciprocal relationship between *illusio* and the field influences the formation and transformation of *habitus*—shaping their ingrained dispositions, behaviours, and tastes.

Moreover, the material essence of code assumes a central role within the tech sector, serving as a transformative force that fundamentally reshapes work methodologies and the spectrum of attainable career paths. Its palpable influence on cultural capital profoundly shapes the strategies employed by my participants across three key fields: Enspiral (a countercultural alternative to major tech entities), the Wellington tech sector (encompassing commercial tech enterprises), and Wellington City (encompassing public sector and creative city work). By scrutinising the operational intricacies of code's rules through the conceptual lenses of *illusio* and *habitus*, we gain ethnographic insights which illuminate the complexity of this work. This perspective offers a qualitative understanding of the strategies employed by digital workers to navigate the challenges

of precarious work within the production point of the platform economy.

In conclusion, the application of Bourdieu's framework and concepts offers a comprehensive approach to unravelling the paradox of engagement in the platform economy. By analysing economic, social, and cultural capitals and using Bourdieu's habitus and *illusio* concepts to understand my participants' beliefs and motivations, I uncover the complex dynamics that drive involvement in this field. Through this ethnographic lens, I reveal the interplay of subjectivity, identity work, and strategies used to find purpose and meaning in the changing terrain of platform capitalism.

Part 2 of this thesis initiates the ethnographic journey by delving into the realm of computer code, treating it as a language and exploring the emotional labour interwoven with computer programming. By investigating the almost magical qualities of code beyond its functional purpose, I identify key insights into its profound impact on *illusio*. Leveraging Bourdieu's concepts of cultural capital and *illusio*, I dissect the working relationships between myself, my computer, and the digital infrastructures I worked within. This analysis unveils the deeply human and emotional experience of working with computer code, enriching an understanding of why people persist in carving out a career despite formidable challenges. Furthermore, my findings indicate that the practice of programming engenders a distinct habitus, one that copes with high levels of uncertainty and endures despite the ever-shifting digital infrastructures.

Chapter Six - Understanding Computer Programming

Enrolling in Dev Academy marked the beginning of my journey into the world of computer programming. It was a journey that began with a significant realisation—my status as a novice. The interview question "Mac or PC?" underscored my lack of technical literacy in this field, and I entered this new realm feeling like an outsider. However, as my fieldwork progressed, a transformation unfolded. The once-mysterious computer, a mere utilitarian device, evolved into a canvas for creativity and innovation. What was once intimidating now appeared as an infrastructure ripe with creative potential. This transformation serves as a gateway into the heart of my research.

In this chapter, we dive into the enigmatic world of computers, not as a technical manual but as an immersive exploration. Drawing from Bourdieu's concept of cultural capital, we explore the intricate relationships individuals cultivate with their computers within the surrounding digital infrastructures. Here, the concept of "beautiful code" emerges as a valuable form of cultural capital. Cultural capital is outlined through metaphors, stories, illustrations, and my personal experiences. My aim is to illuminate the inner workings of computer algorithms and code construction while uncovering the emotional responses woven into the daily tapestry of computer programming. This exploration of computer programming is deeply intertwined with key themes resonating throughout my research, particularly those of subjectivity and *illusio*. The narratives unveil the intricate web of intersubjective relationships where computer code plays a transformative role. It shapes the subjectivity of developers and influences their sense of *illusio*—a commitment to their work.

In this field, success tends to solidify one's commitment, strengthening the bond between the developer and their code. It deepens their sense of connection to the work and the digital infrastructures they navigate. Conversely, setbacks and failures can have the opposite effect, inducing a sense of isolation and fragility in relation to one's capacity to operate within the array of digital infrastructures. Thus, computer code transcends its conventional role as a mere logical formula; it transforms into an affective practice. It has the power to evoke profound subjective responses from those who engage with it daily. As we journey deeper into the chapter, we encounter the multifaceted nature of code. It evolves, takes diverse forms, and occasionally dissolves into the

binary language of zeros and ones. This space, as described by Rosenberg (2007), represents the shifting boundary where machines and humans interpret information differently. Here, developers grapple with the resistance of machines to human desires, unveiling the deeply emotional process materially underpinned by precarity. Precarity in this context extends beyond the economic dynamics of the platform economy; it also encompasses the precarious nature of computer infrastructures themselves. This chapter unfolds within the broader context of material infrastructures where code comes to life, marked by perpetual change. Here, career trajectories and security remain tethered to computational outcomes, subject to the whims of the ever-evolving socio-digital infrastructure. The concept of the self emerges as a guiding thread within the research framework. It serves to illuminate those critical moments where subjectivity and identity find alignment or divergence. These are instances when participants consciously recognise their positionality, thoughts, emotions, and actions. However, these moments are profoundly influenced by the ever-evolving forces of computer code and market dynamics.

This chapter, therefore, acts as a gateway into the immersive world of computer programming. Here, emotions, identities, and the digital infrastructure converge in a dance that mirrors the broader themes explored throughout our ongoing journey through Wellington's platform capitalism—themes that encompass precarity, *illusio*, and the multifaceted self.

6.1 Binary

To many of us, the world of computer programming is a black box, hidden from its user, accessible only to those who speak the right languages in the correct contexts. To unpack and document the ongoings of this hidden world, I will begin by explaining the foundations of computation.

At the core of their circuitry, computers interpret all interactions with humans through a series of ones and zeros. The inner world of a computer comprises entirely of binary code. In its infancy computer programs were written by technicians using the binary system. Computer programming in the 20th century looked like this:

```
001 001 000 0000001
```

001 010 000 0000010

000 011 010 0000 001

This is because computer hardware comprises of electrical wiring and circuitry. To pass information through wires using electricity, computer scientists required an 'on/off' signal. Computers interpret this on/off signal as 1/0. Software developers refer to these 1's and 0's as 'bits'. Bits are understood to be the smallest type of information computers can store. Computer scientists found that the more wiring within a computer's internal hardware, the more 'bits' a computer could store.

Understanding how computers interpret 'bits' as information requires a brief explanation of binary code. Inside the binary number system, there are only two digits, 1 and 0. Using these two digits computers can represent any number. Most of us are used to using the decimal system to count. In the decimal, the position of each digit dictates its value, as the diagrams below demonstrate:

Decimal system:

1	9	9	0
1000	100	10	1

Binary System:

--	--	--	--	--	--	--	--	--	--	--

1	1	1	1	1	0	0	0	1	1	0
1024	512	256	128	64	32	16	8	4	2	1

Using the decimal system, we read the series of numbers in the first table as 'one thousand nine hundred and ninety'. Using binary code, the position of each digit also dictates value, but instead of multiplying each time by ten, computers multiply each time by two. The second table also presents the number 'one thousand nine hundred and ninety', but it is written in binary code. Starting with single-digit numbers can make the binary system easier to understand. For example, the number 9 written in binary code is represented like this:

1001

To calculate its value would read the position of each digit like this:

1	0	0	1
1x8	0x4	0x2	1x1

Text, images and sound can also be represented through binary code. In the binary system, a number is assigned to each letter of the alphabet. The image below is the English alphabet represented through the binary system.

A	1000001	N	1001110
----------	---------	----------	---------

B	1000010	O	1001111
C	100011	P	1010000
D	1000100	Q	1010001
E	1000101	R	1010010

F	1000110	S	1010011
G	1000111	T	1010100
H	1001000	U	1010101
I	1001001	V	1010110
J	1001010	W	1010111

K	1001011	X	1011000
L	1001100	Y	1011001
M	1001101	Z	1011010

Through this system, paragraphs can be interpreted and stored by the computer as a sequence of 'bits'. Binary code is challenging to read. Building complex computer programs in this fashion was a detailed process. Below is an image of computer scientist Grace Hopper. In the 1940s the computer programs she built were printed out on paper. Binary programs would be organised by hand, editing patterns of bits was a manual task, using a punch card system. These punch cards would then be fed back into the computer.



Figure 11 Grace Hopper - c.1960 (Smithsonian Institution, n.d.)

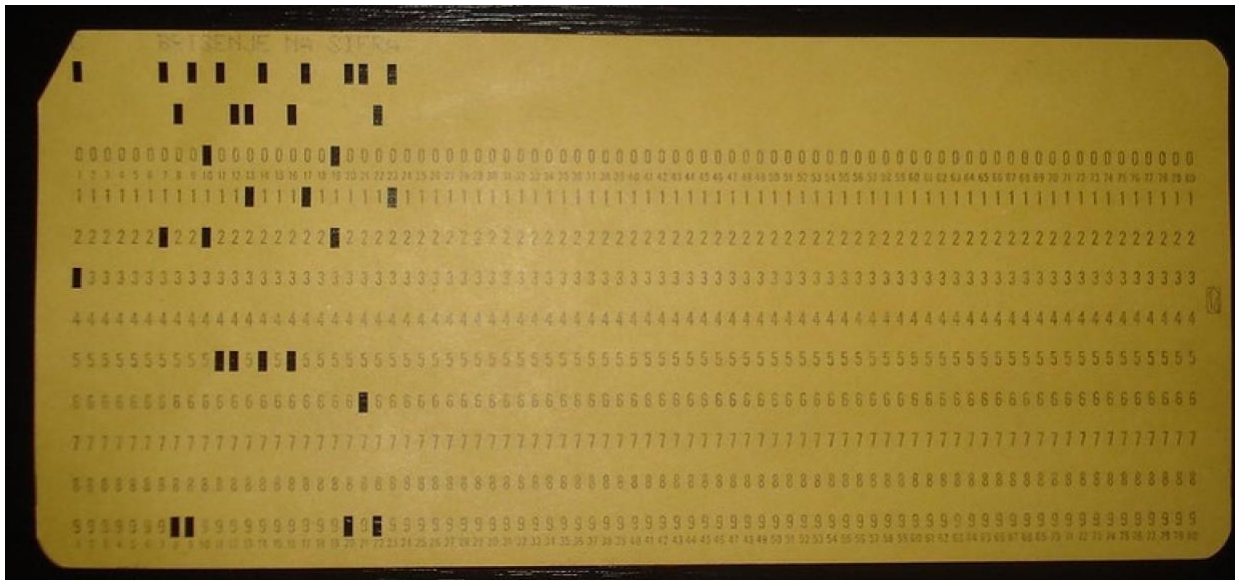


Figure 12 Punch Card (Krstevski, n.d.)

This was a tedious job that demanded consistent attention to detail from computer programmers. For example, the following program requires the computer to add the value of 1 & 2 together and store the results:

```
001 001 000 0000001
```

```
001 010 000 0000010
```

```
000 011 010 0000 001
```

This is a simple program, but it demonstrates how obscure binary code is. Written out in English, this program would read like this:

Store the value of 1 in memory register A.

Store the value of 2 in memory register B.

Add memory register A and memory register B together.

Commit this to memory and save the results.

Today working in the binary system is not necessary for the job of computer programming. Computers make such calculations for us automatically. Tracing the origins, computer code demonstrates the evolution of computer programming languages. The English version of this same program might be easier to interpret than the intricate collage of bits, but it is a lot of text to manufacture, given the simplicity of the task. More complicated computer programs would require excessive word counts. Alternatively, the same program written in JavaScript is much smaller.

```
var i = 1;  
var j = 2;  
var k = i + j;
```

This example demonstrates the significance of computer programming languages in the evolution of computational technology. Programming languages work as translators, bridging the gap between the English language and the computer's world of bits. Computer programs are projects that have been co-created through an exchange between the computer, the developer and the user.

This three way exchange can be understood through Bourdieu's ideas on the social construction of worked-upon objects, enacted within meaning-filled domains of activity (fields) and through understanding the interplay between non-stagnant objects and human subjectivities. While Bourdieu seldom confronts the concept of technology directly, his theoretical works have outlined a series of

foundational sociological questions that continue to be generative for scholars focused on technology. We can trace Bourdieu's thinking on this topic through his analysis of French photography and art, as he explains:

Within the class of worked-upon objects, themselves defined in opposition to natural objects, the class of art object would be defined by the fact that it demands to be perceived aesthetically, i.e. in terms of form rather than function. But how can such a definition be made operational? Panofsky himself observes that it is virtually impossible to determine scientifically at what moment a worked-upon object becomes an art object, that is, at what moment form takes over from function (Bourdieu, 1984: 29).

Bourdieu's theory underscores the idea that objects, like 'art,' defy easy categorization and should not be dismissed as static, one-dimensional entities solely serving predetermined societal roles. Instead, they possess a dynamic quality, open to interpretation and change.

Applying Bourdieu's perspective to computer programs, we can observe a similar dynamic in the concept of technology. Within this framework, code and computers exhibit a certain agency, actively engaging in reciprocal interactions with individuals in particular social fields. This interaction signifies that these objects are not passive; they actively participate in dynamic, mutually influential relationships with humans. Consequently, this approach allows us to recognize that the definition of technology is not fixed but rather a product of the ever-evolving social world. Ideas about what constitutes technology are shaped, reshaped, and redefined by the evolving interactions and dynamics within society. As the following examples will demonstrate, programming languages and computer code are socially constructed, embedded in nuance, meaning and experienced within specific domains of use.

6.2 HTML & CSS

The complexities of entanglements within specific digital domains can be understood through thinking with HTML. HTML is the most common markup language¹⁵ used for building web pages.

¹⁵ A markup language is a system for annotating or tagging text to indicate how it should be displayed or structured in documents, web pages, or other digital content. It uses tags or codes to define elements such as headings, paragraphs, links, and formatting in a way that can be interpreted by a browser or software for proper rendering. Common markup

Across the World Wide Web, most websites use HTML to organise text. Markup languages have been designed for the purposes of word processing, using HTML, developers can manipulate the way text is displayed on websites and apps. Markup languages have borrowed particular techniques used by editors working with paper manuscripts. Just as editors might use different coloured pens to outline specific points of revision, markup languages utilise 'tags' to identify what particular sections of text do within the HTML document. Inside an HTML document, text within angle brackets is used to outline the specific pieces of code. These brackets are called HTML elements; it is not uncommon for these tags to be organised through colour coding. A basic HTML document looks like this:

```
<!DOCTYPE html>

<html>

  <head>

    <title>Page Title</title>

  </head>

  <body>

    <h1>This is a Heading</h1>

    <p>This is a paragraph.</p>

  </body>

</html>
```

The first HTML element specifies the file type; this code informs the computer that this file will contain instructions about the display of text. The second element indicates the type of language the developer will be working in. In this case, it is HTML, and it is English. The title element is used to specify the section of text that needs to be viewed as the title on screen. Below this is a line of code

languages include HTML (Hypertext Markup Language) for web content and XML (eXtensible Markup Language) for data representation.

labelled 'body'. Most of the text on websites is organised within the parameters of the body element. Inside the body element, we can see a line of code titled 'h1' and 'p'; these elements separate headings and paragraphs. A deployed version of this website looks like this:



Figure 13 HTML example

Referring back to the HTML document, we can see that all of the text that is visible to users is written in black. Colour coding in this way helps developers distinguish between code and display text. Display text is always contained within the parameters of an HTML element. The elements themselves always open with a blue bracket and are closed with a backwards bracket. This includes the HTML element that begins the program. This simple program demonstrates the distinct way computers process text. After practicing HTML for a week, I came to understand this computer language as a series of patterns. Each element is layered, opening one element will lead to another, and this pattern tells the computer what each line of text is and how it should be displayed on the screen. As one participant describes it:

As humans, we have our own commonly understood systems for organising text. Granted, these might be different in other cultures. But in most cases you can go to a library, pick up a book, and you understand what the table of contents is for. You understand what a chapter is. So for humans, the process of organising text is very linear. There's a place you start and a place you end when you're reading a book or any form of text. But for computers, the process isn't really like that. I like to think of it as a series of Russian dolls. You know, they read text by going deeper and deeper into a file. So they read the first doll, it's an HTML document. To open that doll and move deeper into the file, that HTML element needs to have an opening bracket at the start of the document, and a closing

bracket at the bottom. If you're missing a tiny detail such as this, the code will break, the computer will be locked out from opening any more dolls. Providing the codes correct they can unlock the body element, the computer would then check that the code is formatted correctly within this element before processing any more text, i.e., opening any more dolls. So computers start at the top of the file, jump to the bottom of the file, and then work their way into the middle. And all of this will happen within a split second. That's how they read code in an HTML document. Well, that's a really simple way of thinking about it, of course, this metaphor gets lost when the programs become more complicated.

As this participant explains, computers process text differently to humans. Throughout my fieldwork, I found that one of the biggest challenges developers encounter in their daily work is learning to 'think like a computer.' As this example demonstrates, through daily practice, developers have formed a sense of embodied knowledge about how computers think. This knowledge is both collective and individual, moreover it impacts the way developers work with code. Furthermore, computers do not always comply with human will; their languages are context-specific, abstract and detailed. Understanding what computers require to follow instructions is significantly complicated. With deftness and difficulty, programmer-bodies navigate this complex milieu; bodies which remember, intuit and conceptualise the hard-to-grasp via metaphor.

Ultimately the daily practice of computer programming is an embodied experience. Bodies are involved in the production of software. As Haverbeke (2018) states, programs created "under our typing hands" (Haverbeke, 2018, pp. 2-3). Through the activities of speaking of and typing out computer code, knowledge about this work is embodied, made agentic and amassed in memory through daily practice. In this sense much of the problem solving that takes place in this job is intuitive, consequently developers often struggle to fully explain their working relationship with the computer. They often rely on metaphors to bridge this gap. In this context the world of software development is shaped and interpreted through the use of metaphors. During my interviews and fieldwork, developers relied on metaphors to explain their work to me. There is a series of common metaphors everyone who has experience in this work understands. I will unpack these shared understandings in later sections of this research.

Additionally, most developers have their own metaphors that help them make sense of their work. Sometimes these were conjured up spontaneously as they explained their code to me during our

interviews. At other moments they would draw on a particular metaphor they have relied on time and time again to bridge the gap between themselves and the computer. Sometimes these metaphors are only applicable to specific aspects of computer programming, and they no longer work when the requirements of the program change. As my participant demonstrates with her Russian doll example, this metaphor is only applicable to a simple HTML file. When the file becomes more complicated, the computer processes the text in an entirely different way, and the metaphor no longer works. From a Bourdieusian perspective, this example illustrates how computer programs are socially constructed through practice, imbued with meaning, and situated within specific domains of use. With time and experience, this knowledge becomes intuitive, and developers come to understand their programs on a visceral and embodied level. This depth of understanding is what distinguishes a skilled programmer.

Indeed computer programming demands constant adaptation from developers. Just as I had gained confidence using HTML, I was required to learn another language, CSS. When I first began learning how to use CSS, I included CSS code within the same HTML document that contained the text for my website. This complicated my understanding of both languages, and I felt like I was starting from scratch. I pushed on, determined to understand both languages. I assumed I would reach a peak in my learning in which I knew enough about computer programming. I could stop learning new things and just revise the skills that I had acquired. However, this peak never arrived. In the final weeks of the course, I was still learning new languages. I was particularly frustrated by this process and often asked the senior developers around me 'when will I know enough to stop learning new skills?' In later interviews with these same developers, we talked about my experiences.

Jess, where do I start? Pretty much every week you'd be worried about learning something new. You'd be like 'I can't start learning node.js, I don't even understand how JavaScript works yet. I wasn't that sympathetic, haha. I'd be like 'welcome to the job bud!' That's the job, right? There's always something to learn. You're still chasing your tail trying to keep up with the new stuff. Code never works as it should, you spend most of your time resolving error messages. Frustration is life for devs. I don't think you realise it at the time, but those feelings are never going to go away. And that's because you were doing the job. That's the job. But you didn't believe me at the time, haha.

As this participant points out, because I was struggling to keep up with a fast-paced curriculum, I

thought of myself as a student, not a developer. It took me a while to understand how common my experiences were. This is what coding actually is. This story illustrates a level of precarity within this field of work that is specific to the tech industry. For Bourdieu, a rising sense of precarity induces insecurity among workers, this 'pervades both the conscious and the unconscious mind' the permanently employed come to view work as a 'fragile, threatened privilege' (1998, p. 82). Coding, as a practice, is inherently precarious because it often eludes complete control and predictability. In the world of programming, the very nature of technology and the dynamic landscape it operates within can be characterised by constant change and unpredictability. This precarity arises from the ever-evolving technical infrastructure, where the skills needed to perform a job are in a state of perpetual flux. In academia, individuals can establish themselves within a specific field of knowledge, developing expertise and stability in their chosen discipline. However, in the realm of computer programming, one must contend with the rapid evolution of programming languages, frameworks, and tools. This constant state of flux challenges even the most seasoned professionals, making it a field where adaptability and the capacity to embrace change are crucial for success. Thus, the precarity of coding lies in its ability to escape complete mastery and control, requiring those in the field to navigate a dynamic and ever-shifting environment.

Building on my limited understanding of HTML, the next language I started to learn was Cascading Style Sheets (CSS). CSS works with HTML elements to define how text is displayed to users. As one participant explains:

Think of a website as a house, HTML would be all the joinery, the floors, the walls, the skeleton of the house. CSS would be all the paints, the wallpaper, the curtains.

CSS is the most common language used to program the aesthetic features of a website. This language was built to simplify HTML. Coding is fiddly work, for this reason, developers like to keep their files small in length. As HTML is used for processing text and formatting the content of a website, developers found that by including aesthetic features of websites within HTML programs, the files grew to an unmanageable length. Programming in this way was inefficient and unnecessarily complicated and prone to more error messages and failures. As I stated earlier, when I first learned to write CSS, both my HTML and CSS code was contained within the same file. However, as my programs became more complicated, I needed to split these files. Having two files that link to each other is the easiest way to keep the code clean, it is the most common way developers use CSS. The

files are generally linked together through a line of code included in the HTML file. It looks like this:

```
<link rel="stylesheet" href="styles.css">
```

The 'link' tag tells the computer to refer to a different file for the CSS code. The 'href=' line of code identifies the name of the file its location. CSS was designed to work alongside HTML when programming in CSS the developer will reference particular HTML elements and then outline the styling requirements. Below is some of the CSS code that I wrote for my website:

```
body {  
  
    background-color: black;  
  
}  
  
h1 {  
  
    color: white;  
  
}
```

The CSS code is contained within the style tags. Inside these tags, an HTML element is selected. In this example I have selected the h1 and the body element. This refers to heading one, and the body of the text. The code inside the curly brackets is called a declaration block; each declaration includes a CSS property and a value, where the developer can specify the colour of the text, its size, font, background colours and other visual features. The deployed results of this code look like this:

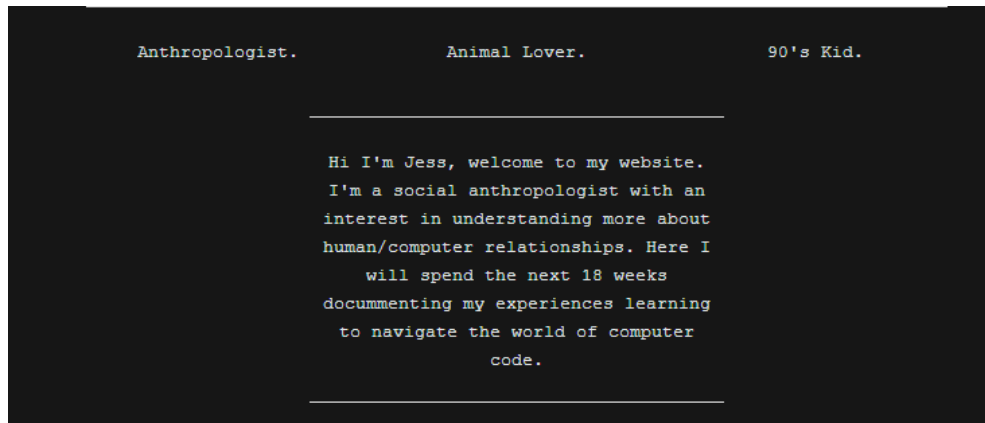


Figure 14 CSS output example

There is something blissfully rhythmic about working in CSS. Like most forms of computer programming, instead of writing an entire CSS file at once, the most effective way to add aesthetic elements to a website is by making a small change, saving the file, and viewing the results of this change through the local version of the website. Through this process colour, fonts and images are refined, adjusted, added, moved, removed, and written into being, one by one. It was somewhere deep in a CSS file that I first experienced what is often described as 'software time'. While trying to find the perfect shade of white to colour some text on my website, I completely lost track of time. Later I wrote about this experience in my field notes.

Working on my website was so strange today. I was trying to pinpoint the right colours I wanted to use. I kept changing the code in my CSS document and flicking back to the local version to check the results. The whole process was really automatic and addictive. This was the first time I got lost in a state of flow, I forgot about the time and was still sitting at my desk at 5.20. I had to uber to the train station to avoid missing my train home.

Indeed this experience of total immersion in computer programming was often discussed by my participants.

That feeling when you're completely in the zone? God damn it, I love those moments. It's like you're fully inside the program moving up and down the full stack. You make a change to something, you get an error message. You trace the error message to a different file, edit that line of code, save the file, run the code, no error message. Boom! You move forward in your programming. If you can get into that headspace, fuck its good. Why do you think

we all meditate so much? We're all just trying to reach that state of mind where you're at peak performance.

Sometimes days at work don't feel like a full eight hours. Time slips by so quickly when you're in, like, a flow kind of state. For me, it usually happens when I'm resolving errors at a steady pace. It kind of feels like you're making progress in the project. It also happens when I'm regularly releasing code. I dunno, it's hard to describe the feeling. It's like the gap between you, and the computer gets smaller, and the real world. Actually, I hate that term, it's a real boomer term. I should say the outside world instead. The outside world shrinks away.

Oh, I've skipped meals and meetings when I'm in that headspace. You just lose all sense of time, you aren't even aware of what's going on around you. The worst thing is when someone breaks that state of mind for you by tapping you on the shoulder. It can be hard to find your way back into that state after being dragged out of it. Most of the time it'll be about something bullshit too. People who aren't devs don't always recognise what the black screen on my monitor means. It's like, unless it's to tell me the buildings on fire, don't drag me out of my work right now.

In these stories, my participants outline what it feels like to be immersed in the process of computer programming. In such a state, the space between them and their computers becomes smaller. This interaction is made possible through the coordination of different human and non-human elements. Importantly the developer's habitus and embodied knowledge of computer programming comes to inform their experience of immersion in their work. Through repetition, the activity of typing, clicking, thinking 'like the computer' using a series of collective and personal metaphors; developers are able to engage in a partnership with the computer. Here the individual developer is only one player in this partnership, building a computer program requires participation and compliance from the non-human, the computer and the wider software infrastructure. Experiencing a total immersion within ones work, where time itself transforms, requires a harmonious relationship with the non-human actors within this world. By achieving this, perceptions of time are warped. In his text, *Dreaming in Code* Rosenberg describes what happens to time when developers find themselves in

this state of mind.

Time really does seem to behave differently around the act of making software. When things go well, you can lose track of passing hours in the state psychologists call 'flow'. When things go badly, you get stuck, frozen between dimensions, unable to move or see a way forward. Either way, you've left the clock far behind. You're on software time (Rosenberg, 2003, p. 4).

A key feature necessary for achieving this state of flow is the sense that one is making progress in the program they are building. 'Progress' in computer programming is entirely subjective. For some people, this occurs when they are resolving error messages, for others, this happens when they are writing tests, or building new programs that run the first time correctly. For me, this happened whenever I was making incremental adjustments in a CSS file. Alternatively, as Rosenberg points out, time also has a tendency to freeze altogether, leaving the developer isolated and unable to communicate with the computer. I found this to be a regular experience. Such moments occurred when I was unable to move forward in my projects, trapped by an error in my code that I did not fully understand. Unable to find my way back to the logical formula I had been following. When I began learning JavaScript, I became more familiar with the experience of time suddenly freezing. Moments like this are potentially isolating experiences. When developers explained these experiences to me, they often described what could be understood as a wavering of *illusio*. In these moments they would question their commitment to the wider field of software development. Were the stakes of the game really worth it? As this story details:

Well I sat there for about an hour and a half. I couldn't figure out what was going on with this fucking error message in my code. It was the 'mapStateToProps' does not work error. I couldn't resolve it. It really sort of felt like I just don't have the skills to get further in this work. Other people are all working hard, they don't seem to be struggling like I am. And then you start thinking, 'well maybe this job isn't right for me'.

Bourdieu is clear, the levels of capital available for accumulation will inspire an individual's *illusio* within the field. However, the access to and ability to accumulate capital can also decrease an individual's *illusio* within a given field. According to Bourdieu's concept of *illusio*, an individual's belief in and commitment to a particular field is influenced by their social positioning, access to

resources, and experiences. In the realm of computer programming, these dynamics are particularly salient. The moments of 'stuckness,' where one finds themselves 'frozen between dimensions, unable to move or see a way forward,' as described by Rosenberg (2003), can lead to a wavering of *illutio*. Here, the *illutio* is not solely determined by the individual but is also shaped by the inherent agency of code itself.

The agency of code in *illutio* implies that the nature of coding, with its ever-evolving technical infrastructure, introduces a level of unpredictability and uncertainty. Code, as an active and dynamic component, can influence the coder's belief in their ability to master it. This interaction between the coder and code introduces a unique element to the *illutio*, as the field itself is not a static entity but one that continually responds to and shapes the coder's perceptions. In such cases, *illutio* becomes a fluid construct, subject to the agency of code and the coder's experiences within this evolving landscape

6.3 What Is Programming?

As I previously explained, HTML and CSS are document type languages. This means they are primarily used to organise text and other visual features of websites. Alternatively, JavaScript is a programming language. Programming languages provide instructions which outline what the computer must do with particular pieces of data. Using JavaScript data can be transformed in many ways; pieces of data can be sent across the internet, saved to databases or used to make calculations. There are many programming languages both on the internet and at work when we use our computers or other devices, all of which specialise at manipulating data faster than humans. When I first began learning JavaScript, one of the senior developers recommended I read a book called *Eloquent JavaScript* by Marijn Haverbeke (2018). The book was surprisingly entertaining, it provided a step-by-step guide for working with JavaScript, written in a playful tone. At the time, I was particularly overwhelmed by all the technical components of JavaScript, *Eloquent JavaScript* offered some relief from this. Throughout my relationship with JavaScript, I continued to turn to this book and one key passage in particular:

A program is many things. It is a piece of text typed by a programmer, it is the directing force that makes the computer do what it does, it is data in the computer's memory, yet it

controls the actions performed on this same memory. Analogies that try to compare programs to objects we are familiar with tend to fall short. A superficially fitting one is that of a machine—lots of separate parts tend to be involved, and to make the whole thing tick, we have to consider the ways in which these parts interconnect and contribute to the operation of the whole. A computer is a physical machine that acts as a host for these immaterial machines. Computers themselves can do only stupidly straightforward things. The reason they are so useful is that they do these things at an incredibly high speed. A program can ingeniously combine an enormous number of these simple actions to do very complicated things. A program is a building of thought. It is costless to build, it is weightless, and it grows easily under our typing hands. But without care, a program's size and complexity will grow out of control, confusing even the person who created it. Keeping programs under control is the main problem of programming. When a program works, it is beautiful. The art of programming is the skill of controlling complexity. The great program is subdued—made simple in its complexity (Haverbeke, 2018, p. 2-3).

Unlike academia, which often celebrates detail and complexity, 'beautiful code', As Haverbeke explains, is beautiful because of its simplicity. For Haverbeke computers can only do 'stupidly straightforward things', computer programming is the art of wiring simple tasks together, in distinct combinations, to achieve a mosaic of outcomes. In the following sections, I explore how 'beautiful code' is a form of objectified cultural capital in this field. To demonstrate the significance of simplicity in this field, I unpick my own computer programs as ethnographic examples.

The world of computer programming is divided into two realms. The front-end and the back-end, for most websites to function, both of these realms need to be wired together to communicate with each other. The front-end is also known as 'the client side' involves anything users see and interact with, buttons, icons, forms and text. It is important to draw a distinction between front-end developers and web designers here. Although front-end developers deal with the visual side elements of web platforms, they do not design these features. That is the job of UX designers. Front-end developers write the programs that make such designs functional.

After graduating from Dev Academy, I offered to build my cousin a website that displayed her art. The website, though basic in form, was the personal project my tutors had encouraged me to find, and also a way of retaining some of the skills I had acquired over the course. Below are photos of

some of its pages:

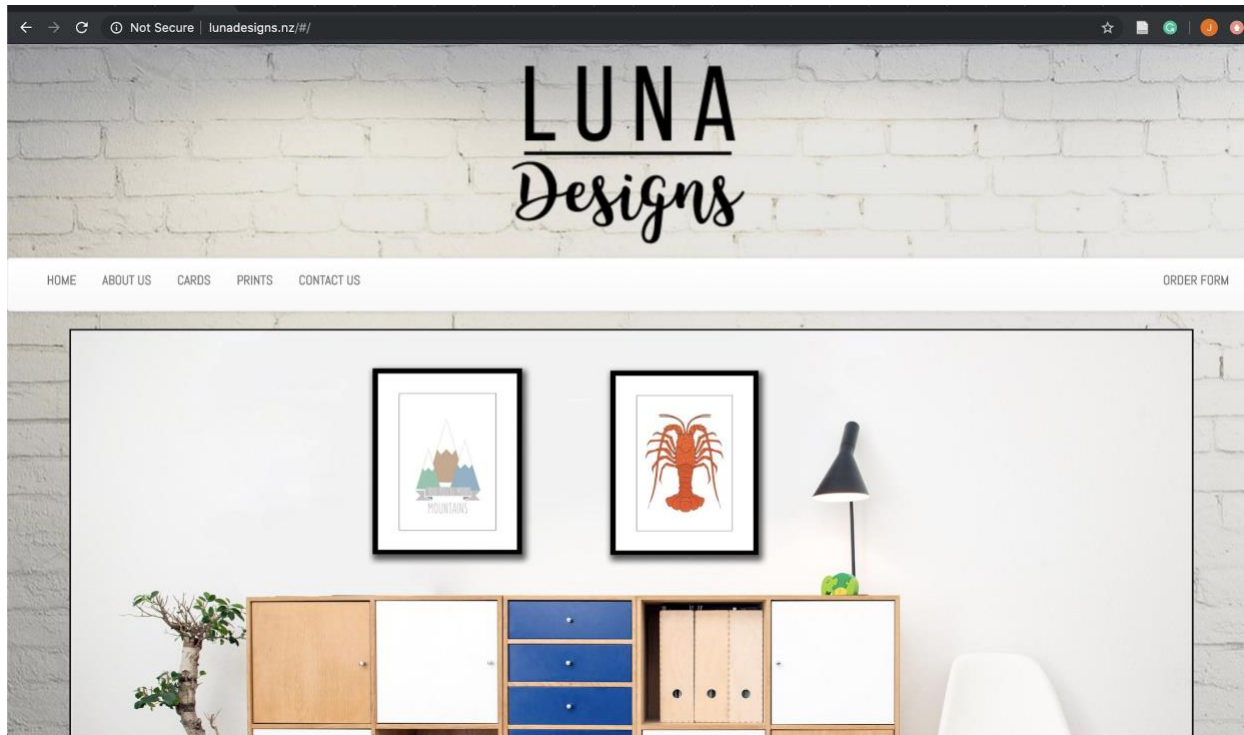


Figure 15 Luna Designs homepage

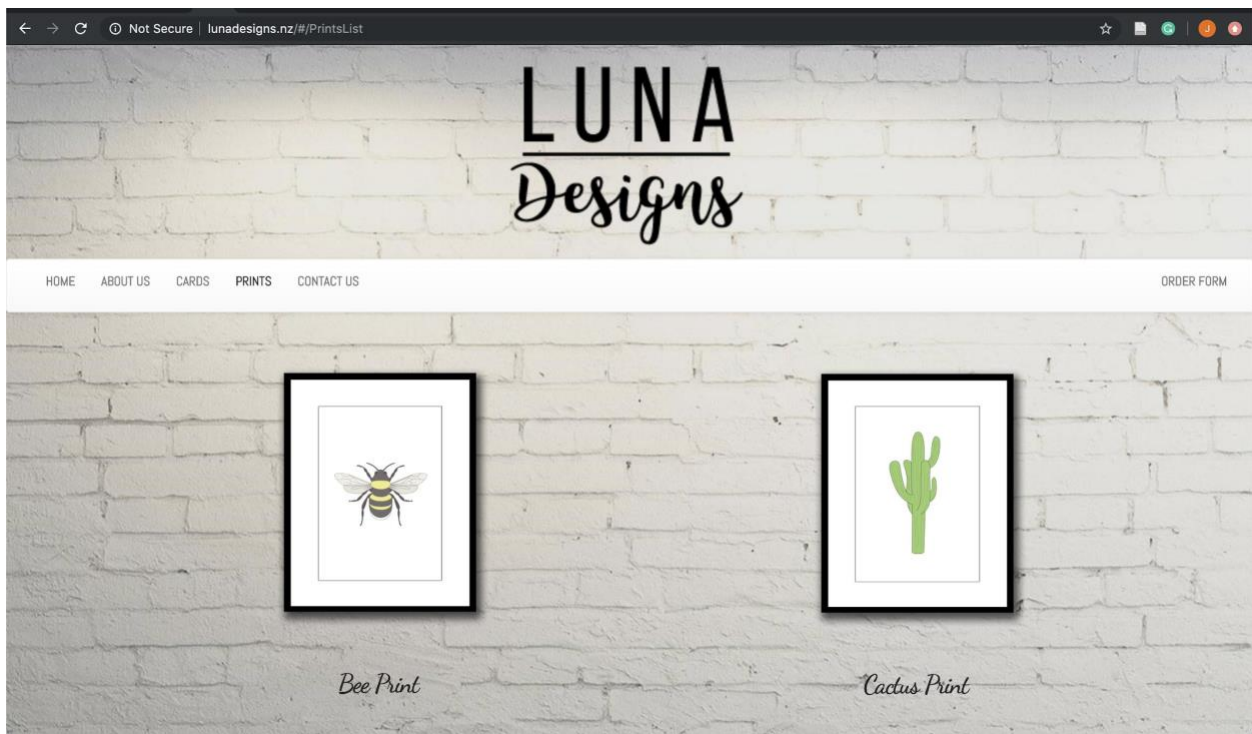


Figure 16 Luna Designs prints page

Among developers, this type of website is called a 'static website'. Static websites display information to the user. Their content does not change, so they don't need to be updated regularly. They are often used for small businesses, restaurant menus, personal portfolios etc. These websites can be built entirely in the front-end.

The back-end is the server side, unseen by users, a black box to everyone but developers. Back-end programs are responsible for organising and storing data. Back-end programs communicate with front-end programs through the sending and receiving of data. An excellent example of how this works is an online form. The front-end programs are responsible for displaying the form, saving the data that gets entered into the form, responding appropriately when any buttons are clicked, bundling this data into a package and sending it to the server to be processed by back-end programs. The back-end then organises the data and sends information back to the front-end programs to be displayed for the user.

