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Public Prototyping

A participatory design process exploring
the application of co-creative sketching

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Abstract

The objective of this research is to demonstrate that co-creative sketching as a part of the participatory process has the potential to support the developmental nature of a visual communication tool used to promote the exchange of experience. The tool is intended to create an informative hub that influences a travellers experience of a location.

Ethnographic research as reflective sketching was conducted in the Tongariro National Park. Within this setting reflective sketching located the kitchen and common area of traveller specific accommodation as an ideal collaborative environment to conduct participatory design research. In this collaborative environment snowboarders and skiers who are aged between 20-30 years are identified as the target audience. This specific audience participated in co-creative sessions throughout the design process, resulting in the participatory design of the tool.

The design aim of the visual communication tool was to promote the exchange of experience between snowboarders and skiers about a specific location. This was achieved by adapting generative tools made up of a visual language which supported the word of mouth exchange and individual expression. The exchange of experiences was facilitated by co-creative sketching with the visual language during a state of play. Playful co-creative sketching supported word of mouth dialogue between the snowboarders and skiers in a way that co-created an informative visual representation of the dialogue or contextmap. The resulting contextmap represented an image for experience which was beyond an individuals conception and made individuals tacit-knowledge accessible to audiences within and outside the moment of exchange, creating an informative hub which influenced the specific audiences view of experience for a location.

An action research methodology is used during the course of this research, informed by the approaches of co-creation, context-mapping and generative tools. These approaches constructed a theoretical framework for the participatory development and co-creative sketching of the communication tool. This supportive thesis discusses the context, the theoretical concepts and provides an in depth account on the research through design process; the week-by-week participatory process undertaken to develop the visual communication tool.

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Introduction

This thesis investigates the use of co-creative sketching in participatory design methods in the context of travel, specifically focusing on the travel activities of snowboarding and skiing.

Section 1: Will explain the research objectives - what the research is attempting to understand through participatory design research. This sections will outline the goals and results the research achieves. (p. 1)

Section 2: Introduces and explains the context to which the research is applied to. Exploring links between information seeking, image construction, sketching, play and how these relate to travel and co-creation via participatory research. (p. 9)

Section 3: Introduces the research question and explain how this research question drives an action research methodological approach and design development of the project. (p. 17)

Section 4: Expands on the use of an action research methodology supplying a detailed week-by-week description of the undertakings in the participatory design process needed to reach the final design objectives. (p. 43)

Definitions

Action-Research:

“Action research is a participatory process concerned with developing practical knowing in the pursuit of worth while human purpose. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities (Bradbury & Reason, 2007, p. 4).”

Co-creation:

“Participatory design in which all the relevant stakeholders are direct participants in the process throughout the entire process. The role of the non-designer participants will change throughout the process. For example, when the idea has been embodied in a visual and semi-functional prototype, the potential end-users would be involved in usability testing the prototype rather than doing design refinements (Sanders & Van Patter, 2003, p. 15).”

Context-mapping:

“A contextmap is an explorer’s map: incomplete, ambiguous, diverse. (...) like the proverb ‘the map is not the terrain’, ‘maps grow because the traveler adds to it’, ‘maps facilitate discussion and planning’, ‘maps are used with other tools (Sleeswijk Visser & Stappers, 2006, p. 22).”

Generative tools:

“Generative tools” refers to the creation of a shared design language that designers/researchers and the stakeholders use to communicate visually and directly with each other. The design language is generative in the sense that with it, people can express an infinite number of ideas through a limited set of stimulus items (Sanders & Chan, 2007, p.1).”

Play:

Definition 1; “Play constitutes as training (...) for the serious work that life will demand (Huizinga, J, 1970,).”

Definition 2; “Play is a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy, and the consciousness that is ‘different’ from ‘ordinary life’(Huizinga, 1970, p. 47).”

Sketching:

Definition 1; “Because the design problem it’s self is ill-defined and ill-structured, another key feature of design sketches is that they assist problem structuring through solution attempts (prototypes) We have seen that sketches in corporate not only drawings of tentative solution concepts but also numbers, symbols and text as the designer relates what he knows of the design problem to an emerging solutions (Cross N, 2006, p. 37).

Definition 2; “Drawings, diagrams and sketches are aids to internal thinking as well as aids to communicate idea and instructions to others (ibid).

Travel:

To make a journey; to go from one place to another; to journey (Travel, 1989).

Tagging:

The action or process of decorating with graffiti tags; also, these tags collectively. slang (orig. U.S.) (Tagging, 1980).

Creative Leader:

Someone who supplies a scaffold or a set of tools that facilitate and helps a group or an individual achieve creativity. This Individual supports the process by assisting and participating in the correct use of the tools during the creative process. The creative leader facilitates peoples expressions through leading, guiding, and providing scaffolds (Sanders & William, 2001). They lead people through the doing aspect of the process, guide people on adapting and provide scaffolds for those on making level and supply a clean slate for those real to create.

Visual Communication:

Communication that uses a common visual context made either or a combination of icons, images and word images to convey meaning or a message from one person to another.

Participatory Design:

Participatory design is a field that focuses on designing with people and places them as experts of their experience. Sanders & Chan (2007).

An aerial, high-angle photograph of a sandy beach. The sand is light-colored and shows various shadows cast by people and objects. In the upper right, a group of people is walking. In the lower center, a person is walking away from the camera. The overall tone is soft and slightly desaturated.

Section 1

Section 1 will explain the research objectives - what the research is attempting to understand through participatory design research. The following sections will outline the goals and results the research achieves.

1.0 Main Question

To what extent can co-creative sketching promote specific audiences to exchange accounts of experience, influencing their view of experience?

1.1 Setting the Scene

The following pages in this thesis document the development of a participatory creative approach, through using participatory design methods informed by an action research methodology. This research is applied specifically to the development of a visual language as a communication tool for snowboarders and skiers within the environment of the Tongariro National Park in the North Island of New Zealand.

This section outlines the research aim, which is to create a communication tool that snowboarders and skiers use to exchange and leave behind tacit knowledge about experiences, which then informs future skiers and snowboarders about experiences in the area.



Figure 1. An outline sketch of the Public Prototyping participatory design process

1.1.1 About Participatory Design

Participatory design is a field that focuses on designing with people and places them as experts of their experience. Sanders & Chan (2007).

A key aspect of participatory design territory is the use of physical artifacts as thinking tools through out the participatory design process.

Findings in this research define participatory design as a cross disciplinary process that involves generating a collective informative context based on multiple view points from which design decisions can be made. These view points generated by stakeholders involved in or effected by the design can range from ‘users’ who are served by the design to clients who commission the design, to engineers or production specialists who are involved in designs development and production.

On reflection of the research undertaken in this thesis it can be suggested that effective and constructive dialogue contributed to by all stakeholders during the process supports an effective participatory design outcome. The construction of a collective or social dialogue during the process forms a universal context or map. By capturing and promoting this dialogue through use of a common visual language as a tool, the contextmap creates an objective stand point to base design decision on and move forward from.

The use of a common visual language promotes individual expression allowing participants involved in the process to express points of view that can be understood by others, co-creating a collective context. With in the participatory design process the use of a common visual language can work towards removing the use of specialist language, which create language barriers and miss-understandings during the process, a common visual language is an open communication platform from which all parties can contribute too.

The use of a common simple visual language ensures that participants can express their needs, fears and expectations regarding specific experiences with each other and designers, helping to ensure that the future needs of the users are meet. Participatory design can be traced back to work done with trade unions in the 1960-70’s in Scandinavia (ibid) and is a process used to explore new or alternative solutions (ibid).

1.1.2 Generative Design

In the context of this research the focus is on developing a participatory process that involves the users and designers only, developing a primarily user and designer co-creative process, titled public prototyping. The use of the generative design process as an influence in the development of a new process (Figure .1) allows the research to specifically focus on the application of a common visual language as a communication tool that aids the participatory process.

Within the generative design process a simple common visual language makes up the bulk of a generative tool, this is coupled with the designer playing the role as a creative leader when engaging participants with the tools, helping them full-fill their creative potential, with the aim that non-designers are able to express their views of experiences and inform the design process.

Generative tools allow users to create expressions of their experience, which inform and inspire the designer and empower everyday people to generate alternatives to current situations. The benefit of using generative tools is that they allow the research to explore the everyday experiences associated with travel, in situ such as up on, or at the base, of a mountain.

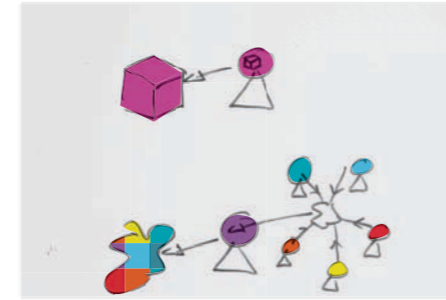


Figure 2. An outline sketch comparing Public Prototyping participatory design to a traditional design approach

1.1.3 Using a Common Language

The use of a shared visual language allows designers, researchers and the stakeholders to communicate visually and directly with one another. The design language is generative in the sense that, in using it, people can express a number of ideas through a limited set of stimulus. (ibid) The tools are playful in nature and promote exploration and experimentation.

This research will use the concept of play to promote creativity, sharing and exploration amongst participants and will attempt to co-create, insights and inspiration in the development and design of a communication toolkit for travellers. The tool kit would be developed using generative techniques and explored the use of co-creative sketching during a participatory design process in a way that facilitated the exchange of tacit knowledge.

Co-creative sessions were run up on location in the Tongariro National Park. For the sessions to work effectively the tools were designed to be flexible and versatile so to fit with the changing environmental factors of the location.

The intended design of the tools promoted play and social interaction through ensuring they were accessible and easy to use. The research used existing tools found in the location that the travellers already knew how to socially interact with. Adapting and changing the tools to fit the purpose of the research.

1.1.4 A Snapshot of What Happened

The research undertook several weeks of participatory design research involving the interaction of skiers and snowboarders. These participants were domestic travellers with varying backgrounds.

The reason for choosing primarily domestic travellers as opposed to International/ foreign travellers were based on a variety of factors. The domestic travellers held existing knowledge and a culturally specific view about the location. As to say the domestic participants were more of an experts on the experience at that specific location than international travellers. As this project aimed to design a tool that promoted the exchange of experiences it was decided to begin the research with participants seen as the most knowledgeable and reliable. It can be said that outside of the scope of the project Co-creative sessions and testing could be further applied to an international audience to generative a richer comparative context.

The design goal for the communication tool was to through a participatory approach design a tool which meet snowboarders and skiers location based communication needs. The tool would promote the exchange of experiences and a building on tacit-knowledge which would influence their experience in the location. The participatory design process involved co-creation sessions with snowboarders and skiers both up on the mountain at a ski field, and at the base of the mountain it the town Ohakune.

Adhering to an action research methodology over the course of the participatory design phase meant that participants, tools and processes contributed to the development and shape of a communication tool that met the project’s design outcomes. The participatory process also allowed users to participate in co-creative sessions both on location at the National Park and back at the University Campus in Wellington.

A key challenge during the research was in the designing of a playful set of tools which were flexible and easily made. This was to suit the fluid and changing nature of the research environment while still fulfilling the creative and communication needs of the participants. This changing nature was the result of the unpredictable nature of both the participants and weather. These unpredictable factors played a key role in affecting the outcome of the research.

As a design approach this process differed greatly to existing process used in the traditional design development of visual languages. This comparative context is drawn based on anecdotal experience as a brand identity designer. The process used in public prototyping can be referred to a process of co-creation, this is a participatory process and when compared with the traditional design approaches can be described as a process of opportunity finding and problem solving that draws on insight from multiple points of view, as opposed to the industry approach which is more focused towards problem solving using soley a designer centric point of view (Figure 2).

1.2 Setting the Tone

1.2.1 A Playful Approach

The research goal was to design a communication tool for snowboarders and skiers, focusing on the simulation of play to promote the co-creation and exchange of accounts of experiences. Play has the ability to promote learning and sharing (Dr. Ing. A. Thomassen, personal communication, 2008) in a temporary sphere (Huizinga, 1970), which was translated through to the practical application of the research in providing the target audience with a specifically designed set of playful, generative tools, informed by co-creation and context-mapping. This direction was informed by Van der Lugt and Sleeswijk Visser (2005) who when referring to generative tools recognise that:

The packages are designed in a very playful manner (Figure 3) with the assumption that such a playful looking working package also invites playful contributions from the participants, making them feel free to jot down whatever they want. (p. 9)

As a result the generative tools used in this research were rich in colour and playful in nature, and liberated the participants creativity from what they couldn't express in words (Sanders and William, 2001).

The applied approach of using playful generative tools created a common language between designer and participant. It allowed them to work together and co-create a contextual understanding or context-map of their experience, placing users as experts. The nature of the process meant things could be changed and added to in real time and the iterative process of co-creation could be influenced by both non-designers and designers alike.

The approaches of co-creation and context-mapping allow the designer to observe and understand both the participant experience, and the participants perception of the experience through-out the creative process. These approaches enhanced empathy in the designer, and provided inspiration and supported engagement between all parties. Both processes informed the applied participatory phase of the research, giving context and shape to the subjective phenomenon that is experience, and facilitated co-creation in an everyday setting.

What differed from the approach used by Sanders and Stappers was that the scope and external factors of the research dictated the outcome of the tools as much as the participants and research needs. In a sense the playful approach used in this research was a balancing act of working with participants on location using tools familiar to the setting. This made the co-creative sessions familiar and easily accessible to the participants.



Figure 3. An example of a cognitive mapping tool used in generative design (Sanders, 2003)

By demonstrating a sensitivity to the existing features of the settings the designer used key elements as influences to inform the design of the generative tools. This approach helped the designer create tools that were playful, accessible and fitted well with in the environment making them somewhat familiar. An example of this would be the adaptation of both playing cards (Figure 4) which are commonly used by snowboarders and skiers to pass the time, and the adaption of a white board used to inform snowboarders and skiers into generative tools. In a sense the generative tools developed for the co-creative session on location were hybrids of existing tools found in the environment, tailored to the research needs.



Figure 4. An example of generative tools used in Public Prototyping

1.2.2 Designing For Experience

Experience is a subjective event, (Sleeswijk Visser, Stappers, Van der Lugt & Sanders, 2005) that lasts only for the moment (Sanders, 2005). It is the point where memory and imagination meet. And when experience is explained or expressed with generative tools it makes visible what the participant feels.

Generative techniques let people construct a view of context by calling up their memories of the past and eliciting their dreams of the future (as cited in Sleeswijk Visser et al. 2005, p. 4).

The use of generative tools allows designers to examine a participants expression of past, present, and future views of experience, by focusing on what they 'Say, Make, Do' (Sanders, 2003) revealing tacit knowledge and exposing latent needs. Tacit knowledge is explained by Polanyi as:

Knowledge that people act upon but cannot reality express in words (as cited in Sleeswijk Visser et al. 2005, p. 4).

The process of making artifacts such as drawings, collages and models with playful generative tools allow participants to access and express their experiences.



Section 2

Section 2 introduces and explains the context to which the research is applied to. Exploring links between information seeking, image construction, sketching, play and how these relate to travel and co-creation via participatory research.



Figure 7. iSite, Ohakune, 2009



Figure 8. A physical map of Tongariro National Park, situated in the iSite at Ohakune, 2009



Figure 9. Map of Ohakune, 2009

2.0.3 Applying Generative Tools to Travel

This research expands on the concept of travel and sets out the theoretical context for the design component of the research, exploring the importance of information in shaping a travellers view or image about experience at a location. The research will also consider how information sources, circumstances and the way an individual constructs a mental image about an experience, makes each travellers view of experience subjective and different.

This research puts focus on the act of information gathering found on location during traveller-to-traveller communication. Whereby travellers exchange accounts of experience through word of mouth. Anecdotal evidence reinforced the value of traveller-to-traveller communication via ‘word of mouth’ Pimpao & Dann (as cited in Correia & Moital, 2009) as an important aspect of the construction of both before and after images for experience. The word of mouth exchange of information helps with the travel decision making process ‘to go’ or (not to go) Mansfield (as cited in Blichfeldt and Kessler, 2009) in a real time dynamic context, supporting on the spot decision-making. This exchange of dialogue helps form an informed authentic image for the experience available in that location.

2.0.4 A Traveller’s Mental Sketch of Image for Experience

The experiential journey for traveller involves the ongoing search for information (Govers & Go, 2009) regarding what the experience might, or does look like. This can be described as the constant development of a traveller’s mental image of experiences relating to a place, people or events relative to their journey. These accounts of experience are containers of information and these are embodied in stories, images, statements and photographs (Govers and Go, 2009) which are exchanged between travellers in and around locations or sourced from media channels or information centres like the iSite network. (Figure 7 & 8) Echtner & Richie recognise:

By actually visiting destinations the image will be affected and modified based upon first hand information and experience (as cited in Govers & Go, 2009, p. 40).

The travellers experience in a location, their prior expectations and post-experiential impressions, inform their image of the destination in a way which allows the travellers view or image of experience to constantly evolve in the same way as a sketch would. (Figure 10)

In the case of destination image this “flood of information” has many sources including promotional source, ads, brochures, (Figure 9) the opinions of others, family friends, travel agents, media reporting, television, news reporting, doco’s and pop culture (Govers and Go, 2009, p. 36).

At a location upon arrival a travellers image of a place changes and the pre and post image are affected by their first hand experience of a destination. This image is important in the

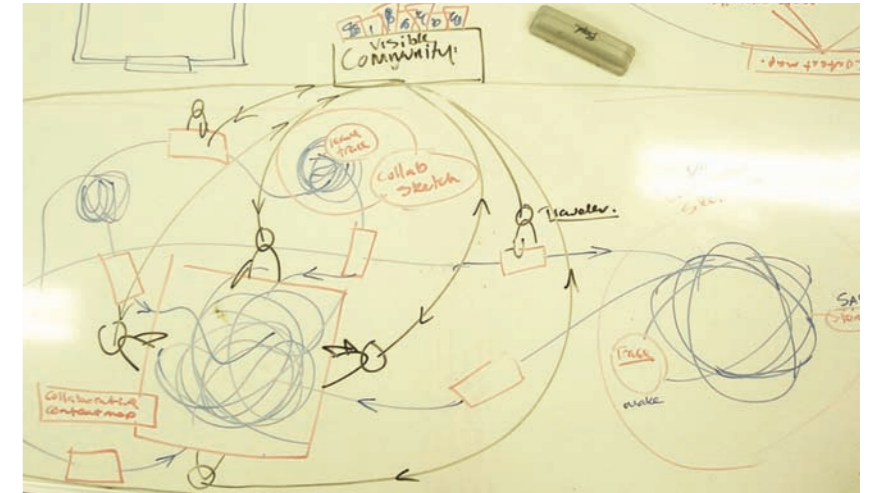
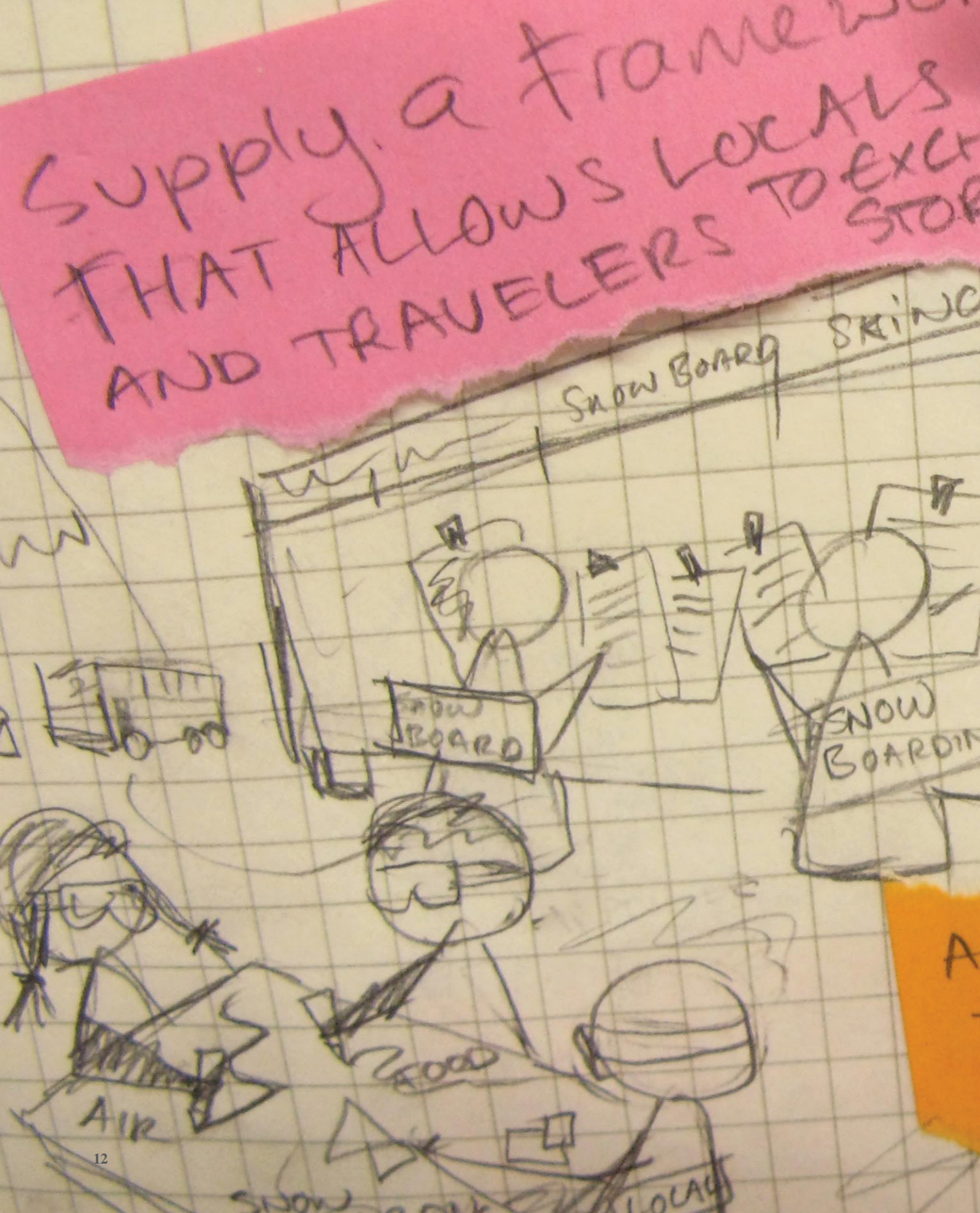


Figure 10. Sketch describing the the process of travellers gathering information

sense that it helps travellers understand the value of the place and the experiences it offers. It aids in both the to “go or not to go”, “stay of not to stay” decision making process. Go & Fonema acknowledge that:

Destination image is formed in what is referred to as mind knowledge space. We develop and express routines and experiences that are communicated though stories and scripts (...) processed and enhanced by other human beings (as cited in Govers & Go, 2009, p. 40).

The travellers is constantly changing their mental image of their surroundings by sketching on top of the old mental image when influenced by new sources of information. The ongoing search for information constantly changes the image for experience, before, during, after, after and after. Sketching an image for experience in their mind allows a travellers to navigate and make the right choices - is a destination suitable or worth going to.