Once I was happy with the static website I built for my cousin; I decided to challenge myself further. I broke the program and decided to remake the website, but this time I would include a back-end database. After two months of tinkering, I had rebuilt the website with a secure back-end. The website now included an online order form; most order forms have programs that deal with credit card payments. I was not confident enough to build applications that can manage financial data. So instead I programmed the database to send my cousin an email with details of the order and the client's contact number. In my program, data moved from the front-end, down to the server. It was stored in a database, repackaged and sent back to my cousin via email. From a user's perspective, the website functioned like this:

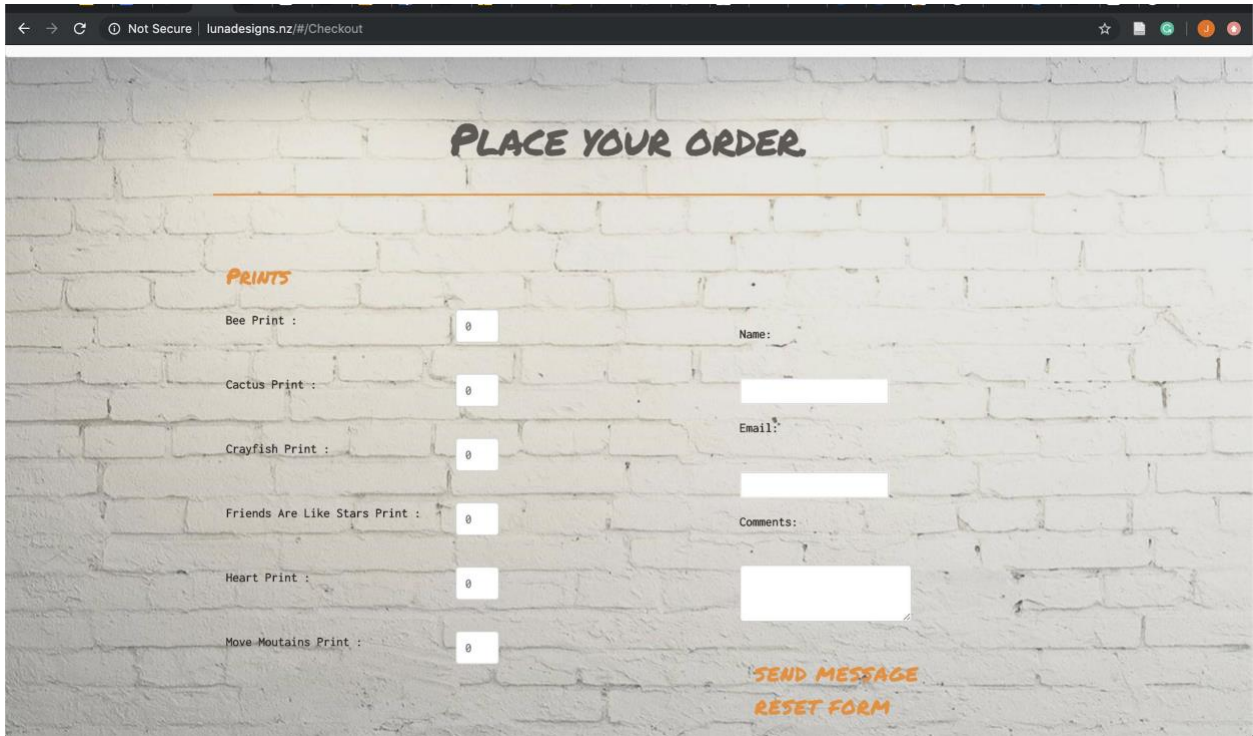


Figure 17 Luna Designs order page

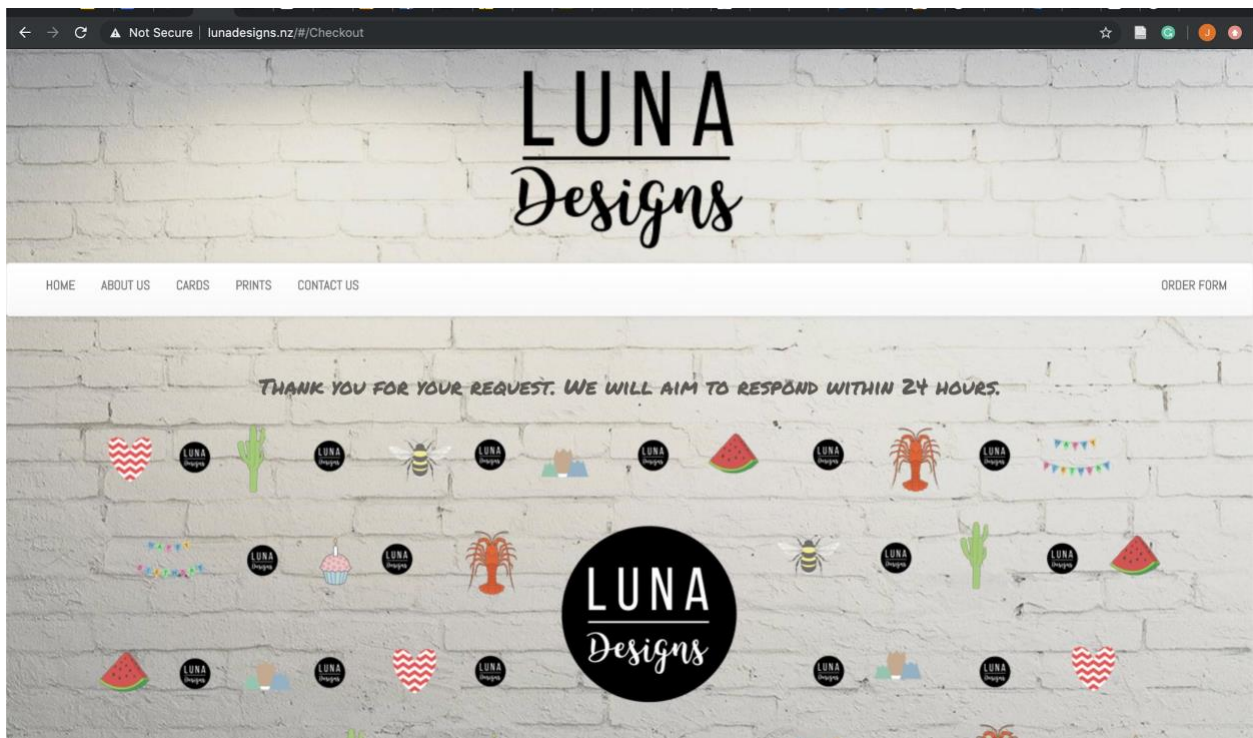


Figure 18 Luna Designs confirmation page

During my time at Enspirial Dev Academy (EDA), I was trained in full-stack development. This

meant I learned both front-end and back-end programming including JavaScript, a front-end language. JavaScript was the first programming language I learned. Its many nuances framed my early understanding of computer programs and the work they do. Throughout Dev Academy's 15 week program, this was the language I spent the most time studying. For this reason, most of the Dev Academy graduates in my cohort were interested in securing a front-end developer position after graduating.

6.4 JavaScript

For users in 2023, the internet is woven seamlessly into our lives. Today, navigating the internet is a fluid and versatile process. Before 1995, however, the internet was markedly different. User interactions online were interrupted by the need to refresh browsers. JavaScript was introduced as an answer to this problem. This included a front-end programming language which enabled uninterrupted interaction between users and websites. As one participant explains:

JavaScript allowed devs to do all kinds of creative stuff. Things that bridge the gap between humans and computers, like..., you know that thing that happens when you start typing something into a search engine, and the computer starts to anticipate what you're going to say? Well, that's all front-end stuff. Like front-end languages are all about bringing humans and computers closer together, and JavaScript is pretty much the most common.

In its early stages, JavaScript found its primary usage within web pages on the Netscape browser. However, its capabilities and reach soon extended far beyond this initial domain. It is crucial to emphasise that JavaScript, despite its name, shares no inherent connection with the back-end programming language Java. This distinction is a common source of confusion. During our interviews, my participants frequently stressed that Java is not the progenitor or foundation of JavaScript. This clarification underscores the need to differentiate between these two distinct programming languages.

Make sure you explain the difference between Java and JavaScript in your PhD. People always think they're the same language, or that JavaScript is like version two of Java or some bullshit. Recruiters are always doing this, I'm always explaining how they're different languages entirely.

I think when JavaScript was first released, it was the 90s. Java was a big deal then. The JavaScript founders tried to piggyback on its success. That's pretty much the only connection they have. It was a good marketing strategy at the time, but it's turned into a nightmare, especially when dealing with recruiters. I guess no one could have known how popular JavaScript was going to become.

The popularity of JavaScript is particularly due to the flexibility of the programming language. Importantly it pairs seamlessly with HTML and CSS, and for this reason, it is the most widely used front-end programming language. JavaScript's flexibility remains a compelling feature in the world of computer programming. Yet it receives a fair share of criticism, and many of these criticisms are warranted. At a personal level, my relationship with JavaScript is complex—so complex that I've procrastinated writing this section of the chapter, partly to evade the feelings of frustration that marked my initial encounter with JavaScript. While numerous technical controversies surround JavaScript, in this section, I'll delve into its inner workings and share my specific experiences.

In the beginning, I harboured a deep loathing of JavaScript. The language's flexibility meant it was challenging to determine structure, rules and core logic. The constant stream of error messages triggered deep-rooted academic insecurities in me. It felt like I was constantly seeking approval from the computer and nearly always being rejected.

For Bourdieu, experiences of belonging are tethered to the field. The parameters of any given social field are defined by the process of inclusion and exclusion. In the context of belonging, the intersection between field and habitus is significant, as this intersection comes to inform ongoing practice. As Bourdieu explains; "The agent engaged in practice knows the world but with a knowledge which [...] is not set up in the relation of externality of a knowing consciousness [...]. He feels at home in the world because the world is also in him, in the form of the habitus" (2000, pp. 142–143).

As an academic working in the social sciences, I did not come from a technical background; consequently, the day-to-day practice of computer programming was a significantly messy and unsettling process for me. My experiences were marked by a steady stream of never-ending error messages. My laptop transformed into the most ruthless marker I had ever encountered, uncompassionate and instantaneous in its disapproval of my code. I stumbled on, hoping to ultimately, one day, understand 'the rules of the game' and thus encounter a sense of belonging in this field.

In later conversations with developers, I came to see how collective this experience is, particularly with JavaScript. Unlike other programming languages, JavaScript is extremely flexible; this allows developers to bend the rules in the structuring of programs. As noted, this flexibility can obscure JavaScript's core logic, and make it challenging for beginners to understand the rules and resolve errors in code. There is no one way to write a program in JavaScript, and this was a source of agony at first. I was not alone in this experience; many of my fellow students were grappling with the same frustrations. One student posted a meme into our team slack channel that illustrates our first encounters with JavaScript.



Figure 19 Developer frustrations

In time I grew to admire JavaScript's flexibility. Although I never loved my own code, I marvelled at the creative and beautifully simplistic programs that could be conjured from JavaScript. To give context to the stories I have collected about JavaScript, I will explain some fundamental elements of the language.

Earlier in this chapter, we explored how the inner world of a computer comprises of 'bits'. Bits are electrical signals interpreted through a binary framework. Computers group bits together into logical sequences that represent clusters of information. To do this, computers use programming languages. At their core, programming languages manipulate bits into a series of values. For computer programmers, these values are called data-types. There are five critical data-types in JavaScript; numbers, strings, objects, arrays, and functions. Understanding each data-type and how to apply them is fundamental to all computer programming. Data-types were often described to me as 'the alphabet of programming', once you understood their value, it was possible to arrange them in sequences and write a program. As one participant explains:

Samantha: I like to think of data-types as categories of tools, you know? Some of them represent text, some of them are for numbers, etc. You can use any number of combinations with these data-types to write a basic program. But the cool thing about programming, you know, what makes it different to actually building something material, is to access a tool, you just call it by its name, and it's instantly there to use. Think of it like that spell in Harry Potter, what's that one?

Jess: 'Accio something', wasn't it?

Samantha: Yes! That's it! A lot of programming is magical. It's like, we're all just magicians conjuring stuff from nowhere with new lines of code.

As Samantha explains, developers can use a data-type by invoking its name. This process often requires a particular piece of code called a variable. Variables are used throughout JavaScript programs; they were explained to me as 'storage boxes' or 'containers' of information. Using variables, developers can reference smaller programs over and over again, within a broader programming project. The basic syntax for declaring a variable looks like this:

```
var name;
```

Here I have created a storage container with the code 'var', and I have given it the title 'name'. This is how to declare a variable in JavaScript. Once the variable is created, the developer can then assign it a data-type, as the code below demonstrates:

```
var name = "jess";  
    console.log(name);
```

Alternatively, a number data-type could be formatted like this:

```
var quantity = 8956;  
    console.log(quantity);
```

In both of these examples, I have created a variable and given it the title of 'name' or 'quantity'. I have assigned each variable a data-type, the first example is a string and the second example is numbers. The line of code 'console.log' instructs the computer to display the data contained inside

the brackets on the browser. Inside the brackets, I call each variable by referencing its title, consequently the server would print the value of each variable, which results in this:

```
> var name = "jess";  
   console.log(name);  
jess VM26905:2
```

Figure 20 Console example 1

```
> var quantity = 8956;  
   console.log(quantity);  
8956 VM26919:2
```

Figure 21 Console example 2

Creating and repeatedly referencing variables which contain specific information about data-types is a primary method of JavaScript programming. It is, as Samantha previously explained, like magic, or a series of Russian dolls. Using the right spells, developers can conjure containers or Russian dolls. Inside those dolls, we can store information about data and how to organise it. Samantha's analysis also illustrates the significance of language within this field. The practice of labelling variables and using language to explain the technical environments one is working within has genuine constructive and productive power in terms of the ways developers form relationships with computers and the pieces of software they go on to coproduce.

My initial interaction with software and computers was marked by hesitation rather than productivity, leaning more towards exclusion than inclusion. Gradually, I started to grasp the concept of data types. In this context, there are five fundamental data types to understand: numbers, strings, functions, objects, and arrays. The journey of working with these data types involves a mixture of challenges, successes, and setbacks. It can be both empowering and discouraging, particularly for beginners entering this emotionally charged and dynamic field. These experiences need to be acknowledged and navigated as one ventures into this intricate and precarious field.

The number data-type is perhaps the most easily understood by beginners. This data-type uses 'bits' to represent numeric values. As this participant explains:

You don't even need to be good at maths to understand numbers in JavaScript, because the machine makes the calculations for you. So to represent the number 23, you just type 23. That's it, the server recognises the numbers data-type just by typing actual digits, it can convert these digits into bits. Because there is a fixed number of bits the server can work with, there is a limit to how high you can count in JavaScript. But it's in the Quintillions, I think; it's some ridiculous number that's never going to impact average users.

The number data-type is often used for making calculations within the context of broader computer programs. Coding such formulas requires the use of mathematical symbols. In JavaScript, these symbols are called operators, as this participant explains:

There's really no need to get stressed out about maths in programming. I say that because a lot of people feel really intimidated by math. But, like, you're not expected to do the math yourself. You're only building the calculator ok? Most programs require multiple forms of calculation. Let's take Trade Me as a simple example. Ok, a basic user story might be 'as a user I want to know the total value of my shopping cart'. So to program that calculation, you just need to apply the operators in JavaScript. They are these symbols:

*+ * - /*

The plus represents addition, the minus represents subtraction, the star represents multiplication and division is done using this symbol /. So we might use these symbols like this:

100 + 53

By putting the operator between two data-types, the server will automatically apply it and give you a new value. See you're not doing the math.

There are also logical operator commands which produce true or false values. Operators can also be applied in different combinations to generate particular calculations. It's important to note that these are basic examples, as with everything in programming, there are specific syntax rules about how and when to use data-types in JavaScript. Programming is fiddly and precise work. Forgetting the smallest detail can throw the calculations or break the program. The example below demonstrates how meticulous this work is. In the first image, the program doesn't run, I receive an error message

that identifies a syntax flaw.

```
> var name = "jess";  
  console.log(name);  
✖ Uncaught SyntaxError: Invalid or unexpected token VM26870:1
```

Figure 22 Console example 3

```
> var name = "jess";  
  console.log(name);  
jess VM26905:2
```

Figure 23 Console example 4

My use of curly quotation marks, instead of straight ones, broke this program. Although this error is easily remedied, as the second image demonstrates, resolving error messages like this can be incredibly time consuming and deeply frustrating. As these participants explain:

I've spent whole days trying to solve a single error message. It can be something as simple as a syntax error, and you just can't see it. You can't figure out what the problem is, why the code won't run. I'll spend a whole day on it, pack up and go home. Come back the next day, start up the computer and solve it in five minutes. Boom! Programming is funny like that. It's like the longer you look at something, the harder it is to spot the problem. I used to feel like a complete twat when I had those moments, but now I just see it as part of the gig.

Error messages! Haha, don't get me started. I've spent hours trying to resolve what should be a really basic error message. When I finally trace the problem and fix it, I run the code, and I get an entirely new error message. The fucked thing is, I'm actually stoked. It's like, getting a different error message feels like progress in some way. That can happen three or four times in a row, and each time I'm actually relieved to get the new error message. Programming is brutal like that.

Indeed, an interesting component of my research was that every developer I interviewed had a story about grappling with seemingly simple error messages. This breakdown in dialog between the computer and developer was a common form of frustration. Additionally, developers would often describe a sense of isolation and exclusion that would nag at them during these moments.

Yeah I've felt that programmer loneliness. It's a shitty place to be. It can be so brutal. You can't resolve an error message, no matter what you try. You feel like, I dunno, incompetent at your job. It's like 'what am I even doing here? I clearly can't do this job'.

Here the participant describes a sense of not belonging. This occurs during translatory issues between developer and computer. The computer is unwilling to comply with the developers attempts to move forward in the program "no matter what she tries". When this situation occurs, the developer is unable to grasp the computer's demands, and the computer responds by expressing a steady stream of uncooperative error messages. For Bourdieu, forms of distinction are perpetuated through language; in this sense language is a conduit for exclusion and inclusion within particular fields.

As Bourdieu (1991) explains, "Speakers lacking the legitimate competence are de facto excluded from the social domains in which this competence is required, or are condemned to silence" (Bourdieu, 1991, p. 22). In the field of software development, computer languages and their accompanying technical infrastructures are gatekeepers of belonging. Being able to engage in steady and unbroken dialog can leave one feeling like a 'skilled developer.' On the contrary, breakdowns in communication between the developer and the computer can induce experiences of exclusion from this field.

It took me a while to get used to the ongoing work of resolving error messages. Sensing how under confident I was with JavaScript, Harry often reassured me that computer programming was nothing like maths. I understood his logic, but JavaScript still felt particularly 'mathsy' to me. This is because I struggled to manipulate JavaScript the same way I struggled to manipulate mathematical formulas in school. In my case, working with JavaScript resurrected a long forgotten internal schema, that I was not 'good at math'. Like Math, JavaScript did not yield easily to my manipulations. I was forever trying to solve problems that remained stubbornly noncompliant.

In addition to working with numbers, computer programs must also manipulate text. In JavaScript, the data-type for representing text is called 'string'. To make a string value, the text must be enclosed within quotation marks, backticks, or double quotation marks. The syntax of which looks like this:

```
'Thank you for shopping with us'
```

```
"Thank you for shopping with us"
```

```
`Thank you for shopping with us`
```

Like numbers, string values are also formulated inside the computer through a combination of bits. As this participant explains:

So pretty much, at a basic level, there is a binary number assigned to every letter of every alphabet in the world. So through particular binary codes, computers can interpret written language. That's pretty much what strings do, like, at a really really core level.

In most cases, by enclosing text in quotes, JavaScript will generate a string value. However, there are some fiddly syntax details to remember when working with strings. For instance, the operator + can be applied to strings to glue text together. For example:

```
'g'+ 'l'+ 'u'+ 'e'+ 'd'
```

From a user's perspective, this line of code would generate the following text:

glued

In JavaScript, applying a new line within a string value requires the use of a backslash followed by the letter 'n'. As the following example demonstrates:

```
'I am line one\n I am line two'
```

From a user's perspective this string value would appear like this:

I am line one

I am line two

The examples we have seen so far demonstrate how JavaScript can manipulate data. In these examples, the data has been hardcoded. This means we have manually coded the numbers, and string values for JavaScript to manipulate. JavaScript becomes more complicated when developers are required to build programs around 'unknown data'. As this participant explains:

Strings and numbers are fine if you know the data that's going to be entered. Say, for

example, a static website, like, if you wanted to display a menu and that's it. It would be really lazy code, but it's possible to do that with just strings and numbers in a JavaScript file. But let's say you need the server to generate data based on the user's input.

A basic example of this might be the total cost of someone's online shopping, or how old someone is based on their birthday. That data is going to be random, isn't it? So there's no way for the developer to hard code it in. So this is where you would use a function in your program.

Of the five data-types I practised, functions were always the most perplexing. For beginners, like me, functions appeared to have magical properties. They work with abstract data, manipulating it to solve problems, perform tasks and generate calculations. All of which occurs within a split second; a fully automated response conjured by a spell.

As I spent time building functions, they slowly started to feel less magical and more mechanical. Most developers will tell you functions are mini algorithms. Data-types can be passed into a function; the function then manipulates the data and returns a result.

A basic JavaScript function looks like this:

```
function name (dataPassed) {  
    Statements  
}
```

To invoke a function, you follow the same syntax rules as a variable. Typing the word function and providing the function with a title/name declares this data-type in JavaScript. In the above example, I have called my function 'name'. The next line of text is wrapped in brackets. I have called this text 'dataPassed' because what is contained inside the brackets is the input that gets passed into the function to be manipulated. Such data is often random and is generated from user input. The task to be executed by the function is contained inside the curly brackets. Developers use functions whenever they need their program to return a result. As this participant explains:

Ok so think about all the times you're providing a website with information, and then it gives you back some different information based on your input. This is an everyday

interaction we all have. Like online shopping, setting up an account, clicking on an image, uploading a photo. Ok so behind the scenes, all of that work is mostly handled by functions. I think of functions as the 'give and take program', so you give it some data, it takes that data, does something with it, and returns a result to you, depending on the parameters of the program.

Understanding functions and how to apply them unlocks endless possibilities in programming. In particular, functions are crucial to utilising the fourth data-type, objects. Objects are variables. However, it is possible to assign multiple data-type values to an object. JavaScript is a uniquely flexible language; consequently, almost anything can be defined as an object if the correct syntax is applied. A basic object looks like this:

```
var person = {firstName:"Jess", lastName:"Halley", age:30,
eyeColor:"blue"};
```

Here I have created an object with the title 'person', and I have assigned this object multiple string values. When programming objects, the data-type values assigned to them are called 'object properties'. In the context of an object, functions can also be applied as object properties. As the example below demonstrates.

```
var person = {
  firstName: "Jess",
  lastName : "Halley",
  id       : 1990,

  fullName : function() {

    return this.firstName + " " + this.lastName;

  }

};
```

In this example, I have created an object called 'person'. The object contains four properties, two are strings, one is a number, and one is a function. The function in this example adds the last name to the first name and returns the result. When constructing functions as object properties, a piece of

code called 'this' is applied. Within the context of an object 'this' always refers to the parameters of the object itself. So in the example above, 'this' refers to the 'person' object, which contains the property firstName.

Consequently this.firstName refers to the firstName property of the person object. An excellent example of how this style of JavaScript programming might be applied is the website Trade Me, items listed by a seller on Trade Me's website is a piece of data. Surrounding that data is a series of functions as object properties that outline all possible ways users can interact with that object.

An alternative way of assigning multiple data-types to one variable is by using an array. An array is the crucial fifth data-type in JavaScript, they are mostly lists of data. Like functions, arrays can be applied as object properties. Arrays can also be manipulated within the context of a function, to add, delete or change lists of information. A basic Array looks like this:

```
var dogs = ["Collie", "Lab", "German Shepherd"];  
document.getElementById("demo").innerHTML = dogs;
```

In this example, I have created an array titled 'dogs', the array has been assigned a list of dog breeds. The following line of code provides the location of this, in this example, I have called the file 'demo', this is followed by instructions to print the contents of the array called 'dogs', using HTML. The results of this program look like this:

Collie,Lab,German Shepherd

Figure 24 Array output

These five data types form the bedrock of JavaScript programming. To clarify, I'm not aiming to delve into the intricate details of JavaScript programming in this explanation – that would require extensive detail. Rather, my objective is to highlight the vital role that context, purpose, and intention play in the daily practice of programming. It's through the creative utilisation of these data types, employing various combinations and structures, that developers can construct sophisticated computer programs. This underscores the dynamic and problem-solving aspect of programming that goes beyond mere technical knowledge. As Haverbeke states:

Computers themselves can do only stupidly straightforward things. The reason they are so

useful is that they do these things at an incredibly high speed. A program can ingeniously combine an enormous number of these simple actions to do very complicated things (Haverbeke, 2018, p. 2-3).

Simplicity is key. The ability to read a program, add to it, resolve an error message and so on requires clearly identifiable data types. Although the details and rules of how to best organise code are widely debated, and practised differently in different work environments, there are some general themes. As datatypes are the alphabet of JavaScript, labelling variables and organising code into clean lines, where the data-types are easily identifiable is a key part of producing simple, and what is often described as 'empathetic code'.

Returning to our Trade Me example will provide some context for how these data-types can be combined to construct a more extensive program. To organise any data a seller might upload about the item they are selling, the developer would use an array. Any user interaction surrounding this item, such as the clicking and enlarging of images, posting questions to the seller etc. would be programmed using functions. Both of these programs would likely be enclosed within an object.

There are multiple theories about how best to organise objects in programming. Object-oriented programming, in particular, is a widely debated programming methodology which suggests all computer programs should be constructed as objects. Advocates of this methodology argue developers must consider the way 'physical world' structures and objects are assembled, and bring such patterns into the formation of computer algorithms.

Computer programming permits endless possibilities, there are multiple pathways developers can take when building programs. However, it is all too easy for computer programs to become overly complicated. Over the course of my training I was taught that 'good code' is simple, not overly wordy. The best programs are executed using only a few lines of code. As Haverbeke reminds us:

A program is a building of thought. It is costless to build, it is weightless, and it grows easily under our typing hands. But without care, a program's size and complexity will grow out of control, confusing even the person who created it (Haverbeke, 2018, p. 2-3).

Building simple programs was not easy for me, I often used 'too many' lines of code. My tutors would show me more straightforward ways of organising the code to achieve the same results using

'fewer words'. Nevertheless, the practice of deploying a file that contained only two or three lines of code felt insufficient to me; yet another example of how my practice as an academic did not equip me in this work.

To simplify my tangled and overly complicated programs, I would need to return to the basics of programming time and time again. For me, this was always functions. Whenever something broke in my programs, it was inevitably the result of a function gone rogue. By returning to the basic principles of functions, I learned how to simplify my programs, and strengthened my understanding of JavaScript's core logic. A more in-depth exploration of functions in this chapter best illustrates the basic understandings of 'good' and 'bad' code.

Below is another example of a basic function:

```
var x = 90

function myFunction (a,b){
  myFunction = a-b
  return myFunction}
```

Here I have created a variable, titled it 'x' and given it the data-type value of '90'. So 'x' now equals '90'. In the next line of code, I invoke a function, and title it 'myFunction'. I pass the function two data-types, which are contained in the brackets. Both data-types are unknown, they would provide information entered by a user, and therefore cannot be hardcoded. The function is programmed to subtract 'a' from variable 'b' and then return the calculated value of 'myFunction'.

If you are finding this confusing to understand, you are not alone. Functions are the fundamentals of computer algorithms. Understanding what they do, how to code one correctly, and when to use one, remains an ongoing learning process for developers. When I first began working with functions, I would find myself buried in layers of abstract data, different variables and data-types all tangled together in a bird nest of errors that I struggled to find my way out of. My only source of comfort during this process was the other students in my cohort. Most of them were as confused as I was; together we spent hours trying to code and decipher different functions. In learning about functions, I came to experience the way time can warp when you are lost in code. Time seems to slow down completely when you are unable to make progress in your programming. For me, this happened

most frequently with functions. The abstract data confused me, and I was frustrated by the problems I was required to solve. During this stage, I struggled to understand how these small algorithms fit within the context of more comprehensive programs. I was not alone in my confusion, as one of my participants illustrates:

I don't know if you've ever travelled much? I have. To me, that moment of stuckness, like, you don't know what to do, where to go next or even how to ask for help. It just really reminds me of being lost in a foreign country, where you don't speak the language. You can feel really isolated, really quickly, loneliness sort of hits you all at once. Time slows down in those moments, and it's easy to get quite panicky. It's a weird comparison to make, but that's what functions are to me, or at least in the early stage got easier later on. And eventually, when you know how to use them, you can feel like a god, you know? They're pretty powerful things. Have you seen that programmers meme? Here I'll send it to you in the chat now."



Figure 25 The two states of every developer

Functions have magical properties, not simply because of the work they do, but also how they make us feel. As my participant recounts his experiences, he draws on metaphors and memes to explain the different affective states he has encountered from inside the parameters of a function.

In writing this chapter, a common theme has emerged, computer programming can induce

overwhelming emotional responses, it is emotional work. Coping with these emotional extremes is both a deeply personal process and the work of teams. A common way teams work through such emotions is by sharing memes about programming that take a self-deprecating tone. These memes provide a way for developers to validate each other's experiences. As this participant explains:

I think a lot of memes come from subcultures. Not all of them, obviously, but many do. The point in sharing a meme, in a way, is to acknowledge specific experience. With programming, it's hard for people who aren't devs to understand our job. The job is really logical and detailed, and the work can often be isolating as fuck. So sharing memes that kinda mock the realities of the job, and yourself as a dev, it's a way of normalising all of the stress, finding common ground, I'd say.

Indeed 'finding common ground' is an ongoing challenge across all aspects of programming. Developers also find common ground through code. This is why writing simple programs with limited lines of code is so important. 'Good code', 'clean code', 'empathetic code', in this context, is code that can be read and easily interpreted by other developers.

I found that I was able to 'read' and interpret functions more easily when the context of each function was made explicit. When I could understand how they were applied and used in broader computer programs, they became legible. Perhaps this is also true for you? To test this, I will revisit the function I wrote earlier in this chapter, but this time, I will wrap it in context. In the examples below both functions do the same thing, but the second function has written explicitly for a weight loss website. The parameters of the second function are less abstract.

Function 1:

```
var x = 90

function myFunction (a,b){
  myFunction = a-b
  return myFunction
}
```

Function 2:

```
var weight = 90kg

Function weightLoss (newWeight, oldWeight){
    weightLoss = oldWeight - newWeight
    return weightLoss
}
```

Both of these programs take an input, make a calculation and return a result, but example two is more interpretable. I expect you are probably still confused about how functions work. My intention in explaining this code is not to make the intricacies of JavaScript programming any clearer for you. I would need to write an entire programming textbook to achieve that. Instead, my intention is to demonstrate the significant role context, purpose and intention play in the day-to-day work of programming. While example one remains abstract, its purpose is only understood by its original developer; example two could be read by someone who had no training in computer programming, and they would have enough information to make an informed guess about the purposes of this program.

Purpose is just so important in dev work. Purpose and intention. Even though the actual work can be quite solo, so much productivity is dependent on teamwork. So you can have a rockstar dev, they can solve any problem in the world, and produce programs really quickly. But if no one else can understand their code, it's useless. The team can't build on it. It's like, if you're a selfish person, you're going to produce selfish code that is completely dependent on you because no one else gets it. This is why teamwork and empathy are so highly valued in tech right now. You can always teach technical skills, but you can't teach empathy, and that's a huge part of technical skills, people who aren't dev's don't always understand that.

In this story the developer explains the relational aspects of computer programming. Though the day-to-day practice of computer programming can be an isolating experience, developers are aware that the code they produce will be interpreted and used by other developers within their team. In this context, simple code is a form of objectified cultural capital. There are a few common practices that

can result in 'empathetic code': code that is well labelled as my weight loss example illustrates, code clearly spaced out, and files that contain a short word count. Producing code that can be easily interpreted by the wider team, or in an open-source context, by other developers around the world is highly valued among developers. Using Bourdieu's concept of cultural capital, computer algorithms can be understood as storehouses for cultural artefacts. The particular amount of objectified cultural capital a particular algorithm may acquire is made enabled by its relational properties, that is the amount it gets reused, or circulated within the team or the wider open source community. Code that is widely referenced across teams is empathetic code and therefore rich in objectified cultural capital.

6.5 In Summary

The stories explored so far vividly illustrate a unique working relationship between developers and computer code. Software production is not a mere technical process; instead it emerges through intricate negotiations between humans and computers within a context of ever-changing technical infrastructures. This dynamism is constantly shifting, driven by the materialities of the broader infrastructures in which code is produced. Access to open-source repositories has fostered a rapidly evolving knowledge base, contributing to a pervasive sense of precarity about one's technical skill set in this field.

As a social scientist, my transition into the world of software development left me unprepared for the emotional complexities that would accompany this journey. The daily practice of computer programming resurrected long-forgotten internalised dispositions about failure and mathematics.

Often, it felt as though I couldn't work in harmony with my computer, as it responded with a relentless stream of error messages, leaving me feeling as though I could never quite grasp 'a feel for the game.'

These experiences also underscore the emotional labour deeply intertwined with computer programming. Computer code possesses almost magical attributes, not solely due to its functional role, but because of the intricate ways it can either bolster or erode a developer's sense of commitment within this field. Extreme highs and lows in this context can determine fluctuations in *illusio*, particularly in the early stages of one's career.

Many of the stories examined thus far have illustrated moments of isolation within the practice of computer programming. Conversely, there are moments marked by intense cooperation with the computer. During these moments, the gap between developers and their computers diminishes. Progress in writing code and producing computer programs is defined by embodied knowledge of computer code and the wider infrastructures in which it is embedded. Here, perceptions of time are transformed, and developers can spend hours working on an algorithm without realising how quickly time has passed. Importantly, this mode of work is characterised by a sense of progress, enabled and perpetuated through an embodied understanding of their technical infrastructures. Typing, clicking, thinking 'like the computer,' and using a series of collective and personal metaphors, developers engage in an intersubjective partnership with the computer. In the field of software development, language and metaphors wield genuine constructive powers and have technical consequences.

Moreover, code has relational properties. Developers are aware that their written code will be disbanding and read by their wider team. This awareness drives the production of 'empathetic code,' which is easily interpreted and reused by others, allowing developers to accumulate objectified cultural capital. The distinction between 'empathetic' and 'selfish' code is context-specific and necessitates the examination of concrete code examples. In the past decade, the tech industry has witnessed the emergence of methodologies and working cultures centred around empathy and clear communication among teams.

The following chapter delves into the digital materialities that shape Wellington's tech sector, with a particular focus on the transformative influence of open-source principles on software production. It explores how open source has led to rapid innovation, experimentation, and transparency, ultimately revolutionising the working culture of software development. In this context, open-source code is more than just a utilitarian tool; it becomes objectified cultural capital, significantly influencing participants' daily practices and, in turn, their subjective experiences. Despite the inherent logic of code, the open-source infrastructure fosters creative practices, empowering digital workers to skillfully navigate the uncertainties of the market. This chapter's exploration of material foundations and creative dynamics offers valuable insights into the ever-evolving technological infrastructures that shape Wellington's technology sector, shedding light on the intricate relationships between these materialities, individual subjectivity, and the enduring precarity that

characterises the field.

Chapter Seven - Navigating the Open-Source Landscape

Throughout the investigation of Wellington's tech economy, the overarching themes of precarity, subjectivity, self and identity have emerged as crucial components for understanding the lives of tech workers in the city. This chapter delves deeper into these themes by examining the use of open-source software (OSS) among Wellington's digital workers, shedding light on its significant role in shaping the experiences of those navigating the nuances particular to the production point of platform capitalism. In Wellington's technology sector, open-source code stands as a valuable form of objectified cultural capital. It offers a unique perspective for comprehending how open-source software (OSS) both alleviates and exacerbates the challenges of precarity faced by software developers in the city.

My investigation into the tech industry's dynamics reveals that high levels of illusive work are demanded to secure work, necessitating developers to continually learn and adapt. However, the industry's intrinsic precarity, exacerbated by the prevalence of open-source software, has transformed strategies for capital accumulation. As a participant in my study, aptly puts it:

It's never a good idea to stay in the same technical role for too long. You can get stagnant. Stuck in that code base, that means you don't grow your skill set. Of course, everyone has different circumstances, some people don't want to be developers forever. They're looking for management positions and the developer role is a stepping stone. That being said, if you want to build a career as a dev, you need to keep learning, and keep moving. Employers like devs that have a diverse pool of experiences under their belts. So I always tell people to keep a personal project in the background so you can keep learning in your own time, and not to stay working for one organisation for too long, keep looking for other opportunities

This participant's perspective offers an ethnographic example that starkly underscores the precarity that characterises the wider field of Wellington's technology sector. Developers like this participant often follow a strategy of frequent job changes, avoiding stagnation and fostering skill growth. This

strategic approach mirrors the impermanence that defines the tech industry, where junior developers often opt for limited terms of employment, making a virtue out of necessity.

To comprehend the implications of open source in this context, a distinction will be made between Free Open Source Software (FOSS) and open-source software (OSS). FOSS is not only technically but also legally embedded with American libertarian ideology, a fact that cannot be ignored. It is important to recognise that the impacts of open-source movements are inherently tied to local dynamics and cultural variations. Wellington's digital workers have been primarily influenced by the open-source software (OSS) movement. This influence is noteworthy because OSS itself emerged as a countercultural movement, aligning seamlessly with Wellington's counter-cultural ethos. This synergy has significantly shaped the adoption and adaptation of open-source practices within the city's tech economy. My fieldwork within the Enspiral network has allowed me to see how the values of rapid innovation, experimentation, and transparency, which are intrinsic to open source, have profoundly influenced the work practices and startup projects that emerge from this field.

Despite its potential for transformation, there's a noticeable gap in ethnographic research when it comes to delving into the practical, everyday use of open-source software repositories by digital workers. This chapter takes the initiative to explore this uncharted territory by investigating how well-established open-source archives influence daily work practices and the creative environments that result from such interactions. I argue that the politics of Open Source influence subjectivity, self and identity, making selves who can cope with the contradictions in platform capitalism.

Open-source code, a treasure trove of shared cultural knowledge, resides at the heart of these contradictions and transformations. Public platforms like GitHub, the epicentre of the open-source movement, host a wealth of qualitative knowledge accessible through the mining of detailed records within code repositories. These records tell the stories of software projects, revealing the intricacies of their development, the collaborative efforts behind them and the ways in which emotion, identity, selves, and subjectivities oscillate, become-with and manifest within domains of digital precarity.

This chapter delves into the influence of open-source practices on Wellington's software developers while also shedding light on the challenges associated with conducting ethnographic research in the digital realm. Although digital platforms may not readily accommodate traditional ethnographic

methods, open source reveals its fundamentally human nature, providing valuable insights into the cultural dynamics of the tech industry. In summary, this chapter acts as a bridge, connecting our previous discussions on precarity, subjectivity, and identity with the world of open source within the complex web of Wellington's tech economy.

7.1 What is Open-Source Software?

Open-source software, broadly defined as software with freely accessible source code on the internet, holds profound implications for learning code and the dynamics of institutions like Dev Academy and Enspiral. It has become a valuable resource for early-stage tech startups seeking rapid market entry. Open-source code facilitates the quick production of minimum viable products (MVPs). Access to open-source code has accelerated the emergence of various tech startups in Wellington and enabled networks like Enspiral to thrive.

Within the global open-source community, several digital code archives have been established. These archives, collaboratively maintained by a diverse group of developers worldwide, serve as repositories for code packages. Developers not only utilise these packages but also have the flexibility to modify and redistribute them in other software projects. Collaboration in this community often takes an informal and decentralised form, leading to the creation of remarkable projects like the widely acclaimed Firefox web browser.

Today, the administration of open-source code predominantly occurs through centralised platforms like GitHub and NPM, which are evolving into substantial infrastructures for open-source code. These platforms have taken on semi-formal institutional roles, facilitating the exchange of source code and enforcing governance through voting protocols, constitutions, and codes of conduct. Furthermore, they meticulously document the development of software, maintaining a comprehensive record of changes and contributions. Drawing parallels with Geiger and Ribes' (2011) observations regarding software code repositories, these platforms offer detailed records of who made specific changes, when those changes occurred, and often why they were made. This transparency is vital for keeping developers accountable and providing maintainers with a quick overview of the project's evolution.

The significance of these cloud-based repositories of open-source code extends beyond their

technical aspects; they serve as shared and collectively constructed archives of cultural knowledge. Understanding these materialities of open-source code is crucial as it plays a pivotal role in the learning processes of aspiring developers, particularly within institutions like Dev Academy and Enspiral, shaping their understanding of code and its practical applications in the real world. This chapter delves into how these material aspects shape the formation of a particular habitus and provides concrete insights into the experiences of individuals actively involved in the field of open-source software.

7.2 The Non-Commodification of Source Code

Open-source software distinguishes itself from other forms of intellectual property through its open, collaborative, and non-commodifiable nature. In this realm, code is not privatised but rather treated as a communal resource accessible to the public. Licensing conditions are instrumental in preserving this accessibility and preventing the privatisation of code, even for derivative works.