2.0.5 Using Generative Tools to Support the Exchange of Information in the Co-creation of Image

Information is key to a traveller's view of experience. This research explores the role generative tools play in supporting the traveller's ongoing search for information by supplying a tool for real-time word of mouth exchange (Figure 11) of traveller to traveller information. The sketching of a mental image can lead to gaining fresh perspectives and assist with the decision-making process, offering a real-time understanding of the destination's image for experience.

The researcher's objective is to develop a communication tool, which will assist in travellers gaining fresh insight into experience of a location through the traveller-to-traveller exchange of information.

Figure 11. An initial concept sketch of the story bank idea, presented at Pecha Kucha, 2009



Section 3

Section 3 introduces the research question and explain how this research question drives the methodological approach and design development of the project.

3.0.2 An Action Research Approach

An action research methodology was used during the participatory process in designing a tool that offered snowboarders and skiers fresh insights into experience at a location. The research used co-creative sketching with generative tools to facilitate the participatory design process. This methodology placed snowboarders and skiers as experts of their experience.

The development process for the communication tool was iterative, sketchy (Figure 12) and playful and enabled snowboarders and skiers to co-create sketched artefacts that in turn informed the direction of the design. The artefacts and the way participants used the tools was observed.

This meant the data generated from both types of observations would inform what the tools looked like and how the participants used the tools.

The strategy followed the premise that by using iterative sketching the communication tool would be iteratively developed and tested on location over a short period of time.

The action research methodology allowed concepts to be developed in an iterative cycle to a point where a full working prototype and final design outcome was achieved. Action research is described by Bradbury & Reason (2007) as a participatory process:

Concerned with developing practical knowing in the pursuit of worth while human purpose. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities. (p. 4)

Using action research the objective was to develop a system supporting the exchange of tacit knowledge through the co-creative sketching of image about an experience. On a micro level

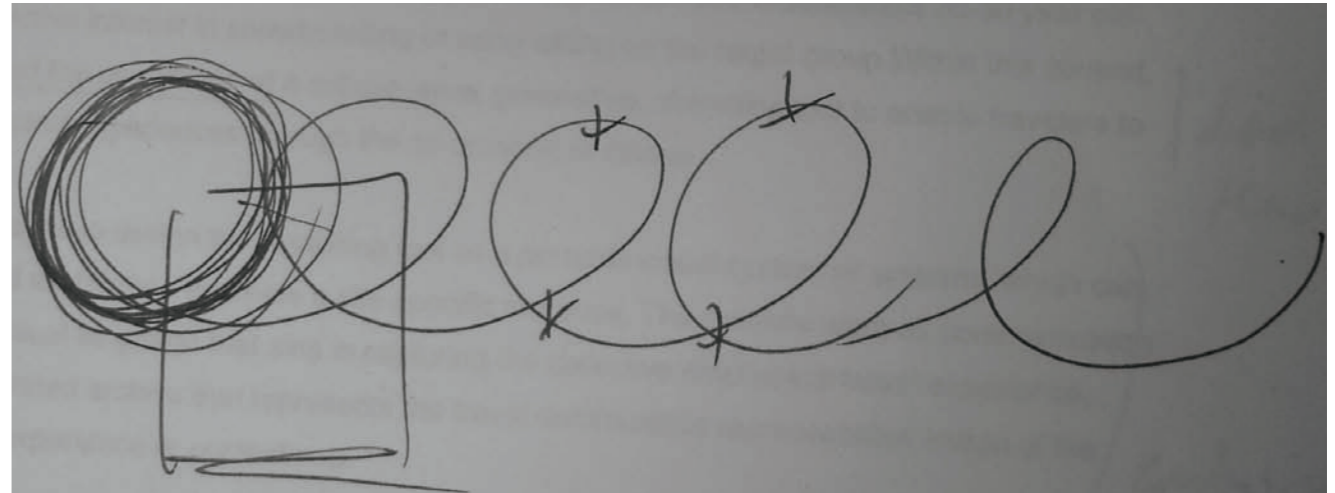


Figure 12. A sketched description of the action research process, (Bradford, 2009)

the research embodied in the design a playful communication tool kit while, on a macro level it encompassed the design of a system that supported the distribution and exchange of the sketched image in a digital format for example through blogs and You Tube.

As research progressed the emphasis shifted from designing a macro system of many parts to the micro level tool focused on which aiding travellers in the co-creative sketching of images about experience.

On reflection the action research methodology worked well in moving the research through the various stages of iterative development involved in the design research process. The transition from Theory to Practice was made smoothly as the research managed the transition from Theories based mainly on Sanders, Stappers and Huizinga across to the design and co-creation of generative tools. The research process of Theory to Practice felt to be a natural fit to the design process. The shift from Action to Reflection however was less natural. The Action component of the research sort to engage participants in the co-creation of generative tools during co-creative sessions. During the Reflection phase of the research the data generated from the co-creation sessions in

the Action component needed to be synthesized and analysed. This analysis created a reflective and informative context for the designer to make design decisions on. The action and reflection aspects of the process required a wider skill set than that required of a traditional designer, the action component involved the use of skills such as rigorous planning, creative leadership and the analysis and synthesis of data into an accessible and informative context.

During the action research process the 'Action' and 'Reflection' stages yielded the most insightful results and had the greatest effect on the direction of the research. The 'Theory' and 'Practice' stages were seen to support and underpin the 'Action' and 'Reflection' phases. When referring to the co-creative process used in public prototyping both 'Theory' and 'Practice' require good planning and well considered design development to form a strong strategic base for decision making. The 'Action' component of the research placed emphasis on engagement with the participants as experts, used to generate data. 'Reflection' placed emphasis on the synthesis and analysis the data, presenting it in a way that informed the strategic direction of the next phase in the iterative co-creative process.

3.1 Sub Questions

Sub Question: 1

How can co-creative sketching result in the development of a shared image for experience based on the exchange of accounts of an experience?

Sub Question: 2

How can co-creative sketching support participatory design?

3.2 Sub Question. 1

How can co-creative sketching result in the development of a shared image for experience based on the exchange of accounts of an experience?

3.2.1 Sketching Experience

In designing a communication tool kit for snowboarders and skiers the act of 'sketching' laid the foundation for a participatory design process, which could be developed rapidly. In this table is an outline of the participatory design process undertaken to achieve the final design.

3.2.2 Table A: An Overview of the Participatory Process

Participants:				
RESEARCH ACTIVITY	ELEMENTS	REASON	CONSIDERATIONS	DATE
Reflective Sketching	Snowboarders and skiers	The identified audience traveled on a regular basis to the field of study during the winter months. And the research had existing anecdotal knowledge on the experience surrounding the culture and leisure activity.	The research objective was to blend in with the respondents so to not influence the nature of the experience being observed. The decision was made to undertake the reflective sketching as a snowboarder.	26/06/09 - 06/07/09
Co-creation phase 1 Probes	Rider group 1 Snowboarders and skiers aged between 20-30 year old, who are independent travellers. 3 - Snowboarders	Reflective sketching identified this target audience as the one which would frequent the co-creation setting, surround ski fields and participate in snowboarding and skiing on a regular basis.	The respondents needed to relate to the visual elements.	18/09/09 - 27/09/09
Co-creation phase 2 Card Kits & Experience Map	Rider group 2 5 - Snowboarders 1 - Skiers	Participants were chosen based on their availability to participate.	The research needed to be flexible in when and where the co-creation sessions would take place to ensure the respondents were comfortable with participating.	03/10/09
Co-creation phase 3 Experience Map	Rider group 3 3 - Snowboarders	Participants were chosen due to their availability and level of knowledge about the experience of snowboarding and snowboarding culture.		07/10/09
Co-creation phase 4 Testing	Rider group 4 2 - Snowboarders, 1 - Skier	Availability and access to location.		04/11/09

Field of Study:				
RESEARCH ACTIVITY	ELEMENTS	REASON	CONSIDERATIONS	DATE
Reflective Sketching	Tongariro National Park	Offered high access to a high concentration of travellers through the duration of the participatory research.	The research objective was to observe and participate in a wide variety of experiences associated with snowboarding and skiing at the location to give the data a rich variety of experience.	26/06/09 - 06/07/09
Co-creation phase 1 Probes	Rimu Park Backpackers and the Base Cafe of the Turoa Ski field.	The choice of location was informed by findings of the reflective sketching and the participant's requirements at the time of the co-creative sessions.	Respondents often opted for convenience and agreed to the co-creative sessions after or in between snowboarding and skiing.	18/09/09 - 27/09/09
Co-creation phase 2 Card Kits & Experience Map	The participants chose the field of study because it suited their immediate needs.			03/10/09
Co-creation phase 3 Experience Map	Snow Camp in Ohakune	This location was convenient for the participants.		07/10/09
Co-creation phase 4 Testing	Room T27a, Massey University, Wellington	The research was now focusing on testing the usability of the tool rather than participatory design sessions at the location of the had experience.		04/11/09

Methods of Notation:				
RESEARCH ACTIVITY	ELEMENTS	REASON	CONSIDERATIONS	DATE
Reflective Sketching	Diary Entry	Supplied a day-to-day record of research activities.	Diary Entries were filled in each day.	26/06/09 - 06/07/09
	Reflective Sketching	A quick, timely approach to generating accounts of observations into experience.	Rigor was applied to the reflective sketching, which was done on reflection at the end of the day through out the 9 days of research. Both conceptual approaches for observing experience of Say, Make, Do (Sanders, 2003) followed by the Map, Act, Tools created the observational framework for the research.	
	Photographs	Take to capture a realistic image of the experience		
	Collection of informative material, i.e. Brochures, maps, newspapers	Collected to gain an understating of existing informative tools used in the location.		
Co-creation phase 1 Probes	Reflective sketches	Reflective sketching was used as a back up approach to recording data if the video camera did not work.	The reflective sketching supported the recording of the respondents use of the card kit.1	18/09/09 - 27/09/09
	Video Camera	The video camera would record how the respondents would react to the use of the card kit. 1 in an co-creation session.	The video camera failed.	
	Disposable Camera	The disposable camera was used with both, magnet kit. 2 and craft kit 3. The camera instructed the respondents to take a photo of what they made.	The disposable cameras where used only once as were each of the kits.	
	Camera	The camera was used to document the respondents during the use of card kit.1 to support the reflective sketching if the video recorder failed.	The camera captured images of the respondents co-creating images for experience. But did not offer a deep level of insight into their response.	

Methods of Notation:				
RESEARCH ACTIVITY	ELEMENTS	REASON	CONSIDERATIONS	DATE
Co-creation phase 2 Card Kits & Experience Map	Video Camera	The video camera allowed the research to observe how the respondents reacted to the tools. By watching the footage on reflection to the co-creative sessions the footage showed captured data that would have been forgotten or missed.		03/10/09
	Camera	Photographs taken by the camera offered images that represented moments in time of what the participants were making, creating a stop motion action of their images about experience. Photographs taken by the camera offered images that represented moments in time of what the participants were making, creating a stop motion action of their images about experience.		
Co-creation phase 3 Experience Map	Video Camera	The video camera allowed the research to observe how the respondents reacted to the tools. By watching the footage on reflection to the co-creative sessions the footage showed captured data that would have been forgotten or missed.		07/10/09
	Camera	Photographs taken by the camera offered images that represented moments in time of what the participants made.		
Co-creation phase 4 Testing	Video Camera	The video camera allowed the research to observe how the respondents reacted to the tools. By watching the footage on reflection to the co-creative sessions the footage showed captured data that would have been forgotten or missed.		04/11/09
	Camera	Photographs taken by the camera offered images that represented moments in time of what the participants were making, creating a stop motion action of their images about experience.		
	Blog	Images taken in a sequential format by the participants was uploads into a blog to be played as a stop motion animation.		

3.2.3 Identifying a Location for Co-creation

Research at this point was based on theoretical concepts. The next step moved the research from theory into practice by identifying an applied context. The research objective was to identify the Tongariro National Park as the suitable location for the research, as well as identifying the specific setting for the participatory design process and the targeted audience. The ethnographic approach of reflective sketching was used to observe experiences in the area, which informed the choice of setting and target audience.

3.2.4 Observing Experience

The ethnographic approach of reflective sketching used was informed by the theoretical concept for observing experience of, Say, Make, Do (Sanders, 2003) and Map/Act/Tool. (Figure 13)

The Say, Make, Do concept is an approach used in observing experience that allowed the research to observe experience through differing view points. The Do aspect of observing experience generated insight on the moment of experience, Say offered insight into immediate past and future experiences, Make offered insight into past and future experience.

This theoretical concept for observing was further informed by acknowledging the Map/Act/Tool in the experience. This concept for constructing the context for the experience was informed by Stappers (2008) approach in 'vision-based design', which is used to help prep designers for understanding the context of an experience and environment before beginning the participatory phase.

A coding system was also used to identify the nature of the respondents but this coding system was unsuccessful.

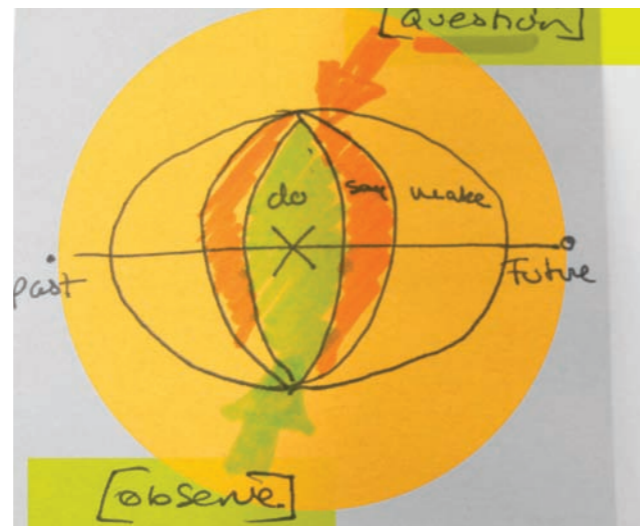


Figure 13. Observing different aspects of experience using SAY, MAKE, DO (Sanders, 2003)

3.2.5 The Outcome of Reflective Sketching Experience

The data produced from the reflective sketching (Appendix. iii) set up an informative context, identify a target and audience and ideal collaborative environment for the development of specific generative tools.

The outcome of the reflective sketches that were generated over the course of that week, identified two locations that demonstrated a high level of sharing and conversing, but only one location demonstrated collaboration.

The two locations were 1): On the chairlift in the ski field, where riders are forced to share a small space and as such made conversation, sharing information on their backgrounds and information on the conditions of the field in planning the next runs. (2) The common/kitchen area in their chosen accommodation. In this instance it was the kitchen and common area of the backpackers that lead to travellers sharing conversing and collaborating during the mornings and evenings.

The reflective sketches (Figure 14) showed that snowboarders and skiers repeatedly gathered in this common area to (1) make breakfast or dinner, (2) check the snow-report and, (3) make plans for the day. The limited resources - (appliances such as stove tops, jugs, toasters and fridges) and the communal setting meant travellers had to work together and share resources in order to achieve their goals. In the course of making plans for the next days riding and dinner together they were constantly exchanging accounts of their experiences.

This location offered a stable collaborative setting in which to carry out participatory research. The findings from the reflective sketching identified snowboarders and skiers between the age of 20-30 who were independent travellers as the target audience and common/kitchen areas of backpacker accommodation as the ideal collaborative setting to carry out the participatory process.

Once the reflective sketching, analysis of the data and presentation of findings were complete (Appendix. vi) the research moved into the development of generative tools for the identified target audience and location. This stage of the research required participation with snowboarders and skiers. Both co-creation and context-mapping approaches informed the development of the tools throughout this phase.

During the participatory design phase the sessions moved away from the common/kitchen area of backpacker accommodation identified in the reflective sketching and into rented chalets, and in one instance a snow camp, but the setting of the common/kitchen area of the accommodation stayed consistent throughout.

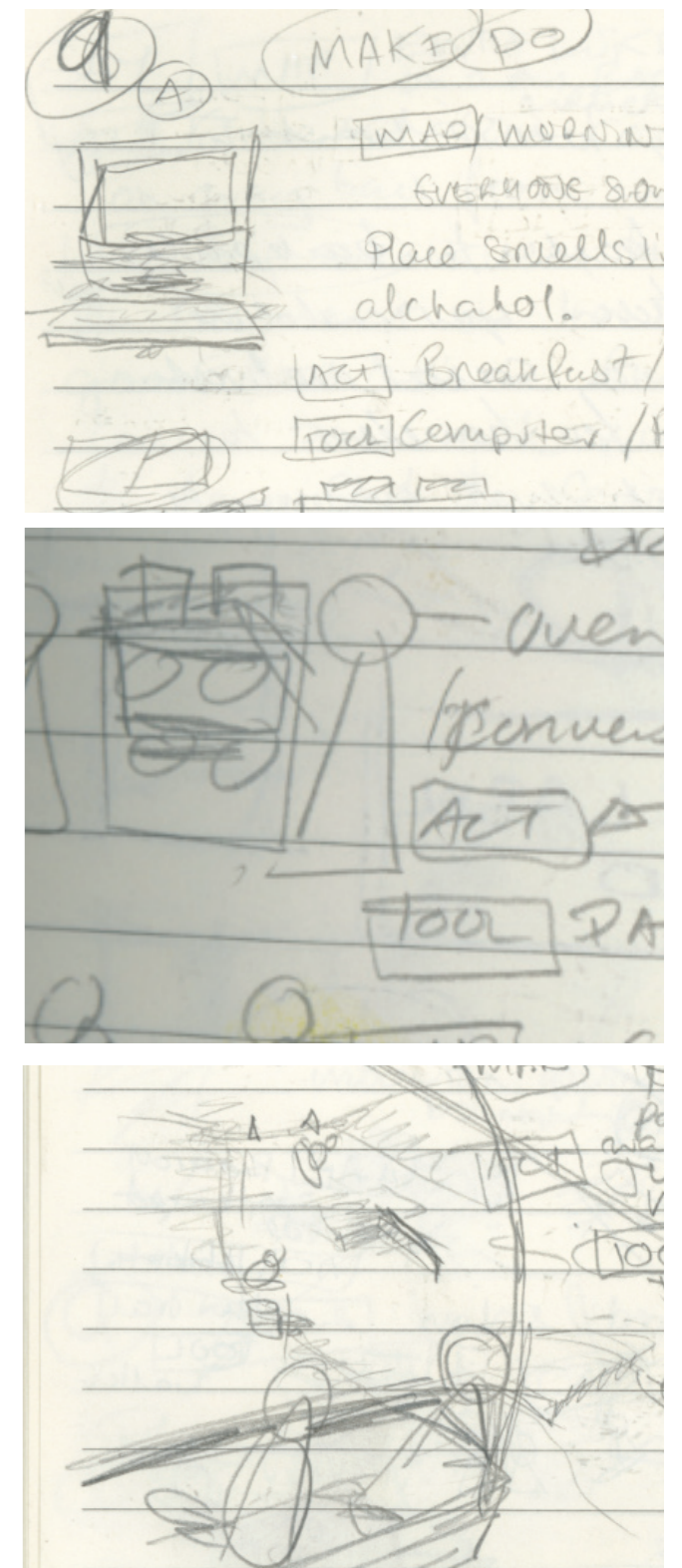


Figure 14. Series of sketches extracted from the data produced in reflective sketching

3.2.6 Table B: Four Levels of Creativity

Public Prototyping		
Examples of	Card Kits	Experience Mapping Tool
1. Doing	Sorted and organized images into categories.	Choose images and moved them into place.
2. Adapting	Applied images to within the existing suits and hierarchy of the playing cards.	Applied meaning to icons and shapes by appropriating them for specific uses.
3. Making	Gave each card a meaning using the words they associated with the images	Participants created images with a an assembled collection of icons. Using the relationship of the icons to tell a story by adding words and expression lines.
3. Creating	Participants created their own image of experience by using the all cards they made.	Created a map of their experience for the day.

3.2.7 Co-creating New Insight about Experience

The participatory approach used in the development of the communication tool was co-creation informed by both context-mapping and co-creation - both successfully employ generative tools in the co-creation of data. Both approaches use tools and theoretical concepts to generate new insight about an experience. This is achieved by placing users as the experts of their experience. New insight into experience is achieved through bi-association, a bi-product of the openness and accessible nature of the data produced through using the tools. According to Koest (1964), “every creative act involves bi-association, a process in which previously unrelated ideas are brought together and combined” (as cited in Sanders, and William, 2001, p. 2) The simple accessible nature of the tools and openness of the data produced in co-creation offered non-designers the opportunity to achieve bi-association, and offer stakeholders a new way of viewing experience. This is the basic driving principle of participatory design. By achieving bi-association during co-creative sketching snowboarders and skiers gain new insight about experience and new possibilities for experience.

3.2.8 The Considerations in Running Generative Sessions

Throughout the course of the participatory process the designer plays varying roles. During and prior to the generative phase of participatory research it is the designer’s responsibility to be a creative leader. The role of creative leader entailed choosing the right tools for the participants at each stage in the creative process and guiding them through the co-creative process. Both Sanders and Stappers (2008) recognise that: “Designers need to acknowledge their role in the co-creative process and their level of involvement each stage or the process requires.” (p. 11) To view these levels of creativity see (Table B, p. 28) Each stage with in the process acts as a level of creative immersion for the participants with that comes a specific tool kit and a process specifically designed for it to yield the best results. These levels of creative immersion (Sanders & William, 2001) help serve as a guide in informing the choice of tools during the process.

In considering the creative needs of snowboarders and skier the research acknowledges the four levels of creativity: 1. Doing, 2. Adapting, 3. Making and 4. Creating outlined by Sanders combined with a sensitivity to the existing cultural forms of creative expression. For snowboarder and skiers the design of the tools needed to consider flexibility, accessibility and playfulness to promote freedom, self-expression and sharing. Playfulness is recognized an important aspect in the creative needs of the snowboarders and skiers, represented through the bright graphics and rich images that already exist within the culture fashion. The use of playful graphics celebrates self expression and freedom. The researches approach to transferring the use of bright colorful graphics and rich imagers through to the tools created attraction familiarity and engagement in line with the cultures creative needs, allowing participants to visually express using a tone and language they understood.

3.2.9 Choosing the Right Tools

The selection of tools for this co-creative process required careful consideration, as they must fulfill snowboarders and skiers creative needs, generate relevant data and offer an authentic insight into experience while being responsive to the changing nature of the research environment.

By employing the existing generative tools found in co-creation (Figure 15) and context-mapping the research made use of the relevant knowledge of the 4 levels inherent in these tools. Through reflecting on the participatory process in the research, it was found that the generative tools diverged from those already existing such as, workbooks, collaging kits and cognitive mapping tools, which are found in co-creation and context-mapping. The variation was a result the tools being designed to suit both the creative needs of the participants and the fluidity and unpredictability of the research environment. (Figure 16) This was informed by Sanders and Williams (2001) who state: “you should think about your goal, then pick tools that will facilitate people’s thinking and talking about their experiences.” (p. 10)

On reflection of the co-creative process carried out the research identified that bi-association was achieved during the use of both generative tools used the in the participatory design process. In both instances the visual languages used served as scaffolds for a collective discussion and the sharing of experiences which lead to new insight. The open framework of the visual language enabled participants to add to the visual context, co-creating a collective context or contextmap. The exchange of experiences lead to individuals gaining new insights into the experience, co-creating an image for experience beyond their individual conception. This co-creative act is a result of bi-association in both an individual sense and collective sense. Individuals achieved bi-association when adapting view points of other to build onto their own tacit-knowledge of an experience. Collectively the co-created contextmap represent a context visual layer of collective bi-association, representing a mix of varying views points beyond the individual.