However, the defining feature of open-source code is the community-driven ethos that underpins it. Digital workers from diverse corners of the globe engage in collaborative endeavours, actively contributing to code repositories, constantly enhancing and expanding existing projects. This collaborative culture is fuelled by intrinsic motivations, such as personal interest, skill development, and a shared commitment to addressing specific technical challenges. Furthermore, open-source code embodies inherent iterativeness. It builds upon prior work, constantly evolving and resisting static commodification. Peer review and transparency are integral components of this process, with developers worldwide diligently scrutinising and enhancing code quality and security. In essence, open-source code represents a fluid and collective endeavour, prioritising collaboration, transparency, and the exchange of knowledge over the conventional concept of code as a mere commodity. This uniqueness is pivotal in comprehending open source's role within Wellington's tech industry.

In Wellington, the confluence of platform capitalism and the city's distinct counter-cultural ethos aligns with open-source values. Within this context, my research participants have discovered that actively participating in and sharing knowledge within the open-source community serve as effective strategies for navigating the inherent precarity of the tech sector.

7.2.1 Free Open-source Software

As developers craft computer code, it traverses various levels of programming languages, eventually reaching its destination: a piece of software known as a compiler, responsible for translating code into binary. Between 1920 and 1970, this process became increasingly refined, layered, sophisticated, and faster. Computers themselves also shrank in size. In 1975, Bill Gates and Paul Allen founded Microsoft, envisioning computers accessible to every household. Their software could be marketed as a commodity, turning a profit. During this era, using a Microsoft computer required users to input commands using basic code. Apple followed suit the next year, distinguishing their computers by completely black-boxing computer code. Users no longer needed to learn elements of code to operate a computer. This period marked the commodification of computers, as they became accessible to the middle class. However, the software that breathed life into these machines was proprietary and costly, a continual source of frustration for developers. Proprietary software locked users out of the source code, preventing tinkering, bug fixes, or alterations by developers.

In response to this barrier, Richard Stallman founded the non-profit organisation; Free Software Foundation (FSF). Stallman's goal was to build and share software free from proprietary copyrights. In this context, the word 'free' is rooted in libertarian philosophy (Coleman, 2009).

Consequently, FSF and other open-source communities are not opposed to commodifying software to make money. Instead, they advocate for accessible software that can be tinkered with, altered and reused. A colloquial phrase that resonates within numerous open-source communities, aiming to elucidate the nuanced context of the term, is "free as in speech, not as in beer." This phrase draws attention to the distinction between the two possible interpretations of "free." While "free as in beer" refers to something being available at no cost, "free as in speech" emphasises the idea of freedom and openness, suggesting the liberty to access, modify, and redistribute the source code, rather than just receiving something without monetary payment.

In many ways, the free open-source movement (FOSS) is profoundly American; here, arguments about 'freedom' are embedded within the context of American legal narratives, as Coleman's (2009) research demonstrates. FOSS provides an example of how liberal values, such as free speech, are embedded technically and socially in the projects FOSS advocates take on. Open-source projects

challenge notions of intellectual property rights. Research in this field explores the code developers are utilising to forge new open-source products while simultaneously participating in redefining modes of liberal freedom (Coleman, 2009; Coleman, 2004; Kelty, 2004).

7.2.2 Open-source Software

Open-source Software (OSS) is a parallel movement. OSS advocates are less interested in moral and legal arguments for free speech. Instead, the OSS movement is grounded in technical arguments, as documented by Raymond's (1999) study *The Cathedral and Bazaar*; in which open-source code is seen as simply more effective. During my interviews with developers, the open-source movement was often discussed. Accessing and sharing source code freely was of particular importance to my participants. Certainly, as I learned to code, I observed its distinctive characteristics in contrast to other forms of intellectual property, since the developers I collaborated with would upload the code to platforms like GitHub, which would automatically include a licence permitting anyone to view, use, modify, and share the code; furthermore, these developers frequently framed this practice not only in technical terms but also as a movement, a political stance, and a declaration of "how the world should work". Kelty's (2004) research saw similar themes, as he describes:

For practitioners, observers, and advocates who have been drawn into this net of zeitgeisty claims, it seems to offer an answer to the 21st century question of how we should live-or at least, how we should promise, share, code, hack, license, lawyer, organise, buy, sell, own, sing, play, or write (2004, p. 499).

Code must adhere to a purely logical framework, yet the software it produces needs to correspond with fickle and emotive human behaviours. For the solo developer, writing such programs is time-consuming; thus, developers leverage the intellectual work of entire communities to deliver software efficiently. Advocates of OSS across Wellington's startup networks argue that a shared economy of source code, or as Raymond (1999, p. 24) describes it, "a bazaar", will produce problem-solving software faster and more efficiently than a top-down manufacturing or "cathedral" (Raymond, 1999, p. 24) approach. Open-source software has come to demonstrate the agility of community-lead manufacturing, as Raymond (1999, p. 39) states:

The developer who uses only his or her own brain in a closed project is going to fall behind the developer who knows how to create an open, evolutionary context in which feedback

exploring the design space, code contributions, bug-spotting, and other improvements come from hundreds (perhaps thousands) of people.

Open-source archives are produced, copied, maintained, tweaked and curated by tens of thousands of developers worldwide. The cultural distinctions between the open-source software movement and the free open-source software (FOSS) movement primarily revolve around their core philosophies and motivations. Open-source software emphasizes the practical benefits of collaboration, transparency, and peer review, often attracting a diverse range of contributors, including corporations, who value the pragmatic advantages of open development. In contrast, the FOSS movement places a stronger emphasis on ethical and ideological principles, advocating for software freedom and the avoidance of proprietary or restrictive software, often viewing open source as a means to promote a philosophical and social agenda, with a focus on user autonomy and software that respects individual liberties. These distinctions can lead to varying strategies, licensing choices, and approaches within their respective communities. However, at times, both movements work together informally on projects. In the late 1990s, this community was loosely organised and described as "a great babbling bazaar of differing agendas and approaches out of which a coherent and stable system could seemingly emerge only by a succession of miracles" (Raymond, 1999, p. 24). Ultimately, open source is a brave new world generative of new ways of being together way beyond the digital domain.

7.3 Archives of Cultural Knowledge

Raymond's (1999) work initially contemplated the evolution of an egalitarian open-source community. However, more recent anthropological research highlights the need to examine OSS and FOSS movements through culturally specific lenses. Coleman (2001) and Kelty (2004) have provided ethnographic analyses of the American understanding of the FOSS movement. They reveal how libertarian ideals of 'freedom' shape FOSS within the American context. This demonstrates that the FOSS movement is influenced by local ideologies. Takhteyev's (2012) research in Brazil showcases how the construction of computer code impacts digital citizenship issues. He observed Brazilian software developers working on the outskirts of the global software market envisioning a borderless code base that would grant them access to American markets. Their creation of Lua, a code language comprehensible to American developers, allowed it to expand beyond local borders.

This highlights that FOSS practices adapt to local contexts to achieve global reach.

Folz (2018) delves into the mobilisation of FOSS in India, framing it as a nation-building project. She identifies characteristics of FOSS that align with traditional Hindu philosophy and Indian cultural practices. Folz's work underscores that FOSS is technology bridging practitioners globally while accommodating local cultural nuances. Her fieldwork reveals that FOSS is not a monolithic concept but varies with cultural contexts.

Considering the traditionalist tradition in India, it makes perfect sense that FOSS can be appreciated by my informants as, on the one hand, a universal technology that connects them to all other FOSS practitioners internationally and, on the other hand, as a very Indian way of doing software and using it for social change (Folz, 2018, p. 15).

The quote from Folz showcases the case of Indianizing FOSS, as seen through the perspective of her key informant, Ramakrishna. He emphasises how FOSS aligns with India's cultural values of knowledge sharing and helping the less fortunate, in contrast to Western capitalist ideals. This example illustrates how FOSS can be appreciated as a universal technology connecting practitioners worldwide while adopting a distinctly Indian approach to software development and social change.

The open-source software movement has gained significant traction in Wellington, particularly when compared to the free open-source software (FOSS) movement. These cultural distinctions in preference for open source versus FOSS communities are more pronounced in certain tech hubs. In Wellington, the open-source software ethos aligns seamlessly with the city's counter-cultural spirit and government initiatives, becoming an integral part of the local tech landscape. This resonance is similar to the situation in India, where FOSS aligns with traditional values (Folz, 2018). In Wellington, open-source principles have deeply influenced the working practices of tech professionals and have become a distinctive feature of the city's unique knowledge ecosystem.

7.4 Open-source Code and Wellington

The use of open-source software within the wider field of Wellington's technology sector was originally a niche and seemingly counter-cultural practice. Developers belonging to the Enspiral

network advocated for the expansion of open-source software within the industry for over a decade. The efforts of Enspirial members were successful; over time, open-source software has moved from the avant-garde to an established practice within the wider field. This is an example of how avant-garde challenges can come to displace established norms. Indeed, Bourdieu allows space for fields to transform in this way. He explains:

To impose a new producer, a new product and a new system of taste on the market at a given moment means to relegate to the past a whole set of producers, products and systems of taste, all hierarchized in relation to their degree of legitimacy (Bourdieu, [1992] 1996, p. 160).

The legitimisation of open-source practices across the wider field of Wellington's technology sector has transformed how software is produced, enabling a startup economy to emerge, thus changing the "rules of the game", as James explains:

Jess: So is open source a big deal across Wellington then?

James: Catalyst IT started getting on the bandwagon about 20 years ago, and they've been big promoters of government using open-source software. I'd say that, in the web space, it's not like there's closed source and open-source companies anymore. Open source is the default, and for any web company, your application, you'll keep that closed source. So if you build Xero, you keep that private, you don't let other people build on Xero. But anything that you build, which is a valuable building block, like a valuable component, like a baseline technology, you open-source that, so other people can use them. And that's why Facebook built React and why Google built Go, and that's why you see these big tech companies, they'll keep their actual product private, but they'll open source their building block stuff.

In the 1980s, there was a significant delineation between closed-source and open-source software programs. Most software companies used closed-source proprietary tools and kept their projects closed-source. The technological landscape in 2019 is now far more amalgamated. As James highlights, all technology companies rely on open-source programs. Furthermore, many contribute to open-source culture by releasing their building tools. Indeed, I learned to use a library called React, a coding framework created by Facebook to control how components are displayed on a

screen. As open-source libraries are continually updating, individual developers need to remain actively engaged in this world to be able to follow its trends. This process is rapid; the technological landscape will regularly transform within a few months, rendering particular languages and tools obsolete.

I think there are about 500,000 node packages that exist at the moment; there's 30 million people on Github, I think, so the amount of code that's being produced is just phenomenal. And every time someone builds something that's new and innovative and more efficient, it's going to make half a dozen other things obsolete, and so that means that the testing library you used last year, is probably not a good one to use this year. And maybe react was really cool in the teens, but in 2020, who knows? So as a developer Jess, you have to invest a huge amount of time in learning these technologies, which is why you'll need to be quite strategic about which ones you choose to learn and which ones you don't learn. That's one of the reasons you see developers so passionate about their technology; people are like 'I know all about React, therefore I'm going to defend React over Angular forever'. These sort of technical wars have gone on forever, but the reality is, technology moves fast. The cost of innovation seems to be going obsolete, and, you know, we see that in our phones, how many different phones have people bought in their lifetimes, how much waste has that caused, but then how much better are our phones now, compared to 10 years ago. So as a human involved in that ecosystem, you constantly need to be learning so that your skills don't become obsolete. I feel like, what tech is experiencing in open source, is a precursor of a future world, more industries will be organised and affected by open-source dynamics than are currently, and likewise, I think more industries are going to be affected by rapid innovation and obsolescence. I think anyone who is working will start to be faced with an environment that is similar to tech, where if you're not always learning, you're going to be obsolete.

The proliferation of open-source software (OSS) throughout the city of Wellington has catalysed a rapid acceleration of learning and growth within the local tech sector. This collective advancement unfolds at a swift pace, with the technological landscape undergoing frequent transformations, often rendering specific programming languages and tools obsolete within mere months. In response to this ever-changing environment, a prevalent strategy among tech professionals is the regular transition between jobs, with extended tenures on the same software project rarely exceeding two

years. This employment pattern serves as a manifestation of how the broader conditions within Wellington's technology sector have instilled a sense of impermanence, consequently reshaping strategies for capital accumulation among its professionals.

The expanse of open-source practice across Wellington has also enabled a startup economy. Indeed, utilising open-source code is the most affordable and efficient way to build software; here, open-source software has allowed small startups to access expert resources for free. As Harry explains:

Open source is really interesting. It's a really important part of tech. It embraces the internet as a utility that can connect people and ideas. So previously when you think of engineers getting together to build stuff, you know like the Manhattan project where the US tried to pinch a whole bunch of top engineering scientists from other countries. You had to actively seek out these people and bring them together in one space and fund that process. But with open source, people choose to share their intellectual work online for free. So you might find that there's a guy in Taiwan who writes amazing code, and you can just copy and paste that code into your own projects. So before open source, to solve technical problems you were working on your own, or you had to pay to learn this stuff through a course of some kind. So there's always people who just enjoy ripping an engine apart and learning how all the pieces work together. So open source is just about sharing your knowledge with the world for free with other people who share your interests and want to learn.

Here Harry breaks down the reasons why open-source content is a cheaper and more efficient way of approaching engineering. Taking the structural engineering industry as a comparable example, he points out that utilising open-source libraries decreases the cost of specialist knowledge. This access to expert software through open-source libraries has ultimately democratised specialist knowledge allowing various tech startups across Wellington to access these resources for free. These startups utilise not only open-source code but also have taken-up other attributes of open-source culture such as experimentation and economic transparency. A primary example of this is the Enspiral network itself as Andy explains:

So there's lots of places and people who have ideas for this kind of thing before, in Enspiral, because we had a lot of programmers, we had a lot of open-source culture, which affected

how we thought about things. And we also had this attitude of; we're very comfortable using tools, but if there isn't a tool there, we'll also build the tool. So it's this intersection between interpersonal skills and facilitation and digital skills is what made Enspiral possible. I've seen lots of groups of just programmers trying to do this, and they often don't work that well, and I've seen lots of experiments facilitators and entrepreneurs try to do this without the technology, and that's hard as well. So it's the intersection of human skills and technology which definitely made Enspiral work.

In discussing what constitutes open-source culture with my participants, I found that developers working in startups offered distinct critiques about the origins of this culture. As Andy demonstrates:

Yeah, I think a lot of tech grew up in Silicon Valley, so one of the reasons why open source is so important to people and became a big thing was because of the culture of California at that time. It's interesting to trace exactly where these values come from. San Francisco has a really hippy vibe to it. It's been a site for a lot of counter-cultural movements. And there are some problems with that, too, because white men have dominated many of those movements. So open-source culture has sort of developed within the context of all that stuff.

During my fieldwork, I had the opportunity to immerse myself in office spaces deeply entrenched in open-source culture. What struck me repeatedly was the strong inclination of digital workers to engage in rigorous discussions about their community. In this sphere, it's quite common for developers to publish their own analyses concerning the dynamics of open-source culture, often drawing from academic insights. Alan's conversation serves as a valuable example, offering insights into the historical underpinnings of open-source culture. In his dialogue, Andy briefly acknowledges the potential inequalities connected to counter-cultural movements, particularly those rooted in San Francisco. This discussion paves the way for a deeper exploration of the social practices inherent in open-source code.

In exploring open-source code's social dynamics, Bourdieu's habitus concept proves essential. It offers a lens through which to comprehend how developers such as Andy not only adopt but also enact shared dispositions, practices, and values. These elements are not just integral to their individual identities but also pivotal in shaping the collective identity of Wellington's tech sector.

Andy's analysis unearthed the tacit knowledge guiding developers in their daily work in the city. In

this context their continuous involvement with code repositories, collaborative initiatives, and responses to platform capitalism's demands aren't solely products of rational choices but manifestations of a collectively shaped habitus. Alan's narrative vividly illustrates the intricate interplay between open-source software and a shared habitus. Moreover, open-source software has played a pivotal role in fostering a sense of independence among developers. This independence, facilitated by OSS, is a central theme in the upcoming narratives, as it reshapes the traditional developer-computer relationship.

7.5 Social Practices and Open-source Code

In the realm of software development, the primary relationship is between the developer and the computer. Developers spend the majority of their working hours tethered to their computers, fully immersed in the intricacies of code. This fundamental connection is the foundation of their daily work.

Within this context, open-source software (OSS) has emerged as a transformative force, on the whole, fostering a marginal sense of independence and competence among developers and lessening feelings of loneliness. The narratives that follow will vividly illustrate how OSS has empowered developers, offering insights into the evolving dynamics of their interaction with computers and, by extension, their approach to software development.

Looking up the answer to an error message or a technical problem on stackoverflow is A, faster and B, easier. Like, every developer is deep into their own stuff, their own stack of algorithms. Understanding those technical layers; it's a lot of work. You have to deep dive into it. Time slips by when you're concentrating to that extent. But if you're stuck and run into a problem, you know, you take your headphones off, look around; everyone else is deep into it, headphones in, staring at their laptop screens. You feel bad pulling someone out of their flow, and asking them to dive into your stuff, your technical stack, to help with a technical problem you're having. It's like, fuck doing that, I don't want to be that guy. I'll just look it up on stackoverflow, or dive into some GitHub examples. You often learn a lot that way too, providing you understand how to search the repositories, or ask the right questions.

This story highlights how the practice of writing computer code and working with algorithms can be a solo and, at times, isolating experience. In this context, open-source network resources remain an essential tool. Instead of interrupting their colleagues, junior developers defer to open-source resources; here, they learn "how to search the repositories or ask the right questions" when they run into technical problems. This story illustrates the knowledge my participants acquired in the early stages of their careers as developers. Through the practice of building software, they have come to learn the social rules of this field. Kieran's reluctance to interrupt his colleagues at their work highlights an embodied understanding of the "obligatory routes and impassable barriers" (Bourdieu 2000, p. 225) that encompass this work.

Like Kieran, most developers first encounter open-source communities when they are in the early stages of learning their trade. They look to various open-source archives to copy other developers' work. Here they gain an understanding of how to solve technical problems and in doing so, learn more about the code language they are using. When building software projects, I deferred to open-source archives and community forums daily to solve technical problems. Through this practice, I became more familiar with social codes and the wider lexicon surrounding this work. This level of understanding was only gained by engaging in the work itself, the practice of building software through open-source resources, every day. In deconstructing these experiences, a Bourdieusian lens is exceptionally fitting. For Bourdieu, understanding daily practice is key to documenting the social world. Practice is a form of knowledge founded on social history and daily routine. Here Bourdieu argues that an exploration of practice is required to understand the social world, and through this lens, we see that the practice of engaging with open-source communities and archives on a daily basis serves as a transformative means for developers to not only acquire technical skills but also to immerse themselves in the social codes and wider lexicon of this field. This intersection of daily practice and the acquisition of both technical and sociocultural knowledge is central to my research, shedding light on the dynamics of the open-source software ecosystem within the context of Bourdieu's sociological framework.

In time, junior developers come to contribute back to the open-source community by sharing their code. Developers view this work as a shared economy that functions through donating time and intellectual property for free. In recounting his career trajectory, Andy explains this:

Yeah, when I first really got into IT, two of the early jobs I had were both with really heavy

open-source organisations. For two reasons, one the first startup I worked at was skint and building open-source software is cheaper; and two the charity I worked at, my boss there was a real open source evangelical. So that kind of rubbed off on me. I've been doing open-source stuff for like a decade now, and, you know, it really matters. It's really important to me. It's funny; I don't know why but, I guess I've never had to put into words before. I guess most of the big open-source projects are done in people's spare time. Umm, that speaks to the kind of people that work on them. They're generally nice people who aren't doing it for financial gain. It's to better the internet, and that's inspiring. It's not for money; it's not for profit, which, I mean, it speaks to me, I'm a big lefty. And you know not all software is open source, Microsoft, and Oracle, there's plenty of companies making plenty of money. But open-source people are willing to step in and say, there is a better way, we can all better the internet by devoting some of our spare time to this stuff.

Here Andy explains his entree into the open-source world. This community is important to him; he is inspired by the developers who contribute their time and intellectual property for free to "build a better internet". After working in this world for over a decade, he now views open source as a movement and an essential learning tool. His intellectual contributions and dependence on open-source resources, particularly in the early stages of his career, have contributed to his *illusio* within this field and sense of self. Andy is invested in the stakes here; he views the open-source community as a free and accessible resource that "really matters". In this example, we see how different components of Alan's *habitus*, i.e., his political identity as a self-described 'lefty', reinforce his *illusio* within the field of open-source software. We can see that over time Andy's *illusio* has strengthened; he has become more invested in the field of open-source software after developing an understanding that this resource is mainly produced through volunteer efforts. For Bourdieu, complex and distinctly personal forces induce a sense of *illusio*. We can see such forces at play in Andy's analysis. Kieran shares Andy's perspective; in our discussions, he points to the pharmaceutical industry to illustrate the limitations of closed research.

Yeah so, I was pretty surprised, like when I first started coding, at how big the whole open source side of things was. Like how much stuff was available for use, and all the work that's gone into it. Like for instance, I'm quite interested in VR, and I was really surprised at all the components that were available and just free to use. Like frameworks that people had put a lot of time into, and anyone could use them, they're completely free. And, like, I didn't

need to know much JavaScript to be able to use them either. At first, it seemed kind of bizarre that people would do that much work and then put it out there for free, but it actually makes a lot of sense when you think about things more broadly. It makes you think how messed up it is that, like, in places like the pharmaceutical industry, you'll have a whole bunch of different people all over the world working on the same solution to something. Something that is potentially going to save people's lives and that information is not open source. They won't share their research with each other. And then like one of the companies that gets there first will patent it, and make a whole bunch of money. And then everyone else's research just goes down the drain.

After working within the open-source world for some time, Kieran identifies this movement by comparing open and privately funded research projects. He views privately funded research as ethically ambiguous and inefficient use of time and resources. On the contrary, the expansion of open-source code has enabled the tech industry to innovate faster, as he explains:

Jess: So do you feel like open source makes for better tech? Like a rising tide lifts all ships?

Kieran: Yeah exactly, it's ridiculous to have like hundreds of people working on the exact same problem, and for no one to be sharing anything. And when you share your solutions to things, you prevent other people from having to do the exact same work, and then they can move on to expand on what you've done. So through this mentality, the whole industry prospers.

Jess: Yeah, that's true. I remember being told that half of being a developer is being able to look stuff up in open source and figure it out from there.

Kieran: Yeah, that's true; I mean, a lot of the documentation that comes with open-source code isn't great. A lot of stuff is being written by people as their hobbies and stuff. So it's pretty much a cowboy zone, there's no real rules. So you do have to be careful when using stuff from open source, but yeah I'd say that's a fair claim.

Kieran points to the diverse range in quality of open-source code. Indeed many open-source packages have been produced by amateurs experimenting with personal projects in their free time. Navigating a smorgasbord of differing philosophies and technical skills available through open-

source archives requires a certain level of comprehension. Andy iterates this point:

I guess the opposite side of open source is that there's a lot of shitty code and under-developed stuff, which just gets abandoned by people because they can't work on it anymore. Or they get bought out by a large company, like the place I'm going to next, my new job.

Indeed, when I first began referring to the open-source community, I found navigating this smorgasbord of free code, and its accompanying documentation and discussion forums challenging. The first language I learned computer programming in was JavaScript. During this time, I had a basic understanding of JavaScript; I struggled to interpret the technical frames of references this community used to explain this code. Over time, I became more adept at navigating this space as my understanding of JavaScript improved. Acquiring a level of discernment and knowledge across open-source spaces is ongoing work for developers in their day-to-day job.

Nevertheless, this was a new field for me, unlike other students who enrolled in the Dev Academy program with some degree of technical understanding; I came from a non-technical academic background. This presented a particularly personal challenge for me; in engaging this resource, I found components of my habitus directly conflicted with open-source philosophies. In particular, copying and pasting someone else's intellectual property into my work felt innately perverse to me.

I repeatedly checked with senior developers and tutors around me, showing them my laptop screen and asking, "Is this really ok?", and "isn't this plagiarism?" "Do I need to reference this anywhere?" "Aren't there licensing rules about using this?" I needed reassurance that using open-source code in my projects wasn't "cheating" in some way. The tutors at Dev Academy would remind me, 'you're not trying to create anything new here, Jess; the goal of this is function'. Later on, in my interviews with these tutors, they reiterated my struggle in understanding this, as the conversation below details:

Jess: So I've come to realise that a lot of coding is essentially wiring together different pieces of code that I find through open-source stuff, using NPM modules or whatever, is that the general experience of working as a developer?

James: Yeah, absolutely. And I'd say that as the tech stack deepens and technology becomes

more powerful, you'll find yourself, just using more and more of other people's stuff. And I think one of the reasons why there isn't this culture of 'did you write this code yourself?' 'did you copy this from somewhere?', is because that's not the way we value good work. You're not judged based on, 'did you come up with some genius idea?'. Whereas in academia, it's very much about what new forms of knowledge you have contributed, and that's the value of research. Whereas in the value of programming, it's all about function, 'does it work?' 'does it do the job?', if you find someone else's code can do that work more efficiently than the stuff you're currently using, and you copy them, then great! You've won the game. You haven't contributed any new knowledge, but you've made something work. So I think there's a big difference there; the other reason is simple, if we didn't copy other people's stuff, if we didn't use other people's libraries, it'd be impossible to build anything substantial. You'd literally have to spend years and decades building it, because there's such a large body of established code out there that it's just impractical to not reuse it.

James identifies that the primary goal of computer programming is function. In this quest for function, developers work in a binary world of input versus output, tinkering with single lines of code to get their program to generate a series of outcomes. When you get 'stuck' in this work, often, a common way to find a solution to your technical problem is to defer to the open-source community, a place of value in multiple ways.

7.6 Utopian Imaginings

The open-source movement encompasses a range of philosophical dimensions, including ideals such as free speech, egalitarianism, and transparency, as outlined upon by Kelty.

It is distinguished from other forms and practices of software production for many reasons, but most interestingly because its practitioners discuss it not simply in technical terms, but as a philosophy, a politics, a critique, a social movement, a revolution, or even a "way of life." (Kelty, 2004, p. 499)

Across Wellington's tech sector, these open-source ideals form the basis of a utopian vision, framing

the movement as an embodiment of liberal principles. James further elaborates on the significance of these ideals, emphasising the impracticality of not utilising open-source libraries in sourcing technical solutions.

Jess: Yeah we dive into open source fully, it gives you this new perspective, you see how impractical other industries are, who are working on the same problems yet they're keeping their research findings secret from each other so they can profit first.

James: Totally. You'll find that a lot of open-source developers would agree with you about that. I think also like to go back to that old Carl Sagan quote which is 'If you want to make an apple pie from scratch first you need to invent the whole universe.' And a lot like that with programming. If you really want to do it from scratch, go for it, but really what's the point in starting at square one.

This perspective emphasises the crucial role of open-source libraries as an essential global resource for developers. In the context of Wellington's software development community, the open-source movement stands in stark contrast to industries that restrict access to research findings for profit. The necessity of utilising this vast, free library is evident, given the ever-changing and often unpredictable nature of code, which frequently breaks and requires debugging as a routine part of the job. Consequently, developers value the ability to customise the tools they work with. Modifying specific pieces of code not only simplifies their tasks but is also something that closed-source code does not permit. As James explains:

You know they're passionate about building good things for the world, and they've seen the impact that open source has had. And comparatively, they've also seen the impact of bad suppliers and procurement in closed-source companies where it's all about maximising profit not maximising the speed of innovation. They'll basically inhibit people's ability to do stuff, and that's deeply frustrating as a programmer, to be working with any software, and you're not even allowed to read how it works, let alone change it. You'll get given a problem, and you'll spend hours or weeks trying to deal with some closed-source proprietary rubbish, that your company is spending all this money on, and then you've just got no recourse if it doesn't work. But when it's open source, you can read it, you can see how it works, you can reason with it, so you can actually do your job easier when you

depend on something if it's open source. And if there is a problem, often you can help fix the problem and make a pull request back to it. So that's one thing, it makes life easier if the stuff you depend on is open source, but also, when everyone starts to contribute to open source, you start to see this amazing innovation and copying of ideas, and I think that's something that I deeply value about it.

The value of open-source code becomes evident as developers embrace its extensive accessibility. A key insight lies in understanding the fragility of code, its susceptibility to breaking, and the routine debugging tasks that developers confront. James effectively articulates the frustrations encountered when dealing with proprietary, closed-source software. These proprietary systems impede innovation, slowing down progress compared to the collaborative and transparent nature of open-source development. In open source, developers can comprehend the inner workings of the software they rely on, enhancing their ability to efficiently solve problems and contribute to the improvement of the open-source codebase. The practice of open source fosters a culture of cooperation where innovation and the sharing of ideas thrive.

James further emphasises the advantages of open-source software in their work, highlighting how developers can customise these programs to align with the specific user stories they are working on. This approach fosters innovation, as developers worldwide contribute to open-source libraries by modifying and improving each other's code. During my own journey of learning to write basic computer programs, I actively engaged in this exchange. I utilised open-source packages to assist in the development and testing of my programs, subsequently sharing them on a public open-source repository known as GitHub. This open accessibility meant that anyone across the globe could access and utilise the programs I had created for their work. Through this practice, I acquired a deeper comprehension of the fundamental principles of computer programming. It became evident to me how open-source libraries significantly enhance the accessibility of computer programming. Despite these advantages, I grappled with ethical concerns regarding the perceived act of 'copying' intellectual property from others. During interviews with developers, I raised these concerns, and their explanations shed light on why 'copying' from open-source code is not considered theft, as the nature of code differs from other commodified forms of intellectual property.

But I think there's also something deeply interesting in a line of enquiry about, as a programmer if someone copies your work, you're not diminished in any way. So Jess, if

you make a great project and I copy it, then it's kind of like, well you can just keep working on your project, it really doesn't affect you. Whereas, if you're, say, a financial trader, and you have a really great strategy, and I copy it, and others copy it, well eventually your strategy isn't going to work anymore. And so when people copy your stuff in other industries, you're at risk of suffering a loss. And this is why a lot of tech people have objections to IP and objections to the way copyright laws are dealt with in the media industry because it's like if I copy your movie, you haven't actually suffered a loss, because I was never going to pay to see your movie anyway. So that was the argument all of the pirating folk made. Whereas if you're a baker and I take a loaf of bread without paying, yeah you've suffered a loss, you don't have a loaf of bread to sell. So with technology, it's actually not as much of a zero sum gain as a lot of other industries are. So I think that leads to a more cooperative culture, a bigger willingness to be generous about one's intellectual labour.

While Bourdieu's discussions rarely focused on specific technological trends, his exploration of photography's widespread access across French society is particularly intriguing. In his work "Photography: A Middle-Brow Art" (1990b), Bourdieu raises questions about the accessibility of photography, considering its affordability and minimal training requirements. However, he critiques explanations that simply cite economic and technical accessibility, arguing that such an approach might oversimplify the sociological aspects of photography (Bourdieu, 1990b). Bourdieu contends that to understand individuals' engagement with photography, we must examine their connection to class conditions. He observes that the camera's technological attributes offer unique class-based possibilities, sparking the interest of working-class photographers. Bourdieu's words elucidate this phenomenon: "This sort of 'do-it-yourself' attitude resists the seduction of the technical object as much as it succumbs to it. Affecting a disdain for the refinement of technical objects in the name of the refinement of the technician is the most realistic way of recognizing their inaccessibility without renouncing their sophistication" (Bourdieu, 1990b: 18).

In parallel, my research participants in the realm of open-source software display a similar inclination toward functionality and innovation, akin to the 'do-it-yourself' spirit. While my previous chapter delves further into this logic, it's essential to recognise the importance of 'tinkering' with algorithms and producing 'simple code' as valued forms of objectified cultural capital in this field. For the present discussion, developers engaged in open-source code are primarily interested in

function and innovation, as exemplified by Kieran's perspective: "And when you share your solutions to things, you prevent other people from having to do the exact same work, and then they can move on to expand on what you've done."

Much like Bourdieu's portrayal of French working-class photographers and their relationship with cameras, open-source software developers infuse meaning into the operations executed by computer algorithms. Open-source libraries serve as an illustration of how liberal values, such as egalitarianism, are not only embedded socially but also technically within open-source software. In essence, the production and utilisation of open-source code constitute a generative practice that informs habitus. Through their daily engagement with open-source code, my research participants have cultivated a profound understanding of the world around them and how to navigate within it.

"The open-source evangelicals," as described by one participant, passionately advocate for the sharing of solutions to problems. They question the profit-driven nature of conventional models, which often lead to built-in obsolescence. This perspective raises questions about the potential benefits of open-sourcing blueprints and recipes for various commodities, allowing communities to innovate freely. While such ideas may seem unconventional to some, they resonate with Enspiral members who are deeply immersed in the open-source code landscape. Enspiral members frequently point to the open-source movement as an example of an effective and equitable system, challenging traditional capitalist models. In this context, the open-source community exemplifies alternative ways of fostering innovation and creating products, distinct from the practices of previous generations.

It's crucial to note that computer code doesn't adhere to the same commodification principles as other forms of intellectual property, akin to Bourdieu's observations about the camera. The materiality of computer code is deeply entwined with social meanings, including the potential for shared economies, personal beliefs, as well as class and generational perspectives. This unique nature of code significantly shapes the development of habitus within the open-source software domain.

7.7 In Summary

My research has uncovered a wealth of qualitative knowledge within the detailed records preserved

within GitHub files. These records unveil the creation stories of software projects, a valuable source for scholars studying software development, as Turner (2019) notes. Engagement within the open-source archives and repositories emerges as a pivotal aspect of my participants' daily work. Beyond sharing software projects, the ability to effectively navigate these repositories and ask the right questions is a highly prized form of knowledge within Wellington's technology sector, aligning with Bourdieu's concept of cultural capital. Notably, cultural capital isn't confined to the bourgeoisie; various social classes and subcultures possess culturally specific forms of it. For software developers, functionality takes precedence, leading to distinct production practices.

Computer code, much like language, possesses both universal traits and cultural particularities. It can yield diverse outcomes based on the sociocultural and technological context it operates within. In the realm of open-source code, my research has exposed an improvisational approach characterised by interaction with a continually evolving global code base. In this environment, software projects cannot follow meticulous, preconceived plans but must adapt daily to the dynamic code base. Consequently, writing computer code assumes an improvisational nature.

The proliferation of open-source practices throughout Wellington has not only nurtured a startup ecosystem but has also necessitated ongoing innovation from developers. This demand places a premium on maintaining a high level of *illusio* within Wellington's technology sector. Success hinges on the ability to continually adapt one's skills. Consequently, a sense of impermanence and precarity has pervaded the landscape, reshaping strategies for capital accumulation. Traditional aspirations of permanent employment have given way to new approaches.

The narratives explored throughout this research underscore how open-source software has fundamentally shaped the structural foundations of Wellington's technology sector. While computer code follows a fixed core logic, its application fosters creative practices. Similar to a camera, the materiality of computer code is imbued with social meaning, encompassing the potential for future shared economies, personal politics, class dynamics, generational influences, and livelihoods moulded by intersecting contradictions. This complex interplay between code, culture, and capital lies at the heart of the transformations observed in this study

Subsequently, the following chapter delves into software production in Wellington through the lens of the Agile methodology, a mode of organising work. By tracing its historical roots, we unravel its

profound impact on habitus, computer algorithms, and iteration cycles. Agile methodologies significantly shape the practices within the technology sector, offering insights into the subjectivities and work processes of digital workers. This exploration deepens our understanding of why individuals pursue livelihoods in a challenging market, ultimately revealing adaptive strategies employed to accumulate cultural capital within the ever-evolving landscape of the tech industry.

Chapter Eight - Feel for the Game: Adapting Strategies in Agile Work

In this section, I adopt an auto-ethnographic approach to provide insights into my experiences during my participation in the Enspiral Dev Academy's training program. This program is deeply interwoven within a local supply chain that both influences and is shaped by a specific software production methodology known as Agile.

Agile methodology represents a collaborative and iterative approach to project management and software development, prioritising flexibility, adaptability, and customer-centricity. In the context of understanding Enspiral, Dev Academy, and the broader Wellington tech sector, comprehending Agile methodology is essential. Enspiral, functioning as a network of social enterprises, frequently incorporates Agile principles into its various ventures, enabling it to respond adeptly to dynamic market demands and evolving social challenges. Dev Academy, a coding boot camp, not only instructs students in coding but also instils the fundamental skill of working within agile teams, a critical asset in the tech industry. Throughout the wider Wellington tech sector, especially among startups, the adoption of Agile practices is commonplace, as they facilitate rapid product development and refinement in response to customer feedback and market shifts. Thus, understanding Agile methodology becomes pivotal in grasping the innovative and adaptable nature of these organisations and the broader tech ecosystem in Wellington.

Agile methodology is characterised by its customer-centric, iterative, and collaborative approach to project management and software development. It revolves around understanding and consistently addressing customer needs, breaking work into manageable increments, and assembling cross-functional teams with diverse skill sets. Embracing change, Agile views it as an avenue for improvement, with a strong emphasis on transparency to make progress visible to all stakeholders. Regular meetings, including daily stand-ups, are convened for planning, reviewing, and retrospecting on work. The ultimate objective is to produce a potentially shippable product at the conclusion of each iteration, promoting continuous delivery and adaptability. Work is prioritised based on value, and quality is maintained through continuous testing and customer feedback, ensuring alignment with evolving requirements.

Advocates of the Agile method often clarify this approach by drawing a comparison with an older methodology called 'waterfall.' Agile developers frequently critique the waterfall model, elaborating on the distinctions between the two. For instance, one developer explained:

I find Agile quite hard to describe, just because there are so many interpretations of it. I think the best way to understand it is to compare it with the old waterfall style of building software. Back then, a project would be meticulously planned from start to finish, including every feature. Then the development would commence. However, coding is complex, making it impossible to anticipate how long certain tasks will take or to predict the rapid changes in the tech industry. With Agile, the approach is less linear and more dynamic. You release a product as early as possible, and the entire team engages in continuous testing and adaptation based on feedback. Long-term plans and deadlines become obsolete.

The historical journey of Agile methodologies takes us from Japan to California and back to Wellington, highlighting how an understanding of and experience with Agile methodology constitute highly valued cultural capital within the Wellington tech sector. Agile methodologies keep developers closely connected to their code, allowing them to develop an in-depth understanding of their software. Through iterative cycles, developers engage in a series of feedback loops as they progress through software projects. This dynamic process both enables and constrains access to cultural capital, reinforcing the competitive nature of the field. As developers reinvest in the refinement process, they strengthen their *illusio*.

Exploring Agile methodology provides insights into the rules that shape practice within the tech sector. Wellington's software market is a multifaceted arena, characterized by the continuous interplay between human-computer interactions and the pursuit of capital. In this dynamic environment, participants are in a perpetual state of competition, constantly honing their understanding of the industry's intricate dynamics. This ongoing competition fosters a *habitus* that thrives on adaptability, agility, and dexterity. It's a world where success is contingent on mastering the unspoken rules of the game—what we might call a sense of *illusio*, an unwavering belief in the implicit guidelines governing the field.

Yet, within this environment, a distinct discursive layer also emerges. It's a world filled with

euphemisms that soften the reality of the work undertaken, often exemplified by the pervasive discourse of Agile methodology. This discourse shapes how work is understood, providing a conceptual framework that cushions the sometimes harsh realities of the software market.

Overall, Wellington's software market is a space that melds intense competition with a malleable habitus, creating a unique ecosystem where the boundaries between work, identity, and the rules of engagement are consistently blurred.

8.1 Supply Chains & Agile Methodologies

Understanding Agile methodologies became imperative in both developing my capacity as a student of software development and in conceptualising my research field. Furthermore, supply chains between industry and academy were predicated on being able to supply Agile-ready workers. This became apparent as I entered the field. Unsure about where to begin in launching my research, I approached several developers working across Wellington's startup networks. I was surprised to receive the same advice from each person I contacted. Time and time again, I was told, 'you need to do the Dev Academy course, it's the best way to understand this work'.