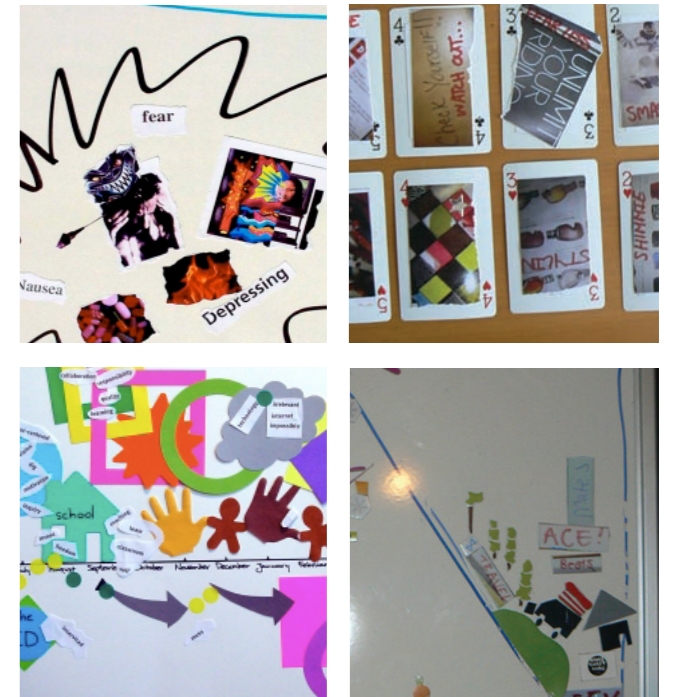


Figure 15. Generative tools used in co-creation (Sanders, 2003)

Figure 16. Generative tools used in Public Prototyping

3.2.10 The Constuction of Generative Tools

The tools used in the sessions with the snowboarders and skiers, like context-mapping need to require little or no instructions. They contained a balance of aesthetic choices structuring devices, words and images, and graphic elements that can be manipulated in a way promoting interaction (Sleeswijk Visser, Stappers, Van der Lugt, 2007). The nature of the content of the kit depended upon the types of data the research needed to extract from the users about their experiences. Sanders and Williams (2001) supply a recommended list of elements for each kit.

- 150-200 - Elements in both kits
- Collage Kits - Words and images
- Cognitive Maps - Words, images and ambiguous shapes

3.2.11 Outcome of Co-creation

Once the co-creative process is complete data needs to be analyzed. Generative tools are made of a common visual language that all participants can access as it is of an accessible and flexible nature. The openness of the tools creates data, which is open and accessible in nature.

3.2.12 Analysis of the Generated Data

The method analysis involved identifying re-occurring patterns or trends found in the co-created data set. The process of analysis used a method informed by the 'affinity diagram' method, Beyer & Holtzblatt (as cited in Kuniavsky, 2003).

Data analysis was done in Wellington in a open space where the data could be spread out and moved around freely. The co-creative sessions were documented using photography and video recording. This was also part of the analysis process as it offered insight into how the participants responded to the tools. These results were considered along with the artifacts.

The analysis of data played a key role in the action research process. The reflective phase of data analysis allowed the designer to take stock and make sense of the data generated from the co-creative sessions before transitioning into the next iterative stage of the design process. As mentioned above the analysis of data was done in a large format space. The process of analyzing data using the S.L.I.P method (Maeda, 2006) and affinity diagram approaches, Beyer & Holtzblatt (as cited in Kuniavsky, 2003) created maps or large scale sketches in a physical space from which trends could be identified. (Figure 17 & 18) Working this way meant that data could be physical moved and offers the potential for other stakeholders to be involved in this process.



Figure 17. Images taken during sorting and analysis process

This stage of the design research process involved the designer in a decision making process that involved with working with varying points of view to find repeating trends and common trends. This process required the designer to balance a mix of theories, design objectives and varying points of view from the participants when making decisions on groupings and association during this reflective process.

This process of reflection where the designer works with the data making sense of it by sorting it into associated groups creates a sense of co-ownership within the designer as the data is synthesized from raw data to presentable and identifiable trends and proof of direction for the next stage in the design process. This stage is insightful and rich in the sense that it offers the designer insight and perception into the topic examined through a co-created lens, where the designer can view the topic through varying points of view and come to conclusions beyond individual conception.



Figure 18. Images taken after sorting and analysis process

3.3 Sub Question. 2

How can participatory design support co-creative sketching?

3.3.1 Leading Non Designers through the Process

As a creative leader the responsibilities of the designer related to the preparation the tools and assisting non-designers through the four levels of creativity during the co-creative sessions was key to the success of the participatory design process.

To harness participants creativity the designers needed to support both ideation and expression in order to generate and collect data that went on to inform the decisions of the designer.

Using the four step framework to lead non-designers through the creative process (Sanders & William, 2001) designers can take participants from immersion (doing & adapting), to the activation of feelings and memories (adapting & making), to dreaming and then finally, bi-association (making & creating).

3.3.2 Designing With Snowboarders & Skiers

Data co-created using generative tools is open and authentic (Sleeswijk Visser, Stappers, Van der Lugt, 2007) and meant that the sessions between snowboarders and skiers and the designers were rich in the sense that all stakeholders exchange and transform the artifacts during the co-creative process. Through the co-creative sketching images about experience snowboarders and skiers (Figure 19 & 20) can co-create a collective authentic view of experience. In terms of communication objectives and the importance of destination image (in the applied context of tourism) Once the tools were refined enough they enabled snowboarders and skiers to co-create an authentic public image for experience at the chose location - than could assist in the decision making process.

The research intended to follow an approach and application similar to that of co-creation and context-mapping, however, the need to consider the creative needs of the participants and environmental factors resulted in an adaptation of the process and tools.

Research was to be initiated with a sensitizing phase followed by a generative session phase on reflection. The sensitizing phase was discarded, as it did not fit with changeable and unreliable nature of the participants. Many of the constructs which informed the development of tools for the participatory design, were based around being flexible and ready to use at any location. This was due to the fact that participants could only commit to one weekend at time and would only know if they were going to the mountain a few days in advance of the generative sessions and in turn depended upon the weather at the time.

Participants were selected based on availability and willingness to participate. Candidates were recruited through an extended social network of domestic snowboarders and skiers. Communication with candidates was conducted through direct email and over the phone. Requirements for participant selection was based primarily on availability. The timing and the co-ordination of getting groups proved to be difficult at times as participants where reserved in committing to times that may effect existing social plans or time up on the mountain. Respecting the participants willingness to give up time whilst away travelling resulted in the research being as flexible and accommodating as possible.



Figure 19. First phase of co-creation in public prototyping



Figure 20. Second phase of co-creation in public prototyping



Figure 21. Inspiration boards created through the analysis of data generated from co-creation

3.3.3 Process of Participatory Design Research

The co-creative sessions took up to 20mins each and were followed by a opportunity for the snowboarders and skiers to talk about what they have made and give feedback on the experience through responding to a series of a question.

A card kit influenced by the collaging approaches found in co-creation and context-mapping assisted snowboarders in the generation of an emotional context for experience, this tool was made up primarily of images and words with the inclusion of playing cards and stickers. This kit was used in the immersion stage of co-creative sessions.

The intent is to use collaging to create a visual map of what an image of experience may look like, which generated data that uncovered participants environmental drivers for traveling to the area and participating in the act of snowboarding and skiing. (Sanders and William, 2001) The results from the card kit informed the visual design of the communication tool.

Cognitive-mapping tools and the results form the card kit informed the design of a mapping tool which consisted of an icon language (Mc Cloud, 1993) This mapping tool was used in the, making and creating stage of the co-creative sessions. It aided participants in communicating the process of the experience they went through during the day. (Sanders and William, 2001) It consisted of basic shapes and iconic images and was more ambiguous than the card kit. This tool was useful in generating data that reflected the snowboarders and skier's day up the ski field and creating a visual artifact that represented a sequence of memorable events, which unfolded during that day.

Once the data was collected it was organized in a way that uncovered patterns and established trends. This approach is an open data sorting approach known as the affinity diagram method Beyer & Holtzblatt (as cited in Kuniavsky, 2003). The results of the affinity diagram were then synthesised into a mood and inspiration boards, presenting the data in a way that makes sense to the designer and informed the direction of the design. (Figure 21)

The scope of the project and its communication aims are outlined as follows. This includes a brief that served as a design document bridging the gap between the theory and practice of participatory research.

3.3.4 Table C: Comparing participatory design processes

Co-creation and Context-mapping process outlined by Stappers & Sanders	Actual process of Public Prototyping					
	Category	Activity	Result	Concerns	Considerations	
1.0 Preparation	1.0 Reflective Sketching	Identify the Target audience and ideal setting for co-creation.	The ideal setting for co-creation was identified as the kitchen/common room area of backpacker accommodation. The target audience independent travelers aged between 20-30 with an active interest in snowboarding and skiing.	Reflective sketching offered insight into experience based on researchers perception, which is a result of the researchers background.		
2.0 Sensitisation	2.0 Probes	Test target audiences response to placement of generative tools in chosen co-creative setting.	Card Kit One generated the co-creation of images about experience. Generate insight into images associated with experience. Generated emotion responses to experience. Participants co-created categories with the images that represented aspects of the experience. Test Target Audiences response to placement of generative tools in chosen co-creative setting. Magnet Kit 2 and Craft Kit 3 produced poor results.	Images need to be of a wider variety to cover a wide range of experiences	In-house testing of tools before use of tools in Co-creative setting to ensure the kits yield the correct data needs to be carried out.	
3.0 Generative Sessions	3.0 Co-creation Phase 1 Session 1 Time duration - 20mins	Co-creation with Card Kit 1 generated data on experience.	Card Kit 1 generated the co-creation of images about experience. Generate insight into images associated with experience. Generated emotion responses to experience.	Images need to be of a wider variety to cover a wide range of experiences Lack of structure frustrated participants, as they had to figure out the rules themselves.	Enlarge size of elements. Reduce the number to tasks in each co-creative Phase.	
	3.1 Co-creation Phase 1 Session 2 Time duration - 20mins	Co-creation with experience mapping tool made up of an iconic visual language generated data on experience.	Participants mapped out images of their experience using simple icon base language. Generated reflective insight in to how the days the experience went and what happened.			
	4.0 Co-creation Phase 2 Session 1 Time duration - 20mins	Co-creation with experience mapping tool generated data on experience made up of an iconic visual language generated data on experience.	Participants mapped out images of their experience using simple icon base language. Generated reflective insight in to how the days the experience went and what happened.	Participants commented that there were not enough specific elements to communicate the full aspect of the experience.		
	4.1 Co-creation Phase 2 Session 2	Co-creation with experience mapping Tool but under the direction to map out the experience step-by-step so each step could be photographed and played back like that of stop-motion footage.	Participants mapped out images of their experience using simple icon base language with more detail. Generated reflective insight in to how the days the experience went and what happened.	One participant didn't feel the need to engage in session two as they had expressed their experience in session one. The final map did not reflect a full account of the experience mapped out. The full account could be viewed through the playback of the images in the camera only. Participants wanted more emotive graphics.		
4.0 Analysis of Communication Findings	5.0 Creation of a visual map that represents the data generated over the five co-creation session.	The use of the affinity diagram method sorted the content from all five sessions. Co-creation sessions into a visual map of experience.	Identified patterns in data, which formed visual categories that represent aspects of the co-created experience.	The organization of the categories was based on the designer's interpretation of the data, which made it subjective.	Develop the individual experience categories of the visual map into individual mood board that each represents an aspect of experience. Use the mood boards to develop a informed visual language that represents each aspect of the experience.	Analysis and Communication of findings
	6.0 Design Development	Refine concept though inhouse design development of visual language.	Individual mood board that represent aspects of experience.	The need for a formal approach for developing the content with in the categories.	Move forward with developing the visual style of the visual language.	
	7.0 Testing	User testing in a co-creation session.	The new visual language designed off the mood board worked in inspiring use. The test of the macro system produced poor results	Poor image quality in uploading digital images onto internet for a stop-motion format is slow and makes the system redundant.	Move forward on developing the visual language. Drop the development of the macro system.	Move forward on developing the visual language. Drop the development of the macro system.
	8.0 Concept Generation	Visualisation of concept	Semi-functional idea	The idea does not reflect the data.	Redevelop concepts	Presentation of concept.
4.0 Presentation of Concept	9. Concept Generation	Visualisation of concept	Achieved design objectives.			

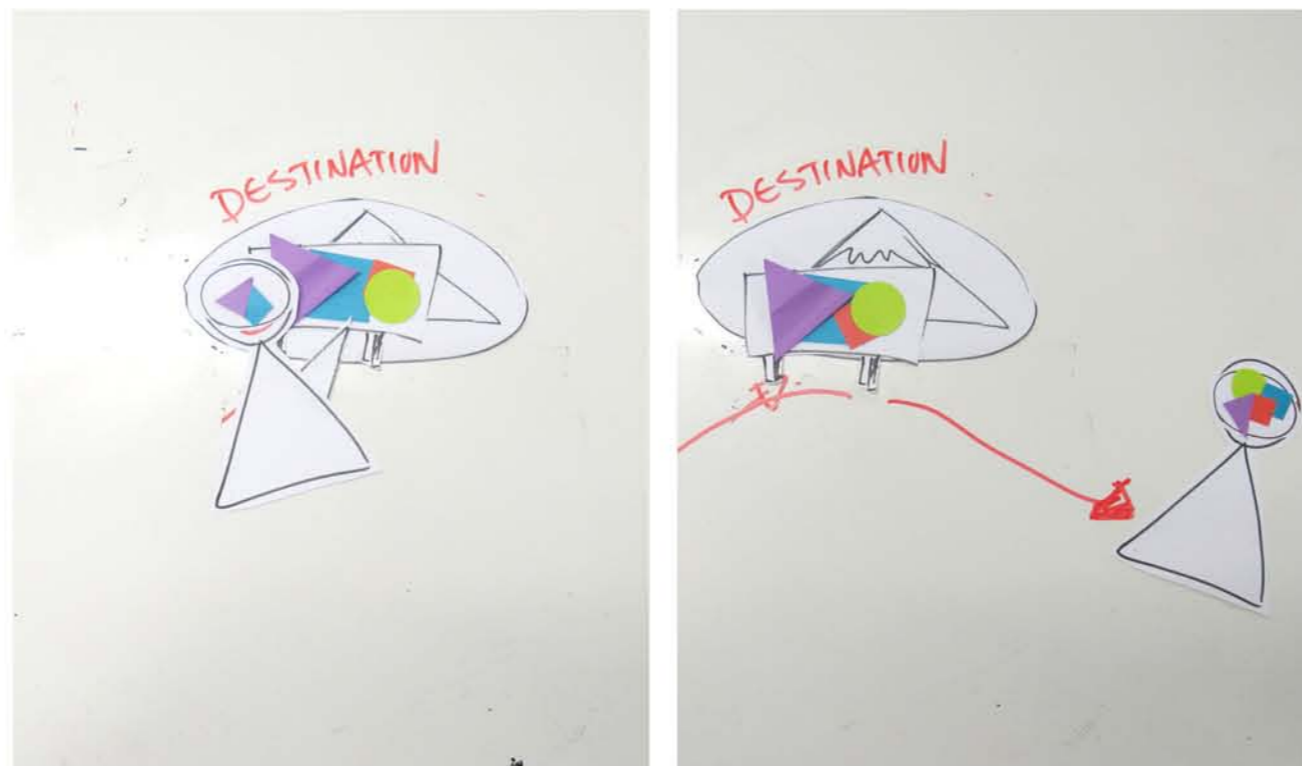
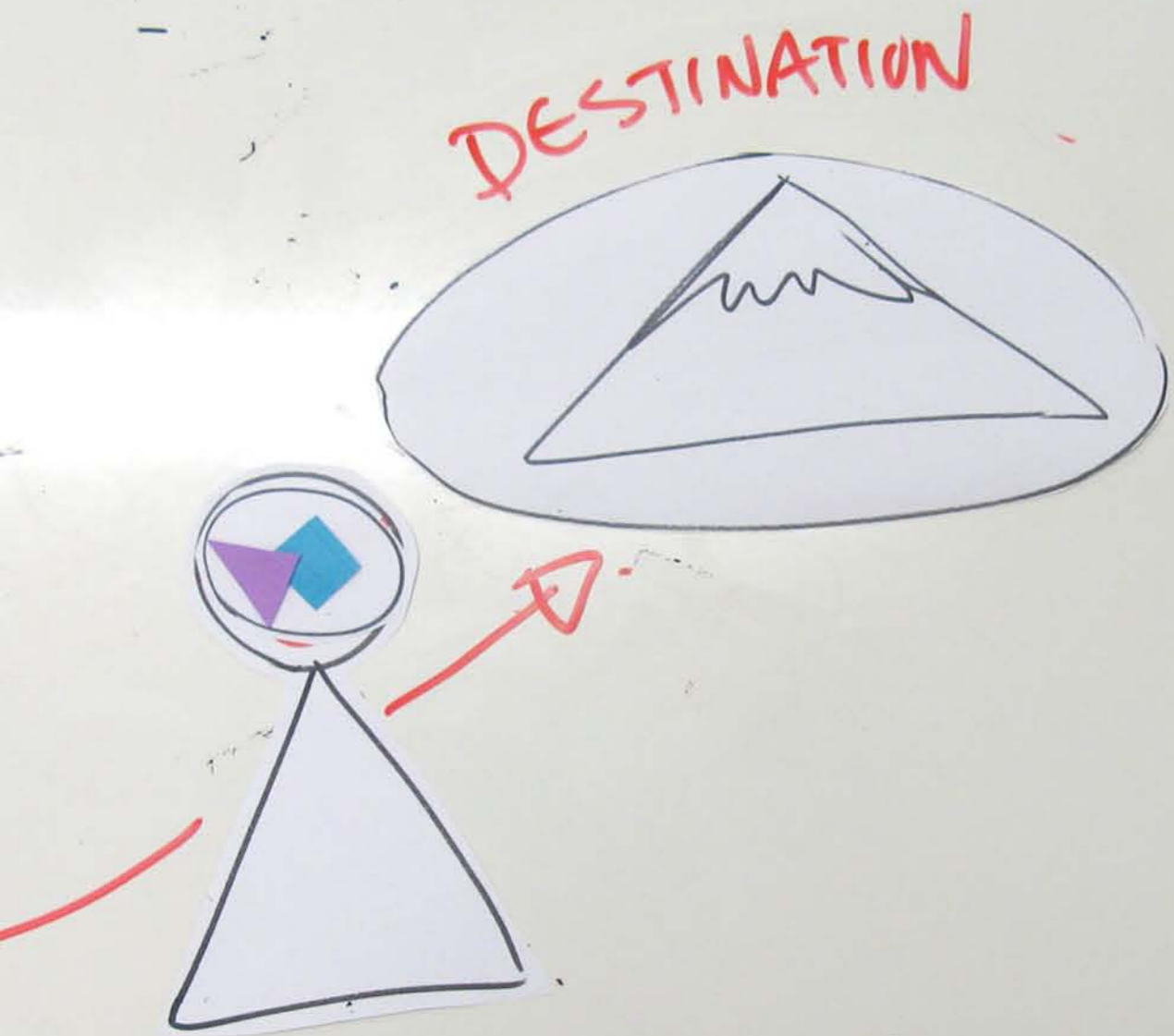


Figure 21. A sketched sequence of images explaining the process of sketching a mental image about experience

3.3.5 Co-creating a Playful Exchange

The concept of play was an integral part of the development and testing of this communication tool. Theoretically, a state offering escape into a temporary sphere and this research allows snowboarders and skiers, to learn to co-create for the fun of it. (Moggridge, 2007). Playfulness encourages participants to interact and create by gathering, discovering and exchanging the content of the generative tools and using them in their own unique ways. Co-creative play encouraged snowboarders and skiers to collectively make sense of the tools, form rules and views of each other, and in the process gained insight into fresh perspectives and achieving a level of bia-association (Figure 21).

In a reflective context the generative tools enabled snowboarders and skiers to share reflective accounts of their experience using the tools as props and cues to dialogue. As the participants played with the tools they co-created a contextmap for the experience. This contextmap supported the layer of dialogue that was being shared between participants and helped participants gain greater insight into other view of the same experience. The playful engagement with the tools meant that the atmosphere of the process stayed light and fun which further promoted exchange and sharing.



Figure 22. A sketch of the chosen setting for co-creation

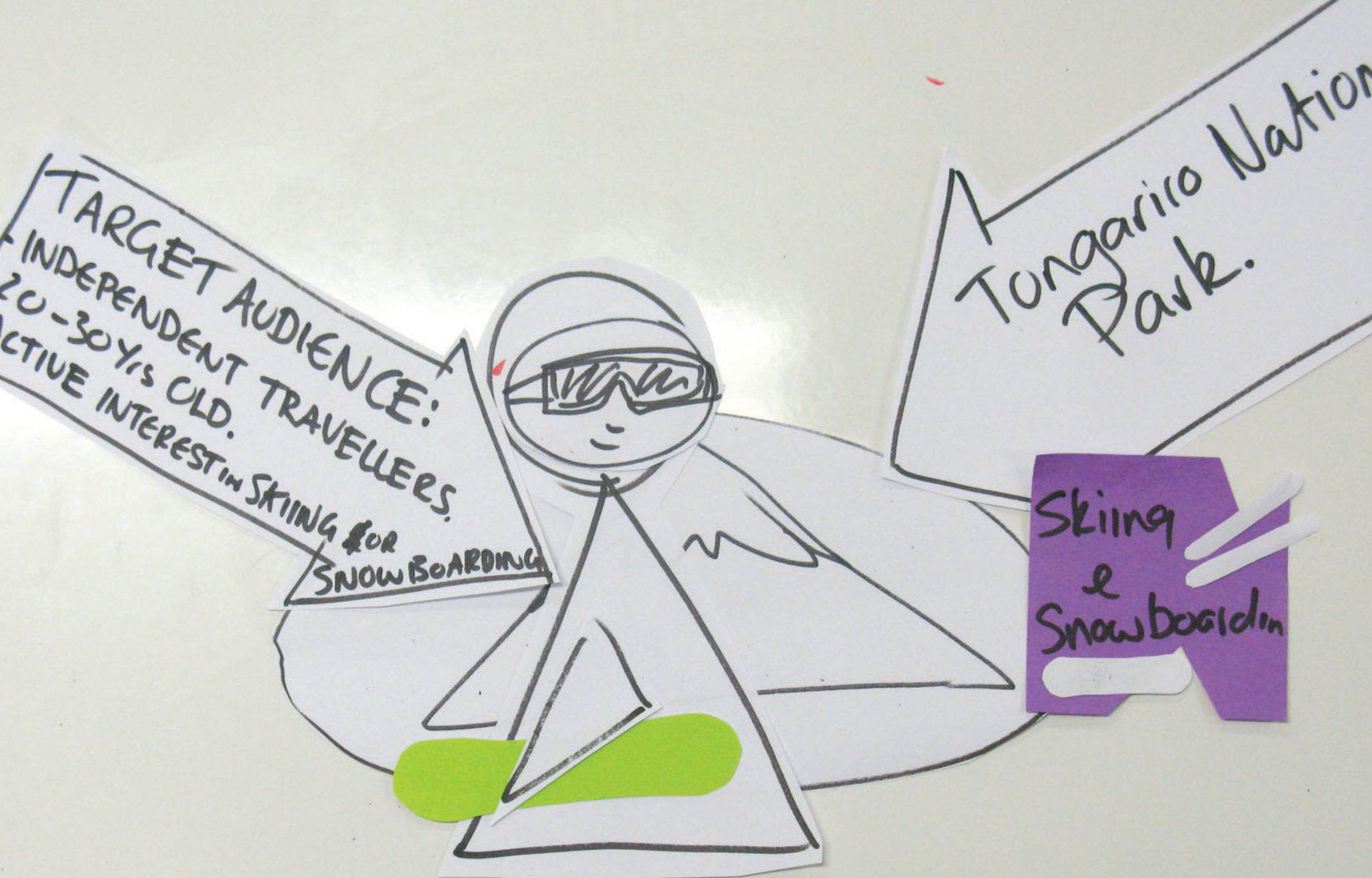
3.3.6 Refining the Tool Palette

The research employed tools, which serve travelers in the collaborative setting of the kitchen/common rooms area (Figure 22) of snowboarder and skier accommodation. Initial concept work aimed to develop these tools wider within the communication network of which they are a part of in order to fulfill the recognised for distribution of information. The resulting image for experience can therefore reach beyond the location it self (Govers and Go, 2009).

As the project developed the focus shifted towards refining the tool rather than developing the system, as it became apparent that snowboarders and skiers already had the means to distribute an image using a mobile phone network. This shifting of scope allowed the research to focus on co-creating a communication tools which drew influence from generative tools. This tool would enable the act of exchange accounts of experiences

The generative tools employed in this project will serve as a means of identifying and developing the correct tools for traveler-to-traveler exchange of information. The research has identified the above-mentioned tools as offering the processes and a level of accessibility necessary for the final design.

The nature and shape of the generative tools used influence the final design of the communication tool. For example in order to design a pen for a specific purpose you must start with a generic pen then test and develop one specifically for, and with, your user group until it fits perfectly. Regarding generative tools, this project looks at how generic tools can be modified and developed to fit a specific communication need supplying real time information to snowboarders and skiers on location.



3.3.7 The Brief

Design a communication tools for travelers to exchange tacit-knowledge about experience with.

Audience

Design the communication tools with snowboarders and skiers for snowboarders and skiers who are independent travelers between the age of 20-30 years old. The tool will be placed in the common room/kitchen area of traveler styled accommodation. (Figure 23)

Challenge

- Through the use of generative design tools in a participatory design process design a communication tools that uses play to promote the co-creative sketching of image about experience.
- Promote the exchange of tacit knowledge during the real time exchange of information that occurs in traveler-to-traveler communication.
- Co-creating a collective image for experience that makes tacit-knowledge accessible.

Idea

Through participatory and generative design techniques the research will develop a communication tool that promotes play and the co-creative sketching of image for experience, which will co-create a larger public image for experience. Play and sketching will be using throughout the participatory process to promote co-creation.

In a nutshell

Through the co-creative sketching of collective image for experience snowboarders and skiers will create an area that serves as an information hub for snowboarders and skiers to share, exchange and acquire new views on experience. The information hub will be made by snowboarders and skiers for snowboarders and skiers and offer a real time insight to experience by supporting the word of mouth exchange of information found in traveler-to-traveler communication at a location. This tool will place the snowboarders and skiers as experts of their experience.

Figure 23. A sketch outlining the target audience.



Section 4

Expands on the use of an action research methodology supplying a detailed week-by-week description of the undertakings in the participatory design process needed to reach the final design objectives.

4.1.0 Introduction

The following section gives a week by week overview of the participatory process, undertaken in this research. At the beginning of each important new stage in the process you will find a key like the one below (Figure 24).

The key offers a snapshot of the development process of each stage.

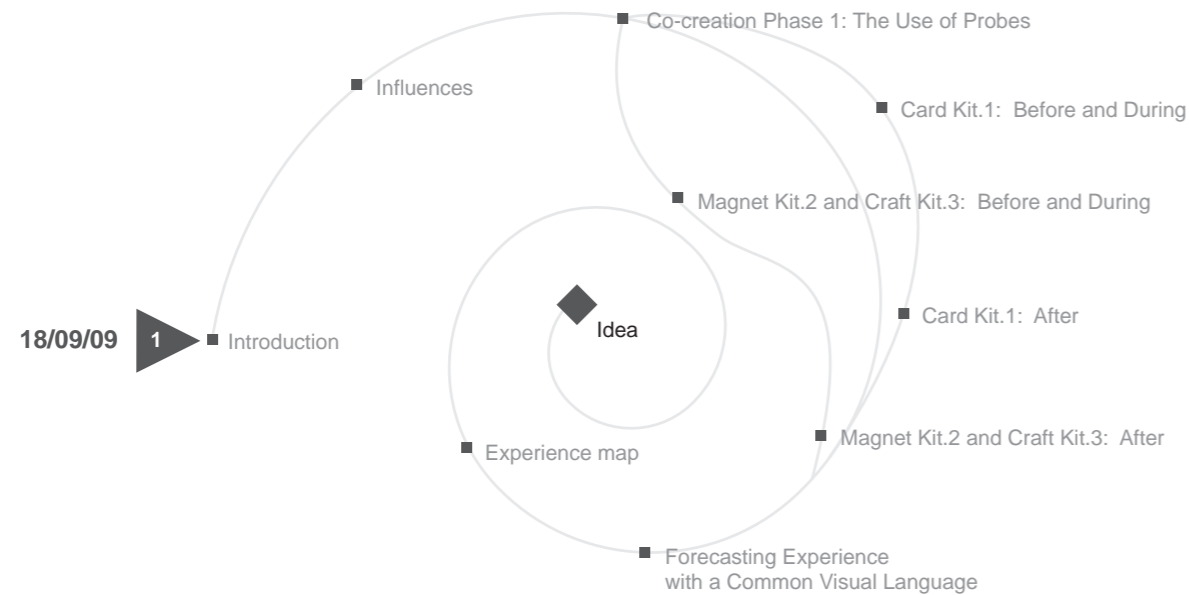


Figure 24. Map of the participatory process during week 1

4.1.1 Influences

Influences were based on acknowledging information sources travelers use to signify or represents an experience, (Figure 25, 26 & 27) these influences combined with generative tools informed the direction and construction of the probe kits.

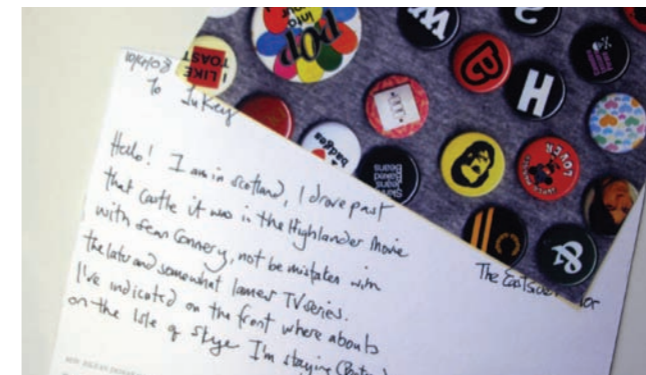


Figure 25. Post cards sent during travel to share insight into experience



Figure 26. Pa Figure 24. Stamps collected in a passport that represents travel experiences sports

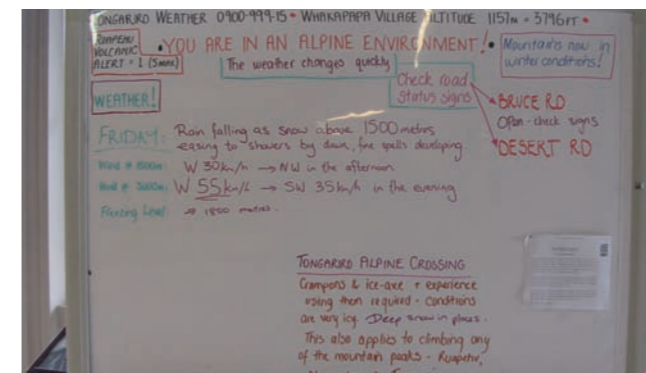


Figure 27. An Information board that inform the travel experience

4.1.2 Co-creation Phase 1: The Use of Probes

Design probes were used in testing initial theories on firstly, the chosen location and secondly, how the audience would respond to generative tool.

The probe kits were designed to be placed in backpacker type accommodation and each kit came with the same question: Tell us why you ride?

The question why you ride was designed to generative an understanding of the cultural drivers behind snowboarders and skiers on Mt Ruapheu. The question created a provocation that led to participants choosing and associating images with what they thought were reasons behind why they rode. This provocation created a somewhat collective ideal image for the experience and allowed the research to examine the core values in the experience, building a hierarchy of cultural drivers.

The core values represented the participants experience needs; 'what they aspired to get out of the experience.' Identifying cultural drivers allowed the research to make an informed decision on the design of a tool which helped participants aspire to those needs.

Approach:

The purpose of probe kits was to generate data to inform a content model or visual map that was to develop the visual language. The use of the kits helped with identifying what the experience looked like through the snowboarders and skiers lens of perception. Use of the probe kits in the research also informed an initial understanding of how people would respond to the placement generative tools in the chosen locations.

The research used 3 Kits made up of different elements. Kits 1 and 2 were to be left at the chosen location; Rimu Park Backpackers in Ohakune, and Kit 3 was to be used at a yet to chosen suitable location.

4.1.3 Card Kit.1: Before and During

Intent: Card Kit 1. The card kit (Figure 28) employed the existing value structure and set of rules embedded in the playing cards. This was influenced by ‘the joker game,’ from the Solitaire Mystery. (Gaarder, 2000) where by playing cards are each assigned a sentence and are then shuffled and re-ordered in a way which makes sense to the person organizing the cards. The aim of the Card Kit was helping participants in structuring/sorting the images into a value hierarchy and identify what images were important in representing their image of experience. The playing cards created clear definitions in value sets amongst the suits and a hierarchy of content through bottom to top - lower cards to the picture cards. The fact that participants were all familiar with cards - They often used them to pass the time at the end of the day or on days when they could not go riding - Understood what the cards represented sped up the process and emphasised the playful interactive component of the session.

The Approach: Card Kit 1 Prior to the session participants were informed of what was going to happen - That they first will be presented with a set of images, followed by a set of playing cards, and finally a pen and stickers. These were the only instructions given to the participants. The primary instruction was to chose images that you associate with riding and help explain, ‘why you ride?’

The initial session was intended to take place in the township of Ohakune in a common room of the participants accommodation. But as it turned out the session was undertaken up on the mountain at the Base Cafe of the Turoa Ski field (Figure 29). The group consisted of three participants, two females and a male. They were colleagues who worked in the IT sector. The decision to move the session up to the mountain did not affect the way the tools were used as they had been designed to be both portable and flexible.

At this stage in the research it is important to note that changing plans is an indication of the unpredictable nature of the participants. This is a recurring theme appearing throughout the prototyping and testing component of the research. As stated, the research responded to this by ensuring that the design of the tools could be transported anywhere and were accessible to new participants.



Figure 28. Card Kit 1, before use



Figure 29 Card Kit 1, during use

Ingredients

The use of bright colorful graphics found in the fashion of the snowboarding and ski culture along with rich alpine imagery enabled the research to design a set of generative tools that were tailored specifically to audience in a way which promoted play. The use of snowboarding related imagery in these kits made the look and feel of the tools more culturally relevant, playful and accessible to the target audience. It also helped enervate expression more specifically related to the experience.

Card Kit.1: Was a combination of images, playing cards, stickers and scissors. This kit was to be used in a generative type session where participants would explain why they rode using the tools in the kit.

4.1.4 Magnet Kit.2 & Craft Kit.3: Before and During

Intent: Magnet Kit.2 and Craft Kit 3

The magnet and craft kits (Figure 30 & 31) were placed in the identified collaborative setting of the kitchen/common room area of backpacker accommodation to test respondents responses to the placement of playful communication tools kits. The tools were constructed with the intent to generate data which informed a visual map of what respondents image of the riding experience looked like.

The research was interested in both what images were used the most and what elements were used more frequently, the results would inform the direction of the communication tool the research was designing.

The approach: Magnet Kit.2 and Craft Kit 3

Both kits were placed in the setting for a period of just over a week from the 19/09/09 to 27/09/09. The kits would be left in the identified setting, each with a camera, question and set of instruction. The question was: Tell us why you ride? This question was used to give insight into he experiences that bring the snowboarders and skier to the destination

Ingredients

Magnet Kit 2: Consisted of images stuck to a fridge in the collaborative setting. The idea being that travelers could shuffle and organise certain image to form a visual expression of why they rode. This approach as informed by common use of fridges as notice boards in the homes and from word magnet games.

- 150 images
- 1 white board maker

Craft Kit 3: Was a random assembly of elements loosely inspired by both Stappers and Sanders collage and cognitive mapping kits.

- 150 Images
- 20 Pens
- 1 Role of tape
- 1 Post it's
- 1 Pair of scissors
- 12 Sets of randomly selected stickers
- 16 Pieces of coloured paper

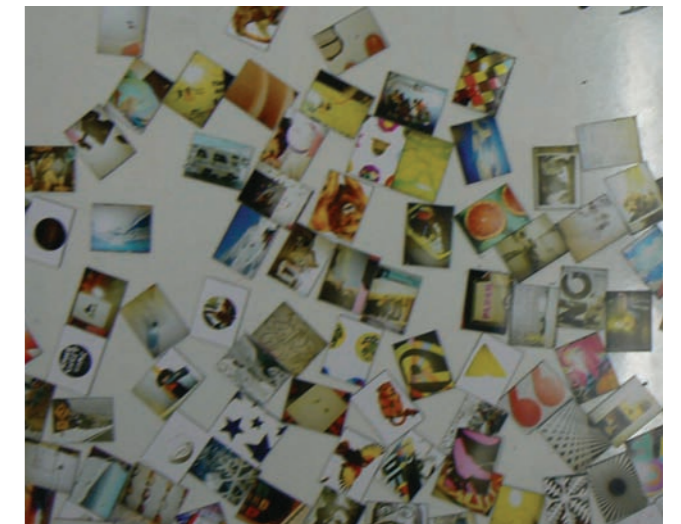


Figure 30. Magnet Kit 2, before use



Figure 31. Craft Kit 2 before use

4.1.5 Card Kit.1: After

Outcome :

The generative session at the Base Cafe of Turoa Ski field produced a rich data set composed (Figure 32) (Appendix. ix) of three individual expressions of the riding experience. This data informed the foundation of the content model of the visual language. Two out of the three participants used the low to high hierarchy of the cards to tell a sequential story.

During the session data the way in which the participants interacted with the elements and what they made was collected. The session also illustrated how participants organized and sorted the data, demonstrating that they developed their own set of rules between themselves as they went. Identifying this response was important in understanding the thought process of both the individuals and the group when introduced to new sets of undefined content which needed organising and adapting.

Initially participants were presented with the content and instructed to choose images that they identified with, or felt they represented their riding experience. From here participants began working with the images, sorting them into two initial piles, 'Yes' or 'No'. Following this they then sorted the 'Yes' pile into four different piles, ranging from Vibe, Gear, Tricks and Mountain Stuff. Once the piles were made a pack of cards was introduced and participants were asked to associate the images with the cards. From this point on individual participants started defining their own value sets, working alone to extract images from the piles they made and adapting them to fit with in their value set and creating individual expressions of the experience riding. (Figure 33) Once this was done each individual was given a pen and asked to associate a word with each image, the first word which comes to mind. Next they were given five stars and asked to rank their favorite cards using the stars. The stars ensure participants can identify important images outside the hierarchy of the value set they have created.



Figure 32. Results from Card Kit 1



Figure 33. Single image about experience from the results of Card Kit 1

4.1.6 Magnet Kit.2 & Craft Kit.3: After



Figure 34. Results from Craft Kit 1



Figure 35. Results from Magnet Kit 1

The Magnet Kits and the Craft Kit produced disappointing results (Figure 34 & 35) and failed to generate enough data to inform a visual map that would direct the content types for visual language. Neither kits informed the research on how people interacted and interpreted the them. Although cameras were included in the kits along with instructions to document anything they made, only one person made something responding to the kits. The staff at Rimu Park reported that “a lot of people seemed interested in the kits particularly the magnets, but no one really played with them, they just stood there and looked at them.” (Cam , The Manager of Rimu Park Backpackers, personal communication, 2008) This statement combined with the poor data results signalled that either the kits were too ambiguous and confusing, or they lacked the right visual elements and guidelines to promote engagement and allow travellers to enter that ‘circle of magic’ (Huizinga, 1970) which is play. On reflection the lack of response can be contributed to the overwhelming number of elements in each kit and the limited directions. This is supported by Stappers who recommends a maximum of 150-200 well considered elements in generative tool kits (Sanders and William, 2001).

Moving Forward :

The way participants engaged with the tools and the nature of the tools would be amended. Next steps involved developing a more specific set of elements that make up the tool kits. And facilitated the participants engagement with the tool by having the designer always present as a creative leader. This decision was based on the success of the Card Kits in the first co-creation session.

4.1.7 Forecasting Experience with a Common Visual Language



Figure 36. Image of the South Park characters, retrieved from: <http://www.southparkstudios.com/guide/characters/>

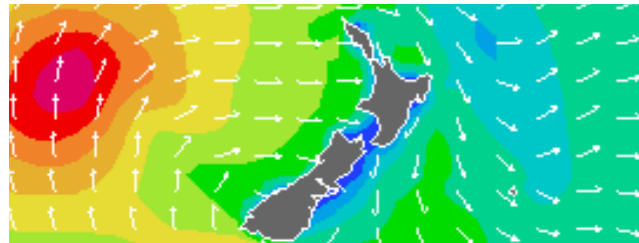


Figure 37. Swell map retrieved from: <http://www.surf2surf.com>

This time line/sequence-based narrative provided the research with a link to stop motion animation and South Park - a stop motion animation originally made from papers shapes. (Figure 36). The ubiquitous and simple nature of South Park and the way it was created was appealing and seemed to be an appropriate fit with both the generative tools and audience. Along with the sequential nature of South Park the time line based narrative also corresponded to an existing forecasting tool - the swell maps (Figure 37) and weather maps used to predict the surf in surf culture. These are maps consisting of a graphic language and existing values associated with the graphic elements (Figure 38) they inform surfers on the nature of the coming weather they can expect to experience. The combination of these influences led to the idea that the research could embody a design of a visual language associated with experience specific to the destination. Riders could be empowered to co-create visual accounts of experience in a way that reflected their own experiences up on the “hill” the term used to describe being on the ski field up the mountain. The visual stories could change iteratively over time like a time lapsed weather map or the stop-motion that was originally South Park.

As mentioned in previous paragraphs the stylistic treatment of high impact graphics and rich imagery is an important aspect to the culture and it’s expression surrounding the experiences of snowboarding and skiing. Acknowledging this is important in creating a tool that participants are familiar with that promote them to play with them and communicate with ease. The use of simple graphic elements found in both south park, weather maps and within the cultures fashion lend them selves to creating a modular type visual systems. This simple bold style creates a functional visual structure that allows elements to be moved and mixed and match simply without a too higher level of compositional skill. As to say the naive nature of the style lends it’s self to an easy of use, flexibility and rapid change.

At this point in the research a mix of elements inspired an idea for the creation of the visual tools and communication system. Data from the probe kits were a source of inspiration but not a primary influence. Other contributing factors were the playing cards and the interactive, semi-permanent nature of the magnets in magnets kit 2, along with popular media, the graphic nature of the snowboarding culture and weather maps. The bi-association of these elements formed the foundations of this research.

What the research had learnt from the playing cards is that, given the right framework, of existing social understanding of how elements worked together, participants are already informed on how to interact with the material and social constructs surrounding the game. The hierarchy of the playing cards found in the numeric system and suits, creates a graphic value framework of rules that promoted the act of play. The playing cards naturally created a sequential time line based format for narrative.

4.1.8 Experience Map

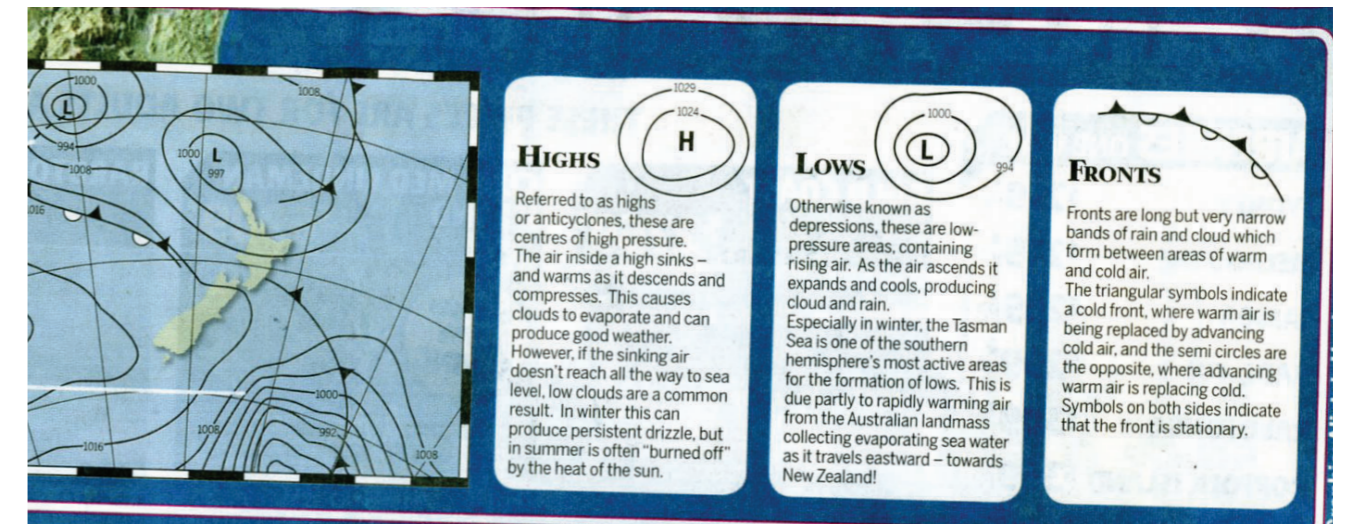


Figure 38. Weather map, Hughes, (2010), Dominion Post, p. A5.