Enspiral Dev Academy (EDA) is an established component of Wellington's startup economy in direct and particular ways. As Beckett of Dev Academy explains:

Beckett: You can see how word of mouth is important, 60 per cent of students come through word of mouth, I mean, that's a big-ticket item. You probably talked to people before you came here?

Jess: Yeah I did.

Beckett: So you would have found out through word of mouth, and that's normal right? We've just had three applicants in today, all through word of mouth. One of them did an online search for us and then found out that someone she knew had already been through us, so she went to talk to her friend about it. So, you know, that's normal right? So networking and developing a good rapport is imperative.

As Beckett points out, my journey to Dev Academy is not unorthodox. Word of mouth is the most

common way students find out about the Dev Academy training program. Beckett expands on this further by citing the importance of maintaining social capital across Wellington's tech-based businesses.

My networking with employers often leads to us changing the curriculum. We've changed the curriculum three times, and that's what's got a lot of people their work. I've sat down with over 200 companies and talked about EDA a lot of them have hired our students, some of them haven't yet. And look, A LOT of people contact me that are in startups to say 'Hey Beckett, who do you know? Who can help me with this?' and I'm always forwarding folks on. And then I also say 'By the way, let me know how you got on', because I'm interested in that sort of stuff. So my networking is huge, I push it strongly, and I value it highly, and I don't get enough time to do it. But I can tell you, it's absolutely vital in a city like Wellington.

Here Beckett highlights a local supply chain that exists between Dev Academy and Wellington's tech sector. Dev Academy produces graduates who have skills which Wellington employers need. Dev Academy frequently adjusts its curriculum to meet this demand in an industry that changes rapidly. Beckett goes on to explain the difference between Dev Academy and Enspiral. Dev Academy is one of the many tech startups that has emerged from within the more extensive Enspiral network.

Enspiral is not Dev Academy, and Dev Academy is not Enspiral. We're a business that is in the network, as in, as been birthed from the network, but we're really quite different... Dev Academy has to be financially viable; it has a team it supports, and so on. And the networking there is very very very different because we have to gain credibility hugely with the education sector, with the business sector, and we have to get students through the door. We have to get students hired as well.

Beckett had the idea of establishing a Dev Academy training program after discovering a shortage of developers within Wellington's workforce, as he explains:

I think I might have mentioned to you, I had that pub evening, in which I got a call from someone from the Czech Republic, and within an hour he was hired, you know, over the phone he was hired, literally on the spot, because I was sitting with a few senior developers at the pub. So I started doing some analysis on what's the cost, why is this so expensive?

Why is there no talent? And how much does that cost? And when we started doing some back of the napkin figures, the cost to Wellington and New Zealand was huge, it was in the realms of multi-millions, just due to lack of talent. And I thought 'well here's a problem I can solve', and that's what I pitched to James, I said 'hey, let's not do recruitment, let's do training, and who do you know?'. And hey presto!, he had a contact in San Francisco that had just started up a dev bootcamp, the dev bootcamp, the original one. And that's where we got our first two teachers trained, and that's what kicked the ball rolling."

This training program is designed to service the particular requirements of Wellington's tech sector. It has been modelled off Dev Bootcamp which was founded by senior developers in San Francisco 2012. The course is 15 weeks long. It includes five weeks of full-time independent study, a 9-week Bootcamp which follows an apprenticeship style in which students work from 9-5 doing the job of a developer while being mentored by senior developers. The final week of the course is a career's week in which students learn how to market themselves effectively in this industry. Part of Beckett's job involves maintaining an ongoing dialogue with these businesses and regularly adapting the program to produce graduates with the required skillsets for this sector. When he first explained this dynamic to me, I assumed he meant adjusting the technical skillset the program teaches to stay relevant in such a rapidly changing industry. While this is true, in later conversations, Beckett expanded what he meant by 'skills'.

You can always teach technical skills, Jess. I know you're not that confident in your technical skillset and that's ok. Most employers invest time into supporting their grads. There's plenty of room to learn dev on the job, but what employers can't teach you is kindness, empathy, teamwork. They don't have the time, the resources or capacity to teach that. So we kept hearing from Wellington employers that what they needed was grads who would gel with their Agile teams. You know from experience that coding is a challenging job. Agile teams are all about working closely through trust, and you can't do that if the team dynamic is toxic. People are quite open about this, you know? So we teach our students to work in an Agile way. And you know we include the EE¹⁶ and mindfulness

¹⁶ Dev Academy's "Engineering Empathy" course draws inspiration from the work of Chade-Meng Tan, a Google employee who organized a mindfulness program at Google and authored the book "Search Inside Yourself." This course integrates principles of emotional intelligence, mindfulness, and empathy into the curriculum, aligning with the themes explored in Tan's book, which focuses on personal and professional development through mindfulness

components in our course. Most devs will tell you Agile teams are most efficient when the culture of the team is one of kindness and empathy. You've got all those skills already, Jess. So don't close yourself off from a career in dev after your PhD.

Beckett's analysis highlights how conventional practices within the field of Wellington's technology sector, encompass a series of 'rules' that guide expectations about practice and behaviour. Bourdieu's concept of habitus as 'an organizing principle' of behaviour (Bourdieu : 18) is particularly generative here. Beckett explains how one of the purposes of the Dev Academy program is to introduce students to the 'rules' of the wider field. Here habitus is developed within the context of group projects. By participating in the Dev Academy program students learn, through their interactions with each other, how to apply Agile to their work. At a macro level, the ability to follow the rules of this field, that is, the ability to understand and apply Agile methods, signifies a person's membership to the group. These experiences become incorporated into their habitus.

I will go on to expand further on these non-technical 'rules of the game' that encompass Wellington's technology sector in later chapters. For now, this section will focus on unpacking my experiences working in an 'agile' environment. In addition to learning to produce software in an Agile framework, all of the tech startups sharing Dev Academy's office space, also work in an Agile way. Spending time in the Dev Academy office allowed me to participate in Agile processes and watch other startups doing the same.

As Beckett explained, Wellington employers want to hire graduates who will 'gel with their Agile teams'. Here Dev Academy distinguishes itself from other tertiary providers as it endeavours to supply graduates who have an understanding of the rules of this labour market. For Bourdieu the relationship between rules and habitus does not determine conclusive social outcomes. Instead, Bourdieu stresses that understanding the rules of a particular field is a strategy which can be beneficial to those who enforce and adhere to such rules. As Agile is the most common form of practice across Wellington's tech sector; adhering to Agile methodology is a key rule. Here, graduates from the Dev Academy program are strategically advantaged; they are given early insight into the rules of this field. Having practical experience of this methodology is perhaps the most

practices.

profitable skill set Dev Academy graduates acquire.

8.2 Scrum Methodology

To understand Agile Methodology, I need to begin by explaining its genesis, Scrum. Scrum is a supply chain management framework developed in 1986 by Hirotaka Takeuchi and Ikujiro Nonaka. Taking inspiration from case studies of various manufacturing processes, Takeuchi and Nonaka published *New New Product Development Game* in the Harvard Business Review in 1986. Using the metaphor of a relay race, Takeuchi and Nonaka offer a critique of traditional manufacturing models.

Under the old approach, a product development process moved like a relay race, with one group of functional specialists passing the baton to the next group. The project went sequentially from phase to phase: concept development, feasibility testing, product design, development process, pilot production, and final production. Under this method, functions were specialized and segmented: the marketing people examined customer needs and perceptions in developing product concepts; the R&D engineers selected the appropriate design; the production engineers put it into shape; and other functional specialists carried the baton at different stages of the race (Takeuchi & Nonaka, 1986, p. 137-138).

Takeuchi and Nonaka argue that to compete in 21st-century capitalism, product development must become multifaceted, faster and more adaptive. Takeuchi and Nonaka take the game of rugby as a metaphor and outline 'Scrum', a new model of product management that secures a 'lean' supply chain (1986).

Under the rugby approach, the product development process emerges from the constant interaction of a hand-picked, multidisciplinary team whose members work together from start to finish. Rather than moving in defined, highly structured stages, the process is born out of the team members' interplay (see Exhibit I). A group of engineers, for example, may start to design the product (phase three) before all the results of the feasibility tests (phase two) are in. Or, the team may be forced to reconsider a decision as a result of later information. The team does not stop then, but engages in iterative experimentation. This goes on in even the latest phases of the development process (Takeuchi & Nonaka, 1986,

p. 138).

After the collapse of the tech bubble of the 1980s, there was interest across Silicon Valley in alternative ways to build software. In 1993, Silicon Valley developer, Jeff Sutherland stumbled across Takeuchi and Nonaka's Scrum model (Schwaber, 1997). Sutherland began initiating various experiments building software through the Scrum model in his company Advanced Development Methods. Sutherland, working with fellow developer Ken Schwaber, presented a paper at the *Business Object Design and Implementation Workshop* in 1995. Here they outlined the Scrum model, and how it can be applied to software production (Schwaber, 1997).

The adoption of the scrum model and its various interpretations began to influence the domain of software development, signifying a transformation in the rules of the game across this field. Bourdieu acknowledges the malleability of field rules, emphasising that disputes over rule definitions can drive change. The rapid and extensive proliferation of the Scrum model exemplified such transformative change, a concept akin to Wacquant's perspective on fields as dynamic historical constellations that evolve, adapt, and sometimes decline over time (Wacquant, 2007, p. 268).

In 2001, both Sutherland and Schwaber were joined by fifteen other early pioneers of this methodology, at a ski resort in Utah. This group recognised a need for a new methodological approach to software production governed by flexibility. Throughout their stay in Utah, they ironed out the particular ways Scrum aids rapid software development. Taking this model as its genesis, *The Agile Manifesto* was published from this group's consensus (Beck et al., 2001).

8.3 Agile Methodology & the Manifesto

Since its publication in 2001, this methodological approach has been taken up by startups around the world. Across Wellington, it is accepted as the most effective methodological framework for building new technologies. The manifesto itself outlines twelve critical principles for establishing Agile production. They are as follows:

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

- Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
- Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
- Business people and developers must work together daily throughout the project.
- Build projects around motivated individuals.
- Give them the environment and support they need, and trust them to get the job done.
- The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
- Working software is the primary measure of progress.
- Agile processes promote sustainable development.
- The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
- Continuous attention to technical excellence and good design enhances agility.
- Simplicity--the art of maximizing the amount of work not done--is essential.
- The best architectures, requirements, and designs emerge from self-organizing teams.
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly (Beck et al., 2001)

As the manifesto outlines, this methodological approach centres around the practice of regularly releasing code to market. Indeed as I learned computer programming, I was also learning how to work in an Agile context. I made minor changes to the programs I built and regularly published these changes on GitHub. By the end of my first week of phase 0, I had already built and published my website. Here are photos of the initial iteration and the subsequent ones:

8.3.1 Week 1



Figure 26 Jess' Website week 1

8.3.2 Week 2

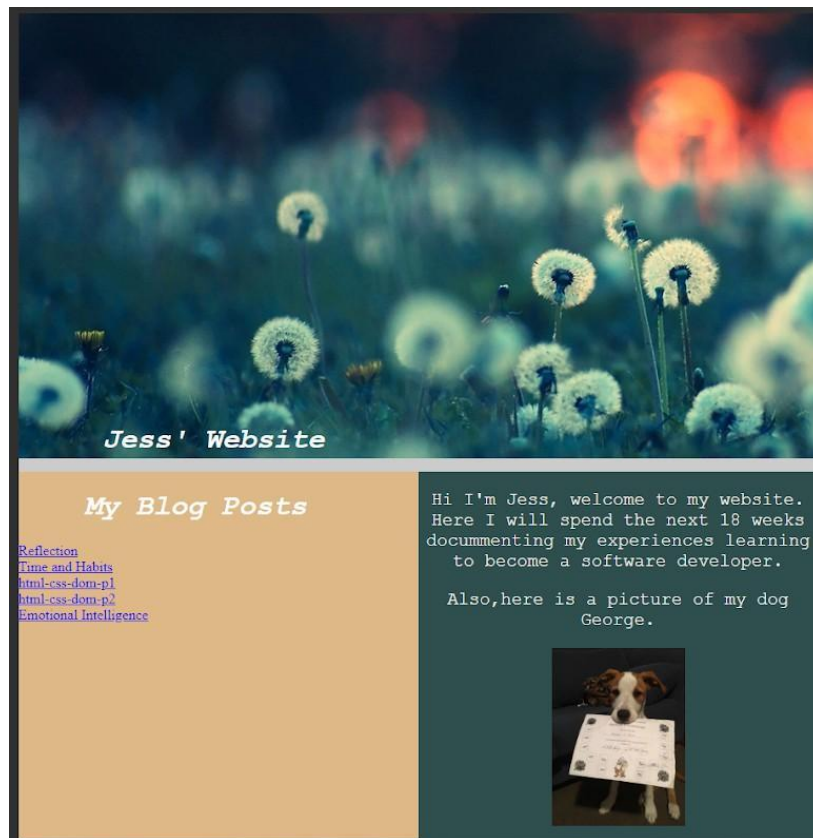


Figure 27 Jess' Website week 2

8.3.3 Week 10

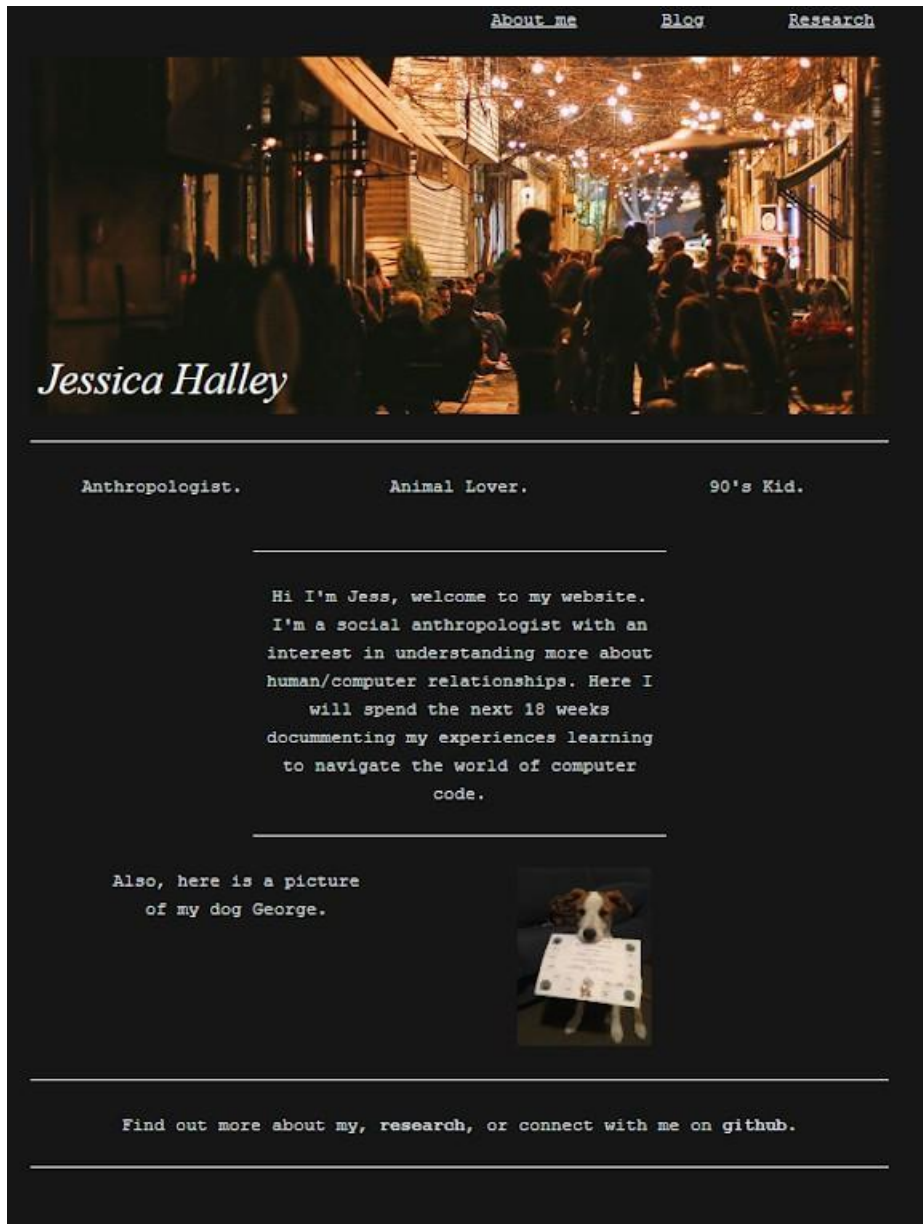



Figure 28 Jess' Website week 10 (home page)



About Me.

I'm Jess. I'm a social anthropologist by trade, which, broadly speaking, means I study humanity, or what it means to be human within the context of culture. In particular, I'm interested in the ways human beings interact with technologies. Which is why I'm learning to code. My previous research project focused on the way young refugee women utilise visual technology and social media to support their experience of resettlement in New Zealand. Aside from that, in my spare time I am a dedicated nerd. I'm a total book worm and also podcast obsessed. But my biggest joy in life, is spending quality time outdoors with my dog George. Although he's part horse, he's a gentle giant.



Figure 29 Jess' Website week 10 (About me)

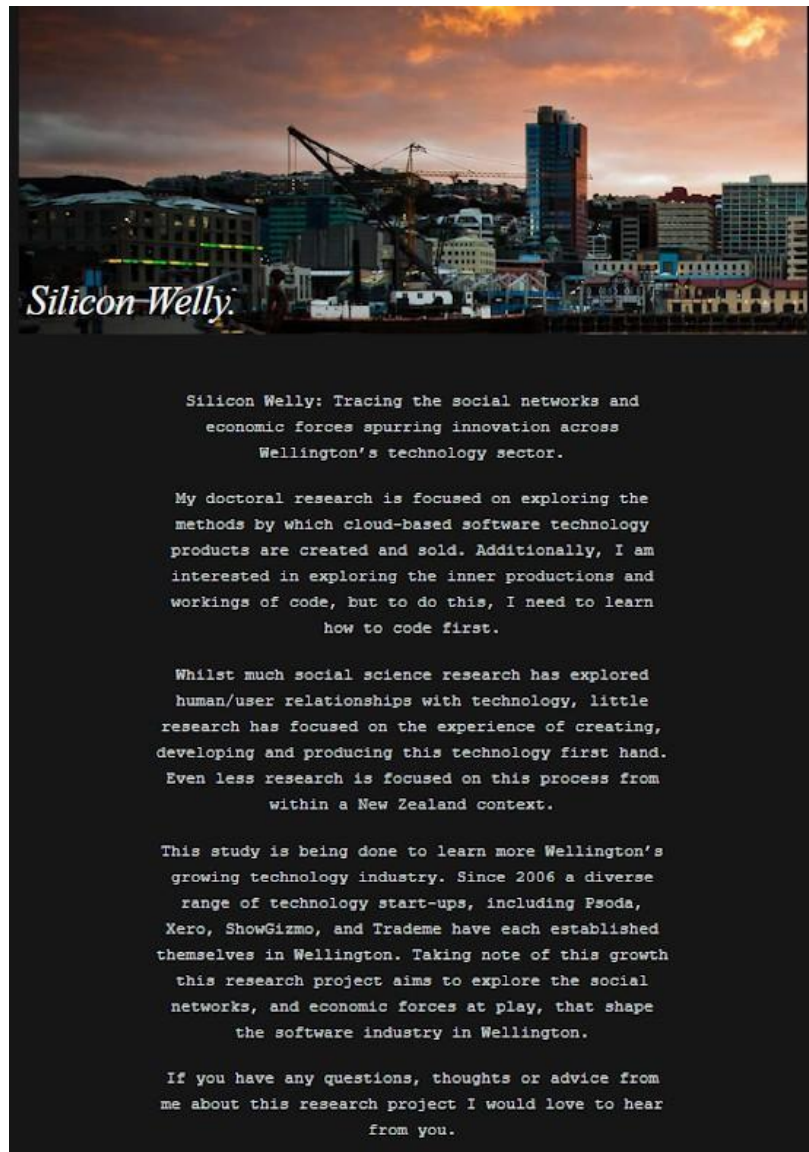


Figure 30 Jess' Website week 10 (Silicon Welly)

Though following the principles of Agile methodology, minimum viable product (MVP) can be released early to market. In contrast, under the waterfall methodology, the entire software project is completed then it is released to the market. As this participant explains:

Code should be released as soon as it is ready. But the longer something is "in progress", the more is wasted. If I take an hour to code something, and people hate it, then I've lost \$50. If I have a team spend six months building something and users hate it, then I've wasted \$260,000. Either way, I've learned that users do not like that thing, so it's not a complete waste. But one way cost a lot more than another.

Indeed, as computer technology continues to innovate rapidly, adhering to Agile frameworks when writing computer code, gives developers space and flexibility to adjust their work incrementally.

In an Agile environment, developers work in small teams; they work closely together to build computer algorithms. Their focus is to update their programs by regularly releasing code. As one participant describes:

Regularly releasing code keeps things clean. You build small programs, like one small section of a website, let's say, a shopping cart. You build that program, keep it small, keep it tidy, test it and release it. And that whole process simplifies everything! It's like you're not expected to build an entire version of Trademe, then test it then release it. Building software like that just doesn't work. You never find your way out of the testing stage. Code is a fickle bitch. The more lines of code, the more errors you're going to get.

Throughout my fieldwork, I spent much of my time pair programming or working in small teams building small computer programs and publishing them on GitHub. Participant observation in this context provided me with a practical understanding of how Agile works. I came to see that the more I worked with the same people, the more flexible and efficient we were as a team. One of the primary goals of Agile methodology is to produce teams that continue to increase their efficiency in building software. This work often requires 'pair programming' or 'mob programming' where developers will share a computer screen and write code together. Here, technological projects are not 'planned out'; instead the minimum viable product is released into the market as soon as possible. The technology is continually fine-tuned in reaction to evolving open-source infrastructures and feedback from the market. The telling of 'user stories', is one-way developers determine what adjustments to make. User stories is a technique designed to pinpoint how consumers intend to use technology, I will expand more on this in later paragraphs. The daily practice of building software in an Agile context shapes habitus. As students move through the Dev Academy program, professional habitus is developed through social experiences and daily practices. The commitment Dev Academy graduates acquire to the rules of the game (Agile methodology), was evident in the interviews I collected. Here my participants explain why they value the Agile methodology:

You know by now how complicated programming can get. It's like computer code is abstract, and it's also layers and layers deep. So that means, even the simplest task can be

really challenging. For those reasons, it's really difficult to predict how long something might take to build. And that's why most devs prefer to work in Agile teams. There are no timelines; you just release an MVP and iterate on that. Thinking through user stories as a team also keeps your workload simple, and this keeps the code clean. It's just so much faster than planning software out like waterfall frameworks used to do. With waterfall, people ended up spending millions on software that the market rejected. Agile also stops you coming up with loads of features that the customers don't actually want. Because the users drive the product, it's like, 'they're using the chat option the most, ok, let's build on that'.

I guess the difference is, Agile kind of forces you to reduce the amount of guesswork you do when you're building tech. It's like everything is decided by how the market responds to your MVP. You're in a constant feedback loop with both the market and the tools your using. It's like 'How are users using this? Let's expand on that, or let's make that process even easier for them'. And in a digital context, this feedback loop is much faster, you know? It's really like capitalism on acid, which is weird for me to say, because, as we've talked about before, I have a lot of problems with capitalism as a system.

For my participants, Agile methodology stands out as the most productive approach to software development, primarily due to the inherent complexity of coding. Agile methodology offers developers a structured workflow that enables them to prioritise marketable software features effectively. Their experiences illustrate how consistent practice gradually transforms their approach, shaping their habitus. As students engage daily in the collaborative process of crafting software using Agile methodologies, they not only accumulate a wealth of knowledge but also cultivate a distinct approach to working with computers and writing code. This approach evolves into a set of well-honed practices that equip them with a comprehensive understanding of the field and how to navigate within it. In this journey, they emerge as ardent advocates of Agile methodology. As Beckett highlights, adhering to these rules proves beneficial for their employment prospects, aligning with Bourdieu's concept of "sens du jeu" or 'feel for the game' (Mahar, 1987, p. 44).

8.4 Variations of Agile

Throughout my fieldwork, I came to see that Agile methodology was a common way of building software across Wellington's startup ecosystem. Different businesses practise Agile in different ways. What exactly constitutes an Agile organisation is an ongoing debate across Wellington's startup economy. These distinct ways of practising provide cultural capital for the individual developers and organisations by providing avenues to play with distinction. As my participants explain:

You'll find different versions of Agile across Wellington. People have different opinions about it. Some of the bigger tech companies like your Trademe's and your Xero's are now too big to follow Agile completely. So instead, you have pockets of Agile within a corporate hierarchy structure. From my point of view, that's not always the best way to build code, because, in a hierarchy, different agendas can make the process really messy. But Agile methodology is kind of adaptive and can mean different things in different business contexts.

As this participant explains, people working in this network often have different opinions about what working in an Agile organisation should be. Ways of 'doing Agile' can vary across different organisations; this is partly due to the various ways Agile methodology has evolved across Wellington. As this participant explains:

Well, I get frustrated when people say they're doing Agile, and all they're doing is having weekly or fortnightly standups, or using kanban to organise. It's like, no, you're not. That's not pure Agile. Agile is all about regularly releasing code. If you're not doing that, it's not Agile. We have a particular way of doing Agile in Wellington, and yeah, most Agile companies here use kanban and stand-ups too. But I guess because people can visually see that stuff, they think that's what Agile is.

The Agile methodology is inherently adaptable and can be augmented with various tools to produce a software product. Across Wellington's tech sector, specific visual tools are frequently employed, reflecting the Agile approach's distinctive aesthetic. This aesthetic isn't merely a matter of design; it's a strategic way in which tech workforces distinguish themselves from other workforces in the city. It embodies the concept of "distinction" as outlined by Bourdieu, which is profoundly relevant

when examining how aesthetics contribute to the construction of habitus.

In Wellington's tech sector, where innovation and adaptability are paramount, the aesthetics of Kanban boards and standups serve as symbolic markers of a company's commitment to Agile methodology. Kanban boards, typically consisting of visual task boards with columns for "To Do," "In Progress," and "Done," are not only practical organizational tools but also embody a commitment to transparency and visual progress tracking. Standup meetings, conducted with participants physically standing, promote efficiency and open communication. These aesthetics represent a company's dedication to dynamic and collaborative work processes and an openness to adapt to market trends. This, in turn, aligns with an unquestioned commitment to Agile methodologies, creating a synergy that connects with the concept of "illusio," where the rules of the game are believed in and unquestioned.

The significance of these aesthetic elements lay in how they distinguish tech workforces from other corporate work environments within the city. It's a deliberate visual distinction that signals a departure from conventional modes of work. Agile-oriented businesses project an image of modernity, responsiveness, and innovation, all qualities highly valued in the tech sector. These aesthetics, then, become a means of distinguishing not only the work but also the identity of the tech sector within the broader urban landscape.

In the subsequent sections, we will delve deeper into how these tools are employed in Agile offices, offering insights into how they shape the work culture and my own experiences learning computer programming within this distinctive Agile framework. This exploration will illuminate the collective habitus that is actively shaping the tech sector in Wellington.

8.5 Open-Plan Offices

Agile methodology is notably devoid of a clear hierarchical structure. Stepping into an Agile work environment, like I did, often poses a challenge in identifying definitive lines of authority, as one participant explains:

Definitely when you work for bigger companies like TradeMe, things become more hierarchical, even if that company follows Agile. But in startup world, it's pretty even

Stevens. Everyone's on an equal playing field; there's no real room to play 'the boss card'. It's like you don't have time. Your focus is on building this damn MVP so you can get it to market asap. Before some other asshole in a different part of the world releases your exact idea, and everyone jumps on that platform first. You know? So you're kind of all in it together. And let's keep it real, most startups in Wellington are working from rented floor space, whether it's at EDA, biz dojo or something else, you're in a shared workspace. I feel like that contributes to the non-hierarchy vibe too.

In fact, open-plan workspaces are a common feature in Agile work environments, driven by the high level of collaboration within each team. Given the nature of shared workloads in small groups, easy access to the same computer screen is often essential. My journey into this world of work began in February 2016 when I successfully completed the enrollment process and secured a spot in Dev Academy's first 2016 cohort. While Phase 0 offered the option to work from home, I choose to fully immerse myself in this world by spending every day of Phase 0 on the Dev Academy campus. My prior visit had been to discuss my PhD project, and I noticed that, like most Agile work environments, Dev Academy's office space followed an open-plan design. This setup included various workspaces, such as shared tables, individual desks, standing desks crafted from cardboard, and comfortable couches.



Figure 31 Entrance to Dev Academy



Figure 32 Life at Dev Academy

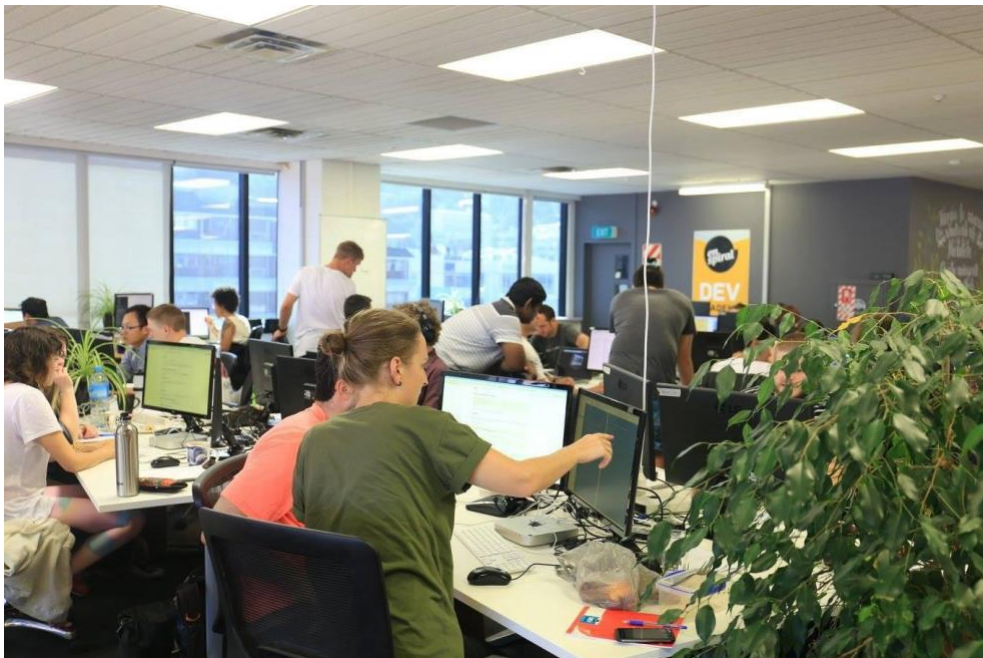


Figure 33 Open plan office at Dev Academy

Within Dev Academy's open-plan office environment, various sections are thoughtfully designated for private workspaces, tutorials, and meetings. Notably, there's a closed meditation cube constructed from recycled materials, providing individuals with a secluded space for focused work

or confidential discussions. An exercise bar, hanging from the ceiling, added an unexpected twist to the office's ambiance; I distinctly recall arriving early one morning to find someone hanging upside down from the bar while meditating.

A common practice across this office is hot desking. Here, digital workers relinquish the notion of assigned desks and instead embark on a daily quest for available workspaces upon their arrival. This approach to office organisation, emblematic of the Agile work setting, champions the ideals of flexibility and fostering spontaneous interactions among team members. In this workspace, numerous tech startups converge, with each staking their claim to a portion of the open-plan area.

Throughout my fieldwork, this office space continually surprised me, standing in stark contrast to the traditional work environments of academia that I was accustomed to, with their long corridors and private offices. In academia, distinctions are often practiced through the accumulation of extensive libraries, proudly displayed along the bookshelves lining private office spaces. On the contrary office environments of the tech sector serve a dual purpose: not only do they provide functional spaces to facilitate Agile work, but they also play a pivotal role in shaping the very essence of what digital work should look and feel like. This approach sets the tech sector apart from other labour fields in Wellington, as it fosters an environment where the distinctive tastes, practices, and forms of cultural knowledge unique to this industry flourish.

These distinctions don't confine themselves to the physical workspace. They seep into the very fabric of contemporary urban culture and the ever-changing landscape of labour relations.

The tech sector's dedication to Agile principles serves as a symbol of the evolving nature of work in the digital age, characterised by a sense of impermanence and a demand for adaptability and flexibility.

Intrigued by the potential consequences of operating in such a markedly distinct environment, the upcoming sections will delve deeper into these distinctions. They will shed light on how these distinctions shape the cultural capital within the tech sector while offering insights into the day-to-day realities of this field, where Agile practices are intricately interwoven into the evolving field of digital work.

8.6 Kanban

During phase 0, I learned the basics of computer programming in three core languages; HTML, CSS and Javascript. While learning these technical skills, I was also taught to manage my workload using the same processes standard within Agile teams. One such tool is the Kanban System.

Kanban is rooted in early 1940's car manufacturing techniques in Japan. Taiichi Ohno, an industrial engineer, working for Toyota, developed a simple system to prioritise work and inventory at each phase of production to achieve maximum efficiency (Anderson, 2010). By following Ohno's Kanban system, Toyota became markedly more productive while reducing inventory expenses and raw material waste. The implementation of Kanban in 1940 enabled Toyota to compete with American car manufacturing (Anderson, 2010).

In 2004, David Anderson became interested in alternative ways to organise production (Anderson, 2010). Drawing on his experiences working in various startups across Silicon Valley, Anderson outlines a Kanban Method that applies to software development. In 2010, Anderson published *Kanban: Successfully Evolutionary Change for your Technology Business*, the frameworks described in this text spread throughout Silicon Valley and became entangled within various versions of Agile. Kanban boards are now widely used to coordinate the daily production of code across Wellington's startup networks. The image below is an example of a digital kanban board.

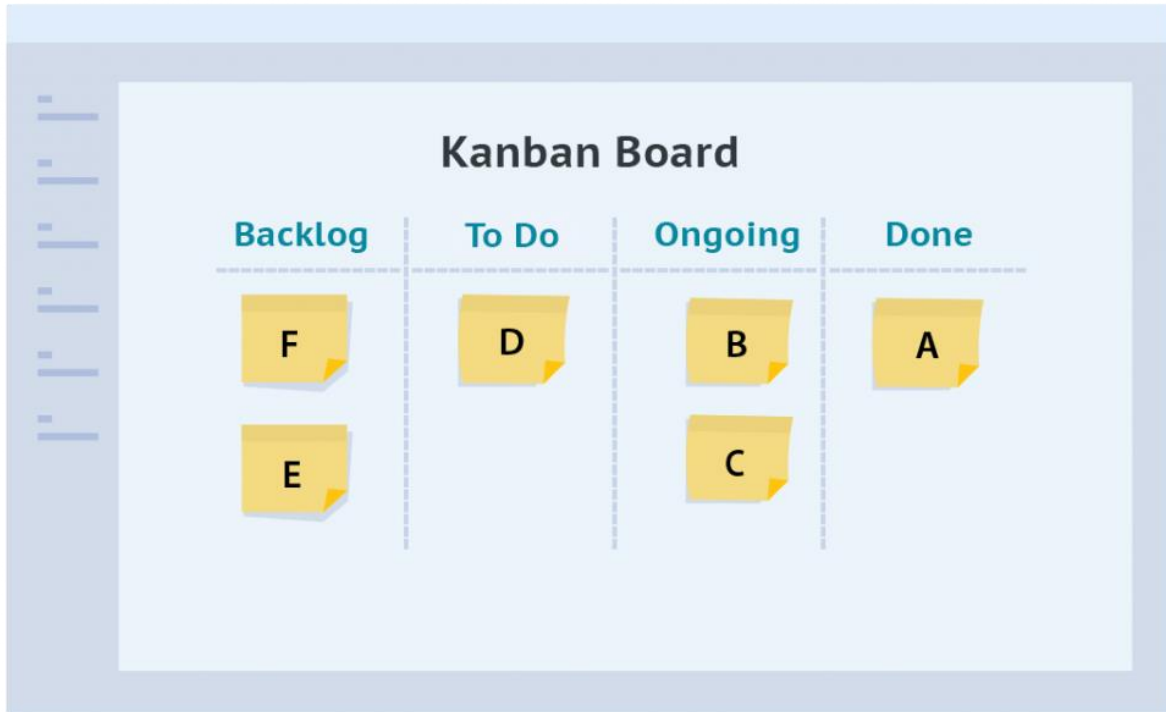


Figure 34 Example Kanban board

Developers work through the kanban board for the duration of a 'sprint'. A sprint is a term that originated within the scrum model. It is a decided time frame in which the team works to complete specific tasks. A sprint is generally no longer than two weeks. Over the course of a sprint, developers will move the tasks between columns. This process is called 'shipping tickets'. To gain the skills required to move beyond phase 0 and into Bootcamp, students must ship all of their tickets into the 'done' column each week. Below are photos of some Kanban boards I used throughout my fieldwork.

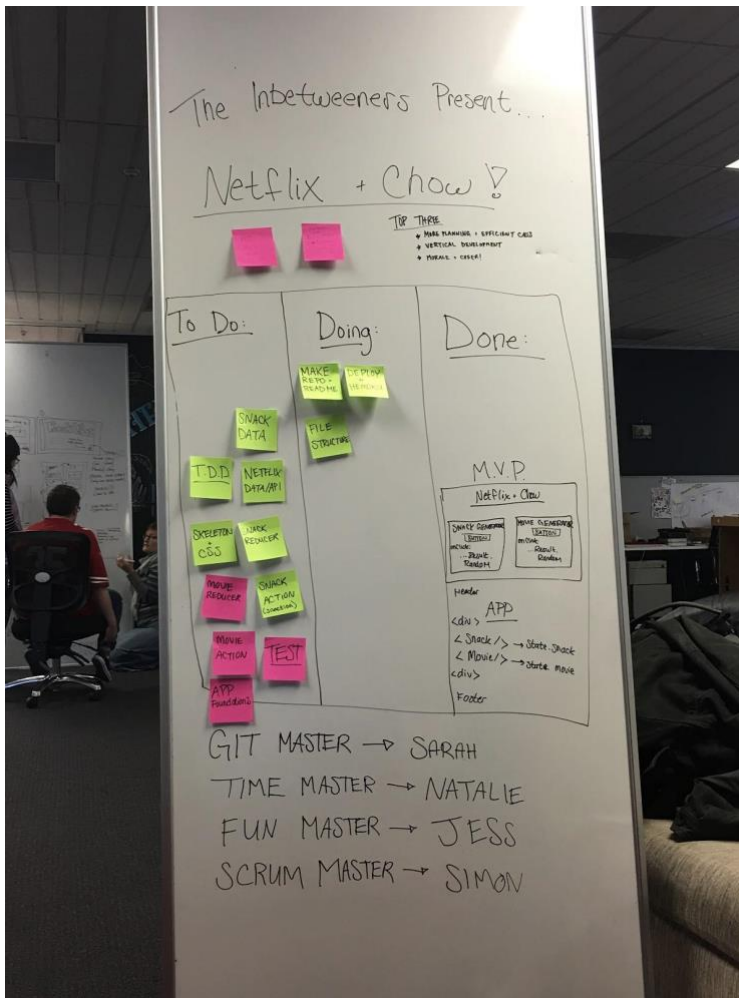


Figure 35 My team's Kanban board at Dev Academy 1

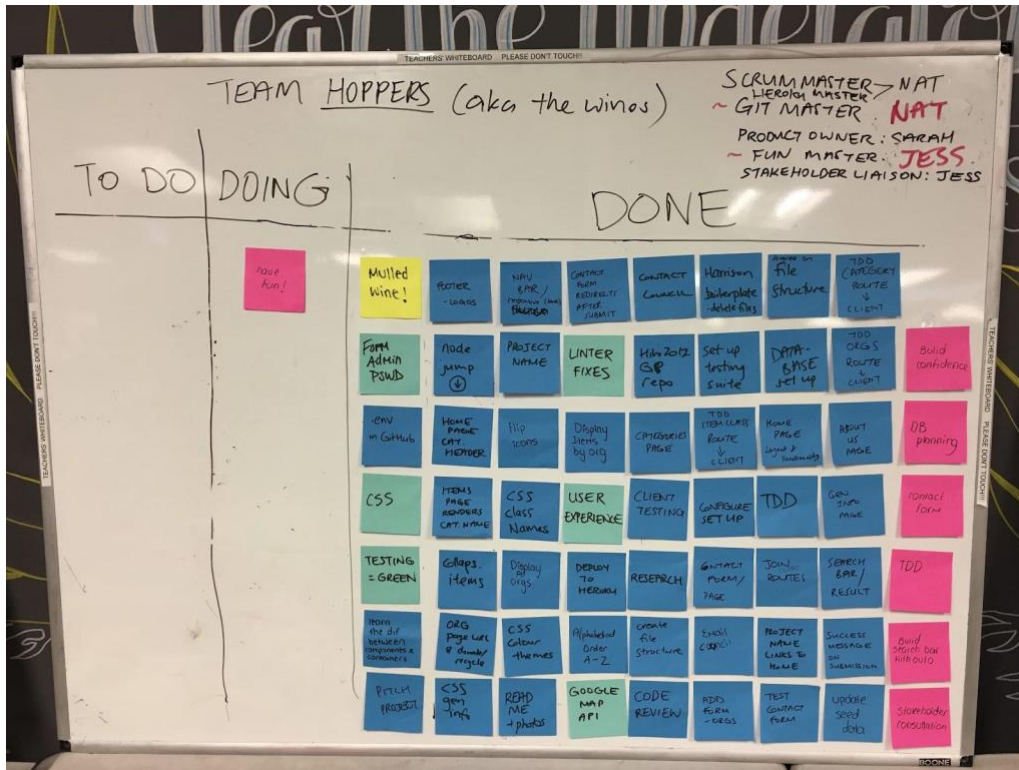


Figure 36 My team's Kanban board at Dev Academy 2

Learning computer programming was a significantly steep learning curve for me. Many of my fellow students had a prior interest in computer code before enrolling in the course; they understood references and terminology that I needed to learn from scratch. Consequently, I was incredibly slow at shipping tickets, a task that might take others a few hours to complete would take me an entire day. In most tech workplaces, both digital and material, Kanban boards are accessible and visible to appropriate teams. The Dev Academy course was no exception, as a cohort, we had access to each other's kanban boards, so I often felt embarrassed by my slowness. I regularly worried I was falling behind other students. Keeping up with the course curriculum was suddenly my main priority. Abandoning my PhD, I became completely immersed in learning computer programming so that I could ship tickets on time. I was frequently reminded by my tutors that 'shipping tickets was not important'. Using Kanban boards was important for understanding how teams of developers coordinate their workloads, but the primary goal of these tasks was learning. I reflect on this time in my fieldwork with a sense of overwhelming self-consciousness. I realise I transformed into a 'high maintenance' student, frequently pestering my tutor with messages, requiring reassurance that I was on track.