Drawing influence from both these graphic communication tools led the research to the realization that if the visual accounts are created simply with a degree of universal appeal (Mc Cloud, 1993) and understanding - like that of a weather map - these images could be made public and disseminated. They could become tradable items to be shared with other travellers or viewed in a forum beyond that of the place of co-creation.

This stylistic treatment will be incorporated in with using the format of stop-motion, accounts of experience that can be documented and distributed online or between mobile devices. Stories can be uploaded to blogs, posted on You Tube and possibly reside inside an online hub. This hub becomes a online destination informing travellers of the experiences on offer at certain destinations. Travellers can watch the co-created accounts/images for experience and decide not only whether ‘to go’ or (not to go) but also be informative on what kind of experience to expect, or gain a new view of experience outside their existing understanding/perception. The idea of digitalizing image for experience on location allows for the formation of a accumulative archive regarding a destination, transforming accounts of experience into a tradeable artefact fit for exchange.

As the scope of the project investigated the co-creative development of a generative tool made of a common visual language. The exploration of stop motion and a digital system to manage the information generated by the tool at this stage in the project allowed the research to create a greater understanding of the how the tool could be used and the large context it could fit within. The decision to keep the scope of the project solely on the development of the tool and the visual language was based on building on existing anecdotal knowledge the researcher. The scope allowed the research to focus on developing the tool to it’s highest level before it could be integrated into a larger system or network which may be considered as the next phase of the project.

4.1.9 Idea

This idea led to the decision to develop a visual language system which could be documented and distributed. The focus would be on the development of a visual language (Figure 39) supporting the co-creation of images for experience that express individual and group accounts of experience in the destination area of Turoa/Whakapapa Ski field and its surrounds.

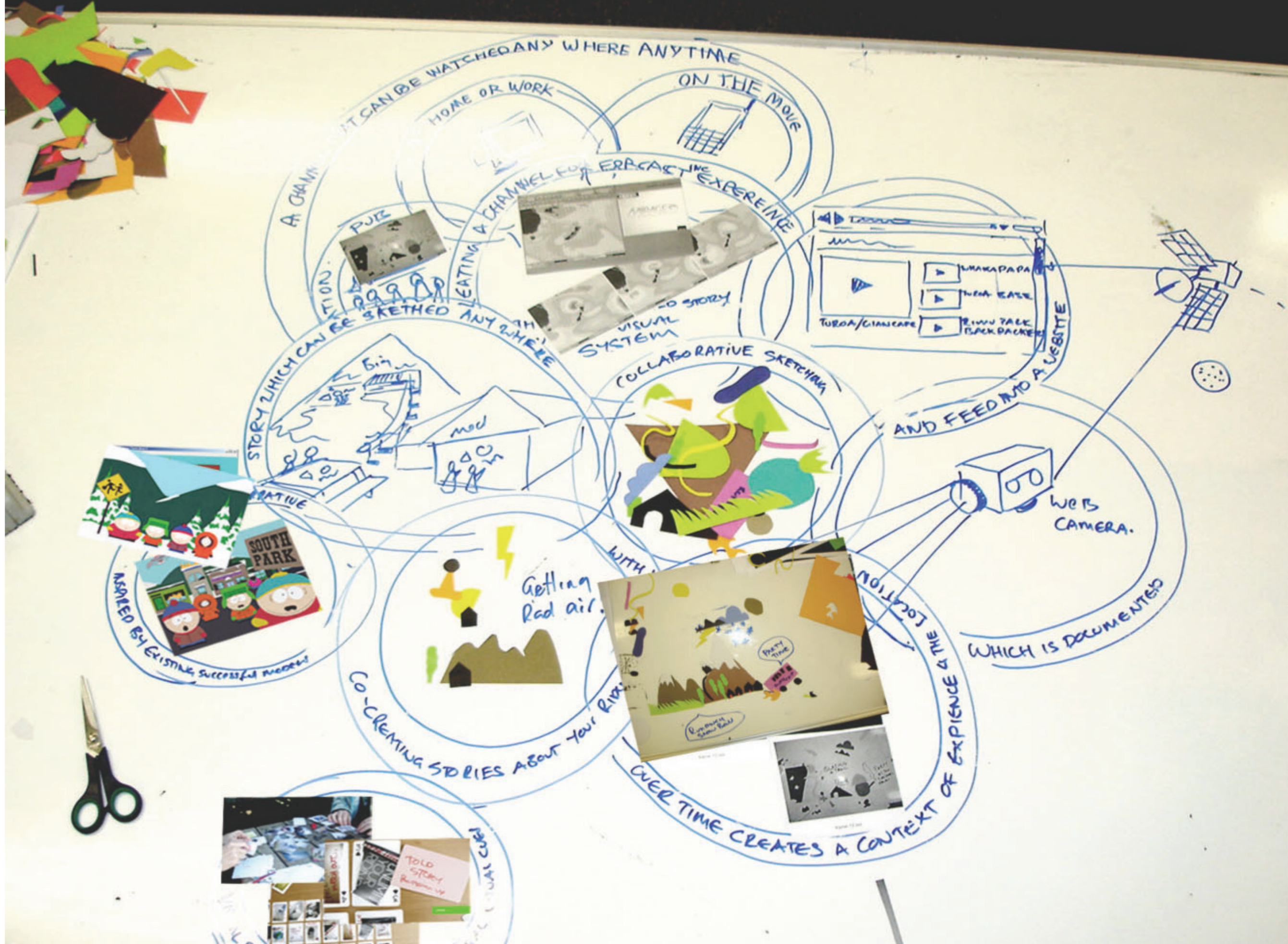


Figure 39. Sketch of idea for the communication tool and supportive system

4.2.0 Introduction

At this stage the objective of the research was to form a coherent research direction which would enable the testing and development of the idea through co-creative sketching. So far the research had succeeded in developing an idea informed and inspired by data generated in the first co-creative phase. Following that the research intended to run a second co-creation phase to test the idea.

The initial plan for the second co-creative phase was to first enter the sensitising stage then an immersion stage and finally the generative stage. This process is commonly used by Stappers and Sanders (Table C) early on in the generative design phase. The sensitising stage of the process is used to familiarise participants with the creative processes and context of the project before moving into the generative sessions which requiring a higher level of creative involvement. However, this approach did not fit well with the reactionary unpredictable nature of the participants. Their choices 'to go' or (not to go) were primarily based on weather conditions two days out. Based on findings from Co-creative Phase 1 the choice was made to drop the immersion stage of the process used by Stappers and Sanders, as it was too slow and required too high a level of commitment from participants. Instead the research re-employ the card kit from session 1 as the sensitising/immersion stage in the process of the next generative session. The card kit allowed the research to build a richer context with which informed the visual map of experience (Figure 56, p. 63) which had already been informed by the previous co-creative phase. The kits acted as a sensitisation tool allowing participants to think about, and play with, aspects of their experience.

The next stage in this co-creative phase intended to employ the experience mapping tool in prototype form as a semi functioning idea. During this session the research would examine how the visual elements worked in supporting and informing images for experience, and determine if in fact people knew how to use the elements with minimal instruction. In preparation for the use of the experience mapping tools the tool need to be moved from a semi-functional idea into a semi-functional prototype, to facilitate this the research developed a basic visual language consisting of simple ambiguous visual elements. (Figure 44, p. 57) The research was still in the process of defining the correct form the visual language would take in representing the experience of the destination. At this stage in the research it was important not to make to many uninformed design decisions or form too many assumptions regarding the participants contribution to the development of the language. The research concern was that this would occur from the designer over designing the visual language prior to making it assessable to the snowboarders and skiers. Therefore the research made the tools as ambiguous as possible (Appendix . x) with out it being too abstract, this allowed the participants to respond to the basic nature of the content while informing further design development regarding improvements or changes.

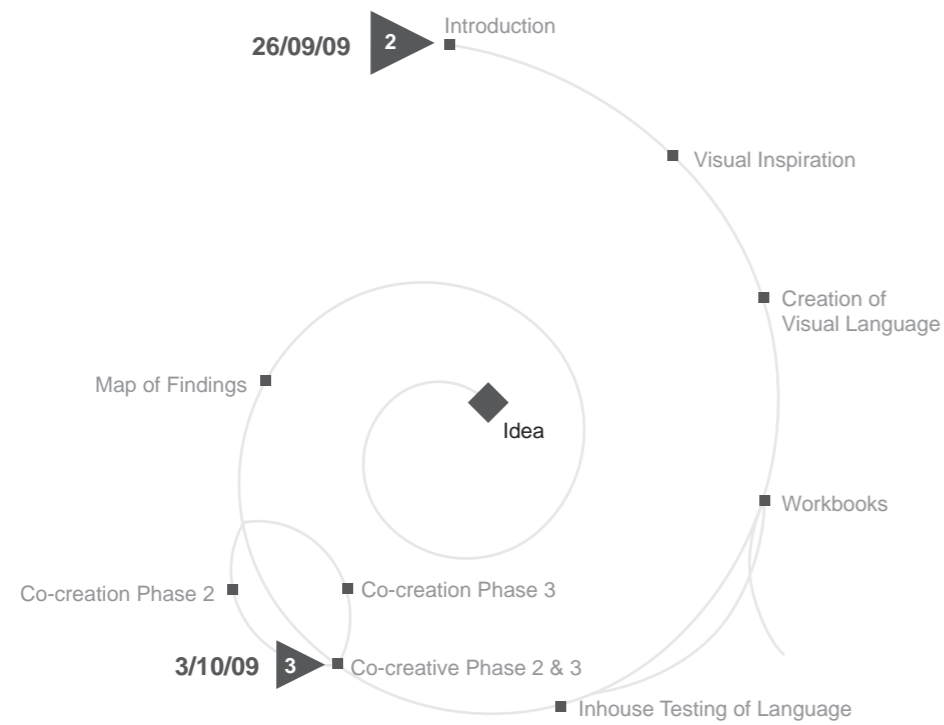


Figure 40. Map of the participatory process during weeks, 2 & 3

4.2.1 Visual Inspiration

Below (Figures 41, 42 & 43) are examples of the visual influences that informed the design of the visual language.



Figure 41. Snowboards on Board rack at the base of the Turoa, Skifield



Figure 42. Image of the South Park characters, retrieved from: <http://www.southparkstudios.com/guide/characters/>



Figure 43. Example of a cognitive map made in a context-mapping session, (0000)

4.2.2 Creation of Visual Language

Below (Figures 44 & 45) give insight into the stage of development that the visual language was in during this point in the research.



Figure 44. In-house development of the visual language



Figure 45. The visual language developed in-house

4.2.3 Workbooks

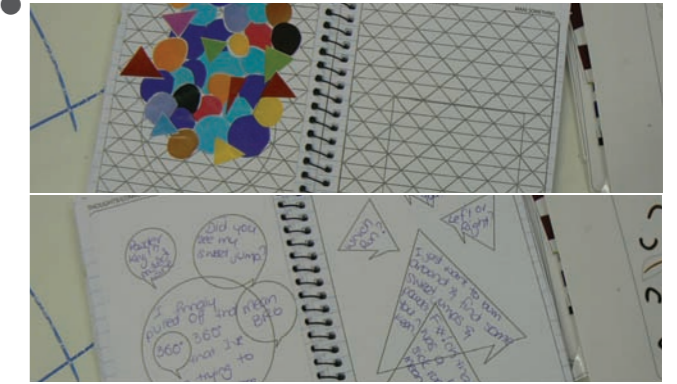


Figure 46. Results from workbook

At this stage the research required that a workbook for use in the sensitising stage was employed, however as mentioned previously the sensitisation techniques employed by (Sleeswijk Visser, et al 2005, p. 3) didn't fit with the developmental nature of this project. The unreliable nature of the participants meant workbooks were redundant due to the fact that it was highly unlikely that the research would have the same participants though the duration of the co-creative process. There was value however in testing the visual language in a 'one off' user group therefore the research decided to run with the workbooks (Figure 46) distributing them among the participants involved in the first co-creative phase.

The participants involved in the first co-creative phase, called Riders Group 1 received the workbooks the weekend that preceded the second co-creative phase with Rider Group 2. The week long gap allowed time for further testing and the resolution of the new language before its presentation to Rider Group 2 in phase 2. The workbooks were distributed amongst the three snowboarders that made up Riders Group 1, however of the three only one workbook was returned. Based on the informal feedback from the participants the research discovered that the snowboarders and skiers didn't have enough time to use them.

A recommendation at this point in the project would be to make the use of and the return of the workbook simpler for the participants. Clearer instructions and a prepaid envelope given out with the workbook would encourage the participants to engage and return the workbooks.

4.2.4 Inhouse Testing of Language



Figure 47. Further in-house testing of the visual language

Through inhouse testing (Figure 47) it was decided that the visual language which made up the mapping toolkit to be used with Rider Group 2, would be made of ambiguous visual shapes assembled inside descriptive outlines. The outline created a context as it represented an object or action reflecting an aspect of the experiences at the destination. The aim of the descriptive outline was to guide participants in using the shapes however once the shapes were removed from the outline participants could do or make what they wanted with the shapes. All the shapes were magnetic and combined with a word set. Words and some of the imagery were derived from the findings of the co-creative session using the card kit in phase 1. The elements that made up the visual language loosely related to the tools and actions identified in the data generated from the reflective sketching.

During the course of the in-house development it quickly became obvious that a visual language made up of basic shapes did not provide adequate context for even designers to create images for experience of actual value. The arbitrary nature of the shapes meant too much time was spent creating a context which regularly defaulted to primitive visual elements. The lack of contextual information relative to the experiences found in a destination meant that this was an issue that needed to be addressed. Although the workbooks included these arbitrary shapes the first version of the toolkit to be prototyped required refinement.

4.3.0 Co-creative Phase 2 & 3

Participants:

During the week that participants from Rider Group 1 used their workbooks the research was in the process of recruiting new participants for the second co-creation session for Phase 2. The new participants (Rider Group 2) consisted of 4 skiers and 2 snowboarders who rented a chalet in Ohakune for the weekend, and all knew each other prior to the session.

Rider Group 2 were recruited to participate in a co-creative session prototyping the first version of the visual language. The intent of this prototyping session was to discover if the language made sense to the participants and to observe their response to it as a co-creative communication tool.

Rider Group 3 was recruited to participate solely in the prototyping of the first version of the mapping tool. Rider Group 3 were members of a snow camp. The group consisted of 3 individuals, 2 Guys and 1 Girl, all were snowboarders.



Figure 48. Card Kit 1



Figure 49. The first version of the experience-mapping tool

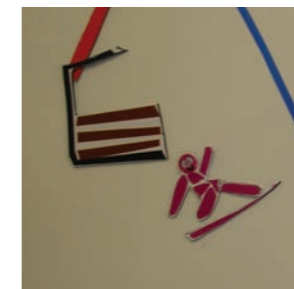


Figure 50. Close up of the magnetic visual language

Participants were selected based on availability and willingness to participate. Candidates were recruited through an extended social network of domestic snowboarders and skiers. Requirements for participant selection was based primarily on availability.

Intent: Co-creation Phase 2

The first stage of phase 2 took place in the kitchen common area around a large communal table. The objective of the research in this phase was 1) to gauge the participants response to the tool and 2) gather more data from the cards to inform a visual maps. The second co-creative phase was broken into two stages - Session 1&2. Session 1 employed the card kit (Figure 48) used in phase 1 while in session 2 participants engaged with the first semi-functional prototype of the mapping tool (Figure 49 & 50).

Intent: Co-creation Phase 3

In phase 3 a new set of participants were used, who of which were members of a snow camp. This set of participants were known as Rider Group 3. These participants were snowboarding enthusiasts and represented the opportunity to gain a wider cross section of input and feedback from different user groups.

This third co-creative phase was restructured and the card kit was dropped. The focus in the first instance was on the way participants interacted with the tool and secondly how the digital documentation and distribution influenced the co-creation of their image about experience and if it changed that way participants interacted with the tools. This phase was broken into two sessions and during the first stage the participants were asked to respond to a question on the board consistent with the phase 1 & 2. During the second session participants were asked to retell their story bearing in mind that each move they made, or element they added, would be photographed and played back to them afterwards in a kind of stop-motion sequence/animation sequence.

4.3.1 Co-creation Phase 2



Figure 51. Co-creative session 1 of Phase 2, using Card Kit 1

Rider Group 2, During Session 1:

The use of the Card Kit in stage 1 was used consistently with Phase 1 however, this time there were 6 participants and the same amount of material. Interestingly the stage produced the same grouping method and individual decision making process used in sorting and organizing the content found in phase 1. What differed in this session to phase 1 was that the participants worked together (Figure 51) throughout the whole session to create 4 different expressions of experience. This differed to the previous session where participants worked individually to produce their own aspect of experience. At the end of the session participants were asked to rank their five favourite cards and explain to the group why they chose those particular cards. The session as a whole again brought rich results and more so in the participants explanation/telling of why they chose their five favourite images.



Figure 52. Co-creative session 2 of Phase 2, using the experience-mapping kit

Rider Group 2, During Session 2:

Session 2 was set up as follows: The mapping tool was set up next to the table and participants were asked to respond to the question on the whiteboard part of the mapping tool. (Figure 52) Participants broke up into two groups and responded to the question reflecting upon their day riding up on the hill. Each group consisted of people who had ridden together during that day and used the tool kit to co-create images for their experiences of that day. (Figure 56) As the participants worked together they engaged in conversation about each significant stage of the day and described what they were making - similar to that of a sportscaster. While participants were co-creating their stories observers also commented on and responded to what they were making and saying.

Rider Group 2, Afterwards: After Session 2 participants were asked a series of questions using a group interview format. On reflection this question session was poorly structured and at times presented leading questions to the participants, however it still contained some good feedback to inform the next phase.

It can be like an information board...

Chalet, Rider Group 2 - 3/10/09

Like a skeleton of a trail map...

Chalet, Rider Group 2 - 3/10/09

It's icy here, my favorite fun of the day here...

Chalet, Rider Group 2 - 3/10/09

4.3.2 Co-creation Phase 3

Rider Group 3, During Session 1:

Session 1 utilised group involvement, collective decision-making and interaction with elements it produced a cognitive map or flow diagram of the experience.



Figure 53. Co-creative session 1 of Phase 3, using the experience-mapping kit

Rider Group 3, During Session 2:

Session 2 led to individuals breaking off and giving their own individual interpretative expressions of the day. (Figure 53, 54 & 55) The participants produced a more detailed account of the day, embracing and demonstrating their understanding of what stop motion and the sequential replay of images could bring to the results. In this instance story was transferred into digital image however this creation of image for experience produced data to suggest that authorship was an issue when creating a stop motion animation. Although what was left on the board made little or no sense but the images as a whole, when played in sequence were coherent.

It is interesting to note that only two of the three participants wanted to participate in session 2, however this stage did draw a crowd of onlookers who then informally participated in the research during the feedback session and involved themselves in the question session at the end.

More specific elements - food, clothing, people will do certain key events

Chalet, Rider Group 2 - 3/10/09

Rider Group 3, During Session 1:



Figure 54. Co-creative session 2 of Phase 2, result from using the experience-mapping kit

Summary:

The results from both groups demonstrated that they used the tools as a common language to building on their own and each other accounts of the experience, adding to the exchange both visually and orally. As artifacts were co-created they formed a scaffold a reference points for conversation. The conversations that occurred during the co-creation sessions were based on defining the meaning of elements before they were placed or when they were moved into new positions. This led to some visual elements having more symbolic meaning attached to them than others during the conversation. Overall the visual elements served as props to conversation creating an extra contextual layer that further promoted play and interaction.

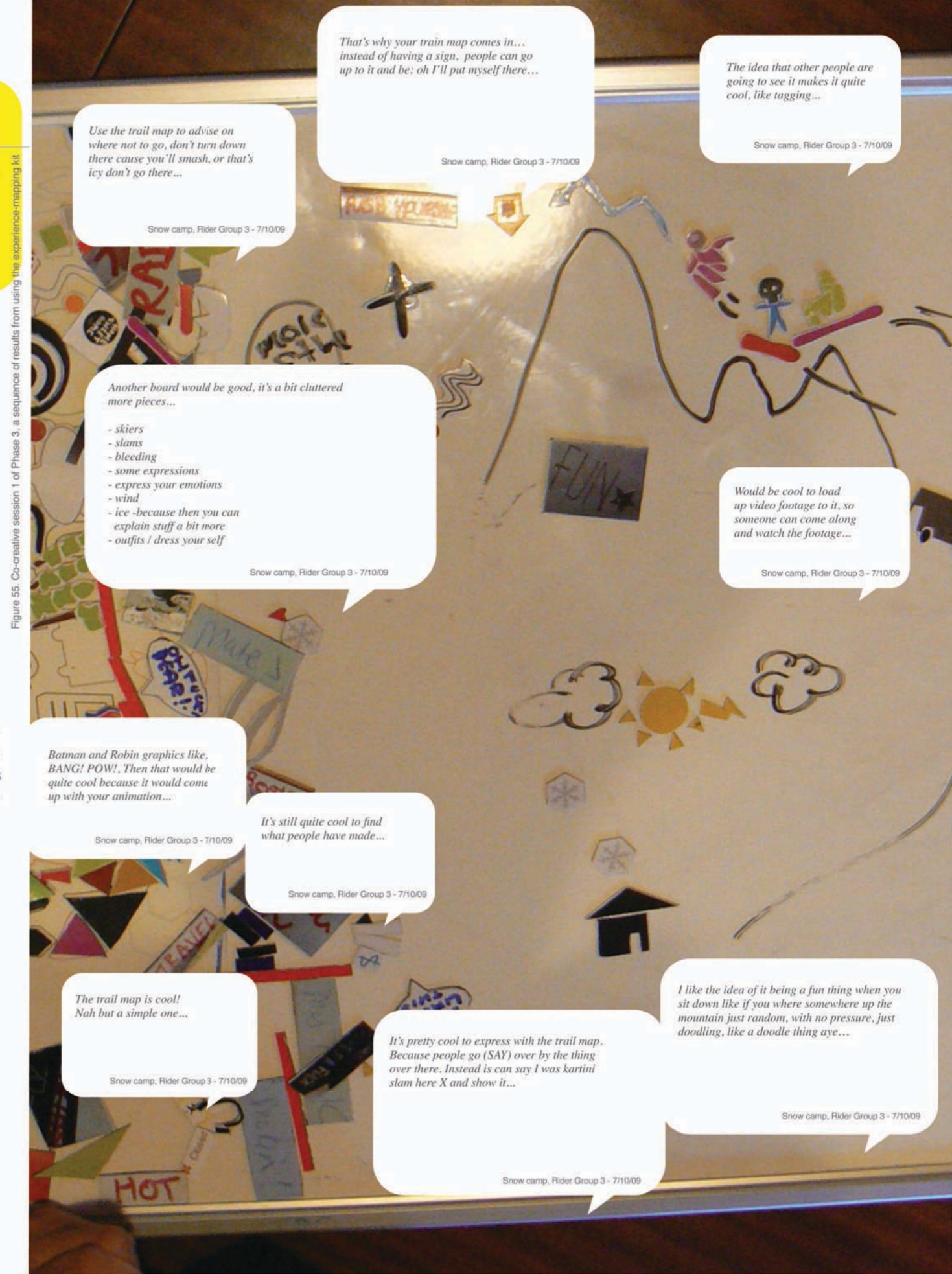
Is there anyway it could be easier to use... elements bigger, more tools, bigger word bubbles, and some textures to the mountain - ice/slush...

Chalet, Rider Group 2 - 3/10/09

It's quite fun, if it was sitting on the wall I think we'd pick a couple of things up but I don't think we'd spend as much time as we did...

Chalet, Rider Group 2 - 3/10/09

Figure 55. Co-creative session 1 of Phase 3, a sequence of results from using the experience-mapping kit



Use the trail map to advise on where not to go, don't turn down there cause you'll smash, or that's icy don't go there...

Snow camp, Rider Group 3 - 7/10/09

That's why your train map comes in... instead of having a sign, people can go up to it and be: oh I'll put myself there...

Snow camp, Rider Group 3 - 7/10/09

The idea that other people are going to see it makes it quite cool, like tagging...

Snow camp, Rider Group 3 - 7/10/09

Another board would be good, it's a bit cluttered more pieces...

- skiers
- slams
- bleeding
- some expressions
- express your emotions
- wind
- ice -because then you can explain stuff a bit more
- outfits / dress your self

Snow camp, Rider Group 3 - 7/10/09

Would be cool to load up video footage to it, so someone can come along and watch the footage...

Snow camp, Rider Group 3 - 7/10/09

Batman and Robin graphics like, BANG! POW!. Then that would be quite cool because it would come up with your animation...

Snow camp, Rider Group 3 - 7/10/09

It's still quite cool to find what people have made...

Snow camp, Rider Group 3 - 7/10/09

The trail map is cool! Nah but a simple one...

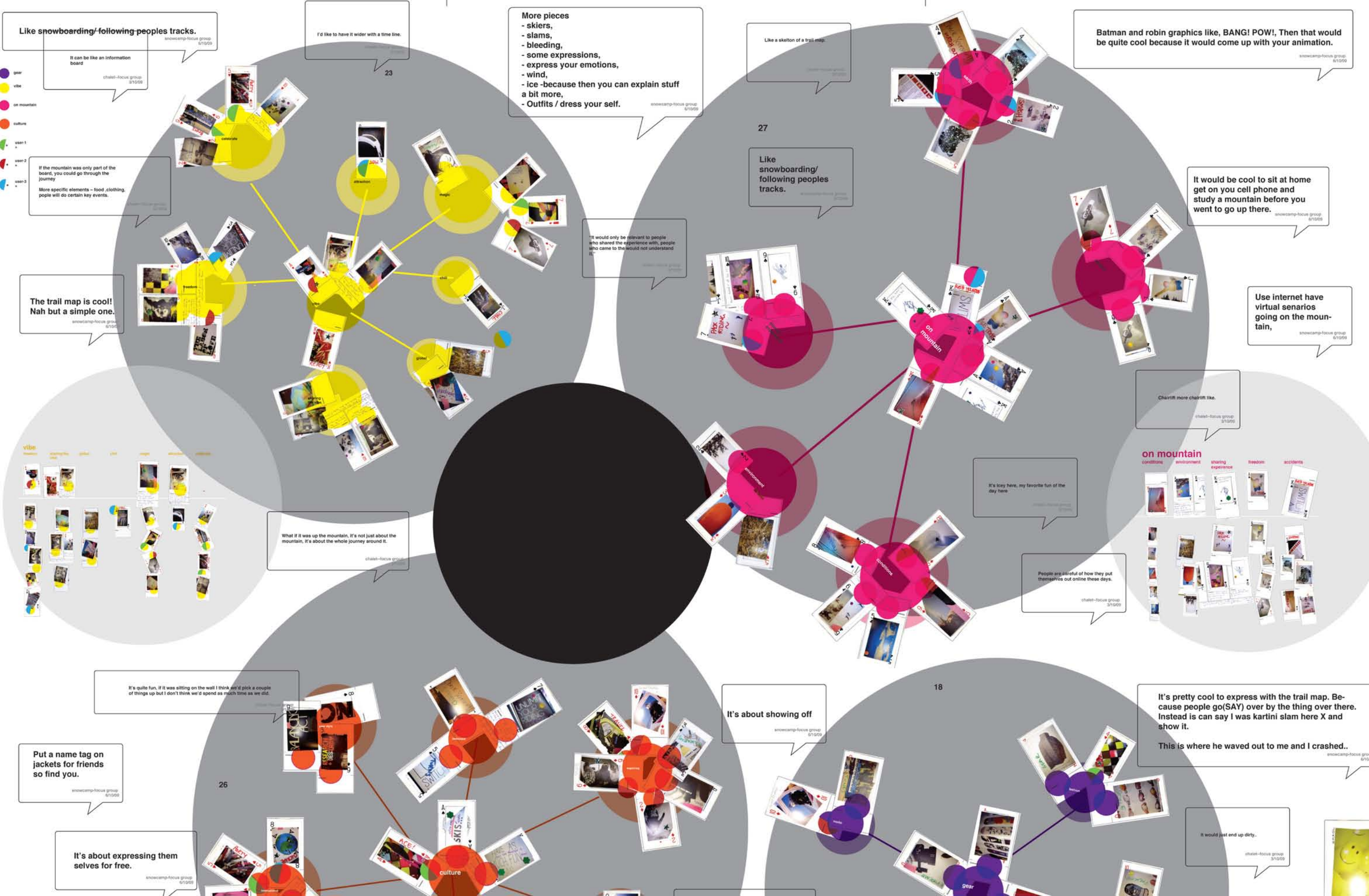
Snow camp, Rider Group 3 - 7/10/09

It's pretty cool to express with the trail map. Because people go (SAY) over by the thing over there. Instead is can say I was kartini slam here X and show it...

Snow camp, Rider Group 3 - 7/10/09

I like the idea of it being a fun thing when you sit down like if you were somewhere up the mountain just random, with no pressure, just doodling, like a doodle thing aye...

Snow camp, Rider Group 3 - 7/10/09



4.3.3 Map of Findings

The next phase in the research focused on developing a more refined tool kit based on the feedback and observations from Phases 2&3, with the intent that it would be later tested in another prototyping session. Phase 4 used this data to inform a content model and the design direction of the visual language.

Based on the accumulation of raw data from the past session, a visual map was created it's development was informed by the S.L.I.P method (Maeda, 2006) and the affinity diagram method Beyer & Holtblatt (as cited in Kuniavsky, 2003). Data came from both the card kit sessions and feedback and video footage from the mapping sessions. The formation of a visual map (Figure 56) with this data provided the basis of a content model. By the beginning of Phase 3 the research had gathered enough data to begin construction of a modified version of the visual language used in Phase 2 and the construction of a content model.

Construction of the content model began by sorting both the cards from the collage session and the feedback from each stage. The feedback from the prototyping stages was included as it informed how to improve or frame the content. The end product was a content model that consisting of 6 levels (Table D) of experience ranking from Level 1 (as the most valuable) to 6 (6 being the least valuable).

Within each content level the research created a list of categories which where each category was assigned a label and these categories formed concepts representing aspects of experience within each level. These concepts were a mix of images and words and combined to form a mood-board. (Figure 56) (Appendix. xiii) Each mood board was a visual representation of the content categories for experience.

From this point on the research and design development drew on my anecdotal knowledge of brand design - or visual language design. The process transformed the mood boards beyond their initial concept, by assembling an extra layer of visual inspirations from external media sources and building an interpretive inspiration layer on top of each mood board. (Appendix. xiv) This process can be described as one of adaption or appropriation of the content where by the designer begins to re-interpret the data and is described by Stappers as co-ownership (Sleeswijk Visser, Stappers, Van der Lugt, 2007). The design objective of this exercise was to add to the content map, giving it a visual form that inspired the development, and extension of, each aspect of the experience which the mood boards originally framed. Each mood-board was transformed into an inspiration board that informed the sketchy development of specific visual elements such as shapes icons and words relating to the experiences at the location.

Table D: Levels of Experience

Levels	Experience Categories							
Level 1	Playing together							
Level 2	Scoring perfect conditions	Sharing experiences						
Level 3	To be free	Showing off						
Level 4	Explore							
Level 5	International	Tribes	Movement	Escape	Busting Air			
Level 6	Environment	Function	Fashion	Tech	Indulgence	Risk	Pushing it	moment

Figure 56. Visual Map of findings from co-creative phases 1, 2 & 3

4.3.4 Idea

At this point in the research the objective was placed on designing a communication tool and system to support it. This idea (Figure 57) embodied the uploading of digitally recorded images that had been co-creatively sketched by the snowboarders and skiers on YouTube and then posted into a hub - that hub being a blog.

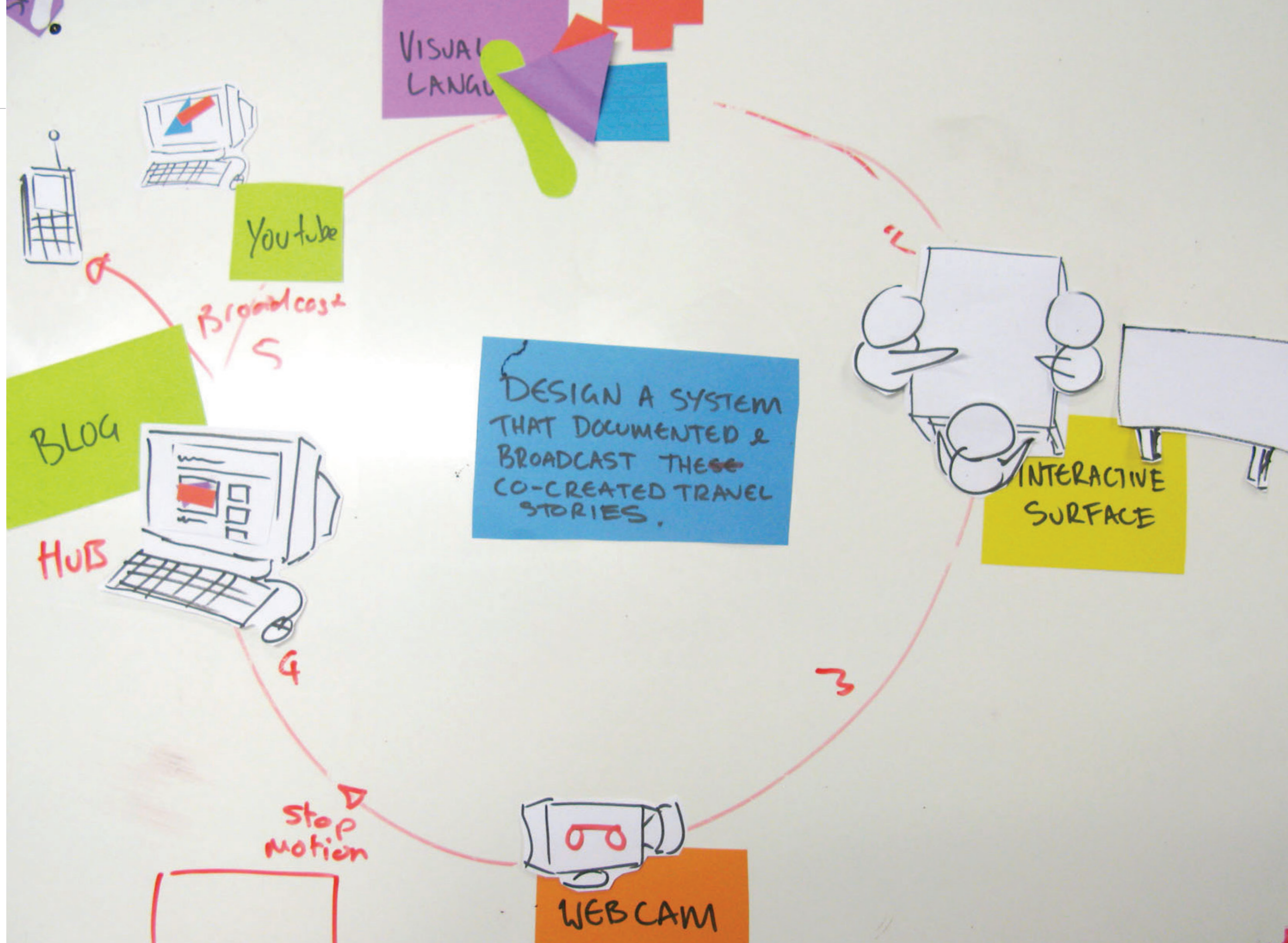


Figure 57. Refined version of idea for direction of the communication tool and supportive system

4.4.0 Introduction

The beginning of week four saw the translation of the mood boards (Figure 59) into inspiration boards (Figure 60 & 61) then into sketches. The goal of this phase was to develop a richer visual language based on the content in these boards. The new visual language would then be tested in the next co-creative phase.

This phase would specifically focus on testing the participant acceptance of, and reaction to, an initial version of the system and the new visual language.

4.4.1 Mood boards

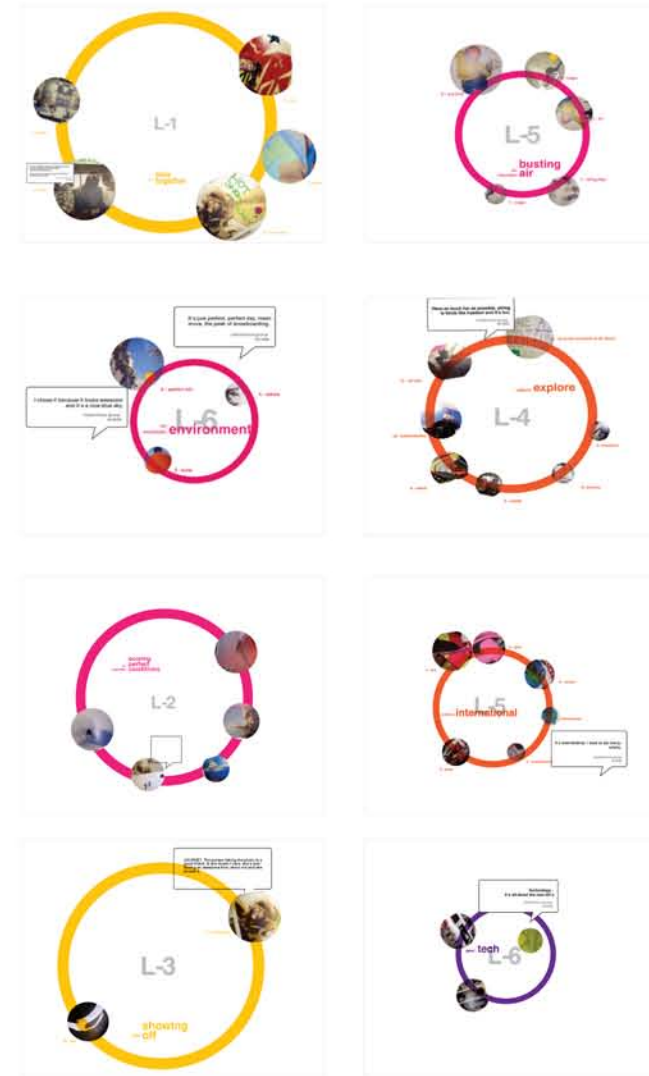


Figure 59. Mood boards that represent the value in the riding experience

4.4.2 Visual Cues - Extending on Mood boards



Figure 60. Inspiration boards that informed the development and aesthetic of the visual language

Figure 61. Inspiration board actual size

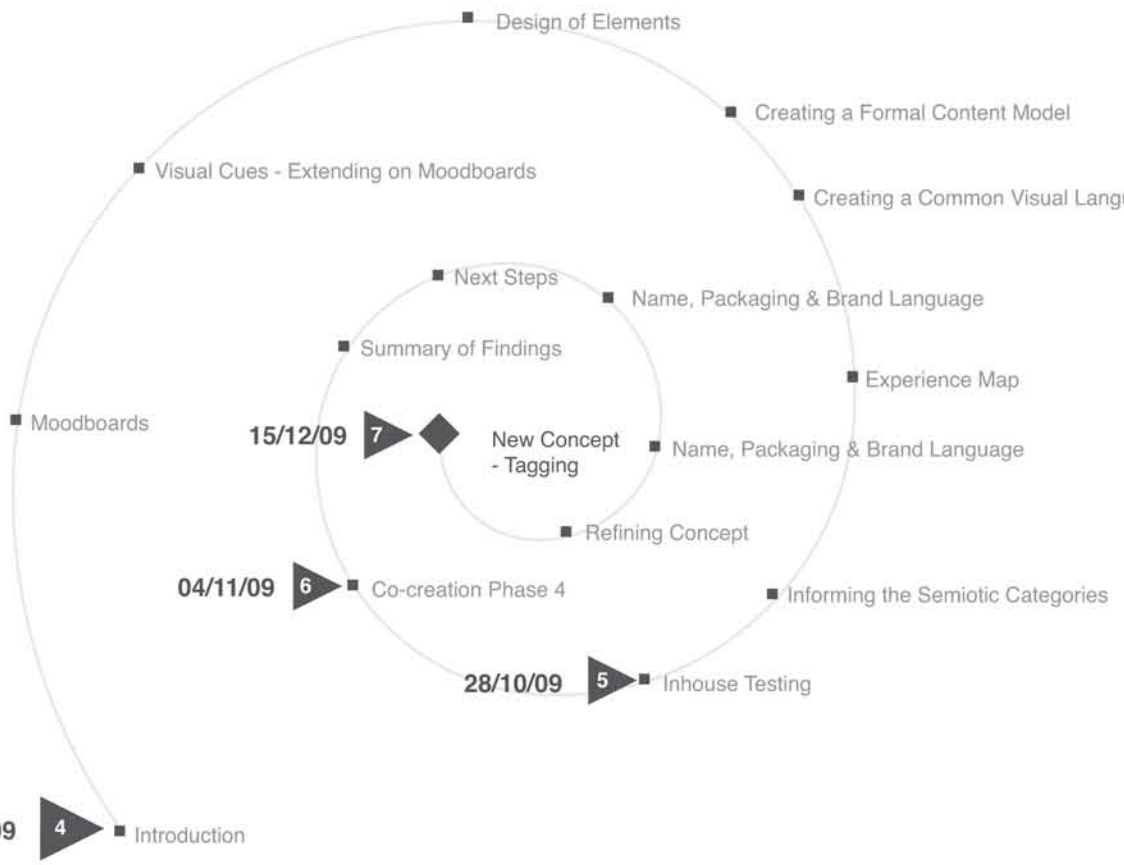


Figure 58. Map of the participatory process during weeks, 4, 5, 6 & 7



4.4.3 Design of Elements

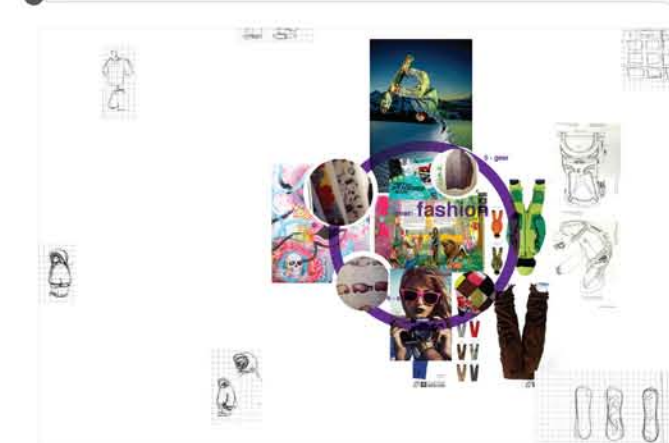


Figure 62. Inspiration board



Figure 63. Sketches inspired by the inspiration boards








The development of the visual language employed a variety of methods in its construction. The visual development of the language was first constructed through sketching based off the inspiration boards (Figure 62). The sketch of each visual element (Figure 63) (Appendix. xv) was then re-interpreted as paper shapes (Figure 64) (Appendix. xvi). This choice for the next stage supported by St. John and Benzel (2008) from Hunter Gatherer, who state "If you can have a process that's different your going to have a result that's different." The use of paper shapes in constructing a visual aesthetic was also inspired by the generative tools of (Sanders, 2003). They allowed this part of the research to quickly develop new working prototypes playing with colour and creating unusual forms, which would have been a laborious task if recreating digitally through use of the pen tool in the Adobe Illustrator application. The papers shapes allowed the research to create a full working model of the visual language quickly and efficiently and as a result set the aesthetic language for the rest of the project. Following the completion of the construction of the language using paper shapes the images were then transferred into a digital format and re-traced the images in Adobe Illustrator. Once the images were digitalized it was possible to re-create the images scaling them up or down or reproducing them to suit. (Appendix. xvii) These initial images set up the visual style (Figure 65) for the visual language.

Figure 65. The paper shapes used to inform the aesthetic of the visual language



Figure 64. The developed visual language

4.4.6 Experience Map

The semiotic categories created from this method ranged from pictorial icons   which supplied elements with a fixed meanings to basic shapes  which acted as frames or gave context, housing other elements, then were textures which added more depth to the context, then were expression lines  and  faces which helped with communicating expression and movement and finally came language components such as  words and suggestive  graphic shapes.

The decision to break down the elements in this way was informed by McCloud's (1993) theory of the picture plane, that shapes, language and pictures (Figure 70) needs to be considered when designing comics. It was clear that a visual comic theme had begun to occur during the course of the research, McCloud's writings provided a good theoretical foundation for creating the visual vernacular and informing the development of semiotic categories that made the visual language.

The design choice of a more simple aesthetic made the elements more universally acceptable for riders from differing backgrounds. As images of a realistic quality would reduce the subjectivity and universal nature of the common visual language thus making less accessible (McCloud, 1993).

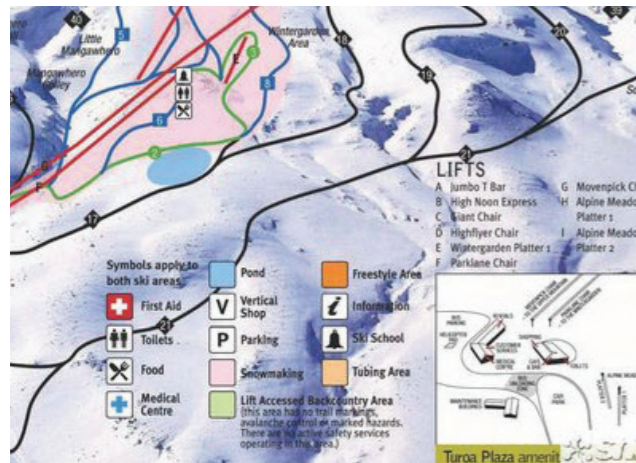


Figure 70. Trail map of Turoa Ski field

4.4.7 Informing the Semiotic Categories

The tool would support the construction of the mental image by supplying a simple subjective and universal common visual language that riders could use for exchanging their images for experience with each other.