In the field of software development, shipping tickets is a way of accumulating cultural capital. As Bourdieu reminds us, social fields contain specific social relations, or rules, whereby power is determined through capital distribution. Bourdieu is clear; accumulating capital in various forms can be a source of motivation and strategy within particular fields. On the contrary, lack of access to capital can simultaneously constrain participants and dismantle their specific strategies and goals. Certainly, this was my experience. In my struggles to ship tickets, I compared myself to other students. I often reached the conclusion that computer programming was simply 'too hard' for me; formulas, and logic were 'not my thing'. During these moments I found comfort in my PhD, reassuring myself that research and writing were my skill sets; I was not here to 'become a developer'. Here accessing cultural capital in the form of shipping tickets frequently felt out of reach to me. My tendency to find comfort in PhD during these moments, demonstrates how illusio is disrupted through access to capital, indeed, limited access to capital can deter participants from investing or pursuing goals within the field.

Kanban boards have been taken up throughout the Wellington tech sector. As a result, they are not used exclusively by developers. Other professionals working in software use Kanban to coordinate their work across teams. It is common for individuals to have more than one Kanban board in use as they move between projects. While both material and digital Kanban boards are used across the tech sector, I found that developers seemed to prefer using a material board. As these participants explain:

Digital Kanban boards, like Trello, are useful when you're working across different locations. But one big problem is the work can become less clear. I've had this feedback before, tickets on a digital board can be wordier. You have unlimited text. So that leads to more grey areas. You have to keep it clear and concise on a post-it note. And devs need things to be clear and concise.

It adds extra documentation; a digital ticket is unlimited. But there's only so much you can get on a post-it note".

These participants highlight how Agile methodology is made more functional through the use of post-it notes. In the writing up of the ticket, a plain post-it note undergoes a transformational process. Once the post-it-note is stuck to the board, it is no longer a post-it-note, but a 'ticket'. In this context

'tickets' are a particular type of cultural capital in objectified form. There is a specific process developer's undertake to transform a regular post-it note into a ticket, as this participant outlines:

Using user stories does help you determine what to write on the ticket. So follow the process of:

- *'As a' <type of user>*
- *'I want to' <do some action>*
- *'So that ' <achieve some outcome>*

As this participant demonstrates, user stories allow developers to capture a start to end description of a software feature from the users perspective. Deciphering user stories is a common practice within Agile software development. Taking the example of the web application Messenger, my participant expands further on this process.

- *As a messenger user*
- *I want to create my own emoji*
- *So that I can express myself in a personalised way.*

Now obviously, this involves a fair bit of coding, so you can break that user story down into more manageable chunks that can still be released to a user. When you break it down further than what a user can actually benefit from, then you can tell, because it gets real hard to write the 'so that' part of the sentence. When it's necessary to break those down anyway to reduce complexity, you can switch to a more requirements based language, used in test-driven development.

- *Given <Something has happened>*
- *When <A particular action happens>*
- *Then <An effect should take place>*

So using our messenger example, that process might look something like this:

- *Given I am on the main messenger screen*
- *When I click on the 'GIF' button*
- *Then a roll of available gif images should appear*

Obviously, this format is more suited to talking about solutions rather than problems, so it depends on where you are at with the design process too.

At every stage of Dev Academy's training program, the course instructions are written as user stories. As a student, I learned to read user stories and write computer code that provides a solution to these stories. In the later stages of the course, I learned to write my own user stories as I designed project websites. At first, this process was relatively simple. However, as I moved through the course, the software features I was building became more complex, and thinking through user stories became a more precarious task. During this time, I was developing software within the context of a team environment. In the final stages of the course, we were producing our own Kanban boards by writing our tickets. We came to see how a misunderstood ticket can cost the team a lot of time. To ensure effective team collaboration, it is crucial for each team member to possess a comprehensive understanding of every task (ticket). In this context, the team's collective grasp of the cultural capital attainable through these tickets during a specific sprint is an essential aspect of team membership and cohesion.

Consequently, thinking through user stories was a vital part of our work. It was important that each ticket was worded precisely and understood by everyone. As this participant explains:

I think what is written on a ticket is important, not so much from a traditional 'requirements translation' perspective, but more to enable all the contributors to the ticket to understand the true problem that they are trying to solve. When you give developers tasks, they will complete those tasks. When you give them problems to solve as a team, innovative solutions emerge from the collective experience of those diverse teams. Then you can get to the root of the customer problem that you are really trying to solve. What is written on a ticket, therefore, should not be prescriptive, rather it should ignite discussion.

As this participant explains, Kanban boards are effective at coordinating work, because the process of writing up and shipping tickets allows teams to develop a collective experience at problem-

solving. Here they collectively agree to the stakes of the game, the supply of cultural capital that is up for grabs. Bourdieu's concept of cultural capital offered a lens for exploring this practice, and the particular ways individual developers converge and agree to the rules of the game. The game also includes the standup, pivotal moments in the course of every office day.

8.7 Standups

Within Wellington's startup ecosystem, a crucial component of Agile methodology is the incorporation of a meeting style known as standup. Standup meetings are essential for orchestrating teams of developers tasked with maintaining particular software product features, and they often serve as pivotal moments of stress, especially for individuals grappling with coding challenges. For instance, a team might focus on the search bar feature of a website or app, handling everything from maintaining the underlying code infrastructure to enhancing the user experience. The significance of standup meetings lies in their decentralised decision-making approach, rooted in data-driven insights and consensus-building practices. These meetings are intentionally brief, typically lasting between 5 to 15 minutes, with all participants remaining standing to maintain brevity.

In the upcoming discussion, I will delve into the core purpose of standup meetings, emphasising how they enable teams to review their ongoing tasks, showcase their progress, and identify any potential obstacles. Furthermore, these teams often use Kanban boards during their weekly standups to assess their collective progress. This approach leads to a semi-public assessment of both failures and successes, establishing specific limitations and influencing strategies for efficiently "shipping tickets" while simultaneously determining the acquisition or lack of cultural capital. Standups can be tense. Throughout my fieldwork, I observed numerous startups taking down their Kanban boards from the wall during daily standups, providing teams with frequent opportunities to refine their work strategies for enhanced productivity. This Agile framework orchestrates not only the technology but also the teams responsible for developing it, fostering a continuous cycle of iteration as practice and adaptation become integral components of this fast-paced work environment.

This story below is an excerpt from my fieldwork journal, which details a standup in my team, the morning after a particularly stressful day of work.

This morning we had a standup to work through yesterday's problems. The process was

really brief, and given how stressful everything was yesterday, I was surprised at how easy the standup was. We used our kanban board, and we also traced a timeline of yesterday's work on the whiteboard. We each took turns using the whiteboard pen to pinpoint moments of frustration during yesterday's work. Through this process, we all came to the same conclusion. We all had difficulty with creating pull requests on GitHub and merging our code into the master program. This process highlighted that; there were no issues with our code. Still, we needed to get better at communicating with each other when merging on GitHub. So the meeting resulted in one member of the team taking a leadership role, and agreeing to be the 'GitMaster', they would check with everyone on the team before any code was merged.



Figure 37 Starting the day with 'good vibes'

The image above is a picture I took after finishing this standup. One team member suggested that we do something creative to start the day with 'good vibes'. We decided to have a paper plane competition before we ventured into the morning's work. This story demonstrates how significant teamwork is in the production of software. Indeed, there were so many times throughout my

fieldwork where software failed to perform as it should. A miscommunication between team members, or between humans and computers, was often the root of such failures. Agile environments create space to address these moments of miscommunication and adapt processes to decrease the chances of such issues occurring again. By the end of the course, the team I belonged to was well practised at building software together. We were producing features for our website at a much faster rate than when we first began the course.

8.8 Feedback Loops

The adoption of Kanban boards in Agile development not only vividly illustrates the accumulation of cultural capital within the tech sector and the feeling of being "out on a limb" for some individuals, but it also simultaneously normalises the experience of struggling, offering teams transparency in dealing with specific technical challenges. This dual dynamic can foster a sense of self-awareness and normalise the experience of finding computer-related challenges frustrating when team members openly share their difficulties.

These boards, explicitly displaying the aggregation of knowledge, tasks, and priorities, play a pivotal role in the Agile methodology. Their transparency aligns seamlessly with the ethos of continuous improvement and the nurturing of a "feel for the game" in the software development domain. In the context of standup meetings, where team members convene to discuss and prioritise technical project requirements, this visibility of cultural capital (or not) extends across the entire team. This transparency transcends mere administrative formality; it covertly fosters competition among participants in the field. Within this dynamic landscape, the capacity to adapt and innovate emerges as a coveted form of cultural capital. While social science research on software production methodologies remains limited, computer science has diligently tracked these trends since as early as 1960. One early insight, originating in 1968 as Conway's law, asserted that software tends to mirror the communication structures of the organisations creating it. This concept has found resonance in the realm of digital anthropology, as noted by Seaver:

Where old firms stamped out major releases one at a time, the new ones are self-consciously "agile," rolling out updates continuously and constantly adjusting themselves in response to the data they now collect in ever greater quantities. Software and the teams that produce it are arranged in small, semi-autonomous, readily reconfigurable groups...

Consequently, social architectures, software architectures, and physical architectures echo each other. Walking into a tech company's offices today, one can conjure the feeling of walking into the software itself, as though the building and the people in it—their positions, their interactions, the flow of information— were programs transcoded into social space (Seaver, 2018, p, 375-376).

Seaver's research highlights a significant shift in software development practices: the move from traditional firms releasing major software updates sequentially to modern, Agile organisations that continually refine their software based on data-driven insights. These contemporary software development teams function as compact, semi-autonomous groups, effectively blurring the boundaries between social, software, and physical architectures. Commensurate with Seaver's above observations, stepping into such a tech company felt like an immersion into a physical manifestation of software, the social space being an interplay between digital technologies, organisational structures and keen players invested in the game .

My immersion within an Agile team offered a profound insight into a core aspect of this methodology: the acceptance of errors as intrinsic to the process. It was liberating for me to see that other programmers were experiencing numerous errors. In stark contrast to viewing errors as personal failings, the Agile approach encourages their swift resolution and considers them opportunities for improvement. However, I must also acknowledge that at times, I felt embarrassed to share my struggles with the team, especially when my teammates could promptly assist me in overcoming challenges. This sometimes made me feel like I was underperforming and led to moments of self-comparison. While developers maintain that standups are not intended to generate competition among team members, my personal experiences revealed a mix of extreme highs and lows in my engagement with the Agile methodology, particularly during standup meetings. Seaver's concept that entering a tech company is akin to stepping into "software itself" resonated powerfully with my own experiences.

During my fieldwork, a specific memory stood out—a different team applying Agile's iterative approach to develop a computer game called GitMaster. In a subsequent interview, one participant eloquently recounted the development journey of GitMaster, a prime example of Agile principles in action. The project commenced with storyboarding the game and coding individual levels, all while continuously testing and adapting the gameplay based on feedback from team members and even

external observers like me. This Agile-driven process exemplified the methodology's commitment to ongoing refinement and its dedication to harmonising user preferences, practices, and cultural knowledge of the target user base. As this participant explains:

Well, by the time we were producing our final projects, all of us were all fully engaged in Agile. I remember watching you guys do your standups, and you would make paper planes and throw them around the office just to de-stress. Anyway, our project was a computer game called GitMaster, and we built GitMaster in the most perfectly Agile way. So we started by storyboarding our game, we had a rough idea of the narrative and the problems the user would need to solve to complete the game. Then we had a level of the game to code each. But we didn't just blindly follow the original narrative. We tested everything. So once I'd built one of the challenges within the level I was working on, once I had it working, I would play it myself. Then if I was happy with it, I would ask the wider team to play it. Then if they were happy with it, we'd sometimes ask you guys to play it. And sometimes people's feedback would be really particular, like, 'can you make these colours brighter' or 'I think this thing should make a noise when I win'. At every stage, we were making adjustments to the game based on everyone's reactions. Sometimes making these adjustments would result in unexpected errors. Like all of our tests would suddenly fail, this happened a lot when we started to merge the different levels of the game into the master file. So we were kind of listening to both, the computer, and the users; and trying to produce a game that both parties would agree too.

This iterative approach ultimately resulted in a game that harmonised user preferences with technical functionality. GitMaster's creation epitomised the Agile philosophy of ongoing refinement through continuous cycles of iteration, aiming to align user preferences, practices, and forms of cultural knowledge within its user base. Agile development, in many ways, seeks to discern and address the nuances that distinguish various perspectives and preferences, making it a valuable methodology not only for effectively pinpointing the arbitrariness of taste, but for reinforcing personal strategy, developing illusion, and a feel for the game. These experiences of emotional highs and lows are ever present at the production point of platform capitalism. The iterative nature of Agile development enables developers to systematically address and overcome technical errors, facilitating a deep understanding of the technical intricacies inherent in their products. This perpetual process of

refinement fortifies the *illusio* within the field as developers become deeply enmeshed in the material aspects of their work and the competitive dynamics of the industry. Kanban boards, standup meetings, and the iterative production style inherent in Agile methodology collectively contribute to the accumulation and reinforcement of cultural capital within the ever-evolving field of Wellington's tech sector.

8.9 In Summary

Unpacking my experiences as an Dev Academy student has illuminated distinct intersections within the work of software development. These intersections often occur through the practice of Agile methodologies, where humans and computers communicate through continuous cycles of iteration. The production of GitMaster serves as a vivid illustration of the contours of Agile work. It represents a dynamic interplay between the technical works of writing code, and feedback loops required to refine this code. Agile development, in its essence, involves refinement—an ongoing quest to pinpoint the nuances of taste, practices, and forms of cultural knowledge specific to a user base.

A recurring narrative throughout my interviews and fieldwork underscores Agile practices as the most effective way to build software. This narrative reinforces the rules of the game, validating them through repetition and retelling. Engaging in the Dev Academy program equips students with the knowledge and practice of Agile, effectively introducing them to the rules of this game. It provides a space for cultivating a self suited to the broader job market. An understanding of Agile practice is a valuable asset for Dev Academy graduates, setting them apart from other graduates. Consequently, most students become advocates of Agile methodology through this transformative process.

Agile methodology operates as a double-edged sword, providing both opportunities and limitations when it comes to acquiring and leveraging cultural capital within the tech sector. A key illustration of this duality can be found in the practice of "shipping tickets," where the allocation of tickets per 'sprint' is determined through the 'standup' process. During these sessions, developer teams not only discuss their work but also collectively grasp the intricate dynamics of the game being played. They gain an acute awareness of the cultural capital at stake and the potential for its accumulation. This process, while offering a platform for skill development and cultural capital acquisition, also introduces constraints and pressures, shaping the strategies and behaviours of those involved. In this

way, Agile methodology acts as a multifaceted framework that both empowers and restricts individuals within the tech sector.

The domain of Agile spans global networks, reaching from Japan to San Francisco and back to Wellington. However, these rules of engagement manifest in localised and distinct 'ways of doing Agile,' resulting in nuanced variations within the field; different companies implement Agile methodologies differently. What distinguishes Wellington in this context is the significant influence of Dev Academy within the local tech sector. Through their education, Dev Academy graduates acquire a unique set of cultural knowledge, encompassing an understanding of the "rules of the game." This distinct knowledge sets them apart from other graduates and equips them with the ability to navigate within the context of these local distinctions, becoming a pivotal strategy for Dev Academy students.

Furthermore, Dev Academy and the broader Enspiral network play a role in establishing structural norms within Wellington's tech sector as key suppliers of industry graduates. I will delve deeper into this point in the following chapter. Bourdieu's concept of "sens du jeu" or 'feel for the game' aptly encapsulates this situation, highlighting how individuals within the Wellington tech sector develop a myriad of adaptable strategies to cope with the ever-flexible and technically intricate situations they encounter. As they gain a profound understanding of 'the rules of the game,' they not only navigate the complex and dynamic tech landscape but also contribute to shaping it.

This interconnected web of knowledge and skills, nurtured through institutions like Dev Academy and the Enspiral network, serves as a foundation for the local tech industry's sophistication. Yet, it also contributes to a unique sense of precarity. The constant evolution and fluidity of the field can create a paradoxical environment where technical prowess coexists with a heightened awareness of vulnerability. This sophistication and precarity blend together, making adaptability and a deep understanding of the ever-changing rules of the game absolutely essential in this context. The ability to thrive in such an environment necessitates not only technical expertise but also the capability to stay attuned to emerging dynamics and to rapidly respond to them, ultimately ensuring one's relevance and success within the Wellington tech sector.

The forthcoming chapter delves into an ethnographic exploration of Enspiral, probing the facets of subjectivity and identity within Wellington's tech sector. It casts a specific spotlight on social

enterprise movements, dissecting digital workers' self-enterprising strategies with Enspiral as a prominent exemplar. Enspiral disrupts the traditional capitalist model by establishing social enterprises, positioning themselves as countercultural alternatives in Wellington's market. This chapter presents an ethnographic lens on entrepreneurial endeavours within Wellington's platform economy, extending our narrative into the captivating world of social enterprise within the tech sector.

Chapter Nine - The Enspiral Network and Entrepreneurialism

So in December, I started talking to everyone I knew, saying things like, 'I help people who want to change the world get high-paid contracting work and take away some of the pain and risk of being a freelancer'. BAM — work-life balance became work is my life, which is fine (for now).

In an eye blink, it's nearly a year later, and we've got 30-something people on the books — it's hard to get an accurate headcount, but 32 people have written an invoice through the company to date. Half a dozen people rely on Enspiral for their main source of income, another dozen as their principal secondary income — or something like that. Small numbers in the scheme of things, but it feels like a good start.

The chapter opens with a story shared by from an Enspiral member. The member's journey, as outlined in the quote, portrays two fundamental distinctions characterising Enspiral's unique ethos. Firstly, the quote emphasises the core focus on mission-driven projects within the network, wherein individuals have the opportunity to leverage high-paid contracting work while simultaneously contributing to societal change. This sharpens the contrast with mainstream platform capitalism, where profit often eclipses a broader sense of purpose. Enspiral attracts those motivated by a desire to make a tangible and positive impact through their professional endeavours. Secondly, the quote brings to light the nurturing and communal culture within Enspiral. By highlighting how several members significantly rely on the network for their primary or secondary income, it underscores the sense of security that Enspiral provides to its digital workforce. This contrasts starkly with the isolation frequently experienced by freelancers in traditional platform capitalism. In this regard, Enspiral cultivates a sense of belonging and mutual assistance, setting it apart as a more inclusive and purpose-driven alternative to platform capitalism and digital work.

The essence of Enspiral's mission is encapsulated in the quoted statement, "Our mission is to support people who want to spend their lives changing the world. We work together to build collaborative tools and processes to build our livelihoods together" ("What is Enspiral?", 2020). This mission

statement seeks to place Enspiral in a counter-cultural position, operating at the fringes of the conventional 'big tech' landscape. Drawing from Bourdieu's (1996/92, p. 160) theoretical framework, it's crucial to acknowledge that within well-established fields, avant-garde or fringe movements and subcultures inevitably emerge. These outliers, exemplified by Enspiral, aim to disrupt prevailing power structures and configurations within their respective domains. Enspiral's distinctiveness lies in its steadfast emphasis on collectively building livelihoods, a departure from the individualistic profit-centric pursuit typical of mainstream platform capitalism. This commitment to collaborative livelihoods is the linchpin of Enspiral's mission, firmly establishing it as a pioneering force challenging the norms of the contemporary tech industry.

In Chapter 7, we delved into the technical foundations of open-source code and its unique role as a specific form of cultural capital in the field of Wellington's tech sector. Now, in this chapter, we will expand on this by exploring how the accessibility of functional code, facilitated by open-source software, has given birth to distinctive production practices exemplified by the Enspiral network.

The proliferation of open-source practices in Wellington has not only nurtured the growth of startups but has also necessitated continuous innovation. This underscores the crucial need for digital workers to constantly enhance their skills and knowledge, reinforcing the concept of "illusio" in this dynamic field. In this context, "illusio" refers to the commitment that individuals have toward a particular field, which drives their continued engagement and practices within it. Consequently, a pervasive sense of impermanence has emerged, reshaping strategies for capital accumulation and driving profound transformations in Wellington's tech landscape. One outcome of these changes is the remarkable growth of the Enspiral network.

Launched in 2008, Enspiral is a decentralised collective comprised of startups, freelancers, entrepreneurs, and digital workers united by a shared vision of fostering socially conscious businesses. Its inception, led by Joshua Vial, stems from contemplation on the notion of "meaningful work," as articulated by Joshua himself:

I became increasingly interested in global issues and my role in making a difference. I started volunteering extensively, dedicating fewer days to work and more to causes like climate change and environmental issues. I saw many people who were passionate about addressing critical issues but lacked opportunities to do so. I thought, if I could help more

people work full-time on these crucial problems, that would be a meaningful contribution.

Enspiral serves as a compelling case study, demonstrating how open-source principles extend beyond the realm of coding to fundamentally shape the core values of organisations. Much like open-source projects, Enspiral's dedication to developing software which decentralises assets for the common good aligns with open-source ideals centred on contributing to communal benefit. Furthermore, Enspiral's unwavering commitment to continuous innovation and skills enhancement, mirrors the adaptability and flexibility typically associated with open-source code development. The network's active community involvement, co-hosted conferences, and promotion of open-source culture reflect its commitment to fostering collaborative synergies similar to those commonly found in open-source software projects. Enspiral's framework is built upon the pillars of decentralisation, collective governance, and transparency, with over 300 members actively participating in shaping its trajectory. The organisation upholds an ethos of open access, welcoming individuals who share its values and vision.

Additionally, Enspiral holds a prominent position within Wellington's tech sector as a staunch advocate for open-source principles, a connection that has been duly recognised by academics in the field (Bollier and Conaty 2015; Kostaki and Bauwen 2018). While the literature on this topic is limited, it is significant and sheds light on how Enspiral's innovative financial and legal structures empower alternative modes of organising its members, particularly in the face of an uncertain labour market.

This chapter explores how pioneering challenges can disrupt established norms, aligning with Bourdieu's observation that innovative social phenomena possess the potential to transform entire fields over time (Bourdieu, 1996/92, p. 160). As I embark on a deeper exploration of Enspiral's journey, I will unravel the intricacies of this unique network. In doing so, I aim to shed light on how these counter-cultural distinctions, inspired by open-source principles, manifest in three pivotal ways. Firstly, I will delve into the legal and organisational structure of the network itself, characterised by a cooperative framework where members draw inspiration from open-source ideology to devise non-hierarchical governance structures. Secondly, I examine how members harness open-source software and technical expertise to develop technology that not only supports but also tangibly fosters this organisational culture. This includes mechanisms for transparent decision-making and collective ownership. Lastly, I explore the network's commitment to

reproducing these structures through the businesses that emerge within it, with a particular focus on the social enterprise model.

Through this in-depth analysis of Enspiral, I intend to offer valuable insights into how technical materialities are strategically leveraged by digital workers in Wellington. These materialities serve as the foundation for the creation of utopian imaginings, shaping the trajectory of Enspiral as it continues to challenge the wider field of the Wellington tech sector.

In the Bourdieusian sense, this analysis delves into the intricate ways in which Enspiral, as an entity rooted in both technological and social dimensions, navigates and reshapes the field. It explores how Enspiral's approach to cultural capital, driven by the acquisition of both technical and social knowledge, alters the power dynamics within the sector. By examining these dynamics, we gain a more comprehensive understanding of the complex interplay between technological materialities, cultural capital, and the evolving landscape of the tech sector in Wellington.

9.1 Enspiral, a Brief History

In its first year, Enspiral was comprised primarily of developers; Vial, a freelance developer at the time, formed connections with other freelance developers who shared his interest in rethinking the concept of 'meaningful work'. Here it is generative to consider the formation of Enspiral through a Bourdieusian lens. As we know, fields are bounded social spaces; this means particular configurations of actors, objects and social phenomena are included and excluded from any given field. Taking Wellington's technology sector as a field, we can chart its topography by its various possibilities and social outcomes. The establishment of the Enspiral network as a counter-cultural response to the wider field of Wellington's technology sector is one such outcome.

This original group decided to continue their work as part-time freelancers but commit a portion of their income to the group. In its early stages, Enspiral functioned as a network for contract developers to "share leads, expenses, and office space so they could have more flexibility by working collaboratively" (Enspiral, 2019). Sharing resources in this way gave group members more time to focus on projects outside of work that had a social impact. Here the group shared a common interest in redefining boundaries about 'meaningful work' and traditional entrepreneurial models.

As Enspiral grew, people with different skill sets began to join, and the network became more professionally diverse.

I would say the number of developers decreased over time, in the first year, 90% of the members were programmers, now, I don't know, but I would guess it's like 30-40% maybe 20%. It's much more balanced, and you see lots of people who are facilitators or accountants or project managers, and lots of other skill sets represented, then just the developers, so I'd say... yeah, I'd expect it to be around 20% now.

Enspiral is a registered limited liability company, but it also has a charitable constitution which specifies that all funding resources must be 'reinvested back into its mission' (Enspiral, 2019). The Enspiral Foundation is a charitable foundation collectively owned and managed by Enspiral members; this foundation financially supports Enspiral. Here Enspiral is structured like a cooperative, members utilise democratised organisational practices and technology to achieve collective governance and transparent decision-making. Resources, such as funding, are sourced and dispersed using a collaborative approach. Consequently, the network functions without hierarchy or centralised control.

Enspiral's foundation rests on a counter-cultural ethos, embodying a collective organisational structure that directly contradicts and challenges the prevailing capitalist principles that underpin the broader landscape of Wellington's tech sector, as Vial explains:

So a member has a share in the network, they're an owner of a cooperative, they are... and when I think about a cooperative, it's essentially a cooperative of entrepreneurs, so these are people saying 'we're going to help each other launch businesses'. So the way a contributor joins, is a member sponsors them in, so the difference between a member and a contributor is that a member has the right to sponsor someone in. But contributors to Enspiral are accepted to contribute, maybe it's financial, maybe it's through time, but they are expected to put in time and energy to make Enspiral better.

For Bourdieu, capital is inherently linked to economic structures but can manifest in various forms, including social and cultural capital. Within the Enspiral network, social capital holds significant importance. This narrative underscores how this 'cooperative,' as Vial describes it, thrives due to the active contributions of its members. The growth and sustainability of Enspiral hinge on the level of

social capital amassed within its membership.

9.2 Counter-Cultural Distinctions

There is a distinct, socially progressive culture apparent within Enspiral work environments. This is marked by an appreciation of technology and an interest in experimenting with technological solutions to social problems. In unpacking this culture further, my participants highlighted several vital components. Firstly, Enspiral members share a desire to "work on stuff that matters". This work is often described as 'meaningful' or 'impactful', as the following conversations reveal:

To me, Enspiral is a network of teams and companies and co-ops and collectives experimenting with different ways of working together, on projects that feel meaningful.

Jess: Yeah, that meaningful word comes up repeatedly when I'm interviewing people.

Yeah, I'm quite specific about saying it's a network of groups, like, that real stuff happens at a smaller scale than at Enspiral. Enspiral is a big distracting concept; it's a noisy mess. But lots of the little groups inside Enspiral are doing something quite powerful. What drew me to it? I mean, it was just a bunch of other people that agreed work shouldn't suck, you know? It doesn't have to be this terrible disengaging thing. Like it doesn't have to be that way, you know? Like I never believed it had to be that way, and then I found some people that agreed and that had some proof and a different way to do it. And it's not like there's a model that's crystalised and ready, but just this idea of like, doing meaningful work, umm seems pretty potent.

In our conversation, a vivid depiction of Enspiral as a dynamic network emerges, encompassing a diverse array of teams, companies, co-ops, and collectives all actively experimenting with collaborative work dynamics. At the core of this narrative lies the resounding theme of 'meaningful work,' signifying a collective commitment within the network to pursue projects resonant with personal values, fundamentally challenging and rejecting the prevailing disengaging work paradigms. The discourse illuminates a notable dichotomy—on one hand, the sprawling and at times chaotic nature of Enspiral, and on the other, the more focused, impactful initiatives carried out by smaller groups within the network. It becomes evident that there isn't a fixed model or a universally

accepted understanding of what constitutes 'meaningful work' within Enspiral. Instead, the narrative emphasises that Enspiral members view it as an ongoing journey characterised by continuous experimentation and adaptation. Central to these discussions is a shared conviction that work can and should be more meaningful, distinctly contrasting with traditional corporate paradigms. This notion positions meaningful work as a potent and transformative force, effectively challenging and reshaping the established norms and practices of platform capitalism. My conversations with Alex provide further examples of this enduring theme.

Jess: So I wondered if you could summarise what Enspiral means to you? Also, are you a member or a friend?

Yeah, well, I'm a member now, and I also chair the board. Umm, that's interesting, it definitely is pretty subjective, and it means something different to everyone. To me, it's a community and a network of people and ventures who are wanting to make a positive social and environmental impact through business. But not only through what they're doing, not just the type of business they're doing, but also how they're running their business. So looking at how you can organise and run things with less command and control, a less centralised manner, and focused more towards decentralising. So looking at different ways of collaborating and looking more toward the new economy of being an independent worker. Not relying on an employee's wage or an organisational wage, but looking at different ways of creating your own incumbent and doing it in alignment with your own purpose. Or I kind of see it; the dream is that everyone in the world can work on stuff that they're passionate about and stuff that really matters to them and has the positive impact that they want or has the purpose that they want to fulfil and get paid really well for it. That's the underlying dream of it. But there's a bunch of the "how to" processes and tools that you use to create real relationships in the workplace and have people feel heard, and have really transparent processes so people can understand what's going on, and we can reduce corruption, and centralisation of power, and potential wealth.

Enspiral, as seen through Alex's perspective, embodies a community and network dedicated to driving positive social and environmental change through purpose-driven business activities. The emphasis is on redefining traditional work and business norms, placing meaningful work at the forefront. In alignment with Enspiral's emphasis on decentralisation, Alex envisions a future

economy where independent work in collaborative work spaces takes precedence over traditional employment. This transition highlights the importance of recognising the inherent risks tied to this shift, including concerns related to job insecurity and the prevalence of temporary contracts. Furthermore, Alex portrays Enspiral as a force for positive market change, particularly through its commitment to decentralisation. This celebration of non-hierarchical, independent work, while consistent with Enspiral's values, paradoxically mirrors labour structures often critiqued in platform capitalism due to their inconsistent contract arrangements.

Distinct from other incubator communities, Enspiral members are driven by a different primary motivation. Their focus lies on the social enterprise model, where startups deploy commercial strategies to build a financially sustainable business rooted in social impact and are able to reinvest their profits into the community.

But how Enspiral started was a group of developers came together to say, 'hey we want to use our professional expertise on things that matter, and yep we'll bring our networks in, and we bring out clients, and it expanded from there. Originally it was all developers, and then a few designers turned up, and then a few activists turned up, and then it gravitated towards, there was a technical layer, and then there was a broader layer. And now it's just a group of people, some of them are retired, some of them, you know, they're from all walks of life. Some of them are working at Deloitte and are just Enspiral members because they love what we do.

Enspiral presents itself as a counter-cultural force within Wellington's technology sector, primarily by fostering social enterprise tech startups. However, it's crucial to recognise that Enspiral is intricately connected to the broader tech landscape. People frequently move in and out of this network, and many of its businesses provide services to the wider tech sector. A prominent example is Dev Academy, a part of Enspiral, which produces graduates with tailored training that aligns with the current coding styles and language preferences of Wellington's tech market. These graduates often enter tech careers while maintaining strong ties with Dev Academy and the wider Enspiral network. By servicing the broader tech sector in this manner, Enspiral, despite its niche orientation, wields significant influence across Wellington. Bourdieu's insights on social fields and their boundaries resonate here, acknowledging how avant-garde or subcultural movements emerge from a keen understanding and the ability to present narratives offering alternatives to prevailing

orthodoxies (Bourdieu, 1996).

As a network founded primarily by computer programmers, ideas of collective ownership and decentralised organisation also stem from an intersection with technology and, particularly, open-source culture. As Vial explains:

Jess: And so, did you have the idea of a shared network? Did you model that from anywhere else?

Vial: It was the functionality of the internet, and open-source code. How can you organise a business like an open-source project? So those ideas were there from the beginning. I didn't really know what form it would take, but that was my line of enquiry.

Jess: And that leads nicely into my next question, how much do you think Enspiral is enabled by technology?

Vial: So there's lots of places and people who have ideas for this kind of thing before, in Enspiral, because we had a lot of programmers, we had a lot of open-source culture, which affected how we thought about things. And we also had this attitude of; we're very comfortable using tools, but if there isn't a tool there, we'll also build the tool. So it's this intersection between interpersonal skills and facilitation and digital skills is what made Enspiral possible. I've seen lots of groups of just programmers trying to do this, and they often don't work that well, and I've seen lots of experiments facilitators and entrepreneurs try to do this without the technology, and that's hard as well. So it's the intersection of human skills and technology which definitely made Enspiral work.

The movement of code with agency through open-source platforms creates a dynamic process of mapping-back. In this context, the traditional workplace norms become untethered from their historical moorings. Practices undergo adaptations, work ethics are realigned, and subjectivities are transformed. This interplay between the human and the non-human underscores how code, imbued with its own agency, can reshape the landscape of work.

Bourdieu (1996) emphasises that counter-cultural challenges to mainstream orthodoxy within a field can arise both from within the field itself and from external forces. These narratives illustrate how cooperative organisational structures gain additional support from the materiality of software. This

intricate interplay between the human and non-human realms showcases the transformative power of technology and its impact on work practices, work ethics, and subjectivities.

Academic research dedicated to the Enspiral network has yielded parallel observations. Matthews (2017) portrays Enspiral as a form of resistance against the hyper-capitalist tech sector. In my own research, Enspiral members frequently discussed capitalism's structural shortcomings, often attributing the enduring sense of precarity they experience to capitalism. By producing bespoke technology to support their organisational structures, Matthews argues the Enspiral network offers oppositional narratives as members harness a diverse array of communication tools, skillfully applying their media literacy expertise to facilitate collective defiance in their daily routines as well as within the public domain. For Matthews (2017), this act of resistance arises as a reaction to the feelings of dissolution brought on by the capricious and hyper capitalist nature of the tech market. The network itself is realised through a fusion of organisational methodologies, inventive use of technology, and the creation of purposeful media and communication resources. These materials disseminate alternative narratives that challenge the entrenched norms and procedures of predominantly corporate entities characterised by more inflexible organisational frameworks.

In addition to Matthews (2017), Bauwens and Niaros' (2016) note how the technologies produced with Enspiral have enabled new forms of collective organising. Their research traced Enspiral's various founding documents, ethical charters and financial systems and concluded that the network can successfully separate capital from decision-making. Here Bauwens and Niaros (2016) highlight a relationship between open-source philosophy, custom-built digital tools, and a decentralised, shared culture within Enspiral.

Open-source software, unlike proprietary systems, thrives on a philosophy of sharing rather than creating artificial scarcity for market value. Enspiral embodies this ethos by actively creating open-source solutions like Loomio and Cobudget, which address power and coordination challenges (Matthews, 2017). Several Enspiral Ventures, including Dev Academy, Rabid, Volunteer Impact, and Metric Engine, contribute to this mission by providing training and specialised services. Essentially, Enspiral is building a shared foundation, collaborative tools, and knowledge resources, all aimed at empowering and facilitating decentralised modes of digital work (Bauwens and Niaros, 2016). This literature plays a crucial role in highlighting a novel form of resistance and counter-culturalism emerging through digital technology.

9.3 Changing The Field

Vial's passionate advocacy for open-source software reflects a clear intention to drive transformative change within the field. This desire for change is a shared sentiment among Enspiral members, who frequently engage in discussions about their precarious working conditions. These members have distinct and unpatterned career trajectories, often transitioning across industries and retraining to enter the tech sector. They now serve as developers, entrepreneurs, or contract their services as digital workers, such as freelancers in design and content creation. They are accustomed to adaptability and change but are also acutely aware of the structural conditions that compel this flexibility.

The tech industry's constant evolution and fluidity, facilitated by open-source code's material infrastructures, add another layer of complexity. Consequently, while these individuals possess strong technical skills, they also carry a heightened awareness of vulnerability. This dual awareness allows them to discern opportunities within the ever-changing landscape of the industry. They aspire to thrive in this field by applying their technical and entrepreneurial skills to harness and reconfigure the flexible system, moving away from hyper-capitalism. In doing so, they position a social enterprise model as the ideal approach for their vision of change.

Enspiral members frequently embark on projects with a strong social mission, aiming to challenge and rethink traditional notions of "work." This theme aligns with observations made by Bollier and Conaty (2015), who noted how Enspiral members creatively reimaged banking systems. Indeed, through bespoke technology, Enspiral has effectively transformed from a limited liability company into an alternative banking system. This evolution allows them to pool resources and secure funding for their various initiatives.

Bollier and Conaty (2015) have delved into how money circulates within this network, aided by their internally developed software, particularly an internal banking system known as my.Enspiral. Freelancers and contractors within Enspiral can utilise this internal banking system. When they earn income from clients outside Enspiral, they have the option to contribute a portion, typically around 20%, to a collective fund designated for Enspiral Services. The remaining funds go into their personal Enspiral account, which they have full control over. This money can be used for personal payments, hiring, or necessary expenses. The my.Enspiral system also enables network members to

transfer money to one another.