In summary the construction of the language was informed by a variety of sources and was based on both theory and data generated through out the co-creative phases. Theoretical approaches to note are Scott McCloud's theory 'The Picture Plane' (McCloud, 1993) for the creation of semiotic categories. And that of Otto Neurath's Atlas Society and Economy by Gerd Arntz for the development of the ISOTYPE language (Figure 71), which represents sets of data using an icon based communication system, Neurath referred to his invention as:

Education pictures and as fact pictures. His intention was to stimulate the mind of (in the first place) young people into active thinking, rather than passive assimilation of data." (as cited in Lewis, 2006)

Another important influence was the fish eye or Unified Medical Language System which informed the organisation of content into categories structured as a hierarchy of elements to create context (Zender and Crutcher, 2007).



Figure 71. Icons from Gerd Arntz ISOTYPE language

4.5.0 Inhouse Testing

Below (Figure 72) are examples of Inhouse testing of the visual language in it's infancy to see if the new elements in the language work.

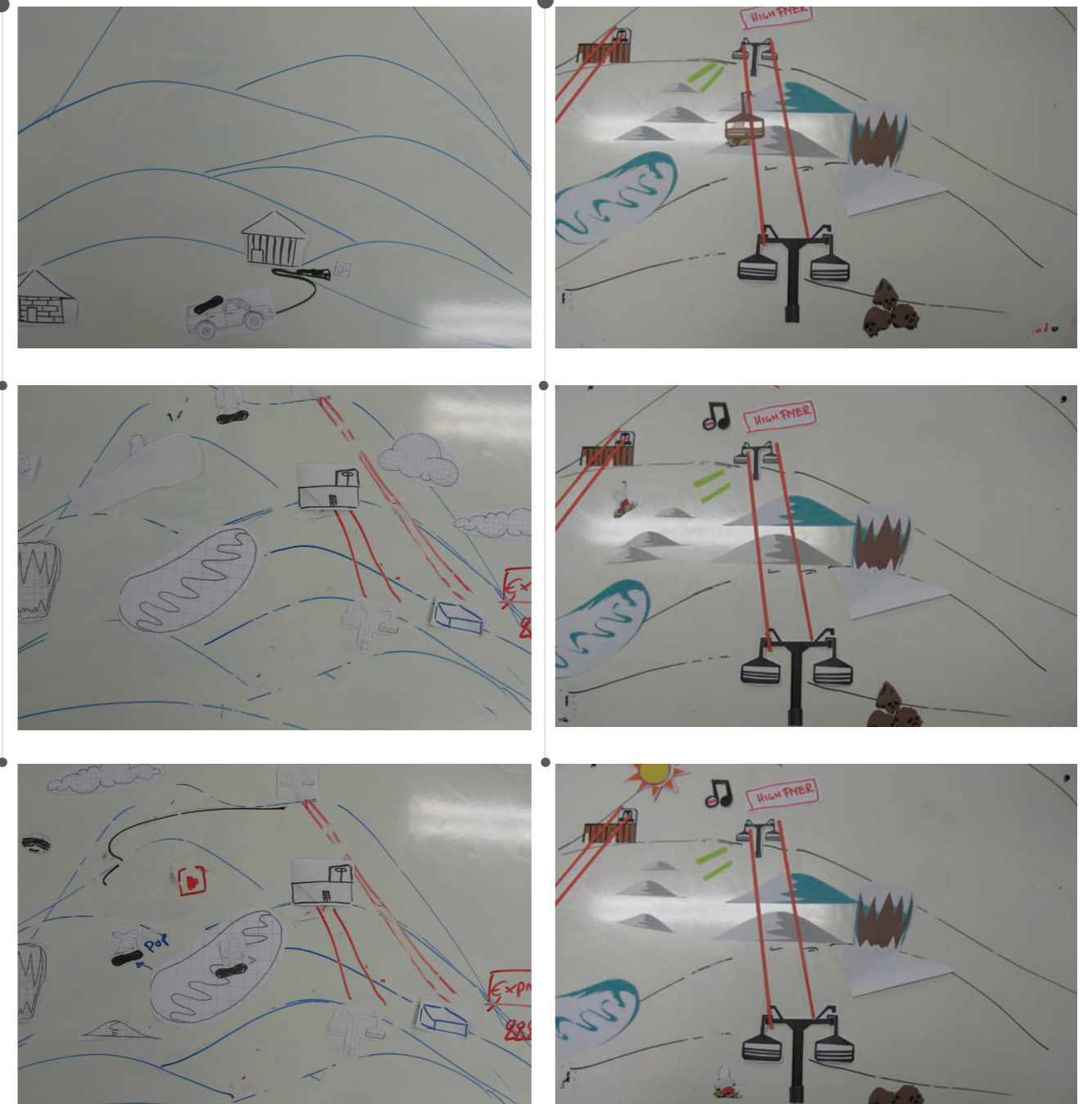


Figure 72. In-house testing of the initial sketched version of the visual language

4.6.0 Co-creation Phase 4

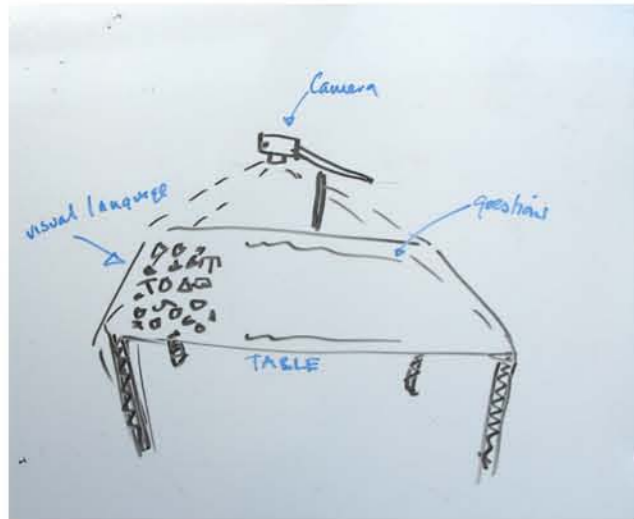


Figure 73. An outline sketch of the table, camera and visual language set up for the 4th co-creation session

The 4th co-creative session was set up in the T27a - masters studio at Massey University Wellington. The focus was on the response to the tools and interactive components of the actual system location was not an influencing aspect of this test. The prototyping session was set up as follows: The visual language was laid out on a large table/white board and a camera was rigged up recording the participants as they played and took photos of the stories they made. (Figure 73) These images were then extracted and batch processed into movies files which were then uploaded to You Tube.

This process occurred twice - firstly participants were asked to respond to the question on the white board and secondly, were shown a demo of how the visual could be used as a stop-motion animation kit. Then participants were asked to respond to the question a second time with the demo in mind. Following this session participants were asked to give feedback in a recorded group question and answer session.

Participants were led into a room where the elements and camera were set up on a table and were then asked to respond to what was on the table. On the left side all the elements of the visual language laid out and on the right hand side were a series of contour shapes that would allow the users to design a micro or macro view of their time up the hill.

A lead question was positioned at the head of the table above all the elements and the question was consistent with the previous sessions "Tell us about your time up the hill?" A secondary piece of text was positioned at the bottom of the table instructing the participants to take a photo each time they made or moved something.

It was revealed later in the feedback sessions that the participants knew what to do with the tools based on the visual aesthetic of the tools (resembling paper cut outs) reminded them of South Park and inspired them to make stories using them.

The research aim of breaking the session into two parts was to test how naturally the participants engaged with the tools and if their playfulness promoted co-creation. That demonstrated the differences between intuitive behaviour and conditioned behaviour in the use of the tools.

The key findings from the study were: 1) That the participants intuitively knew how to use the tools (Figure 74 & 75) and re-enacted experiences as key moments in time (which was later found to be informed by the aesthetic resemblance the tools employed in South Park); 2) The wider system was redundant as it slowed the process and removed the flexibility and fluidity from the tools and the co-creative process; 3) The drive to create a tool to producing a sequential (time line based) story (Figure 76, 77 & 78) in making an image for experience was superseded by the participants intuitive behaviour in co-creating key moments in time using the tools because it was easier.

At this point in the research it is important to acknowledge that the desire of the designer/participants to create a tool for co-creating their own South Park stop motion styled versions of experience was pushing the research in a biased direction. The research had to take stock of what the data was saying and move in a new direction informed and inspired by the data generative by the riders.

Rider Group 4, Session 1:



Figure 74. User testing of the visual language during co-creative phase 4: Session 1



Figure 75. A sample image made from user testing of the visual language during co-creative phase 4: Session 1

Rider Group 4, Session 2:



Figure 76. User testing of the visual language during co-creative phase 4: Session 2



Figure 77. A sample image made from user testing of the visual language during co-creative phase 4: Session 2

Figure 78. A sample image sequence made from user testing of the visual language during co-creative phase 4: Session 2



Ski Area

- F Parklane Chair
- G Mowbray Chair
- H Alpine Meadow Platter
- I Alpine Meadow Carpet Lift

- Slider
- Down Line
- Race Line
- Elevator Shaft
- Little Bowl
- Snow Hill
- Black Hand
- Hornbar's
- Mazzy Zone
- Tibadge
- Orange Face Chutes
- Earth Fall
- Clay's Leap
- Black and White Chute
- Teels Chute
- South East Chutes
- Majors Park

II SIGNS

- Resort
- Blue Different Terrain
- Red DIFFICULT Terrain
- Orange Terrain
- Green Terrain

III KEYS

- Information
- White Lines
- Green Lines
- Blue Lines
- Yellow Lines
- Orange Lines
- Red Lines



Figure 79. Trail map of Turoa Ski field

4.6.1 Summary of Findings

The findings from Generative Session 4 showed consistent behaviour with that of the other sessions in terms of the use of the tools and this demonstrated a natural tendency to create accounts of experience made up of key moments in time, like points in time.

During the second phase participants watched a demonstration of the ideal use of the tools and realised that the stories they were telling could be distributed on the web. As such they made more of an attempt to create a sequential story however the research observed a shift in the intent of the story telling with it become more sensationalised, which may have been influenced by the participants wanting to make it more watchable for viewers on YouTube.

Initial tests raised the issue of image quality and the online movies were of poor quality compared to the actual objects of the tools. The quality of the footage once the images had been collated and batch edited into a sequential movie and compressed was further emphasized, with comments from the users like 'you can hardly see it.' The process of loading and processing the images into footage was slow and delivered poor results leading the research to arrive at the conclusion that the effort and energy required to achieve such a poor outcome (quality of footage) was not worth the time of cost. This realization meant that the whole macro system was redundant, as it distracted from reflecting an authentic image for experience. It would be difficult to apply to the actual location as the introduction of foreign digital elements reduced the flexibility, fluidity and playfulness of the tools. The larger system was dropped and focus was placed on developing and improving of the interactive qualities of the tools which proved to be of true value.

In removing the larger system from the scope of the project the research moved from seeking a tool to create the sequential images which initial concepts had set out to achieve and moved more towards creating a tool that aided in the co-creation of key moments/accounts of image for experience - an approach that was informed by the results of the participatory research.

4.6.2 Next Steps

The new direction of the research involved developing a tool that enabled riders to co-creatively sketch key moments in time like a 'dot to dot' of their day. As a way of reflecting on their experience this is consistent in many ways with how a map (Figure 79 & 80) is drawn as a means of traveller-to-traveller communication. (Figure 81) People naturally describe the key moments of a journey allowing the listener to fill in the gaps - this is referred to by McCloud as closure (1993). Often when asking the question: 'how was your day?' you hear "We went to this place and did this, then we went here and did that, oh and on the way we..." These key moments and key places are like a dot to dot description of experience. (ibid)

The discovery that travellers intuitively mapped out their experiences was of no surprise considering the amount of existing informative material that is structured this way, maps are a particularly good example. The design objectives of the research had now shifted to developing co-creative sketching tools for creating maps of experience consisting of key moments or images for experience.

From this point research moved into developing and packaging the tool for market and moving it beyond the prototype phase making it more accessible to the audience. The tools would be designed to sit within an outer package and needed a language and a name.

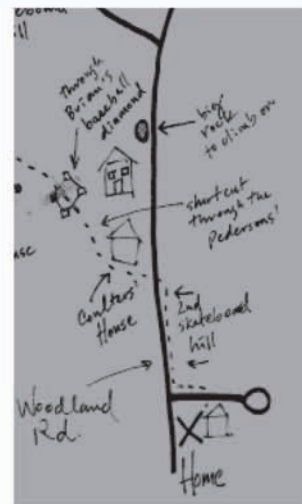


Figure 80. Memory Map, Image taken from, You Are Here: Personal Geographies and Other Maps of the Imagination

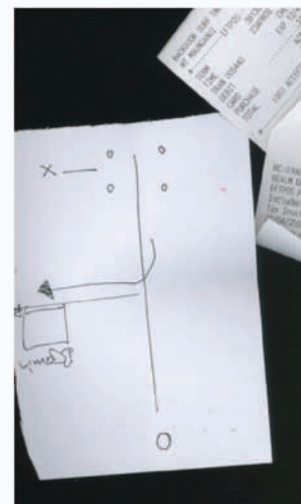


Figure 81. Sketched direction map produced from respondent during reflective sketching

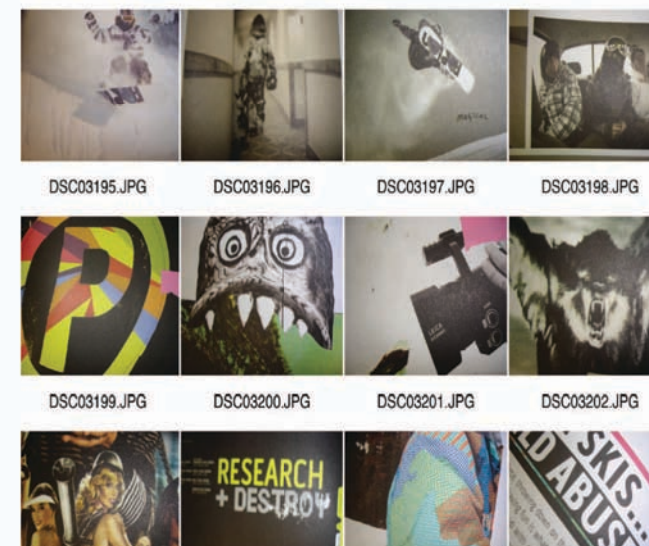


Figure 82. Art direction library



Figure 83. Image from art direction library before the bi-association process



Figure 84. During the bi-association process



Figure 85. Example of results from the bi-association session

4.6.3 Name, Packaging & Brand Language

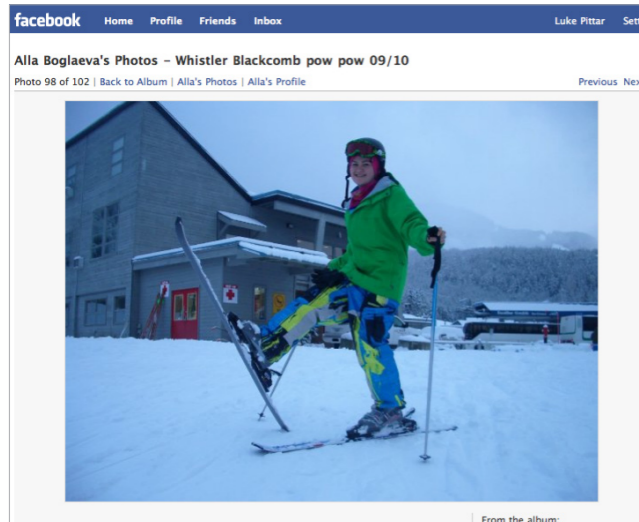


Figure 86. A picture taken from a facebook album of one of the participants in phase 1

Initially concept development played with the idea of a brand structure for the tool and the creation of a superior brand called “campfire” (a place where you share stories) comprising of specific tools designed for specific cultures, the experience mapping tool would sit under this brand and have it’s own name and brand package - that name was Pow Pow Pow. Pow Pow Pow is a communication tool for snowboarders and skiers to share their experiences.”

“Pow Pow” is a term used for powder snow and the name Pow Pow Pow celebrates a new or fresh view for experience. i.e. The way fresh Pow Pow (powder snow)(Figure 86) symbolizes a new day of fun riding.

4.6.4 Refining Concept

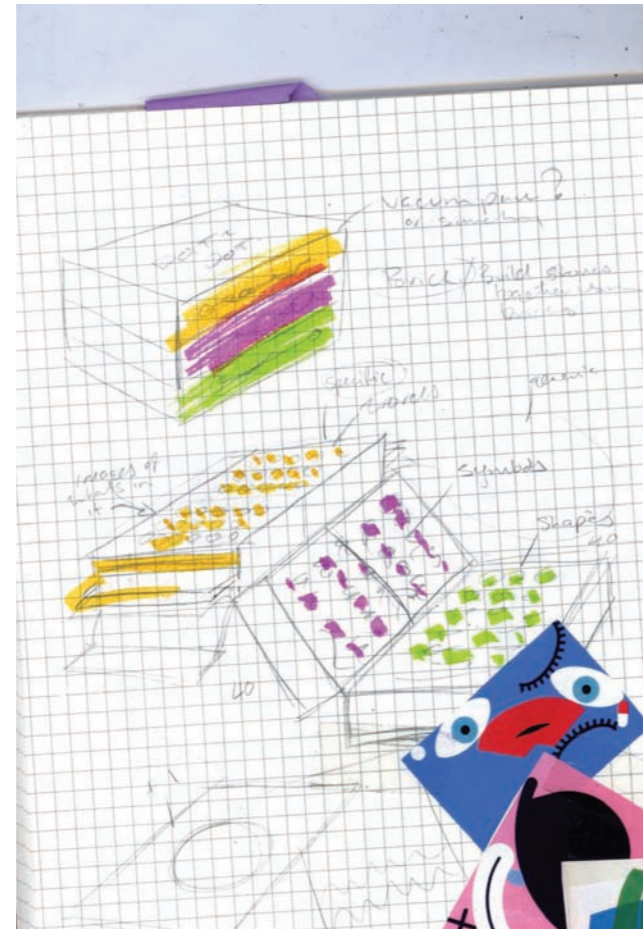


Figure 87. Initial concepts developed for brand package

At this point one strong concept (Figure 87) emerged for packaging the tool - That of the “story brick” which could be used to build stories with the contents of the brick and thus co-creating an image for experience. The story brick consisted of three playing card sized packs (Figure 88) that when folded together formed a brick, each brick containing a set of magnetic cards (Figure 89) that players could assemble in different ways to tell a story, while still using the key point in time theory from the last generative session. The cards would allow participants to assemble dots, and around the dots they would build stories. One of the packs would contain dots while the other would have more textural, specific shapes relevant to the location with the final brick containing culture specific visual cues such as words, boards and so on.

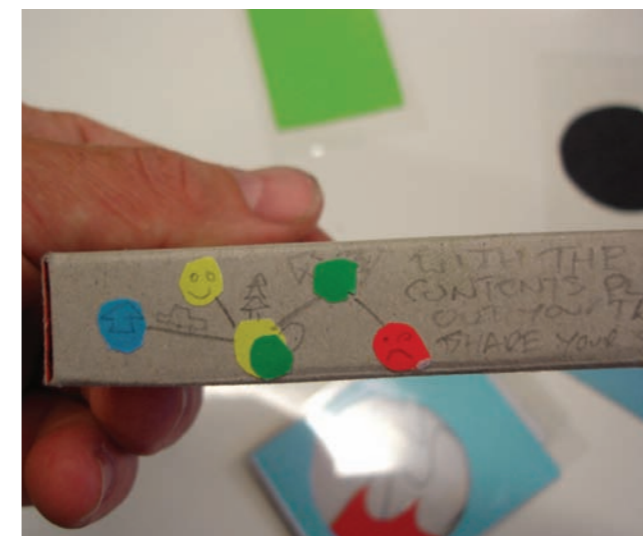


Figure 88. Prototype development of the dot to dot brand package

This process of making a story was called “dot to dot”. After reviewing this conceptual direction with supervisors (Dr. Ing. Aukje Thomassen & Mark Bradford) it was decided that this concept direction was a departure from the research findings and did not acknowledge that data generated from the sessions.

Based on this feedback the research went back to the drawing board for a second round of concept development, this time taking a closer look at what had been happening during the generative sessions. As the first concept was an attempt to expand upon on the success of the playing cards, the new concept needed to that facilitated the co-creation of an experience map.



Figure 89. Storyboards explaining the concept

4.7.0 New Concept: Tagging

The second concept that was developed was called “tagging” and embraced the notion that people could tag up images for experiences. The term tagging makes reference to attaching a label to something for the purpose of identification or to give information to another, in the context of the research this referenced the co-creation of a visual label (or image) for key moments of an experience. This concept also drew on use of the term tagging used by another graphic self-expressive culture, that of the graffiti artist. This is a culture where artists would ‘throw up’ pieces of art onto walls in a public space using aerosol spray cans as their painting tool (Figure 90). The research identified in both cultures the need for visual self expression and a love for bright, bold graphics (Figure 91). This bi-association acted as a bridge allowing the research to appropriate the spray can and borrow from existing social constructs and symbols, reinterpreting the concept of ‘tagging’ as a specifically designed communication tool for snowboarders and skiers to express images for experience. The can would be used as a visual cue in telling the snowboarders and skiers what to do with the ready made visual contents of the kit and facilitating first the basic level of creativity the organizing of the contents, followed by adapting them to suit and moving towards making an expression of their experience. This would in turn lead on to co-creativity where individuals could make creative leaps (bi-association) based on the artifacts that had been constructed.



Figure 90. A graffiti wall in Ohakune



Figure 91. Snowboard graphics

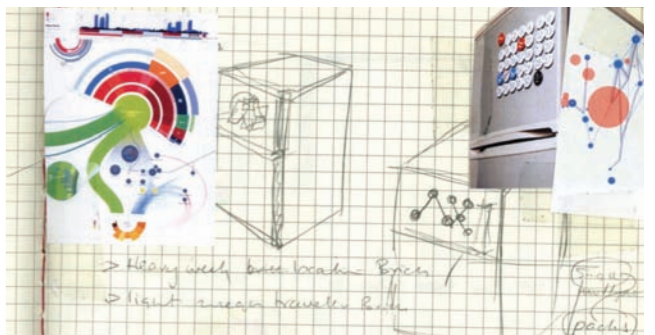


Figure 92. Applied to fridge

The concept was scalable in the sense that it could be used in both a small and large format. The small format was designed for fridges in rented chalets (Figure 92) and the large format for the wall of the backpackers/hostel. (Figure 93) The large scale models contained a large magnetic white board on which riders could co-create a two way communication system as an interface comprising both a snow report and a riders log. The inclusion of the snow report was informed by the data collected in the reflective sketching phase that emphasised a consistent need for riders to get up and check the report each morning. Instead of each individual needing to go to the computer to check the report this act combined with breakfast. Individuals would go to the computer to check the report only the first person did, as they would then transfer the data to the fridge or wall using the tools. This also gave the manager of the travellers accommodation an opportunity to get up each morning and supply the report as they supply breakfast.

Coupled with this report is a riders log - a space where riders can tag up images for their key experiences during the day. The riders log came with three markers with each colour representing a different mode of communication. Black standing for individual trails and tracks, Blue being for comments and Red for transport lines - the research inspiration being the coloured lines used in trail maps.