More recently, Enspiral members have developed another internal tool called Cobudget. Within a Cobudget network, Enspiral members can allocate funds in proportion to their contributions. Cobudget offers a funding proposal process for projects seeking financial support. Additionally, Lumio, software produced within the Enspiral network, facilitates collective decision-making on ongoing expenses such as rent and permanent staff hiring. Lumio operates as a consensus-building platform, fostering non-hierarchical decision-making. Cobudget ensures that projects are collectively owned by the individuals involved. These software examples illustrate the customised technologies that continue to drive the reimagining of work. Although both Loomio and Cobudget are primarily used within the Enspiral network, Enspiral has also left a public record of its transformative impact on the broader Wellington technology sector.

Enspiral was established in 2008, a time when the use of open-source software was considered avant-garde in Wellington. Over the years, it has evolved into an established practice, with even large tech companies adopting it. This transformation is partly due to Enspiral's active promotion of open-source philosophy. Enspiral's success in promoting open-source software in Wellington illustrates how avant-garde challenges can eventually displace established norms and practices within specific fields, as Bourdieu suggests:

To impose a new producer, a new product, and a new system of taste on the market at a given moment means to relegate to the past a whole set of producers, products, and systems of taste, all hierarchized in relation to their degree of legitimacy (Bourdieu, 1996/92, p. 160).

In essence, Bourdieu's insight underscores the potential for avant-garde or counter-cultural movements to ultimately transform established fields over time. The evolution of Enspiral, from an avant-garde proponent of open-source principles to a catalyst for transformative change within the Wellington technology sector, underscores the potency of counter-cultural movements in challenging and reshaping prevailing norms within specific fields. Similarly, open-source code has liveliness and potency in and of itself, nudging people towards thinking and acting differently and imagining the possibility of the *new*. As we reflect on Enspiral's pioneering initiatives in new banking software and digital platforms which foster collaboration, a compelling inquiry emerges:

to what extent will these innovations continue to drive transformation within the Wellington landscape and potentially extend their influence beyond? Moreover, in considering collective ownership as a counter-cultural stance, it prompts a deeper exploration into the prevalent degrees of isolation inherent within modern work frameworks. Self-reflexive practices manifest within Wellington's tech sector, both between people and through publishing thoughts and stories. This introspection often guides their navigation of the intricate terrain that lies between the pursuit of entrepreneurship for financial stability and the commitment to activist ideals aimed at instigating social change.

9.4 Self-Publishing and Experimenting

Within Wellington's technology sector, the prevailing backdrop is the influence of platform capitalism, where digital workers navigate and critique the dynamics of this market even as they actively contribute to its development. In this landscape, conventional tech giants predominantly prioritise the creation of software innovations to disrupt industries and maximise profitability. Nevertheless, it's essential to recognise that Enspiral members maintain a critical stance toward capitalism, and their business models are not primarily geared toward profit maximisation.

Enspiral members openly engaged in self-reflective discussions about their nuanced positions within this market. This introspective discourse often found expression in blogs and publications, where they grappled with the inherent contradictions and complexities they encountered in their endeavours.

Ryan: I have my own analysis about what's wrong in the world. And how you can design things to address that, but people don't need to agree with it. For me that analysis... like the conclusions are things like... yeah if you're building products, build them in the commons and make them open source, make the benefits of your work accessible to everyone, and put the governance in the hands of people doing the work, and prioritise social ahead of profit. All those sorts of things are my conclusions, but the right organisational structure or the right approach is really subjective and sorta personal kinda conclusions.

Ryan's insights encapsulate the fundamental principles driving Enspiral's approach to technology

and collaborative work. Ryan underscores the value of building products as open source, aligning with the broader open-source philosophy of transparency, accessibility, and collaboration. This approach ensures that the benefits of Enspiral's work remain accessible to a wider community, fostering shared ownership and collective contribution. Moreover, the emphasis on putting "governance in the hands of people doing the work" reflects a core tenet of decentralisation, where decision-making power is distributed among network participants. Ryan's point serves as a lens through which to analyse the tangible manifestations of these principles in Enspiral's projects and practices. It also provides insights into the potential challenges they may encounter while simultaneously illuminating the distinctive organisational approaches that set the network apart from the broader Wellington tech sector. Enspiral's commitment to open source and its prioritisation of social impact over profit underpins its somewhat anti-capitalist stance, forming the foundation of a countercultural ethos within this field. Within this context, open-source technologies have ignited utopian imaginings. It is essential however, to note that Enspiral members maintain a degree of cynicism regarding the practical feasibility of these ideals, as further discussion will detail.

So you can say 'we're all going to be equal, and there's not going to be a power hierarchy', but I've just never actually met a group that was equal. It's just not really... I think It's a great aim, you know? To strive for equality. But to pretend like you can achieve it in the first couple of years like it's setting yourself up for disaster. So it's more about being, preaching to yourself that you're equal, or actually creating a space where it's safe to talk about where are the inequalities and what kinds of imbalances are actually healthy, you know? Like umm, sometimes it's totally... well from my way of working, I'm totally comfortable delegating certain decisions to people with expertise, and if I had to insist that we were all involved in everything, that would be super in-efficient, and we'd all come up with dumb decisions. So it's that kind of thing, where I'll just pry in a little deeper to the rhetoric. Like 'we're all equal', and it's like, 'well actually, how does that all play out? Then I'll offer some tools and processes that other people have used that offer more nuance around that.

Here, the participant deconstructs the practical realities of working within a non-hierarchical organisation. He questions what it means to achieve 'equality' in an organisation. This line of questioning was standard in my interviews.

Enspiral members engage in profound introspection about their lives, their work, and the broader impact of their network on the world. This reflective practice is an integral part of their collective dialogue, both within the Enspiral community and in the public sphere. Through these writings, Enspiral members grapple with their positions within the context of the technology sector in Wellington. These introspective reflections find a wide audience through various social media platforms such as LinkedIn, Slack, Twitter, and others, fostering a space for thought-provoking discussions and critical conversations about their work and its broader implications. The following excerpts provide insight into this reflective process:

This company does not exist to maximize profits (even over the long term). We exist to resource people and organisations who are trying to fix the broken systems in our civilization. While financial strength is essential the demands our shareholders (me) place on the company are not measured in dollars. I believe this type of business is fundamentally more competitive than a purely for profit business and that you will see more of them in the future — especially in service based industries with minimal capital costs. It is also more efficient than a not for profit where resources are so scarce and business models are often attached as an afterthought instead of being hard wired into the organisation. (Vial, 2016, para; 6)

This piece, authored by an Enspiral member who was involved in building a social enterprise business, articulates that the company's primary objective is not profit maximisation. Instead, its *raison d'être* is to address the systemic challenges in our society. The writing suggests a belief that this type of socially conscious business model holds a competitive edge over traditional profit-driven enterprises. Additional Enspiral blogs underscore similar themes, including increasing recognition of a lack purpose and meaning in 'for profit' digital work, as the following example details:

Another is the growing awareness of how important purpose and meaning are in our work lives. Far too many people work in arrangements that resemble being bribed to undergo something unpleasant. How many people do you know who love their work? How many would keep showing up if they won lotto? Helping someone create the job of their dreams has many facets but I can't imagine how hard it would be recruiting for a role that didn't have a compelling underlying purpose at its core. (Vial, 2016, para; 7)

This quote reveals a commitment to reshaping the nature of work to prioritise personal fulfilment and purpose, a theme consistent with Enspiral's ethos of reimagining conventional employment paradigms. Indeed, the Enspiral Network comprises of people who share an understanding of political economy from multiple perspectives; this presented a challenge to my research. It was difficult to offer an analysis of Enspiral that they had not already explored. Avid writers, Enspiral members regularly publish self-reflexive analyses of their work. To deconstruct the nuanced experiences of their work, Enspiral members draw on socio-economic concepts such as neoliberalism and capitalism. They are specialists regarding their ecosystem and the surrounding capitalist structures they challenge.

In this context, self-publishing serves as a deliberate and strategic pathway for Enspiral members to accrue what can be termed as "objectified cultural capital." Similar to academia, maintaining an active publishing record is a widely adopted strategy within this professional field. It not only enhances one's standing within the community but also serves as a means of self-promotion and personal branding. However, the level of commitment to this practice varies among members, with some being more dedicated than others in actively contributing to this discourse.

For certain members, the constant process of critically examining their work and its broader societal implications can be mentally draining. Ironically, a method employed by members to make sense of this introspective culture and its associated frustrations is through further reflexive discourse. For instance, my conversation with Dave provides a prime example. In this exchange, Dave openly expresses his frustration with the pervasive culture of self-reflection within Enspiral. Paradoxically, he copes with this frustration by engaging in reflexive discussions with fellow members, further contributing to the ongoing dialogue about the challenges and complexities of their work and its impact on the world.

We've reached a tension point, which it's like....' How much time do we need to spend building Enspiral vs changing the world? Because if we spend all our time faffing around in our own community and building Enspiral for the sake of it. Like, what's the fucking point? Other than that, it'll be a nice time for a few people. So it really, absolutely needs to be a network that serves people to make a change in the world. And so we're just trying to figure that tension out, I think. So I've been quite conscious about having those conversations here as I've learned more, sort of saying, 'well, let's do a thing, but let's not

do a thing so that the thing exists, let's do a thing so that you and I are getting better work and doing more impactful work and creating a signal for other people to do that work'. Maybe that means building a company creates more employment that allows people to transition toward that.

The quote underscores a critical tension within Enspiral – the balance between building and nurturing their own network (Enspiral) and effecting meaningful change in the broader world. This awareness aligns with Kostaki and Bauwen's (2018) findings, which highlight the self-awareness exhibited by Enspiral members regarding their roles and the potential opportunities they can create beyond the organisation. This self-awareness often emerges as a result of their continuous experimentation with alternative modes of organisation, contributing to their ongoing self-reflection.

This contemplative approach to their work and their place in the world exemplifies how Enspiral members navigate the complexities of their roles and the impact they aspire to achieve, as further elaborated in the following sections.

Jess: Right, and so, I read a blog you wrote about something called the 'better means crew', can you explain that?

Vial: Yeah, I guess one way to think about Enspiral is, we've done like hundreds of experiments in how we work together, some of those experiments die, some of them get turned into software like Lumio or co-budget, some of those experiments sort of fade away, so better-means was an experiment that we did around 2010-2011, and it was definitely one of the ones that sort of faded away. The idea was figuring out a new system for paying people, so how you can pay people with like pseudo equity and future money, rather than right now. It informed some thinking, but it didn't last very long.

Experimenting is an integral part of the work Enspiral members undertake. Oliver's journey as an entrepreneur is an example of this. Initially, Oliver worked as a physiotherapist before connecting with Enspiral members and deciding to dive into the uncertainty of entrepreneurial life. His career trajectory since has been marked by experimentation. One of his early businesses was establishing

a Wednesday morning rave called Rise And Shine. Rise And Shine was designed to test people's assumptions about exercise. As Oliver explains:

Oliver: So it started with Rise And Shine, I don't know if you've heard of it?

Jess: No.

Oliver: It was a fun thing I did with a couple of friends, and for me, it was a chance to stretch, or test people's assumptions about fitness and physical exercise. We ran it on a Wednesday morning from 6 am through till 9 am, it started with a yoga session on the waterfront at the boatshed, and then we had two DJ's sets and a massive sound system, and it was a pre-work rave on a Wednesday.

Enspiral places a significant emphasis on learning and experience in its endeavours, exemplified by projects like Rise And Shine, prioritising these over conventional market success. Within this network, career progression is measured not by the market performance of startups but by the wealth of experience that members accumulate through their involvement in experimental businesses.

However, this focus on experiential learning exists within a nuanced hierarchy of cultural capital within the Enspiral network, revealing a paradox at the core of its culture. While Enspiral collectively strives to construct identities that resist traditional corporate hierarchies, favouring decentralised structures, this pursuit of shared identity ideals can inadvertently give rise to distinct forms of precarity and competition among network participants.

In essence, participants engage in a delicate balancing act: they endeavour to resist hierarchical structures as a form of cultural capital while simultaneously investing significant effort in accumulating their own cultural capital, thereby distinguishing themselves hierarchically within the Enspiral field.

Esteemed Enspiral members, possessing high levels of cultural capital, engage in reflexive discussions, openly sharing insights into both their failures and privileges within this sphere. This argument underscores the tension between Enspiral's commitment to learning and experience and the emergence of a complex cultural hierarchy that paradoxically coexists with its decentralised ideals.

The culture of experimentation thrives within Enspiral, facilitated by the consensus-building

software developed for financial management. This software forms the backbone of Enspiral's intricate ecosystem, characterised by commons-based peer production (CBPP) principles, as highlighted by Kostaki and Bauwen (2018, p. 5-6). This intricate web of interactions and collaborations is further illuminated through the analysis of a presentation by Enspiral member Krause, as examined by Bollier and Conaty (2015, p. 32).

Cobudgeting, collaborative decision-making, and freeing the flows of information and money are essential to Enspiral's existence. 'The Enspiral network needs this,' said Krause. 'There are no hierarchies or bosses; we have no CEO because we distribute leadership functions among the network.'

Krause underscores the pivotal role of co-budgeting, collaborative decision-making, and the liberation of information and financial flows in Enspiral's existence. She highlights that the organisation's unique characteristic lies in the absence of traditional hierarchies or the need for a CEO, as leadership functions are collectively distributed within the network (Bollier & Conaty, 2015).

Krause said in a recent post that while my.Enspiral is often used as an omnibus administrative tool, 'its destiny is to be a very powerful engine for an alternative economy, which is in turn the engine for an alternative society.' She would like to see the platform evolve to handle peer-to-peer credit lines, crowdlending, basic income, and provide alternatives to taxes and interest. She said, 'Can we talk about how mind-blowing it is that we have a frictionless bank at our fingertips and we don't even realise it? What we have with my.Enspiral is a bank for a 'microcosm economy' protected from the outside world by the walled garden of a limited liability corporation – an astounding bubble of autonomy, transparency and flexibility. It's the heart of our opportunity to create the society we want to live in right now, within the wider messed-up society we can't change.' In response to Krause's presentation, Raymond Aitken was struck by the fact that 'We don't really know what possibilities will emerge there. But it is clear that the driving forces are information technology and new forms of social organisation. They are opening up an evolutionary space that we didn't have before, in the commons. As we resist the incumbents, which are attempting to lock down the commons that it controls, we forget that we even had such mutualised spaces for human development and civilisation!'" (Bollier & Conaty, 2015, pp.

32-33).

Indeed, through their innovative technological contributions and published content, Enspiral members effectively embody alternative approaches to organisational structures. These approaches draw inspiration from an academic understanding of market economics, open-source software principles, and fuel imaginative prospects beyond conventional capitalism.

Bollier and Conaty (2015) provide additional insights into the connection between Enspiral and academia, offering an example of how members funded a trip for Dr. Michel Bauwens, a prominent peer-to-peer theorist, to share his research on alternative economies. In line with their ethos, when a member sought to bring Dr. Michel Bauwens to engage with Enspiral members in New Zealand, they established a funding "bucket" to cover the airfare expenses (Bollier & Conaty, 2015, p. 31). This is an example of the unconventional manner in which Enspiral members engage with academia and academic concepts, encouraging critical thinking and reflexivity. In the upcoming sections, I will delve deeper into the intricate narratives of self-enterprise that arise within this community as its members navigate their socio-economic positions and contemplate unconventional future prospects. These narratives offer a compelling glimpse into how individuals make sense of their lives at various points in time and in various, often seemingly nontraditional, ways.

9.5 In Summary

Enspiral members are driven by a multifaceted ambition to reshape the field in various dimensions. Their active endeavours challenge the prevailing tenets of capitalism, as they establish businesses prioritising community welfare over profit, guided by the social enterprise model. Their nuanced comprehension of Wellington's socioeconomic landscape allows these Enspiral-affiliated ventures to set themselves apart from the broader technology sector in Wellington. While inherently a part of this sector, they assert their identity as a counter-cultural alternative to the hyper-capitalist tech market. However, it's crucial to acknowledge that Enspiral, as an entity, remains embedded within this expansive field and its overarching capitalist economic structure. Many of their enterprises cater to this economy, with several former colleagues now firmly ensconced within it. Kostaki and Bauwen (2018) attribute Enspiral's emergence as a counter-cultural alternative to big tech to the

geographical context of its members.

The nascent ecosystems described here are not sovereign in the current political economy, and all come with challenges and contradictions. For instance, Enspiral owes its business success largely to the distinct talent and skills of its members who are very competitive in their respective fields and who acquired skills and experiences from their education and occupations in such traditional institutions as universities, software companies, and financial firms. Beyond that, its area of expertise fills a niche in a developed market with low capital entry. Enspiral's business model may be hard to replicate absent these factors (Kostakis & Bauwen, 2018, pp. 10-11).

This situation underscores a prevalent tension between subcultural movements and established societal norms. The manifestation of this tension is observable in the diverse blogs authored by Enspiral members, as well as in their personal introspection, reflexive expressions, and shared identity work. In subsequent chapters, we will delve deeper into these tensions, particularly examining the narratives of self-enterprise within this network. Here, we will witness individuals grappling to make sense of their lives within this juxtaposition, unravelling patterns and choices that collectively delineate a distinct experience of precarity commonly shared among digital workers in Wellington. Negotiating this juxtaposition, ironically, necessitates a substantial investment in shaping one's 'self', often framed through a neoliberal lens. Participants craft a career profile interwoven with their critique of the market, presenting themselves as a counter-cultural business entity or a multifaceted "bundle of skills" (Urciuoli, 2008, p. 211) in this evolving economic landscape.

In the forthcoming chapter, I delve further into the acquisition of social capital by Enspiral members in Wellington's tech industry. Operating as counter-cultural digital workers, they employ dynamic and personalised marketing strategies for self-establishment. Drawing upon Bourdieu's concept of 'feel for the game,' this chapter delves into their intuitive practices in constructing and nurturing professional networks. These strategies, often referred to as 'soft skills' or 'networking,' significantly shape their career trajectory. By examining their networking practices, we gain insights into their pursuit of social capital amidst uncertainties. This analysis aligns with our central research question, addressing why individuals undertake the challenge of carving out a career in this market.

Chapter Ten - Networking and Social Capital in Wellington

I think there's something about the smallness, you know? It's a bit like, if you go to a small school, you're kind of forced to be friends with everyone. There's not enough people for you to segment yourself into all these nice tidy categories. So like, some of my friends are professional musicians, some of them are restaurateurs, some of them are in tech startups, some of them are like nurses or public servants. Like we're all kind of smooshed in together, and so it's not like business is this one kind of thing for these particular types of people, like I hear that in Auckland it's a bit more like that. Like there's a startup culture that is distinct from everything else. In Wellington, I really don't feel like the startup culture... like I don't have any sense of a startup culture that is distinct from the wider community. It feels much more like a cross-pollination. Yeah, I don't know if that's a size thing or a reflection on the types of people who have been really committed to this work for the last seven or eight years. And that's also true of people's career trajectories too like people don't just do the same job for 30 years anymore. Enspiral has this critical mass now that a lot of people who move to Wellington from out of town and they're interested in technology, or they're interested in entrepreneurship or something like they will just land on the Enspiral surface area, you know?

In Ryan's contemplation of networking within Wellington, he captures the quintessence of this dynamic community. The city's size fosters a unique sense of interconnectedness, akin to attending a small school where you're compelled to befriend everyone, defying rigid categorisation. The beauty of Wellington lies in its cross-pollination of professions—professional musicians, restaurateurs, tech startup enthusiasts, nurses, and public servants all coexist and collaborate. There's no stark demarcation of a distinct startup culture separate from the broader community, which distinguishes Wellington from places like Auckland.

Ryan's observations mirror the intricate web of relationships within Enspiral, where the career trajectory has evolved into a distinct tapestry of diverse roles and temporary contracts. This departure from traditional career paths aligns with Bourdieu's notion of "destructuring of existence,"

(Bourdieu, 1998, p. 82) where predictability and established pathways yield to uncertainty. In such a landscape, social capital becomes invaluable, offering the currency needed to navigate this field and devise a 'feel for the game'. Wellington, a city known for its creative spirit and counter-cultural aesthetics, also houses the seat of government, bridging the fields of the tech sector and government work. This geographical confluence amplifies the role of social capital, as individuals must strategically cultivate and leverage these relationships to thrive in their careers.

In this chapter, we immerse ourselves in the world of networking, where we explore the varied strategies deployed by my participants. While levels of commitment to networking may vary among them, there's a unanimous recognition of the profound impact that social capital exerts on shaping their professional paths. Through their narratives and insights, we will unravel the complexities of relationship-building and its pivotal role within this community. In the ensuing sections of this chapter, we delve deeper into the specific strategies employed by individuals to both amass and capitalise on their social capital within the interconnected work of software production. The stories shared here serve as the foundational underpinning for comprehending the intricate dynamics that define networking within Wellington's technology sector.

10.1 Networking for Security and Survival

Across Wellington's startup economy, the distinction between one's personal and professional relationships is ambiguous. Members often find their way into this work through friends or flatmates. Amanda is an excellent example of this, in discussing her career trajectory, she outlines the importance of relationships.

Jess: I thought we could begin by just asking you about how you came to be working in the Enspiral network?

Amanda: Oh! That's always a really hard question, it's kind of like there's two answers, there's a real practical answer, and then there's the wider, like, 'why do you do what you do?' Answer. Um, the real practical answer is that I came back from working overseas, in 2000 and... shit was it 10 or 11? Around then, I came back from working in Switzerland and was like 'Oh, how do I get involved with stuff'. And I went out for coffee with a friend, and it was right in the early stages of Enspiral, and she was like 'oh we're starting this

thing, and I've been involved'. And I then just started getting more and more involved, I went to the first retreat, and I guess from there it just sort of snowballed. So there's that real practical element, where it was just through a relationship. You know one of the beautiful things about Enspiral is it's just like this castle where there are multiple doors, you know, your entry into Enspiral was through Dev Academy, some peoples entries has been through coming to a conference or contracting with someone, but most often there's been a human connection.

Here Amanda highlights how essential relationships are for the growth and maintenance of Enspiral itself. Her entree into the Enspiral network was through meeting a friend for coffee. Indeed 'word of mouth' and 'cups of coffee' is a common way people discover Enspiral and come to participate in its associated projects. Her story also highlights the amalgamation of personal and professional networks. For entrepreneurs like Amanda, accumulating social capital by building a rich professional network is an essential part of growing a career in this field. When discussing how essential networking is within Wellington, Beckett expands on this further, citing the various factions of his life that he has come to include in his professional network.

I can tell you; it's absolutely vital in a city like Wellington. However, it's very easy to network if you don't have any networks, you talk to someone like DK who runs Collida. He's Welsh, he came over here, jumped into a few networks and within a couple of months, everyone knew him, and that's beautiful. My networks are broader than that, I've got all my school friends, I've got my civil service friends, I'm calling on my parent's friends, all walks of my friendships and I get along with all of them you know? I don't mind talking to my parent's friends; I'll get along like a house on fire, I don't mind talking to any audience really, I value it hugely.

Beckett delves into the multifaceted nature of networking in Wellington. He stresses the importance of networking within the city's tech and business circles. His expansive network encompasses various aspects of his life, from school friends to civil service colleagues. He recognises that networking isn't limited to a single group but extends to diverse communities and audiences. In his role at Dev Academy, he harnesses the power of these relationships to shape the curriculum and align it with the needs of Wellington's tech sector. In this work of 'networking', one of the goals is fostering a symbiotic relationship. As a startup specialising in producing 'work ready' developers at

the graduate level, Dev Academy depends on his ability to foster relationships within Wellington's tech sector. He places significant value on these relationships and has changed the Dev Academy curriculum to suit the needs of this community, as he explains:

Yeah, networking has absolutely been.., well it's not necessary, but it's what's made us survive. I'm a network king; I value that hugely. I'm having coffee with people, and I don't know why but it flips back around a year later, and it all makes sense. So that's just what I do. Network is king. And Enspiral is not Dev Academy, and Dev Academy is not Enspiral. We're a business that is in the network, as in, has been birthed from the network, but we're really quite different. For Enspiral, the value of networks is huge. We connect with other networks of people, we interchange. That's just a learning community that connects with other learning communities. Dev Academy, on the other hand, has to be financially viable; it has a team it supports, and so on. And the networking there is very, very, very different because we have to gain credibility hugely with the education sector, with the business sector, and we have to get students through the door. We have to get students hired as well.

Beckett's perspective on networking illuminates the nuanced nature of networking strategies within Wellington, underscoring the need for adaptability in distinct sectors. His insights emphasise networking's pivotal role in the survival of Dev Academy while highlighting the unique challenges faced by the organisation. These challenges involve establishing credibility within both the public education sector and private businesses, necessitating extensive networking efforts tailored to each field's goals and context. This networking dynamic thrives within Wellington's interconnected ecosystem, where public and private sector work intersect, facilitating the operations of enterprises like Dev Academy. Beckett further emphasises that these networks extend to student recruitment, with word-of-mouth referrals playing a paramount role in attracting students, rooted in the social capital fostered through Enspiral's relationship with Wellington's tech sector. Drawing on Bourdieu's concept of symbolic capital, these networking practices underscore how all forms of capital, including social capital, hold symbolic value and significantly influence social practice. Ultimately, the stories explored in this context shed light on the central argument: the indispensable role of social capital in networking within Wellington's technology sector and the Enspiral network. Both domains share the common thread of precarity, with the accumulation of social capital directly tied to economic opportunities and yielding distinctive economic outcomes.

The Enspiral network plays a crucial role in connecting and nurturing relationships among budding businesses and entrepreneurs in their early stages. By doing so, it contributes significantly to the accumulation of social capital, providing a sense of security to freelancers and entrepreneurs operating in an inherently precarious market. Amanda, in particular, underscores the significance that Enspiral members attach to social capital. When addressing the topic of risk, Amanda underscores the vital role of maintaining relationships while launching early-stage ventures. She emphasises that while project failures can be acceptable outcomes, it is imperative to safeguard relationships, a principle she elucidates as follows:

Jess: I've heard when going into business, you just have to be prepared to fail and to learn in that process. What do you make of that?

Amanda: It's interesting because that's definitely the whole narrative, you know, fail fast. And there's a couple of things in there, where I completely agree, where I disagree, and this might be the more feminist approach, is where it fails fast at the cost of human beings and at the cost of relationships. One thing I sit with pride about is that, you know, a few people walked through the doors of Chalkal, you know, the person I founded it with, he left, Matt joined, we had one other founder called Jake, I had about six different employees throughout it, it wasn't the easiest time, of course, there were challenges. But no one slammed the door on the way out. And at the same time, Chalkal was creating value; we just didn't sit in the back of a room creating a product and then go 'surprise! Oh, shit no one is using it'. We were creating value in our communities while we were learning. So yes, fail fast, but don't fail in isolation without having a positive impact, and don't fail at the cost of human relationships because it just happens too often. One of the teams from the Low Carbon Challenge, the founder, has split, and that's really sad for me. It's not worth it for the relationships to fail.

Amanda places a strong emphasis on the significance of relationships in the context of entrepreneurship and risk management. She questions the conventional wisdom of "failing fast" if doing so comes at the cost of damaging human connections. Instead, she underscores the importance of preserving these bonds while maneuvering through the challenges of launching early-stage ventures. Amanda's perspective highlights the critical role that personal and professional networks play in this domain. She gauges her success as an entrepreneur based on her ability to maintain these

working relationships even in the face of high staff turnover. Importantly, the development of a professional network rich in social capital serves as a key source of security for Enspiral members in the midst of precarious work situations. Through these networks, they not only discover job opportunities but also access valuable emotional and professional support, as Oliver elucidates:

Umm, it's been great; without the Enspiral network, I wouldn't be able to do what I've been doing. And just getting to know people within the other spaces like the biz dojo and creating these hubs for early-stage businesses, for people working in those spaces to bump into each other. And there just seems to be a lot more social and emotional support for that kind of pathway.

Oliver's experience underscores the paramount importance of personal and professional networks in securing job prospects and accessing essential emotional and career-related assistance. He readily acknowledges that the Enspiral network plays a pivotal role in facilitating connections among budding enterprises and cultivating a strong sense of community. Oliver's account serves as an example of how these networks not only provide livelihood opportunities but also serve as a platform for collaboration and mutual support.

Furthermore, the Enspiral network has proven to be an incubator for birthing multiple businesses, as demonstrated by the establishment of Dev Academy. This startup has its roots deeply embedded within this supportive network. Beckett recognises that networking extends beyond a singular group; it encompasses a diverse array of communities and audiences. In his capacity at Dev Academy, he adeptly harnesses the power of these relationships to shape the curriculum, ensuring it aligns seamlessly with the ever-evolving needs of Wellington's tech sector. As he explains:

My networking with employers often leads to us changing the curriculum. We've changed the curriculum three times, and that's what's got a lot of people there work. I've sat down with over 200 companies and talked about EDA a lot of them have hired our students, some of them haven't yet. And look, A LOT of people contact me that are in startups to say 'hey Beckett, who do you know? Who can help me with this?' and I'm always forwarding folks on, and then I also say 'by the way, let me know how you got on' because I'm interested in that sort of stuff. So my networking is huge, I push it strongly, and I value it highly, and I don't get enough time to do it.

Dev Academy's pivotal position within the intricate web of Wellington's tech economy is undeniably the result of Beckett's adeptness at amassing and nurturing social capital. In the realm of Wellington's technology sector, social capital emerges as a coveted resource, with business transactions primarily orchestrated through interpersonal connections. The gateway to opportunities for small businesses often hinges on one's familiarity with the "right people." Dev Academy's well-established standing within the Wellington tech landscape serves as a testament to the paramount role of social capital within this field. Recommendations and referrals that ripple through these networks bear immense significance, their roots deeply embedded in the social capital nurtured through relationships and the credibility amassed over time.

In summation, the narratives we've explored underscore the profound interplay of social capital, networking, and economic prospects within both Wellington's tech sector and the Enspiral network. The ability to adeptly navigate and cultivate these relationships invariably steers the course of economic outcomes for entrepreneurs, developers, and freelancers striving to succeed in a terrain riddled with precarity. This precarity is compounded by the rapid evolution and fluidity of the tech industry, where individuals must continuously adapt and innovate to maintain their footing within this complex ecosystem.

10.2 Developing a 'Feel for the Game'

Beckett's description of the symbiotic relationship that Dev Academy nurtures within Wellington's tech ecosystem mirrors a common objective in the networking strategies of Enspiral-affiliated startups. In this field, where social capital is a highly prized asset, individuals, or 'players,' have crafted distinctive networking approaches. For freelancers, especially, the accumulation of social capital often opens doors to new work opportunities. Amanda, in particular, provides valuable insights into how networking efforts significantly influenced her professional trajectory.

Literally, any person that asked me I would say yes, I would give an hour of my time, I would have these conversations, and I invested in, I guess, just the social capital that comes from listening and connecting with people. And throughout that year, there was definitely times when it was like 'oh I want to do this' or 'I want to do that', but I really tried to sit back, rather than just ploughing forward. Then in 2012, that was when I started [company name], and I think a lot of that leveraged off the cups of coffee. And the reason I say that

is just, I think, you know, you're not paid for that work. It's not something that you can just go out and, you know, check off. It requires, just real deep listening and connecting and being generous and that's also often the thing that we try and cultivate at Enspiral. Don't ask what you can take, ask what you can give and you'll get tenfold back in return.

Amanda's approach involved an unwavering commitment to connecting with people throughout Wellington. She eagerly accepted every coffee invitation, investing her time in building relationships, a practice she explicitly terms as building 'social capital.' This proactive strategy is akin to what Bourdieu would refer to as "establishing a 'feel for the game,'" a process that requires an acute understanding of the market dynamics. Amanda's reflections offer a window into her conscious dedication to this field, emphasising that, for her, "the game is worth playing, that it is 'worth the candle'" (Bourdieu & Wacquant, 1992, p. 98). As a result, she willingly invests in the stakes of the Wellington startup economy.

The key takeaway here is that a substantial reservoir of social capital not only provides access to opportunities but also imbues individuals with a profound understanding of the market, granting them the elusive 'feel for the game.' This heightened comprehension is, in itself, an investment in the field's stakes, showcasing the intricate interplay of social capital and market acumen. Amanda goes on to describe how she has learned to be strategic with how she invests her time.

So over the last five years, I've definitely still had that, the current problem is though now, as I've now started more things and become more busier, it's far harder to prioritise. I tend to go, on a week, I'll be like 'Ok I've probably got capacity for, say two or three'. And you know, that's in all honesty how I managed to fit you in. Because I don't want to say no to anyone, but I also have to be really careful with my time and go well, this is me offering a free gift. But at the same time, the questions that you ask, I'm able to give you a little look under the hood, and It's not like I'm giving you an hour now, expecting something in return. But there's this beauty where, by just giving, you know, who knows? You might have a chat with someone next week, and say hey I had this great chat with Amanda, she's a great facilitator, she ran this great program, and she gave me an hour of her time, and I think she would be perfect for this. So that's how it all connects, and I think that brings it back to Wellington and how things work here.

Amanda's journey in networking demonstrates not only a commitment to cultivating social capital but also a strategic approach in managing her time as her engagement in various projects increased over the years. Reflecting on her networking practices, she acknowledges that as her plate has become fuller with more ventures and responsibilities, prioritisation has become increasingly challenging. She employs a weekly strategy, allocating her limited time to connect with others. This approach enables her to balance her desire to assist others with the necessity of safeguarding her own time, a balancing act she candidly admits. Her willingness to spare time for our interview, for instance, reflects her belief in the value of providing assistance without immediate expectations of reciprocity.

Amanda's networking strategy not only builds social capital but also underscores the reciprocity that she aims to foster during these interactions. She views her time as a 'gift,' a contribution to the social capital bank that may yield returns in the future. The connections she forges today may lead to recommendations or opportunities down the line, creating a reciprocal cycle of support and collaboration.

In Amanda's case, traditional career progression or conventional full-time employment hasn't defined her professional journey. Instead, she aspires to leverage her extensive social capital to secure more stable employment opportunities, a testament to the way individuals in Wellington's dynamic tech sector navigate their careers by investing in the stakes of the game, with social capital as a valuable currency. As she explains:

Jess: Yeah and on that note, how do you find the energy to keep going? Much being in this world involves job jumping, contracting and often donating your time for free, taking a lot of unpaid gigs. Sometimes it seems as though you give a lot more than what you would have to if you just worked a regular 9-5?

Amanda: Well, I don't do it for the money. And at the same time, my hope is that in the future it will, it...hmm what is the answer to this... it's because I can't not do it. You know, I am at a bit of a professional crossroad, so in six months, so I am, to be honest, looking at a couple of new job opportunities at the moment, and a couple of them are in your more traditional corporates. Um and there's various reasons for that, personally and

professionally, I feel like I kind of want that. One of them is financial, I mean, I, in the first 3 or 4 years, I was earning under 20k in the first year of trying to land back in New Zealand I only earned about 17k or something. Which is not much money. Which is fine because, I was never doing it for the money, and as I said, that social capital now means that I can leverage that to earn decently, so I'm not saying that number as a complaint, I'm saying it more as in, I invested in myself, to now leverage further. So I may work for a corporate, who knows what's going to happen, but I guess I've just always been driven by motivation, passion and I just want to make a positive dent in the universe and have fun at the same time as well. You know you got to laugh a few times along the way.

Amanda's career trajectory also reflects her strategic approach to investing in herself, embodying Bourdieu's concept of *illusio*. She acknowledges the initial years of modest income, well below traditional corporate standards, as an intentional investment in her own growth and social capital. To Amanda, the field is worth investing in. She understands that her commitment to building relationships and accumulating social capital during those years positions her for future financial stability. This long-term perspective demonstrates the symbiotic relationship between her habitus, shaped by her values, experiences, and aspirations, and the field she navigates, Wellington's startup ecosystem.

Moreover, Amanda's readiness to explore job opportunities in traditional corporates signifies her adaptability within the field. Her career choices are not rigidly bound to a specific path but rather guided by her evolving goals and life circumstances. Amanda's ability to maintain *illusio*—her commitment to the game—while strategically managing her investments in social capital adds depth to the understanding of how individuals in Wellington's tech sector navigate their careers. It underscores the multi-faceted nature of motivation, where passion, purpose, and strategic calculations intersect.

In my conversations with Matt, he also identifies the value in maintaining social capital when working as a freelancer. He finds work through his friendships with other Enspiral members, as he explains:

Yeah umm I'm such a social person, I think. So I've never had like a personal website that

promotes my work. Like that's just not my vibe. So I've been freelancing but inside the context of a community. So a lot of my work has actually been helping my friends to build their companies.

Here Matt outlines his strategy for securing work opportunities in this field. We see his work as a freelancer is largely dependent on social capital. Yet in the practice of accumulating social capital, Matt acknowledges there are some components of his strategy that are lacking. He is uncomfortable and unwilling to invest in the personal marketing and promotional elements of this world. Preferring to source work within the context of the Enspiral network, where his reputation is established. These stories highlight a distinction between Matt's and Amanda's *illusio* within this field. Unlike Amanda, Matt's ethical-sense-of-self does not align with the practices of self-promotion and networking. Consequently, he embodies differently orientated 'rules for the game.' This has been an enriching experience for him as he explains in his blog:

About two years ago I failed and folded my first company. Naivety and idealism can fade quickly when you run out of money. Starting businesses is hard work. The opportunity costs, in lifestyle, in finances, in friendship, are large and real. The chances of success are slim. Focusing on business as a vehicle for systemic change, slimmer still — so, when you're getting back up from a fall with skinned knees and finally have time to breathe and decide what to do next — why stick around?

I used to think community was a word to describe people who struggle, eternally underfunded, to do the important work that never gets paid well and is always overlooked. Maybe it still is a bit of that, but I've learned it is also an extremely powerful, valuable thing.

Enspiral has become a community in every sense of the world. Working together, many living together, building lives together. Openly, generously sharing time, mentorship, money, work, risk, deep vulnerabilities & deep trust. Working hard together, lifting the bar for each other and throwing damn good parties too. In the marketplace, this way of working is a powerful thing with real advantages starting to prove their worth. At a personal level, this is an infuriating thing to try and understand, an intoxicating thing to be a part of and a fertile breeding ground for possibility.

After that first failure invisible threads wove together quickly to catch my fall — support system engaged. Within weeks I was building a new business and, from the dust and ashes and learning of a dead company, was able to help setup and run a social enterprise accelerator programme. Yes, community is powerful (Cabraal, 2015, para. 19)

This anecdote underscores the power of community within the field—a network that extends beyond mere professional relationships to encompass shared values, trust, and mutual support. His writing here invites the reader to reconsider traditional career paradigms and embrace the dynamic nature of work in the digital age.

Matt's reflection on freelancing in contrast to traditional employment also offers valuable insights. He perceives the entire job market, including freelancing, as inherently fragile and susceptible to AI disruption. Paradoxically, the precarity of freelancing, often viewed as a vulnerability, does not feel threatening to him. Instead, it provides the flexibility and adaptability he values in his career. Consequently, the precarious nature of freelancing does not feel threatening.

Jess: So how do you feel about not necessarily having regular pay or the security of being a part of a union, being entitled to sick leave etc.

Matt: Yeah, I just think that's all a joke. Because what is job security anyway? That's an old school way of thinking from when unions were a power force that could fight for better conditions for workers. But that's just not the reality today; it's not the case anymore. Look at a relatively safe organisation like a bank; you don't know that your division is going to get cut by some executive above you. Or what's more likely, is that your job will be replaced by AI in the next decade. So the thing that I like about freelancing is that it teaches you to hunt, right? You know if you're a house cat and you get fed all the time, you forget how to go out and source your own meat. But once you start too..., especially if you can do within a community context, it actually changes your life. Cause you realise, 'the way that I earn my money isn't this thing that I'm bound too, that I have to do, and I'm going to move to that city because I feel like it, and I'll down some work'. It's like 'ok I've got two hands, a mouth and a brain, how do I get some work'. I don't need a job, I just need some work, and then it's like, 'how do I get some more work, and some more work, and some more work.' You sort of start to see the world quite differently and you start to open up the concept of

how to build a livelihood.

In his embrace of freelancing, Matt symbolises the entrepreneurial ethos of the digital age, actively participating in the gig economy and shunning the traditional, stable employment model. This shift is indicative of the broader trend wherein digital workers, cognisant of the impermanence of jobs, opt for flexible, project-based engagements. This strategic adaptation aligns with the rules and norms of the contemporary labour market and further entrenching *illuſio*.

Furthermore, Matt's story reflects the influence of neoliberalism within *habitus*. The neoliberal ideology, characterised by individualism, self-reliance, and a market-driven ethos, shapes his approach to freelancing and work. A point of difference, however, is that this is individualism nurtured within a community of like-minded counter-cultural capitalist-shy enthusiasts. His emphasis on self-sufficiency and proactive engagement in the job market resonates with neoliberal principles, paradoxically infused with the collective, highlighting the tensions and the ongoing incorporation of these values into his *habitus*. Here there is a similarity between my findings and Gershon's (2016) and Urciuoli's (2008) research whereby the self is marketed as a business or a "bundle of skills" (Urciuoli, 2008, p. 211). Unlike other economies within New Zealand, the transactional relationship between the Enspiral network, the wider tech sector and government enables fluid career portfolios, enabling particular employment strategies in which the whole 'self' is promoted'.

In sum, Matt's narrative transcends a mere illustration of *illuſio*; it encapsulates the complex interplay between *habitus*, field, and the pervasive influence of neoliberalism. It underscores how digital workers strategically adapt to the evolving landscape of work, reshaping their ambitions, and redefining their relationship with labour in the digital age. Ants' journey serves as a microcosm of the broader transformations occurring within the digital economy—a world where adaptation, flexibility, and entrepreneurial spirit are required to play the game.

Matt's approach to sourcing work distinguishes him from individuals like Amanda, who employ more extensive and comprehensive networking strategies. While Zuur invests in all facets of networking and relationship-building, Matt exhibits a more selective approach, preferring to secure projects within the established and trusted confines of the Enspiral network, where his reputation has already taken root. However, both participants emphasise the paramount importance of

amassing social capital within the intricate landscape of Wellington's technology sector.

It's important to note that the accumulation of social capital most often unfolds through strategic means, encompassing both online and in-person interactions. Within the realm of online networking, Enspiral members, known for their proficiency in social media marketing, craft a distinctive digital presence within the Wellington tech community.

Jess: Well, the online presence is huge, and I think that's because you guys are so good at self-publishing.

Matt: Yeah, that's true. We've actually got a book coming out next year, that's one of the projects I'm involved in. We should collaborate some time, when do you finish your PhD?

In this instance, Matt extends an offer to collaborate with me on a book project he's currently working on. Throughout my fieldwork, I consistently observed the inclusive and generous nature of Enspiral members when it came to sharing their intellectual resources. They often extended invitations to events, shared relevant blogs and YouTube content, and facilitated connections with other members. Initially, I had reservations about potentially inconveniencing people by requesting interviews, but the prevalent networking culture within this field, driven by the demand for social capital, significantly eased the process of finding willing interviewees. Ants' proposition to collaborate on the book project serves as yet another real-time example of the networking dynamics at play within the Enspiral community.

10.3 Wellington City

Let me talk practically, there's a really interesting thing, and perhaps, you can figure out the sensitivity around publishing this in terms of Dev Academy, but we were just talking about this, this morning, in terms of the differences between the campus in Wellington and the campus in Auckland. And the difference, actually I was talking to a recruitment company, they do IT recruitment in Wellington and in Auckland. How, like, in Wellington, practically, you can five cups of coffee with five different companies, and you can probably walk between them all and meet four more people on the street as you're walking between them. You know, in Auckland, this IT recruitment company was saying, you can probably

have two cups of coffee and then most likely you're in the car. So there's that, there's something about the social cohesion, the cups of coffee. I think at one point Wellington had the most cafes per capita, I would say that sort of, I walk down Cuba Street, and you see someone, there's something about that. And the reason why I connect it to Dev Academy is, it's just been really interesting, how hard it's been to Kick off Dev Academy in Auckland. It hasn't had... I think from a business strategy perspective we underestimated, you know, the social capital that Beckett and James and perhaps myself have in Wellington. That we just didn't have in Auckland, you know, Enspiral grew out of Wellington, that created a whole lot of structures and connections that we didn't have in Auckland. So I guess when you ask the question, what does Wellington have that's special, I find the easiest way to answer it is to try and compare it to Auckland.

Amanda's insightful perspective highlights a crucial aspect of the Wellington tech ecosystem and the unique dynamics it fosters. She draws a clear distinction between "the rules of the game" in Wellington and Auckland, emphasising the impact of geography and social cohesion on professional practices and strategies. This geographical and social contrast generates distinct working norms within these two fields.

In particular, Amanda's discussion of Dev Academy's launch in Auckland sheds light on this distinction. It becomes evident that social capital, a highly valued resource in Wellington, doesn't hold the same sway in Auckland. The ease of connecting over "cups of coffee" in Wellington and the density of professional networks created by Enspiral's presence have contributed to the unique character of the city's tech ecosystem. In contrast, Auckland presents a different set of challenges, where social capital may not be as readily available or as influential. In discussing networking, Matt also draws a comparison between Wellington and Auckland.

Well, Josh started Enspiral in Wellington very very purposefully. It was a techy-ish town, and it wanted to be more techy, it was really small, and he could walk around, and he didn't want to have a car. If I think back to how it started, how it got the critical mass. Most of us were living in Mount Vic and working on Elm St, so we were like 10 mins from the office, and if you wanted to have a beer with someone after work or run a workshop, you know, you just walk somewhere, and you're there. If you want to do that in Auckland, you have to get in a car. If you want to have a meet up at night it has to be at like 7 pm; otherwise,

people who are finishing work won't be able to get there on time. You know, if people want to get home before 10-11pm and not be exhausted at work the next day, you know? It's just logistically hard. So that was definitely a factor, and then Wellington obviously attracts that sort of buzz, and the business community is quite small, so it doesn't take long before reputation spreads.

For Matt and Amanda, launching a startup in Wellington requires social capital. The city's particular geography enables this exchange. For Ants, there is a convenience that comes from living and working in Wellington City. Here he identifies the 'closeness' of Wellington as a critical to Enspiral's success. It is easy to meet for a beer after work when you 'live 10 minutes from the office'. Ryan also identifies Wellington's geography to be an essential factor in the maintenance of this network. For Ryan, Wellington's 'smallness' also enables a diversity of skills within Enspiral, as he explains:

Let's actually be respectful of the local place that you're in and let's not buy into the Silicon Valley dogma of more growth and more profit must somehow equal a positive'. And of course, we can't take full responsibility here, but we're one of the ingredients in that story of Wellington is not just a startup space, but a mission-driven startup space. And it's like a critical mass thing, we're like the mass continues to grow, and we get more and more of a reputation for this kind of outlook. So if you want to play this way, then people know this is the place to do it.

Ryan's insights offer valuable perspectives on Wellington's evolving startup landscape, challenging the conventional Silicon Valley mindset that equates success solely with relentless growth and profit. Instead, he champions the importance of embracing the local context and nurturing a mission-driven ethos, emphasising that Wellington's startup ecosystem transcends mere profit-seeking, embodying a broader sense of community purpose. Rather, participants aspire to establish businesses that address specific socio-environmental challenges, aiming to make a meaningful impact on the world. These startups, often operating under precarious conditions, serve as a means of accumulating a distinct form of cultural and social capital. The Low Carbon Challenge is a prime example of this endeavour.

The low carbon challenge facilitated the cross-pollination of roles between government and tech sectors. In my conversation with Amanda, she elucidates the collaborative dynamics among

different groups associated with Enspiral in launching this startup accelerator program.

Jess: So how did you guys come up with the concept of Low Carbon?

Amanda: Um, there's a couple of geniuses there, and I would probably credit three main people. One of them would be Jane the founder of PledgeMe, the other would be Stanley, who was working in the Wellington City Council at the time, and the third one would be Catherine from Enspiral. I would say those three. Emma did a presentation about crowdfunding, and Neil and I had a chat about how that could be used for the innovation projects he was doing for the Wellington City Council. And I think that's been the beauty of it, is it, was born out of that partnership. PledgeMe, Wellington City Council and Enspiral all came to the table. I was very much always in the background, Catherine was my flatmate when she was first running the Low Carbon Challenge, so I've been to all the launches, the second one, I was advisory support, I've always been on the fringes, the third one I was quite explicit, supporting Kate and Ants.

Jess: So what excited you about the idea of the Low Carbon Challenge?

Amanda: It's probably two-fold, I am excited about being involved in a project that is co-held by stakeholders, you know there's a lot of accelerator programs and all of that, and often there's one big funding body, and one delivery mechanism. I think that the real opportunity or the innovation of Low Carbon Challenge will be to keep that sort of trifecta. And so, if it happens overseas, make sure that it's held in partnership. That was one of the key things that we wrote in the report. But I think it's that partnership; I think it's that I like the part of that ecosystem.

Indeed, Enspiral members have worked for both Pledgeme and Wellington City Council. Importantly, these partnerships and projects are not solely motivated by economic capital. Members leveraged these professional networks to source funding and support for this startup accelerator program. Amanda highlights how working in collaboration with these organisations is critical. She describes this relationship as a 'partnership' embedded within a wider 'ecosystem' particular to Wellington.

10.4 Government Connections

In my interviews, the recurrent theme of Wellington's government connections surfaces as participants discuss the significance of pursuing "socially responsible work." Beckett underscores that within Wellington's startup economy cultural capital holds greater value than economic capital, attributing this phenomenon to the city's proximity to government entities.

Jess: So in terms of Wellington's startup economy, there seems to be this symbiotic relationship between devs and entrepreneurs. What's going on there?

Beckett: Yeah, I think when you look back, it's probably come from government. So the government is the reason why we are a tech town, the government procures tonnes of tech in this town, and they've bred the developer. So there is tech, and then there are businesses that use tech, and then there is government that uses tech right? So there's a real solid sector here, instead of it just being service delivery companies facing government, we've now got our own ecosystem. And what that means is that you've got a whole lot of people with this amazing skill set, who can build businesses. I think that's why you're seeing that the entrepreneur in Wellington is techy. You jump into Tauranga and the entrepreneur there might be associated with hort or agriculture or tourism. But here, accessibility, what you're familiar with, with the environment needs, I think that's what's breeding the tech folks.

Here, Beckett attributes the demand for bespoke technology within government to be crucial to the establishment of various service delivery tech companies. Such companies have made Wellington a likely place to source work as a developer; a field ripe for the accumulation of social, cultural and economic capital. In this context, a growing pool of developers, alongside several technology-based corporations have prospered in Wellington. Here Beckett pinpoints a typical career trajectory; developers move from working on government-oriented technology to working for private sector tech corporations. The establishment of this field is one of the reasons entrepreneurialism in Wellington is often tech oriented.

Jess: So where do you think this strong sense of social justice or social responsibility that emerges in many tech startups comes from?

James: I think that there's a few reasons for this, one being, you often see socially progressive movements happening amongst rich, educated, white folk. And a lot of tech

workers fit that sort of demographic, and you also see a lot of socially progressive values held amongst civil servants, that's one of the reasons why Wellington has the values it does, it has a big workforce of civil servants. You also see similar values in academics, so I think they're something about the type of people that are drawn into these types of industries and the common values they hold.

James points to Wellington's relationship with the government as an influencer of broader city values. He identifies, 'rich, educated, white folk' as a demographic that shares a concern for socially progressive movements. The majority of Wellington's tech and civil servant workforce belongs to this demographic. Here James takes an emic perspective in highlighting the shared values common across both industries. James's description of 'shared values' reference the particular ways cultural capital is exchanged between the field of government work and the field of Wellington's technology marketplace. To delve deeper into these shared values, Beckett provides a comparative analysis between Auckland and Wellington's tech sectors, revealing distinctions in attitudes towards work and success.

The tech sector in Wellington is a creative entrepreneurial sector; in Auckland, it's a scaling corporate sector. So your biggest tech teams in Auckland are often not tech companies, so Air New Zealand, the Warehouse, AIG, your banks. Huge tech teams but they're not tech companies, the main area of interest is a different service, but their competitive advantage sits in their tech. Whereas Wellington has got much more of the pure tech, tech-based products and ideas, or it's facing government. There is a definite cultural difference between Auckland and Wellington too, in Auckland people are interested in making money, in Wellington people are interested in image, lifestyle and food and all things like this. I know that's a generalisation, but the density of that attitude in Wellington is high, and the creative lifestyle entrepreneur exists here. I think they're more conscious here, less interested in money and more interested in impact. And in Auckland, yeah look, they're money hungry, there's no other way to put it. You've got a different demographic in Auckland, you've got a particularly white demographic in Wellington, and a much more mixed demographic in Auckland, and to be honest, in tech, it's a white field, and it's a white male field as well. So yeah that will have an influence on things, I'm not exactly sure of the exact measurements, or the analysis there, but my

assumption is that's a big influence there. So that's my reading on it. I see Aucklanders hiring grads in a more clinical or traditional way, whereas Wellingtonians are hiring grads in a 'let's grow the family' type way. And that's a particular flavour within Wellington, not that it's exclusive to Wellington, just that it's more common for hiring processes to be like that here.

Beckett highlights a notable distinction between the tech industries in Auckland and Wellington, which plays a significant role in shaping their respective cultures. He broadly characterises Aucklanders as primarily motivated by financial gain, while Wellingtonians are more inclined towards emphasising lifestyle, image, and culinary experiences. To delve into these cultural differences further, Beckett examines the contrasting hiring practices in both cities. Auckland-based companies tend to adhere to more traditional hiring processes, while Wellington adopts a more relaxed approach. In earlier interviews with participants, I tried to pinpoint the particularities of Wellington by referencing counter-cultural movements. My participant's corrected me about this, as my conversation with Beckett demonstrates:

Jess: So do you think this lifestyle hipster vibe is something that's unique to Wellington and influences the tech products that come out of Wellington?

Beckett: No, I think that's a good question, but I think it's subtly not true, I don't think it's the hipster attitude so much. I think Wellington's an interesting place in that it's a small but in a way diverse environment. It's a small environment; it's accessible, it's easy to move, it's inexpensive to fail, it's rich in its experiences, it's collaborative, there's lots of meetups and so on. So it punches above its weight for producing good ideas, and these good ideas don't need a huge amount to grow. So you see people actually trying stuff out and 'crikey!' believe it or not, it actually does work, and grows out of here. I don't think we're going to see many companies make it big like the Xero's and the Trademe's; Wellington is not the town to build it in, it might start in Wellington and go to Auckland, or Melbourne or Sydney, that's the normal trajectory. But what we do have here, is this rich environment to be able to test things and to grow things, to be able to give it a go here, it's ok to be innovative. One thing that you mentioned, I don't think it's the hipster thing that produces this culture, I actually think it's a humbleness. It's a humbleness of the Kiwi, the Kiwi attitude and of the particular the Wellingtonian attitude of, 'it's not about how much money you have or the

car you drive', it's about what you're doing in the hours of your day, and if you're loving it or not. Again that's not exclusive to Wellington, but I've just found it's more common here in Wellington."

In Wellington, the influence of the 'hipster lifestyle' on emerging entrepreneurial projects, as noted by Beckett, is relatively minor. Instead, the city's entrepreneurial vibrancy owes itself to its accessible urban planning and the accrual of specific forms of cultural capital. These two factors synergise to cultivate the practice of 'after-work meetups,' where conversations about entrepreneurial ventures and socially progressive concepts thrive. During my fieldwork, I actively participated in these informal gatherings, which are popular among entrepreneurs and developers. The topics of discussion ranged widely, from intricate aspects of computer coding to dialogues about feminism's role in the tech sector and the development of technologies aimed at addressing the impacts of climate change. Within this context, a distinctive form of activism emerged, with young entrepreneurs endeavouring to effect change through market dynamics and innovative technologies. This strong focus on making a positive impact characterises Wellington's tech workforce, a pivotal element in shaping "the rules of the game" specific to this market. It also serves as a key factor in Enspiral's success in the region. While the Enspiral network was designed to operate globally, it found its roots in Wellington for specific reasons, as James elucidates:

Well, there's no reason why Enspiral can't exist in other places, but I think there are reasons why it wasn't born in other places. And I think some of it was the characteristics of the people in Wellington and the people I meet.

In his earlier comment, Beckett also identifies a particular attitude to work; 'it's not about how much money you make, it's about what you're doing in the hours of your day'. He describes this attitude as 'humbleness'. In unpacking this 'humbleness' further Beckett, once again, takes a comparative approach, by distinguishing Wellington and Auckland, in doing so identifies Wellington's connection to the government.

Jess: In my own experience, pitching Gurgl with Bev, all of the businesses were all about 'you know, we're going to import this thing from China, mark it up and sell it and make a profit'. And ours was different; there was this underlying sense of social responsibility. And I've seen that a lot in the type of startup's that come out of EDA. What's going on here?

Beckett: Well, government is the leader of social change, a lot of the time. I mean, we have government departments that are looking at social issues and solving them, so we're exposed to these, we have a lot of charities that are very close to us in Wellington. And it's a small town, yet a lot of head offices are here because government is here. I just think it's our exposure to this. There just seems to be a lot more people that are interested in impact, they're interested in making a difference in the world, and they're just not as interested in money. I think the fulfilment in Wellington is the hours you spend and the difference you make, whereas the fulfilment in Auckland is the car you drive and the house you live in and the clothes you wear. I know I'm generalising here, and I hate to do that, but also, I cringe a lot of the time when I'm up there, and I'm talking to people, who say 'I've got this amazing idea!', and it's like, it doesn't excite me in any way, it's just a money generating, extraction business".

According to Bourdieu, power is determined through the accumulation of capital. These stories expose how valuable social and cultural capital are accumulated within the field of Wellington's startup economy. Building a 'mission oriented' business that aims to find solutions to particular socio-environmental challenges is one way individuals invest in the stakes of this field, and accumulate capital.

10.5 In Summary

This chapter delved into the intricate world of social capital accumulation among Enspiral members. It becomes evident that a significant portion of their daily work in this field, involves the cultivation and preservation of social capital. As we've observed thus far, the level of commitment to this endeavour varies among participants, leading to the development of distinct strategies for amassing social capital across Wellington. These strategies, intricately intertwined with individual habitus and the broader field's rules, include the cultivation of a 'feel for the game.' This intuitive understanding enables participants to adeptly navigate the complex landscape of professional networks within Wellington.

This chapter also unveils the pivotal role that social capital plays within Wellington's labour market. Career trajectories are inextricably linked to the strength of one's professional networks. Consequently, social capital holds a premium status within this field, with tangible exchange value.

These dynamics significantly contribute to the vibrant café scene in Wellington, boasting the highest cafes per capita. For participants, these cafes serve as essential hubs for fostering social connections, facilitating the cross-pollination of diverse occupational circles. Yet, maintaining such networks demands flexibility, as Ryan aptly highlighted. The era of clear, linear career trajectories has given way to a more precarious landscape, prompting the strategic accumulation of social capital as an adaptive response.

Moving forward, Chapter 11 delves into the role of storytelling as a potent tool for networking within Enspiral. This form of narrative crafting involves a delicate balance between personal vulnerability and insightful analysis. The upcoming chapter will explore two main storytelling categories – self-published blogs and life histories – both revolving around common work-related themes. These narratives offer an intimate look into the motivations, challenges, and multifaceted aspects of participants' careers. Through this exploration, the chapter illuminates the diverse motivations that compel individuals to continue their careers despite the inherent uncertainties of Wellington's technology sector and the challenging juxtapositions they must reconcile. This narrative analysis reiterates the importance of the central research question, providing a qualitative understanding of the inner workings of digital workers as they strive to establish meaningful livelihoods within the complex landscape of the platform economy.

Chapter Eleven - Storytelling

Within Wellington's technology sector, narratives wield significant influence, serving as potent vehicles through which individuals express their motivations, experiences, and ideals. These stories offer valuable insights into the complex tapestry that defines the lives and aspirations of those navigating this dynamic field. To embark on a comprehensive exploration of storytelling in this context, I commence with a career history shared by one of my participants. This narrative encapsulates the myriad experiences that characterise work in this field, providing a window into the diverse motivations and positionality of its inhabitants.

I've never had a 'proper career.' I've always just done what I wanted to do, and I've always been in the privileged position of having parents that live at home. They haven't financially supported me, but knowing that I have that backstop if everything crumbles means that I've been able to take certain professional risks, that have enabled me to follow passion over just money. So that's really been the journey of the last seven years. My focus has been more on social impact and personal relationships, instead of a financial focus. I know that's not an opportunity available to most people; I'm privileged in that sense. And yes, I've made plenty of mistakes and learned a lot about who I am along the way. I'm building something brand new; I'm going to make mistakes. The thing is, what I value most in myself, and in others, is the intention. I'm building an organisation with the intention to create a positive change in the world, and I really believe that business has an ethical obligation to make social impact their priority, especially in the current climate crisis.

This narrative encapsulates four key themes that resonate throughout the stories shared among Enspiral members. Firstly, it presents an account of an unorthodox career trajectory marked by a prioritisation of passion and social impact over traditional financial pursuits. Secondly, it acknowledges the social privileges that have enabled such a journey, highlighting the crucial role of a safety net in taking professional risks. Thirdly, it reflects on the inevitability of mistakes and failures, emphasising the inherent learning process in the pursuit of novel endeavours. Lastly, it delves into the concept of intention, underscoring the ethical imperative of businesses to prioritise social impact in the face of contemporary global challenges.

These narratives, fundamentally, function as mechanisms for accruing linguistic capital, a concept deeply embedded in Pierre Bourdieu's sociological framework. Linguistic capital extends to an individual's mastery of language, encompassing elements like vocabulary, grammar, pronunciation, and communication proficiency. It represents the ability to eloquently convey one's experiences, values, and viewpoints, constituting a valuable asset within the milieu of freelancers and entrepreneurs in Wellington's tech sector.

Furthermore, delving deeper into these narratives in this chapter will provide insights into how numerous entrepreneurs in this sphere have cultivated what Bourdieu referred to as a 'feel for the game.' In this context, it denotes their nuanced comprehension of the broader Wellington tech market, a crucial proficiency for successfully navigating the intricacies of this continually shifting terrain.

Beyond serving as mere accounts of professional journeys, these self-reflective stories play a profound role in reaffirming individuals' counter-cultural positionalities and enabling them to negotiate the inherent contradictions within their work. As participants navigate their interpersonal relationships and political identities while striving to build livelihoods within the framework of platform capitalism, storytelling becomes a means of reconciling these complexities. A prevalent theme that emerges from these narratives is the fervent desire to do good and effect structural changes within the labour market—a driving force that underscores the transformative potential of these stories.

In this Chapter we will delve deeper into these narratives, dissecting the common threads that tie them together and exploring the contexts in which they are shared. By doing so, we aim to gain a comprehensive understanding of the multifaceted world of storytelling within the realm of Wellington's technology sector and the profound impact it has on the lives and careers of those engaged in this field.

11.1 Linguistic capital

I've had numerous highs and lows, sometimes I've been on the verge of bankruptcy, funnily enough, some of those highs cloud your judgement, your ego kind of gets hold of you, you think you've made it. Your decisions kind of turn to custard from then on; you don't

calibrate things in the right way. But look, starting a business, it's very difficult to look at trends, particularly with startups; they're new ideas, right? So it's the first time you seeing something like it in the marketplace, so there's nothing really to look back on and go 'oh yeah we've seen this before.

By openly sharing his entrepreneurial journey and reflecting on the challenges he faced, he showcases his proficiency as a storyteller. This narrative becomes a strategic asset that can be wielded effectively in various contexts to further bolster his standing within the community.

In the Wellington tech sector, storytelling emerges as a potent form of social action deeply intertwined with one's habitus, demanding a substantial reservoir of linguistic capital for meaningful engagement. Much like other forms of social action, storytelling both originates from and contributes to the field, capturing and reinforcing the underlying discourses that shape the social structures within it. Storytelling, in essence, functions as a medium for perpetuating the established norms of the field, akin to the observation by Brookman, Copes, and Hochstetler (2011) that storytelling replicates "the code of the street" (2011, p. 18).

Bourdieu's perspective underscores that developing a strategic sense or 'feel for the game' entails not just accumulating capital but also understanding the timing and manner of its deployment. Within Wellington's technology startup domain, storytelling serves as a crucial avenue for effectively utilising and engaging with linguistic capital. The ensuing conversation vividly illustrates how many Enspiral members adeptly deploy narratives to promote authenticity, get things off their chest, navigate the intricate terrain of entrepreneurial paradoxes, and accumulate both cultural and linguistic capital. These processes play an indispensable role in shaping their identities and influence within the Enspiral community.

Beckett: So, I think of businesses as digging holes because here you are, day one of this business, there's no income, and you're investing your time. So you're digging a hole, and you're in the hole, your feet are at the bottom of it, and the more time you invest, the deeper the hole gets because, if you walk away, you've lost something right? And mountains are what you really want to create because if you can build a mountain, well then you walk away with something, and you're cash flow positive. But it's even worse if your hole has debt in it because then you walk away in the negative, and you potentially have to bankrupt

yourself. You know, I own a home with Annie, so that would mean that we would lose our home. So that's the backstop, and I tend to think of a business in that way; businesses are holes.

Jess: Right

Beckett: One interesting thing that we noticed is when you're starting up, the risk is low, right? The risk is at its lowest starting up because your hole is tiny. The amount of debt you've got in there through time or cash is non-existent. But the moment you do start investing lots of time into something, the risk gets higher, and literally, my stress grew. I hadn't earned money for some time, and that pressure grew. So we had four staff at the start and a couple of hourly rate contractors, James and a few other teachers, and myself. We had 14 students, which was \$130,000 worth of income, and we rented a space and we paid ourselves for four months. And that was fairly good, right? Amongst four people, that's not a bad income. Then you know, we had the next wave of students come along, and we were quite steady. But the trouble was, to expand, we needed to first spend money and then hope the students come in. Which they did, and for a while, it was quite good, we had a few ups and downs, but then in the summer of 2015, things went boom. We had a massive influx of students, 300,000 or so in the bank, we had a teacher leave, so we needed to get a new teacher in, and we hired, in 2015, about 25 new staff. And that was at the start of the year, in the summer, and that was when we have all our enrolments. Like right now is the biggest time for enrolments, and that stopped abruptly in June and holy shit! You know? We had gone from this huge high of 'oh my god, we've made it!' And we got ego; we got cocky, we started spending money, we started having big lunches and going out and thinking that it was great. We were totally in startup success land, and it all came tumbling down very, very quickly. And we didn't even realise it until a year later, that's how long it took, and we had some very very poor financial management here. That's on James and myself, there's no one else to blame there, and by June of 2016, ah, we were \$400,000 in debt and on the verge of bankruptcy; that debt was carried by myself and James. Ah, and some very goodwill of our staff as well, and then a year later, we consolidated that debt, it was insulated, and we were running a revenue profit again. So big highs, big lows."

Jess: Wow! Psychologically, how do you deal with that?

Beckett: Yeah. Interestingly enough, for myself and James, we're ok with that. I mean we are very, very privileged people. James is actually a genius; he's one of the most clever people I've ever come across. So he's incredibly fortunate, he's got deficit, so do I, you know we all do. But he's a genius, and that's nice, it's helpful. He's a bit like someone like Elon Musk; he's got an idea, he's good at strategy, and he often needs people to help him with the implementation side of things, and that's cool. Look, I'm privileged as well; I'm a very robust communicator, I have a good understanding of myself, I've got a beautiful family that are so strong behind me. I'm fortunate; I've got a wealthy family, not that we couldn't go bankrupt. My family would let me go bankrupt; I wouldn't ask them to bail me out; I wouldn't put that on them. But that's ok, I mean, I can go bankrupt, and it's ok.

Beckett's narrative exemplifies a profound level of self-reflexivity that contributes significantly to the accumulation of linguistic capital and the deepening of *illusio* throughout his entrepreneurial journey. Through skillful storytelling, he vividly employs metaphors such as "digging holes" and "building mountains" to convey the intricate financial and emotional investments demanded by entrepreneurship. This narrative technique enables him to articulate complex concepts in a relatable and memorable manner, showcasing his prowess as a storyteller.

Beckett speaks of the financial challenges he faced, including substantial debt and teetering on the edge of bankruptcy. This transparency reflects a remarkable degree of self-awareness and courage. Furthermore, his recognition of privilege, encompassing both his personal abilities and his family's financial support, adds a layer of nuance to his narrative. By openly sharing these personal and financial struggles and reflecting on his psychological resilience, Beckett not only enriches his own linguistic capital but also positions himself as a credible and authentic member within the *Enspirale* community. His narrative serves as a testament to how entrepreneurs must invest not only financial resources but also subjectively embody their ventures, reflexively and critically articulate their worlds, and in doing so, fortify their commitment (*illusio*) to the field.

As my discussions with Beckett continued, delving into his career history, his stories unveiled several critical nuances regarding the accumulation and deployment of linguistic capital. He commenced by recounting his upbringing on a farm and his early fascination with capitalism, influenced by the broader social fields in which he was immersed at the time.

Yeah I grew up on a farm, and for me, success was measured by making money. Not that, that was driven by my parents at all, but I went to a school that was focused on careers, it was a very high performance, private school. And I grew up thinking one had to make money, and I made a lot of it. I started businesses from a young age; I was really comfortable making money, you know, I grew up on a farm. Dad was a doctor, Mum was an artist, so I grew up around business. And you know, I had so many opportunities in business, I was the privileged of the privileged. So I was very strong on my feet, I could take on the world, the world was my oyster. So I made money, and I travelled the world. And I kind of rattled around doing things from starting a fly fishing business, too, starting another business that was cleaning sections and doing decking and stuff. Then I went and started selling insurance, but I found them all quite limiting, I was bored very very quickly. I also saw another side to people selling insurance, and, you know, I didn't want to make money in that way. But then I worked in recruitment a little bit; I actually fell into that by accident because I wanted to work for government again, I had worked for government on a contract before. I went into a recruiter and they, instead of finding me a contract, they hired me to work for them on doing some sales design. So I ended up getting sucked into that, which was good fun, great people, but again focused on money. So I started pitching there, and to my friends, that, I would love to work in a place that creates positive change through its actions. That doesn't serve a shareholder but serves its community as in the employees and the people it impacts.

In this passage, Beckett explains that throughout his career, he came to recognise the limitations of profit-driven businesses. Despite achieving financial success, he found himself dissatisfied and began searching for a career with a stronger focus on creating social impact:

I want to be working in businesses that have that as a focus, that's not about financial return. And everyone told me I was mad. And then a few people started saying, 'oh you should talk to James at Enspiral, he's pitching the same thing'. So that's what lead me on to Enspiral, after rattling around at Enspiral, (and you're not necessarily promised a job at Enspiral, it's just a network of people that want to make the world a better place, if there's a gig going you can take it, but it's about being involved), I started talking to a lot of their startups. They had about eight or nine startups that were doing impact work, from Bukkey Box to Chalkall, Lumio was there as well, Arkena foundation was there too. So

through working with a lot of these groups, and thinking with them about how they could make the dollars. None of them were financially viable, and they were quite cautious of me, because here I was this aggressive salesperson, although nice, I hope, I was teaching them how to make money, and how to sell. I didn't earn a cent during this time; I went a good 16 months without money. Annie was getting very agitated, as you can expect. I was saying 'just trust me, it'll be ok', and we quickly had to change tack to 'what do I start doing in this space'.

In this narrative, Beckett's commitment to purpose-driven work is highlighted through his engagement with Enspiral, even when it initially didn't bring him financial gains. During this phase, he shares his sales expertise with startups, helping them improve their financial viability and bridging the gap between profit and social impact. The pivotal moment in this story underscores a shift in values, prioritising the creation of positive change through work over financial returns while at the same time, remembering his privileged circumstances as noted in the previous quote. Subsequently, Beckett co-founded Dev Academy, alongside James, to train junior software developers for Wellington. In both his roles at Dev Academy and within the Enspiral network, Beckett leverages his linguistic capital to facilitate these connections and endeavours.

But you asked me why from farming to this? Well very early days, when I was 19, I said to mum, I want to be able to work in an environment where I love the people, that the people are my friends, and that, people want to come to work, they love coming to work and that, that work has a positive impact. So I'd forgotten that in my journey, but Mum reminded me of that recently, and it's come back in hugely, and I'm lucky to have made that connection. So I think that goal around good relationship building has always been there. I regard education to be the biggest catalyst in a democratic environment, in a community or in society, mainly because it is the most impactful enabler, it's giving the net rather than the fish. It's such a powerful thing, for everything, from our mental health, right through to our identity and our awareness of others and ourselves."

The written account of Beckett's story only partially conveys the confidence and assurance with which he narrated it. This type of narrative is not unique to Beckett; in fact, it is a recurring theme among Enspiral members. During my interviews, I often observed a remarkable willingness among participants to openly share their life histories. These narratives, at times, appeared well-rehearsed

and meticulously refined, akin to responses one might provide in a job interview. In examining the diversity of linguistic repertoires, Bourdieu's framework underscores that differences in speech patterns reflect distinctions in social backgrounds (1991, p. 45). Here, Bourdieu's concept of linguistic capital, which encompasses an individual's access to language and their ability to wield it effectively in specific social contexts to establish distinctions. Beckett's life history exemplifies his linguistic capital, as he adeptly deploys this resource to delineate his entrepreneurial career trajectory.

As we have explored thus far, the various entrepreneurial practices within the field of software development are situated within a broader macro-socioeconomic context deeply rooted in contemporary urban culture and evolving perceptions of labour. Beckett's narrative, and his adept utilisation of linguistic capital during our interview, spotlights a unique segment of precarious workers: the middle-class urban millennials. In this example, we witness how Beckett's story is interwoven with a self-reflective tone, acknowledging the various social privileges that have facilitated his professional journey.

Beckett's story highlights that the capacity to prioritise social impact while harmonising financial goals with ethical considerations represents a distinct form of cultural capital prevalent within the Enspiral network. These nuances offer valuable insights into the intricate interplay among linguistic capital, habitus, and field dynamics, thus providing a deeper understanding of the role of storytelling within the wider field of the Wellington tech sector. These narratives also illustrate a field infused with paradox necessitating the need to reconcile ideological-selves with entrepreneurial-selves within digital domains in which the two do not necessarily go hand in hand.

11.2 Reconciling Paradox

Acknowledging paradox and juxtapositionality is a recurring theme in the life histories shared by Enspiral members. Within their stories, the nuances are found in the journey of personal transformation and ideological shift that each speaker experienced. The following narrative illustrates this theme:

Yeah so, I studied engineering, like electronic engineering, and I graduated in 2008. So like if I wanted to, I could probably divide a cell phone, so that kind of consumer electronic

stuff. And when I graduated in 2008, that was like a messed up time for trying to have a job. So I was kind of spat out the other side of an expensive education process, with just like... I was just like really disoriented. It was like 'what have I done? What am I supposed to do next? What's going on in the world?' And I went on quite a long vision quest, you know, just kind of investigating, who am I? And what do I care about? And trying to integrate how traumatised the world is. And you know, what am I supposed to do about that? I was just looking around and seeing examples of all of my friends stepping into these career paths that seem really quite irrelevant to what the world needed. So that was quite disorientating and not very clear for me for a long time, and the Occupy movement kicked off. I went down to Civic Square and met a whole bunch of other people that were also disoriented.

Ryan's narrative commences with a reflection on his educational background in engineering and the sense of cynicism that followed his graduation in the tumultuous year of 2008, characterised by economic upheaval. His critique of global capitalism catalysed an introspective phase during which he questioned his identity, values, and the broader global landscape, including the pertinence of traditional career trajectories in addressing urgent societal challenges. Ryan's pivotal moment occurred when he joined the Occupy movement, where he encountered kindred spirits grappling with comparable existential questions about the state of the world. The subsequent sense of belonging and shared purpose within this movement became profoundly transformative for Ryan.

They [the occupy protestors] were saying things like 'hmm things seem to be quite fucked, what are supposed to do about it?' And it's not that we came up with great answers, but it was just the first time that I had met a whole bunch of people that were asking the same questions. So that was transformative just on its own, meeting people that were like me. And so subsequent to that, I've been a real campaigner for people to find their tribe. I think this idea of belonging is kind of a superpower. Like when you are part of a collective identity, and you're small enough that you can be seen, like that really transforms people. I just sort of see that as an antidote to so many of the social ills that face our generation. Then the specifics of Occupy were that we were, like our camp in Wellington was governed without a decision-making hierarchy. Everything was done by consensus, and the movement itself was this massive network of people with all different occupations, from different cities around the world. And no one was really calling the shots there, it just kind

of emerged, as a decentralised network. That, to me was like another... in addition to the belonging thing, that was another breakthrough, it was like 'wow collective intelligence is actually capable of extraordinary things'. And while there are a lot of threats facing our civilisation, our capacity, when we really truly work together, is extraordinary. Like way more than I ever imagined. So then I guess I really got on the collective intelligence and collective identity buzz, and just thought 'yeah I don't know how to fix climate change, but I know that if we had better access to collective intelligence, we'd probably be better off'. And 'I don't know how to fix income inequality, but I know that when people are more integrated into their communities and have a better sense of belonging they're probably less likely to be selfish, and more likely to look after each other'. So like it wasn't exactly a manifesto or a road map for change, but it's just kind of some key ingredients that I picked up from experience.

The Occupy movement introduced Ryan to the concept of collective intelligence; from here he was introduced to the Enspiral network and ideas of decentralised decision-making. This experience of feeling connected within a network of like-minded professionals marks shift in his career, wherein he started to feel more hopeful about the future.

Being an engineer and just being in Wellington with the friends that I had at the time, Lumio was just like the obvious next step to take. After Occupy, we all just collapsed into a mess; we were all like 'what do we do next?' Because obviously it was awesome, but also deeply flawed, so it was like 'how do we take the dream forward?' I guess. And while we were chewing on that question, that was when we first meet Enspiral. That was my absolute first introduction to this idea of social enterprise. You can use business, and you can bring very radical values, and you can use the market as a tool to achieve social change. Until that point, I'd only conceived of the market as this kind of evil force that infects people's brains and turns them greedy and selfish. I didn't really see it as a site where good, kinda values-driven people could be until I meet Enspiral. I was like 'wait a minute, you're all doing business stuff, but you're all genuine, and this feels more effective than a lot of the activism I see'. That was another transformational kinda thing, so like yeah, we got.... Like the surge from Occupy and then meeting and translating it through Enspiral, it was like 'ok well maybe we should start a company that is a site for us to work on our dreams about how the world could be better, and get paid in the process'.

In Ryan's narrative, the concept of social enterprise emerges as a central theme, representing both a form of countercultural distinction and a means to reshape the market into a force for societal good. It serves as a pivotal point for Ryan to reconcile his views on global capitalism and actively engage with the free market, all with the overarching aim of creating a business "that is a site for us to work on our dreams about how the world could be better."

This personal reconciliation marks a significant juncture in Ryan's journey. His perspective on the market undergoes a profound transformation, shifting from a perception of it as solely profit-driven and negative to seeing it as a potential instrument for positive social change. This transformative process unfolds through his immersion in the Enspiral network. Here, Ryan acquires a unique set of dispositions, prominently including the belief that the market can indeed be harnessed as a force for social change. This shift prompts a reassessment of his deeply ingrained views on global capitalism, culminating in the development of a new strategy – the establishment of a startup operating as a social enterprise.

Subsequently, Ryan, along with a small team, founded Lumio, a software package designed to facilitate decentralised decision-making within organisations. Lumio not only fills a market void but also empowers structural changes within organisations, cultivating cultures governed by decentralisation and non-hierarchical organisation. This stands as a prime example of how businesses within the Enspiral network not only serve Wellington's tech sector but also drive structural shifts through the materialities of software, influenced by the ethos of open-source culture. Through Lumio, Ryan reconciles his seemingly paradoxical position as a business owner who maintains a critical view of capitalism. The social enterprise model allows him to crystallise his vision of a better world realised through this innovative business approach. In this way, Ryan accumulates cultural capital by founding a company driven by a broader mission beyond mere profit accumulation. Membership in the Enspiral network amplifies his social capital, and the nature of working in this manner demands a substantial investment of self, reinforcing his unwavering commitment to the values and objectives of this unique professional field.

In summary, this narrative paints a vivid picture of Ryan's evolving reconciliation with capitalism. The Enspiral network bestows upon Ryan a profound sense of "collective identity," positioning him within a vibrant counter-cultural community. This perspective beckons a deeper exploration of the inherent isolation present in the production points of the platform economy. It underscores the

potential for social enterprises to challenge prevailing norms centered around profit, providing individuals with a pathway to harmonise their values with their career pursuits while discovering a sense of belonging within a supportive and like-minded community.

11.3 Regulated Improvisation

Bourdieu describes such moments of internal creativity as 'regulated improvisation' (Bourdieu, 1990c: 57). Using the work of a musical composer as a metaphor, Bourdieu explains that particular compositions are restricted by the circumspection of the keyboard itself and the life history of the composer. Even so, we cannot predict what musical outcome the composer will generate, improvisation and creativity is always possible, particularly in all forms of narrative work.

Indeed, the telling of life stories is one of the ways Enspiral members reconcile their economic and political beliefs about capitalism and their entrepreneurial subjectivity. Like Ryan, Jen also had a transformative encounter that changed the trajectory of her career.

Gurgl was really by accident. You know I got invited to go watch a film with Sustainability Trust, it was all about the fashion industry. And this happened while I was thinking about how I would start this baby Op Shop business, so I thought it was good timing. I thought it would be light entertainment. But it honestly changed my life. I guess it's because coming from Africa, I've seen the final step of the life of that clothing. You know we believe that if we put something in the charity bin, we've done a good thing. But the honest truth is that in the developed world we're good at pushing our problems offshore. We push this unwanted clothing into developing countries where they don't have the infrastructure to deal with it, and it's a massive problem for people without the knowledge to fix it. I mean, shit, we can't even fix it here. What chance do they stand? I guess the other thing to add is, the first half of my career has been kinda selfish. Not in a narcissistic way, but I've been mainly focused on building my portfolio as a designer. I didn't think about social impact at all. But, I've learnt that working that way isn't fulfilling. It doesn't feel good to be contributing to corporate waste by designing stuff that's going to end up in landfills. I don't want to do that anymore. You know, we're in this weird time right now, we can't afford to sacrifice the environment for the sake of profit. So I just don't want to be a cog in that wheel. So it's been tough, it's especially hard trying to build Gurgl and living out of my

savings, but I'm also really fortunate to be in a position to be able to take this risk, and ultimately this is what I care about."

Jen's narrative is a compelling example of how she masterfully structures her storytelling to convey the birth of her social enterprise, Gurgl, as both an improvisational moment and a point of reconciliation in her life's trajectory and worldviews. The narrative's flow is marked by an intricate interplay of past experiences, personal values, and entrepreneurial aspirations.

The story's initiation begins with Jen's recollection of an ordinary event—a film screening by the Sustainability Trust. This framing immediately grounds her narrative in the everyday, making her journey relatable to the audience. It's a moment of serendipity, an accidental encounter, which perfectly embodies Bourdieu's concept of 'regulated improvisation.' Just as a composer might unexpectedly find inspiration, Jen's path takes an unforeseen turn at this seemingly insignificant event. Jen's narrative subtly weaves her habitus into the fabric of her storytelling. Her African background serves as a unique lens through which she perceives the world, allowing her to deeply understand and emphasise the disparities within the global clothing industry. She adeptly contrasts well-intentioned clothing donations with the harsh realities faced by developing nations inundated with unwanted garments. Jen's habitus uniquely positions her to see beyond surface-level charity, making her an ideal entrepreneur to tackle this issue.

Furthermore, Jen's subjectivity as a social entrepreneur unfolds gradually but intentionally within her narrative. Initially, her career aspirations were centred around personal growth and portfolio building, a common theme among Enspiral members' journeys. Her candid acknowledgment of this self-focus not only adds authenticity to her narrative but also sets the stage for her subsequent transformation. This level of self-awareness mirrors what we've seen in stories like Beckett's and Ryan's, underscoring the authenticity of her journey and her readiness to reconcile entrepreneurship with social impact.

As Jen's narrative progresses, she skillfully integrates her evolving worldview into her storytelling. She openly expresses her discomfort with contributing to corporate waste and highlights the incompatibility of prioritising profit over the environment. These moments mark significant shifts in her subjectivity. Her decision to enter the realm of social entrepreneurship, particularly in sustainable fashion through Gurgl, becomes a powerful illustration of her alignment with these revised values.

Ultimately, Jen's narrative culminates in the development of Gurgl, representing the pivotal point of reconciliation in her journey. It signifies her transition from a career as a designer to that of a social enterprise founder deeply committed to addressing environmental concerns and corporate responsibility. Through Gurgl, Jen endeavours to effect positive change within the confines of capitalism.

In summary, Jen's narrative is not a mere chronicle of events; it's a skillfully constructed identity that reflects her habitus, subjectivity, and positionality as a social entrepreneur. She adeptly integrates personal history, values, and entrepreneurial aspirations into a coherent and compelling narrative. This storytelling prowess not only justifies her career change but also effectively markets both her business and herself as a valuable "bundle of skills." Jen's journey serves as a vivid example of how storytelling can convey complex processes of reconciliation and personal evolution within the Enspiral community.

These examples also highlight how skilled Enspiral members are at storytelling. During my interviews with these four participants, I only needed to ask a few questions. In telling their life stories, they covered most of my talking points. At times these life stories felt exceedingly polished and refined in their telling, as though they had been told before and perfected over time. Indeed, these stories have been told before in a variety of ways. They are often tweaked to produce appropriate distinctions in the 'right' social contexts. Here the ability to deploy linguistic capital is a generative practice that contributes to habitus. Indeed, when I asked specific questions about the details in their stories, I was often surprised at the honesty of their response, as my conversation with Matt's details:

Matt: I had a marketing background, and so I was like 'Oh I really want to, like, find a really good job that I believe in'. And then I meet a couple of people through a community

event, through a collaboration café who were really interesting, and were talking about this interesting thing of people wanting to work together on stuff, but not necessarily compromise their professional capacity. So I was captivated by that and then I connected up with them for a chat, and then I connected up with another couple of them for a chat, and it was just this slow process of getting to know a few people. I had interesting chats with the people I spoke with, I was just like 'I just want to get involved in this thing'. And then, I had a three-hour conversation with James, which took me to a... like a... 'oh my god, I think about the world differently now' space. Yeah, looking back, I think what he did was like, either consciously or not, was facilitate me to understand how I could use my energy and skills in a very different way. And then yeah... at some point I remember making the decision and going, 'well, I've been flirting around with this thing for a while, at what point am I just going to quit my job and go, yeah I'm just going to try this?'. And then I made some noises about doing that and then Enspiral found, I think it was \$3000, \$1000 a month for three months. That meant that I could pay my rent, to like run the social media and the blog. And then I just dived in and went full force.

Jess: And were you scared?

Matt: Umm, probably. I remember... if I'm thinking back, I remember one of things was, I don't really know how to be a freelancer, and I don't know how to be a contractor. And I did actually edge my way into it, now that I think about it. Like I quit my job, but then I've also got, 20 hours consulting at Fly Buys to go back to, and I did some other stuff on the side. It wasn't so much that I was scared, it's more like when you realise that you've fucked up? And like learning what you don't know. For me it was like, I realised I had no idea how to regulate my workload. And so, I got excited about things and would take on too much. And so I started letting people down by not managing myself properly, or just not having any brain capacity to be able to live because I was too busy frantically trying to juggle all these projects. It made me feel pretty shit for a while, but it was a necessary learning for being able to do this type of work.

Throughout my fieldwork, I found that people working in this field spoke with honesty about their mistakes and learnings. Indeed, I was surprised at the level of introspection that takes place within the network. Much like anthropologists, Enspiral members are interested in the points of conflict,

tension and intersections that occur in their work. One way they introspect about these moments is through the publication of online blog entries. The stories published in this space are intensely self-reflexive. The authors of these publications share my interests in livelihood building in the gig economy. Through writing, they reflect on the future of work and the economic and environmental forces with which they are embedded. A common topic is the struggles of starting a business. Excerpts from a blog entry titled *Dear Chalkle* offer an example of this:

Chalkle, you helped me cut my entrepreneurship teeth. You are the initial reason I ever thought to call myself a social entrepreneur. I'd never even entertained the idea that I could be a business owner (and now I'm the director of four!).

Over the last five years I've seen (and supported) many people start their entrepreneurial journey and start a business. But I have not read many stories about the process of ending a business. And I'm keen to talk about that. I'm keen to share my learnings of what it is like to pour hours into a business and after five years of effort realise that it needs to be something else (Zuur, 2017).

This blog entry has been poetically styled by Zuur to read as an Open letter to her startup business Chalkle, a software platform designed to facilitate community learning events. In this paragraph, Zuur outlines her thesis. Working in startup-land she is familiar with conventional narratives about success and entrepreneurialism but realises there are not many stories that unpack the process of 'ending a business'. Recognising this gap within the discourse, Zuur writes a self-reflexive analysis about the process she went through in ending her business. Here Zuur illustrates that narratives about success do not fit with her personal experience, and her writing explores this paradox.

At that same time this is the story of a relationship. I've never been in a relationship this long, Chalkle is the longest thing I have ever committed to. And, I don't think I've ever loved, or been frustrated by, something more! It's interesting to think about founding a startup as being in a relationship — perhaps that's something we, as the entrepreneurial ecosystem, need to talk about more. About the commitment and emotional energy that startups require. This is also a story about that (Zuur, 2017).

Zuur uses emotional language to frame her experience; she explains to the reader that this is 'the story of a relationship'. Using this metaphor, she addresses the emotional labour involved in starting

a business. She highlights how discourse about entrepreneurialism is not equipped to sufficiently understand and value this work. She goes on to chart the highs and lows of the five years she invested in growing Chalkle. A turning point in the startup's trajectory came when Zuur was unable to continue funding her dev team, as she explains:

This is probably a key point of reflection — most likely I should have written this blog then. We had no dev team, no money, and for the rest of 2015 and 2016 things just kept ticking along. I did all the support emails and provider payments and Matt took on more of the leadership and strategy role. But nothing really thrived (Zuur, 2017).

In her letter to Chalkle she writes candidly, describing the challenge of accepting the need to close her business.

Perhaps you will be that business I say that I started, but could not continue? Man that's hard to admit (Zuur, 2017).

She concludes by considering that perhaps writing this letter was a necessary part of her personal growth as much as it was about offering a new story.

So what now? I guess this letter is mainly for myself — a reflective tool and an output of perspective as I travel forward. It's also a letter to my friends and colleagues — letting them know about my journey with Chalkle. And it's sharing and naming the process of closing shop (Zuur, 2017).

These types of narratives are common within the Enspiral community. They play a multifaceted role, serving to promote authenticity, market counter cultural values, and help navigate paradoxes.

Through these narratives, members accrue valuable cultural and linguistic capital, deftly wielding their stories as strategic tools to navigate the intricate landscape of entrepreneurship. Their ability to improvise and adapt their narratives underscores their expertise in using storytelling as a powerful tool for shaping perceptions and reinforcing their commitment to the Enspiral ethos.

11.4 Self- Publishing and Future Imaginings

These excerpts explored so far also illustrate the similarities in our work. Enspiral members speak

back to their professional network through writing and publishing about their experiences. In *Dear Chalkle*, Zuur identifies a gap within the literature, stating; '*I have not read many stories about the process of ending a business*'. This sentence demonstrates that she is reading other blog entries and responding in turn. Her blog documents the experience of closing a business and highlights that there is a lack of understanding about the emotional labour involved in entrepreneurialism. Her writing is layered with self-reflexive findings, here she conducts a mini-narrative analysis, focusing on what is absent from familiar stories about entrepreneurialism. This interest in exploring the obscure and implicit commonalities that occur within entrepreneurial life is a consistent theme in her writing.

In this blog entry, Zuur identifies the constructs of positional power. She explains how positional power is more concealed within workplaces aiming to be non-hierarchical. Again, she points to emotional labour as an under-examined site of inequality in such workplaces.

Positional power and privilege can be invisible to those who have them. Privilege is an unearned advantage available to a person or group based on things like race, gender or social status. Positional power is an advantage conferred by a role or position. In many cases positional power and privilege overlap resulting in skewed power dynamics within relationships.

These positional-power differences are often hard to see in flexible organisations like those aiming for non-hierarchical leadership. Unnamed power structures can be harder to navigate. It's easier to fight against workplace sexism when your boss slaps you on the ass, but it's harder when the same sexism manifests as micro-aggressions like interruptions or unacknowledged emotional labour (Zuur, 2017b).

In addition to documenting the 'hard to see' aspects of their workplace culture, Enspiral members also write about the global market forces with which they are embedded. As the following excerpt details:

Since the Industrial Revolution commerce has transformed our planet and our society. Our economic systems are shaped and ruled and created by market forces. The global reach of food corporations — like Coca Cola, Nestle, and Unilever, media corporations like Disney, CNN and Fox News, and financial corporations like Citigroup, JP Morgan Chase, and

Bank of America — shape the lives of billions of people.

But what if rather than trying to ignore (or fight) this unprecedented historical force — we embraced it, and applied it to the creation of positive social and environmental impact? (Zuur, 2016).

Here Zuur explains that global economic forces impact local markets. She poses a question to her audience, can such a force be utilised for the creation of 'positive social and environmental impact?' Although they regularly cite global capitalism as a destructive force within the world, Enspiral members are hopeful; they view the 'market' as a tool to be harnessed for social and environmental good. These young entrepreneurs are aware of the economically precarious conditions surrounding their work, and yet they want to change the world through the businesses they start. This is another example of what Bourdieu describes as, 'regulated improvisation' (Bourdieu, 1990c: 57). Through the work of storytelling, Enspiral members negotiate and reconcile their economic and political critiques of capitalism and their entrepreneurial subjectivity. This tension is frequently explored within their writing, as Cabraal's story demonstrates:

About 2 years ago I failed and folded my first company. Naivety and idealism can fade quickly when you run out of money. Starting businesses is hard work. The opportunity costs, in lifestyle, in finances, in friendship, are large and real. The chances of success are slim. Focusing on business as a vehicle for systemic change, slimmer still — so, when you're getting back up from a fall with skinned knees and finally have time to breathe and decide what to do next — why stick around?

Community is powerful. In a couple of short years Enspiral had grown from 20 odd people to almost 200 people and a dozen companies engaged in some capacity, now with a group of nearly 50 members driving the core of the network forward.

Enspiral has become a community in every sense of the world. Working together, many living together, building lives together. Openly, generously sharing time, mentorship, money, work, risk, deep vulnerabilities & deep trust. Working hard together, lifting the bar for each other and throwing damn good parties too. In the marketplace, this way of working is a powerful thing with real advantages starting to prove their worth. At a personal level, this is an infuriating thing to try and understand, an intoxicating thing to be a part of and

a fertile breeding ground for possibility.

After that first failure invisible threads wove together quickly to catch my fall — support system engaged. Within weeks I was building a new business and, from the dust and ashes and learning of a dead company, was able to help setup and run a social enterprise accelerator programme. Yes, community is powerful (Cabraal, 2015b).

Here Cabraal writes about the experience of closing his first business. He recounts the opportunity costs entrepreneurs navigate and reflects on why he chooses to continue this precarious work instead of finding a more secure job. A sense of belonging to the Enspiral community influenced his decision. For Cabraal the sense of community he experiences within the Enspiral network mitigates his experience of precarity. As he describes, Enspiral members are 'working together, many living together, building lives together. Openly, generously sharing time, mentorship, money, work, risk, deep vulnerabilities & deep trust' (Cabraal, 2015b). He uses a metaphor to illustrate the security that comes with belonging to this community, stating 'invisible threads wove together to catch my fall' (Cabraal, 2015b).

The realities of working in the gig economy are frequently explored in these blogs. In addition to analysing tensions between economic precarity and community, Enspiral members also consider the possibility of a future gig economy whereby working conditions are less precarious. As the following excerpt details:

We are beyond the one career life. My generation is not motivated by a gold watch and a handshake. My generation is driven by purpose, we are recruited and contracted on skills and not job titles. Today's 15-year-olds will likely navigate 5 completely different careers. The stable employment contract is a thing of the past. Yet the gig economy without a safety net or a certain level of privilege is brutal and inaccessible, a gig economy with enabling structures is liberating and the path into the future workforce. Thus the key question of this debate is: How might we make working in the gig economy safer and more caring than the "40hr one career for life" ever was? I have the following suggestions: (Zuur, 2017c)

Here Zuur identifies the changing job marketplace; she frames the gig economy as the liberator of the traditional 9-5 work structure. Her discussions capture and reiterate discourses circulating this field. These discourses reflect changing ideas about work and urban labour in the 21st century. Yet

she also provides a diagnosis of the precarious realities of gig style work. In calling for a 'safer and caring economy' her blog goes on to outline multiple recommendations for accomplishing this. In particular, she calls for further regulation surrounding working conditions which again feels paradoxical; a field intent on moving away from the regulations of old needing to adopt regulations of old. The expansion of more entrepreneurial networks like Enspiral also requires an understanding that working in this gig economy is currently only accessible to 'privileged people'. Here, Zuur identifies a particular group of precarious workers, that of the middle-class urban millennial. Precarity in the twenty-first century is complicated. It is shaped by intersecting forces and involves subtle and tangential experiences of insecurity which ultimately come to impact social action and habitus. In her writing, Zuur makes the case for a more secure gig economy. To leverage the full benefits of this economy, everyone should have access to the possibility of freelancing work. Unlike the previous blogs we have seen (which have focused on personal stories about this work), this blog attempts to chart the changing job market and calls for regulation and change.

11.5 Circulating Discourses of Social Action

Publishing blogs is a form of social action within this field. The examples we have seen so far chart a series of discourses circulating the digital domain. These discourses reflect new ideas about work and digital labour in the 21st century, and thus call for changes to the economic structures of the wider field. By publishing these blogs, Enspiral members not only accumulate cultural capital, but they work to reproduce the field in certain ways, making the avant-garde or boundary pushing an established practice. Storytelling, in this way, has worked for Enspiral members in the past. They promoted open-source software, through a multitude of storytelling channels. The use of open-source software became increasingly mainstream. This transformed the ways software is produced, enabling a startup economy to emerge, thus changing the rules of the game. Indeed, many of the blogs published by Enspiral members follow a particular structure. There is an attempt to outline, chart and diagnose current economic or environmental conditions; this is followed by recommended changes or a call to action, as the following entries detail:

Everyone alive today will live the rest of their lives against a backdrop of The Anthropocene and a radically changing society and environment. We know our collective future will be full of unprecedented levels of wildlife extinction, mass migration,

technological advancement, stress on natural resources and changing social fabric. We are also the most educated, connected human population that has ever existed. Together we face brighter opportunities, more urgent challenges and hold greater potential for global transformation than at any other time in human history (Cabraal, 2019).

Cabraal's blog post is firmly situated within the context of the Anthropocene, emphasising the pressing need for a transformative response to the ongoing climate crisis. In his writing, he maintains an optimistic tone, attributing this hopefulness to the growing levels of connectivity and education that he sees as catalysts for change. This serves as an illustration of how Enspiral members skillfully present themselves as individuals deeply dedicated to values such as social impact, environmental responsibility, and ethical entrepreneurship. By crafting this image, they establish themselves as advocates for constructive transformation within the capitalist framework.

This countercultural positioning is a fundamental component of their identity and holds significant sway within the community.

In some of his other writings on this topic, Cabraal adopts a more urgent tone, emphasising the critical need for immediate action.

We can't just drop the ball saying it's too hard — we don't have anywhere else to go. We also can't just sit around dreaming about utopia and ignore the bleaching coral and warming winters. As every generation of humans that have come before us, we need to leverage and improve the current systems we have to make as much positive impact as we can.

Higher wages so more people can enjoy life with disposable income.

Increasing GDP and building economies that improve our living standings.

Addressing inequality and the erosion of social fabric, cohesion and justice.

Navigating climate change and the stressed base support systems that sustain all life.

Healing biodiversity collapse and this phase of human caused mass extinction.

These are collective problems to solve. As individuals, if we're lucky enough to be educated enough to see it and feel it, we need to do something about it (Cabraal, 2016).

By crafting narratives in this manner, Cabraal strategically situates himself outside of conventional market structures while assuming the role of an advisor. These narratives also serve as essential tools for Enspiral members, aiding them in navigating the inherent paradoxes embedded within the entrepreneurial landscape. Entrepreneurship frequently presents a conundrum wherein individuals must reconcile their deeply held values with the demands of the market. These narratives act as a guiding compass, assisting Enspiral members in aligning their personal beliefs with their entrepreneurial pursuits. This flexibility in positioning is a clear illustration of how Enspiral members adeptly renegotiate their positionality within their stories. Depending on the context, they can position themselves at the core of the startup economy, driving grassroots change, or adopt a more external perspective, offering recommendations for broader changes within Wellington's tech sector. Regardless of the context, this strategic positioning allows them to assert their identity as countercultural figures.

I think our society desperately needs more people to have more power and agency in their lives. I think we need to rethink how the collective structures in society enable and disable people to influence the world around them. I think we need to zoom out and look at the systems we adopt, knowingly and unknowingly to distribute money and power. I've slowly come to realise that the workplace can be where we start doing this work. Shifting power in society can start with ourselves and our livelihoods, our teams and the organisations we work with (Cabraal, 2019).

For the workplace to really serve us better, we need to surface and challenge some of the rules of the game that lie under the surface. "Better Work" needs to address how governance, ownership, funding and control works. It needs to address how funding decisions get made, where profit gets redistributed and how decision-making happens. It has to go to the very heart of what words like 'owner' 'employee' 'shareholder' 'investor' 'capital return' and 'manager' really mean. The cultural change must go hand in hand with deeper structural work. Or in other words, the good vibes need some legal teeth that bite (Cabraal, 2019).

In this section, Cabraal deftly navigates a paradox central to his identity within the Enspiral community. His thesis revolves around the necessity for increased agency and collective structures to effectively combat the climate crisis. He calls for a reevaluation of societal systems that empower

individuals to exert influence over their environment. At first glance, Cabraal's analysis might be interpreted as advocating for unionisation and emphasising collective action as the solution. However, it is precisely at this juncture that the paradoxical nature of his position becomes evident. Despite his call for collective empowerment and systemic change, Cabraal consistently describes himself as a 'hustler' and identifies as an entrepreneur deeply entrenched in the free market.

This paradox is the linchpin of how participants like Cabraal construct their countercultural identities within the Enspiral community. On the one hand, they champion collective action and advocate for systemic transformation, positioning themselves as catalysts for social change. On the other, they actively engage in the entrepreneurial landscape within Wellington's tech sector. This sector is dominated by the hyper-capitalist Agile methodology designed to disrupt existing markets with new technology and drive profit. This juxtaposition enables them to straddle the boundaries of conventional economic structures while advocating for alternative, socially conscious approaches. In essence, their countercultural identity thrives on this delicate balance, allowing them to simultaneously interact with and challenge prevailing norms.

Within Cabraal's writing, we also discern a persistent undercurrent of precarity. Bourdieu contends that an internalised sense of insecurity seeps into the life strategies individuals adopt. Precarity in the labor market permeates both conscious and unconscious thoughts, making even permanent employment seem like a fragile and threatened privilege (Bourdieu, 1998, p. 82). In this context, Cabraal's relationship with work takes on a unique dimension. He perceives the workplace as more than just a job; it becomes a site for socio-political activism. This perspective sheds light on why many Enspiral members advocate for the social enterprise business model, as it provides a framework in which 'work' can accommodate and reconcile these inherent paradoxes. As Cabraal elucidates:

What do we call business that succeeds economically at the expense of people or the environment? Is it an anti-social enterprise? What is an anti-social enterprise? How much room do we have on this planet for anti-social enterprises?

I believe initiatives like the future fund will shift resources to inspire and enable more people to help shift "social enterprise" from the margins and see it for what it really is, just good business (Cabraal, 2015).

Enspiral members utilise blog writing as a means to scrutinise the intricacies of entrepreneurial life and the economic landscape that envelops their work. This practice serves as a pivotal strategy for crafting and cultivating their online presence, thereby constructing a distinct professional identity. Through these narratives, Enspiral members not only stake a claim to a particular subject position within the field of entrepreneurship but also articulate their disposition toward it. In this context, storytelling takes on a multifaceted role. It not only contributes to the reproduction of the field, reinforcing established norms and practices, but it also offers a unique avenue for creative social action. Participants engage in a form of what Bourdieu might term 'regulated improvisation' (Bourdieu, 1990: 57, 2000), where they adapt their narratives to the constraints and opportunities imposed by their habitus.

For instance, during an interview with Cabraal, we delved into the complexities of managing online identities within the Enspiral community. This discussion illuminated how Enspiral members navigate the delicate balance between authenticity and strategic presentation when crafting their digital personas.

I also think other people just know how to curate an online identity better than I do. They're able to make it feel nuanced and organic. And I think also, it's not just about building an online profile for them, but there's a level of consciousness about how you interact with people online. So like back in the day, my boss would complain if he got work emails after 6pm, and like I wouldn't take my computer home with me when I finished work, you know? There was like a much more linear style of communicating. Whereas now, things are just completely non linear. And probably the other part of it is as things are so interconnected, and people have jobs which is like running some Facebook pages that you can do from your phone when you want. So it's like this idea of 'well I can do more things'.... It's that like, millennial, self-entitlement buzz that push back around impact, like 'I only want to do more stuff that I care about, or that I believe in'. There's just like a different level of consciousness, even in ten years, or people who, went to university, there's all these papers now around climate change, and it's like, it's undeniable now. If you're learning about the world, and you want to build a career that has an impact, you can't avoid this stuff.

Jess: And I guess you're not bound to the traditional 9-5 right?

Cabraal: Yeah and that was one of the original conceptions with Enspiral, it was like, 'how can we free up more people, to not necessarily have to put 40-60 hours a week into a job, when they might only need 20?' And then they can leverage their time and their talents to do something that's not necessarily financially motivated, but impact motivated.

Jess: Yeah, it could be raising a family or something right?

Cabraal: Yeah, or god forbid, helping some mates start a recycled baby clothing service?

Jess: Hahaha!

Cabraal: Or just something that gets them excited, and for some people that might be building a project or a company that makes money, and that's great.

Cabraal grapples with the notion that work should prioritise impact over financial gain, particularly in the context of climate change. He underscores how the utilisation of various social media-based technologies in his marketing efforts not only provides him with a sense of freedom but also allows him to create a meaningful impact. This realisation highlights the importance of self-reflection within the Enspiral network. Enspiral members must strike a delicate balance between vulnerability and the presentation of polished narratives in their storytelling.

As Cabraal explains, some individuals in this ecosystem excel at storytelling, crafting online profiles that exude nuance and authenticity. However, in questioning some of the rules of the game, he finds himself struggling to maintain a consistent illusion in this regard. Within any given field, there exists a spectrum of commitment levels among participants, with some mastering the rules of the game more adeptly than others. While Cabraal is confident in using these technologies for business purposes, curating his personal presence across various social media platforms proves to be a more complex task. This challenge demands a level of performativity that he feels less skilled in, ultimately leaving him feeling somewhat isolated and vulnerable, echoing Bourdieu's concept of being "out on a limb" (Bourdieu, 2000, p. 157).

By tightly integrating their habitus with their entrepreneurial endeavours, Enspiral members reaffirm their deep commitment to this field. Their personal narratives serve as a testament to the full investment of their 'selves' in the pursuit, thereby enhancing their credibility and accumulating social and cultural capital within the Enspiral network.

The idea that work should encompass a political and personal project is a constant theme within these stories. Indeed the 'reimagining' of work also occurs at an individual level, as this blog entry demonstrates:

For the last couple of months I have been telling people I am on a journey to "Decide what I wanna be when I grow up by the end of October." Well it's the end of October, and.... I thought I should share what I have learnt. The first thing I have learnt is to listen to my own advice, which I have shared with many people, in the form of this quote:

'....have patience with everything unresolved in your heart and try to love the questions themselves as if they were locked rooms or books written in a very foreign language. Don't search for the answers, which could not be given to you now, because you would not be able to live them. And the point is to live everything. Live the questions now. Perhaps then, someday far in the future, you will gradually, without even noticing it, live your way into the answer.' Rainer Maria Rilke, 1903 in Letters to a Young Poet

So rather than writing a blog post on my "answer", I thought I would share all the things that are unresolved, all the questions that emerged through asking this initial question and perhaps through this process, as Rilke suggests, I'll live into growing up and be that which I need to be without even noticing it (Zuur, 2015).

This blog entry illustrates how the 'reimagining' of work is also a personal project for Enspiral members. In many ways, the 'reimagining' of work, is itself a form of work, affective labour, a performative project that is never quite complete.

11.6 In Summary

Within the Enspiral community, stories serve three distinct yet interconnected functions. Firstly, they function as instruments for promoting authenticity. Members openly share their entrepreneurial journeys, breaking away from profit-driven narratives, and reinforcing Enspiral's counter cultural and authentic image. Secondly, these stories assist members in navigating the paradoxes of entrepreneurship, where personal values intersect with market demands. They articulate struggles, dilemmas, and offer valuable insights for those encountering similar challenges. Thirdly, stories

accumulate cultural and linguistic capital for members, augmenting their credibility and influence. Proficient storytellers strategically wield these narratives to suit diverse contexts. These narratives exemplify 'regulated improvisation,' creatively operating within habitus and field constraints, interweaving past, present, and future, reflecting the interplay of hope and precarity

Chapter Twelve - Conclusion

At the heart of my research journey lies a fundamental question that reverberates through the career histories of my participants: 'Why persevere?'. Wellington's tech professionals, cognizant of the challenges within their industry, persist despite the odds. The answer lies in the intersection of software materiality, neoliberal political economy, and inherited Silicon Valley discourses.

Learning computer programming demands not just technical skills but a deep emotional investment, fostering dedication despite the precarious nature of digital labour. The fusion of the gig economy and digital platforms in Wellington's tech sector results in intentional career strategies to navigate impermanence.

Wellington's tech sector, akin to Silicon Valley, embodies a paradox. Open-source practices, promising shared wealth and collaboration, contribute to hyper-capitalist Agile software production. This paradox is intensified by the city's counter-cultural ethos, challenging conventional capitalist models.

The intersection between state initiatives, entrepreneurship, and counter-culturalism solidifies Wellington's identity as a tech hub. Gig-based, precarious careers emerge from this unique combination of cultural, political, social, and economic factors. Place matters; Wellington's distinctive combination of community, counter-cultural discourses, and entrepreneurial elements produces a paradox navigated through self-narration.

In essence, professionals invest in these careers due to the specific combination of material, economic, and cultural factors shaping their experiences in Wellington's tech sector. The logical cohesion of these elements forms the basis for their decision to persevere despite inherent challenges.

12.1 Navigating Precarious Work through Counter-Cultural Distinctions

In unravelling contemporary work dynamics, my research underscores the inherent precariousness

of digital labour, characterized by individualization and specialized skills. Despite this, it reveals the emergence of unique collaborative forms. Diverging from traditional entrepreneurial narratives linked to social responsibility, my literature review emphasizes the nuanced intersections and potential strategies for addressing precarity globally and locally.

In alignment with this literature, my research participants employ a parallel approach, utilizing a counter-cultural distinction to carve out their careers. The Enspiral network, founded in 2010 in New Zealand, serves as a vivid example of this phenomenon.

Enspiral's innovative organizational structure champions collaboration, openness, and social impact. Notably committed to social entrepreneurship, Enspiral engages in projects aligned with values such as sustainability, social justice, and community well-being. Within its diverse ventures, Enspiral provides a collaborative platform, fostering a sense of community and mutual support.

Enspiral, and the enterprises it spawns, present a distinctive response to the challenges of precarious work. This aligning with a counter-cultural identity becomes a potent coping strategy for entrepreneurs confronting precarity, offering a nuanced and active perspective on collaborative strategies within the platform economy.

Enspiral's success showcases how counter-cultural distinctions can shape organizational structures, offering a tangible solution to the precariousness of digital labour. To this extent, the Enspiral network illuminates a path forward, demonstrating that through collaboration, social responsibility, and a counter-cultural ethos, it's possible to navigate the contemporary landscape of precarious work.

12.2 Contributions to the Discourse on Contemporary

Labour

In reshaping our understanding of contemporary work dynamics, my research delves into the inherently individualized and skilled nature of digital labour, a quality that inherently renders it precarious. Despite this, it unveils a unique emergence of collaborative forms, albeit of a distinctive kind.

Digital labourers, equipped with skills to market not only their businesses but also themselves, employ personalized strategies to forge a viable livelihood within the platform economy. Referencing literature from Wellington and beyond, my work aligns with the acknowledgement that, in the twenty-first century, entrepreneurial narratives can intersect with local discussions on social responsibility. This recognition offers a strategic response to address precarity—a method for individuals to navigate uncertainty.

In agreement with this literature, my research participants adopt a similar stance. They employ a comparable approach, utilizing a counter-cultural distinction to initiate social enterprises as a direct response to and navigation strategy for the challenges posed by precariousness. Navigating and aligning with the distinctive facets of counter-cultural identity emerges as a coping strategy for entrepreneurs in the face of precarity, providing a unique and active response to the contemporary challenges of the digital labour landscape.

By referencing the literature, my work contributes to the ongoing discourse on the nature of digital labour, emphasizing both the individualized and collaborative aspects. In conclusion, this research underscores the importance of acknowledging and navigating the nuances of counter-cultural identity as a viable coping strategy, offering a nuanced and active perspective on collaborative forms within the platform economy.

12.3 'Studying Up' Anthropology: Exploring Privilege and Precariousness

In making a distinctive contribution to anthropology, this study adopts a 'study up' approach, examining the lives and narratives of Enspiral members who occupy privileged positions yet navigate precariousness within the dominant class. These individuals represent a unique subset with significance beyond their roles as essential workers in the present and future of capitalism. They are also vital political subjects, contributing significantly to broader political discourse.

Diverging from the conventional 'study down' paradigm, our research immerses itself in the entrepreneurial experience within the platform economy. Focusing on Enspiral members unveils the intricate dynamics of digital platforms and the human agents propelling them. The context of

software development within the creative city of Wellington reveals the complexities shaping a labour force of middle-class urban millennials. Life stories, career histories, and blog publications interweave to illuminate how subjective and collective perspectives construct narratives amidst enduring precarity and uncertain futures.

This exploration has uncovered profound implications of precarity, extending beyond economic insecurity into personal aspirations. The platform economy's intrusion into individuals' lives manifests in a lasting sense of insecurity, impacting personal and systemic dimensions. Insights from interviews reveal unconventional career paths challenging the stability of the seemingly secure tech industry in Wellington, requiring participants to navigate paradoxes in constructing coherent narratives about their careers.

In conclusion, this research offers a multifaceted understanding of twenty-first-century work, showcasing entrepreneurs as agents of socio-political change. It emphasizes the intricate interplay between capitalism and entrepreneurship, navigating paradoxical elements within the creative and tech sectors of the platform economy. This comprehensive insight sheds light on the challenges and opportunities inherent in the production point of platform capitalism, revealing the evolving nature of work in the digital age.

This study stands as a noteworthy contribution to the discourse on contemporary work, providing an ethnographic understanding of the challenges and transformative potential within the platform economy. Its emphasis on comprehending the paradoxical forces shaping lives and careers in the digital era signifies its critical relevance. Importantly, it recognizes individuals not as passive observers but as active shapers of the evolving professional world, leaving an indelible mark on our collective professional landscape.

12.4 Contribution to Scholarly Literature on Platform Capitalism and Precarity

This research contributes significantly to the scholarly literature on platform capitalism and precarity by shifting the analytical focus from consumer perspectives to the often-overlooked experiences of those engaged in the production of digital platforms. While substantial research exists on how

platform capitalism affects consumers, there is a notable gap in understanding its impact on producers, particularly software developers and entrepreneurs.

Through ethnographic investigation in Wellington, this study reveals that software developers and entrepreneurs, despite their technical expertise, high salaries, and countercultural identities, experience significant job insecurity. This insecurity is largely driven by the algorithms that govern their work environments. The study underscores that computer code, far from being a neutral tool, acts as a social artefact that both documents and exacerbates precarity. This finding aligns with the notion that digital labour is not merely technical but deeply intertwined with social and cultural dimensions (Boltanski & Chiapello, 2005; Morgan & Nelligan, 2018; Okura Gagné, 2019). Boltanski and Chiapello (2005) highlight the shift towards a project-oriented 'new spirit of capitalism,' where work is increasingly individualized and insecure, mirroring the experiences of the developers and entrepreneurs in this study. Morgan and Nelligan (2018) discuss the transformation of work into a personal expression of identity, which resonates with how the participants in this research navigate their professional lives.

The work of coding and maintaining software is inherently uncertain and adaptive, requiring constant troubleshooting and refinement by development teams. This dynamic interaction between developers and the digital infrastructures they create reflects a mutually constitutive relationship, where social structures imprint themselves onto digital substrates, influencing the resultant algorithms that regulate labour within the platform economy. This perspective challenges the prevailing view of algorithms as stable and predictable, highlighting instead their fluid and contested nature (Urciuoli, 2008). Urciuoli (2008) discusses how 'bundles of skills' and 'flexibility' are now integral to professional identities, reflecting the continuous adaptation required in coding work. Computer programming, as an embodied practice, involves significant emotional labour, as code asserts agency through inclusions and rejections, shaping both the digital landscape and the developers' resilience (Gershon, 2011; Achtenhagen & Welter, 2003). Gershon (2011) explores how people adapt to market-driven expectations, and Achtenhagen and Welter (2003) highlight how female entrepreneurs integrate social responsibility into their professional identities, both of which parallel the findings on emotional and social dimensions of digital labour.

In examining the local context of Wellington, the study highlights how platform capitalism is expressed through culturally specific practices and countercultural distinctions. Cafes, restaurants,

and coworking spaces in Wellington serve as hubs where countercultural ideologies intersect with capitalist dynamics, providing spaces for collective navigation of the tech market's uncertainties. Labour profiles marked by non-conformity have emerged as symbolic representations of successful digital workers in this context, supporting the notion that cultural and geographic contexts shape the experiences and strategies of digital workers (Boltanski & Chiapello, 2005; Morgan & Nelligan, 2018). This aligns with Boltanski and Chiapello's (2005) observations on the importance of flexibility and mobility in contemporary capitalist structures and Morgan and Nelligan's (2018) discussion on the changing nature of work.

Additionally, this research sheds light on the growing movement towards social enterprise-based business models within Wellington's startup culture. Young entrepreneurs increasingly adopt business models that reinvest profits into social or political causes, positioning their enterprises as counter-cultural disruptors within a hyper-capitalist technology sector. This supports Kaplan's (2013) findings on the motivations of young entrepreneurs who use their technological skills for social good, but also reveals the complexities and paradoxes they face in maintaining countercultural ideals within a market-driven environment (Egan-Wyer, Muhr, & Rehn, 2018). Kaplan (2013) discusses how millennials leverage digital tools for social change, and Egan-Wyer, Muhr, and Rehn (2018) describe the tensions within startups like SoundCloud, where there is a constant negotiation between corporate success and resistance to mainstream capitalist norms.

In conclusion, this study decisively advances the scholarly understanding of platform capitalism and precarity by providing a nuanced analysis of the production side of digital labour. It emphasizes the importance of considering local cultural contexts and the intricate ways digital labour is organized, experienced, and contested. By doing so, it offers a comprehensive perspective on how platform capitalism shapes labour conditions and worker subjectivities in contemporary economies, thereby contributing valuable insights to the field. This research aligns with existing scholarship while expanding the discussion to include the emotional and social dimensions of digital labour, ultimately providing a richer understanding of the complex interplay between platform capitalism and precarity.

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