In essence what the tool most closely represented was the cognitive map found in context-mapping sessions. The tool in this research was designed for a specific use and target audience containing language and aesthetics representative of the people using it. (Figure 94, p. 82-3) The tool was in fact an experience map (Figure 95, p. 84-5) in which the images could be altered and moved further informed the aesthetic decision for the final visual language (Figure 96) to be of a 2d icon nature. This reflected both the icons found on maps and the visual aesthetic of the culture.

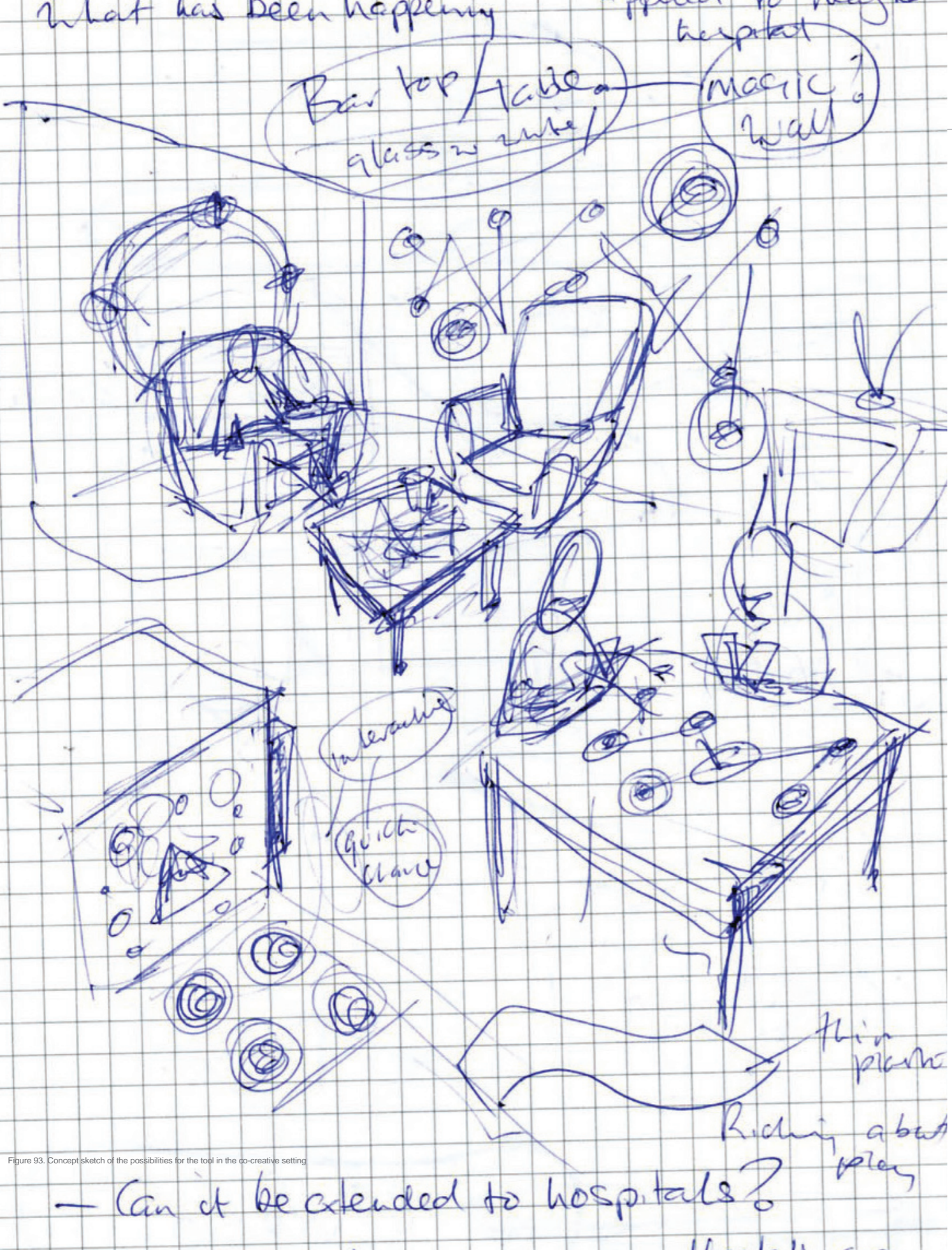
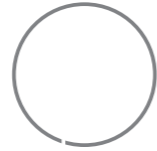


Figure 93. Concept sketch of the possibilities for the tool in the co-creative setting



snow report

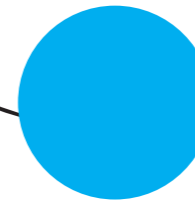
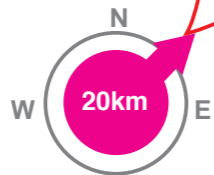
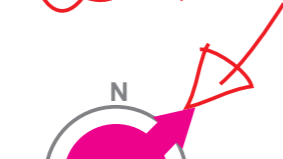


2cm Base

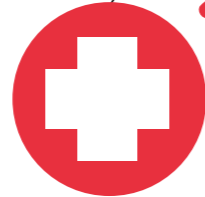


2m Base

bullshit



ridinglog



pocket

Figure 95. Tagging concept: How the language works

Vibe Category of the Visual Language



Environment Category of the Visual Language



Figure 96. The final visual language

Summary

To what extent can co-creative sketching enable a specific audience to influence their experience of a location?

The act of co-creative sketching through out the participatory process and within the final design outcome enabled the stakeholders to collaboratively develop and influence the outcome of the final design.

The use of a common visual language during the act of sketching facilitated this as it produced data which as raw and open, allowing it to be analysed by all the stakeholders through out the participatory process.

The use of sketching transferred from the development tools through to the final communication tool. Sketching with a simple universal visual language supplied the specific audience with an open communication framework. That framework served as a creative scaffold which allowed individuals to co-create image for experience and exchange tacit knowledge, and as a result also contribute to a public image about experiences at the location.

The co-creative sketching of images about experience constructed artefacts that embodied their experiences and facilitated the exchange of information about experience. It made tacit knowledge accessible to others beyond the moment of creation and exchange, and created a framework for participants to achieve bi-association through viewing other participant's insight into experience, thus influencing their experience of a location.

How can co-creation result in developing a shared image for experience based on the exchange of tacit-knowledge?

The act of bi-association influenced by a public image for experience allowed participants to transform their experience through offering a public environment and tools that were playful in nature. The act of playing with these tools in a public space promoted engagement between participants and allowed participants to escape together into a temporary sphere and exchange/explore each others alternate views and thus transforming their experience.

The engagement in play and the sharing of images for experience through co-creation can be attributed to the colourful, bright and universal nature of the tools, which promoted engagement with the tools and space. As to say the playful look of the tools led participants to a playful use of the tools.

How can participatory design support co-creative sketching?

The tool or tools that were used through out the participatory design process consisted of a simple accessible visual language that promoted co-creative sketching. In the example of the co-creation of a shared or public image for experience - co-creative sketching resulted from the playful use of a specifically designed communication tool consisting of a simple and flexible icon based visual language.

Recommendations

A review of process

The findings from the research into co-creative sketching to support the participatory design process show that through out the participatory process there is a need for simplicity and clarity from the designer in articulating and leading the project.

This is important to note when involving stakeholders who are of a non-design background. The importance of simplicity aids in managing the complexity and variation in the data generated from co-creation,

Sketching as a thinking, development and communication tools facilitated in managing this complexity. It is recommended that rigor is applied to documenting and clarifying findings through out the entire participatory process.

The use of simplicity and sketching laid the foundation for the development of the tools throughout the process. On occasions the research acknowledges a failing in keeping to a simple well defined process, with the occasional injection of a variety of influences which at the time improved the outcome and on other occasions distracted the research from it's main objective. It is important to note that the inclusion of alternate sources was needed to support the nature of the research, but in future it is recommend careful consideration be taken in assembling a methodology for participatory design as the complexity and subjective nature of the data generated needs to be managed with simplicity and rigour.

Moving forward

With more time and resource, this tool could be moved into a digital space. The use of it could be applied to touch screen technology, which could give the project and extended application to up on the mountain as ski, snowboarding resort for experience. This tool has the potential to be applied to a variety of ski resorts both nationally and internationally to help with forecasting the riding experience on different fields.

As a participatory design process this formula can potentially be reapplied to a different audiences and settings, such as in sporting events, an urban way finding system or even in the use of urban planning for both local and national government.

The process used in this research which involved first ethnographic research followed by the use of probe kits, co-creative sessions, which leads to idea generation, then prototyping, supplies a developmental framework for designing communication systems with the people who use them. Placing the users as experts of their experience.

The idea of this process being a commoditised development process, which involves the public prototyping of communication tools, could in future be considered as a creative model for a business. This business would specialise in development of communication tools that promote the exchange of tacit knowledge with in a between specific cultures.

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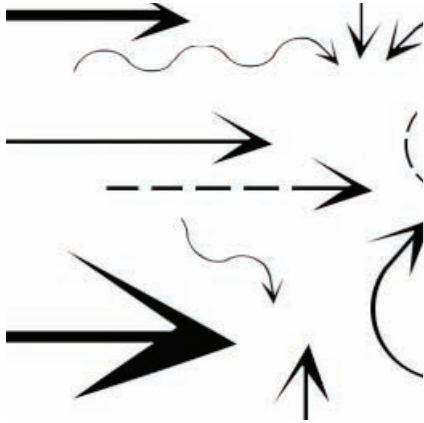
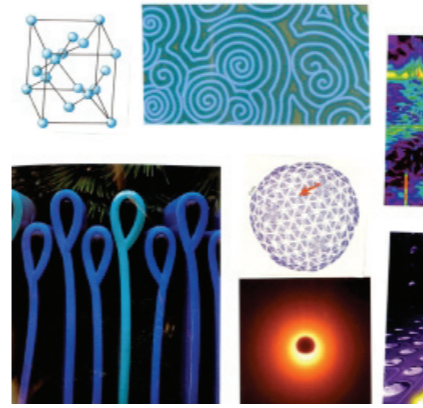
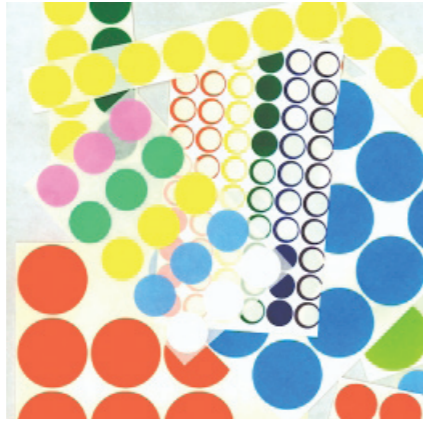
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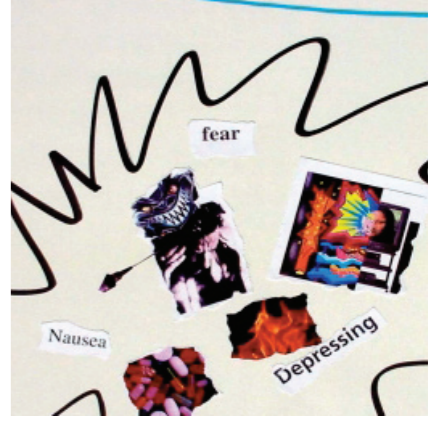
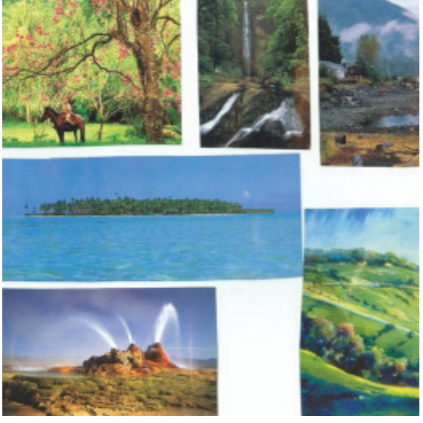
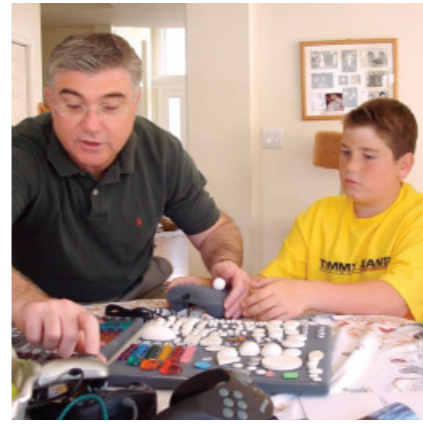
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Appendix

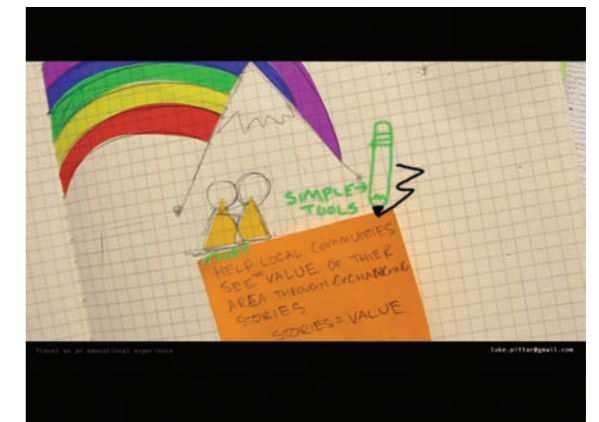
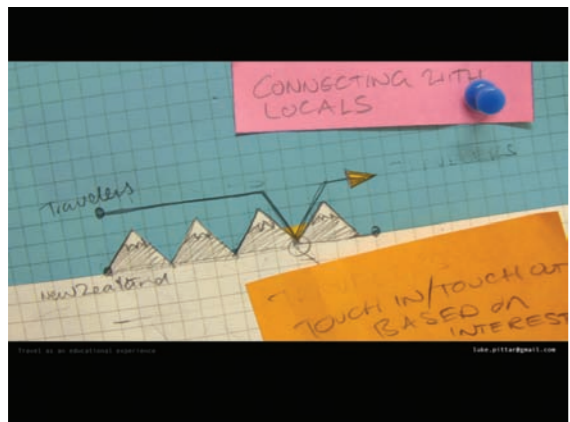
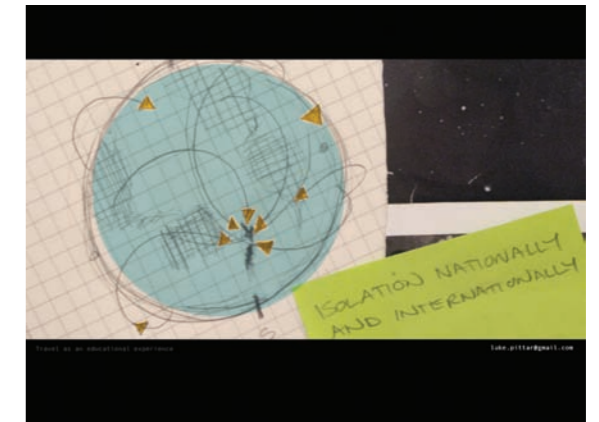
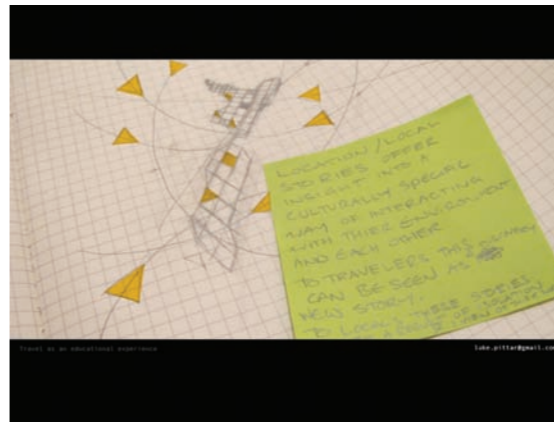
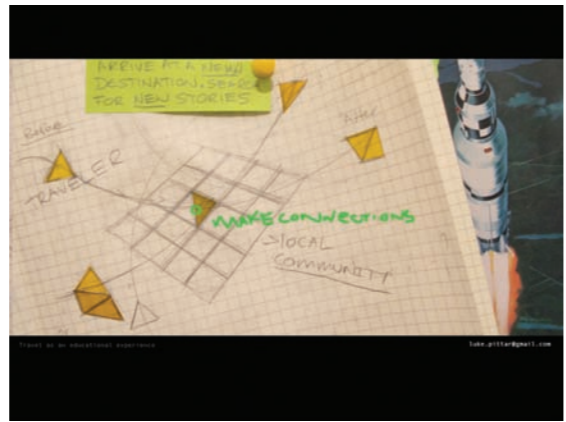
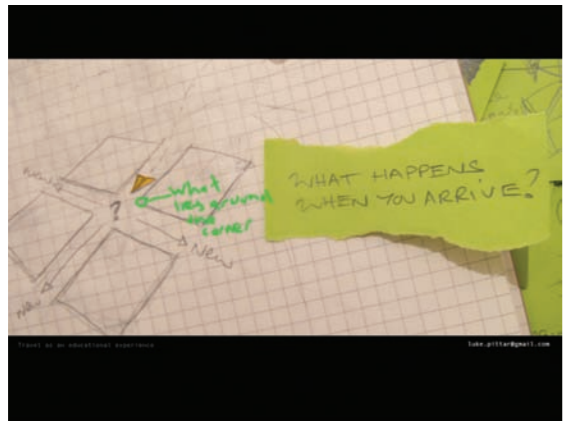
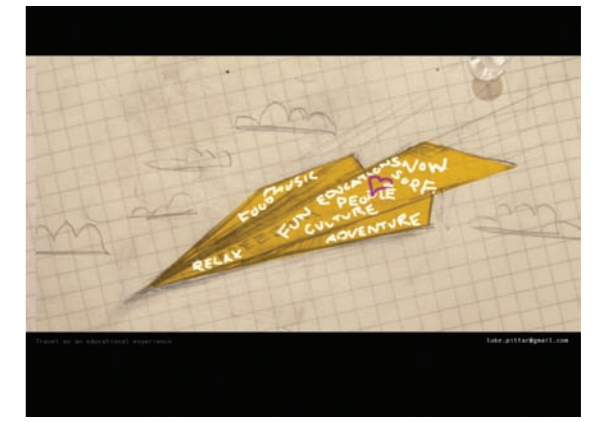
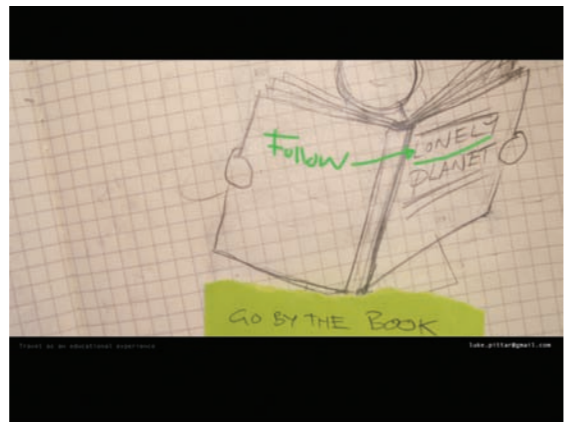
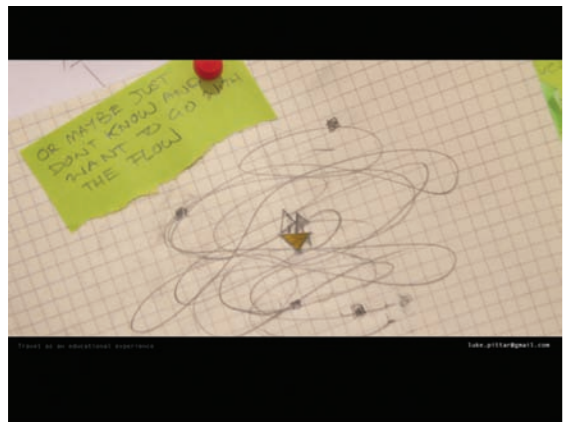
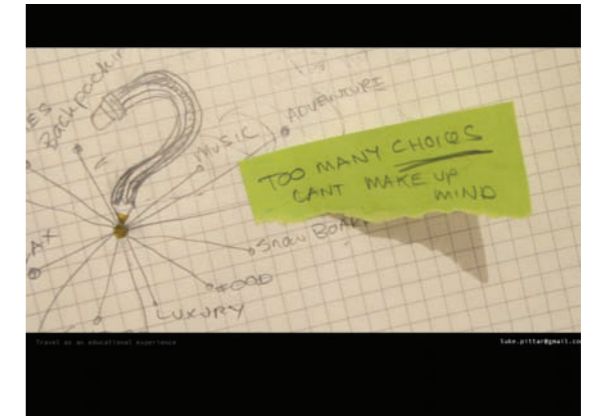
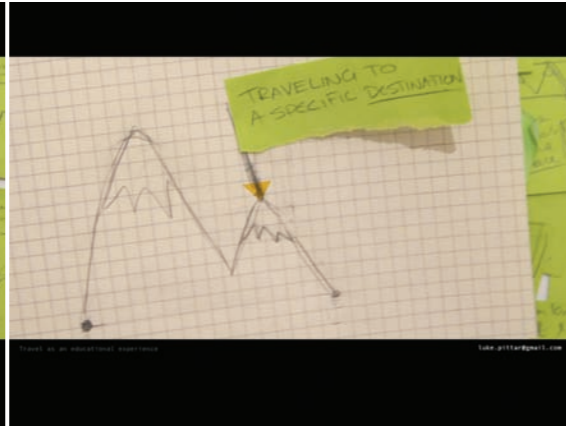
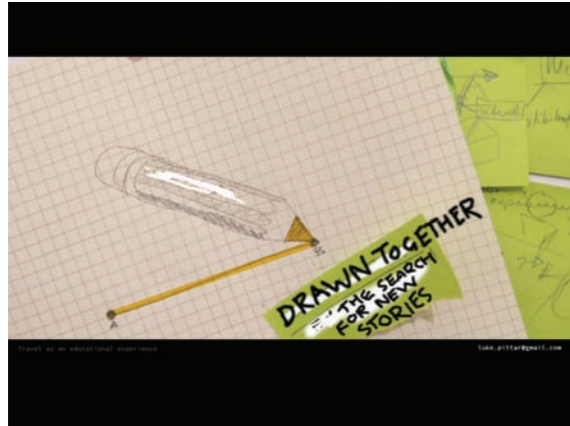
Appendix. i
Examples of Existing Generative Tools

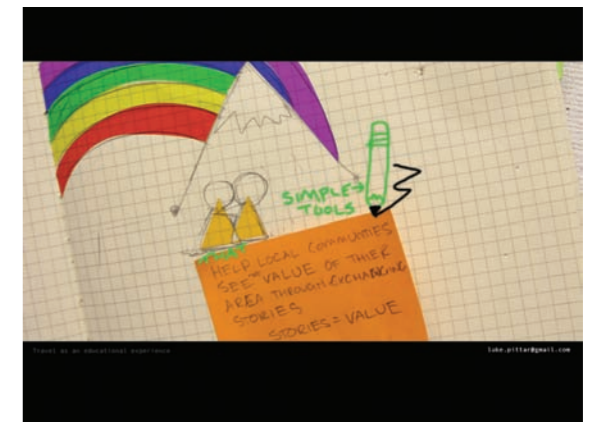
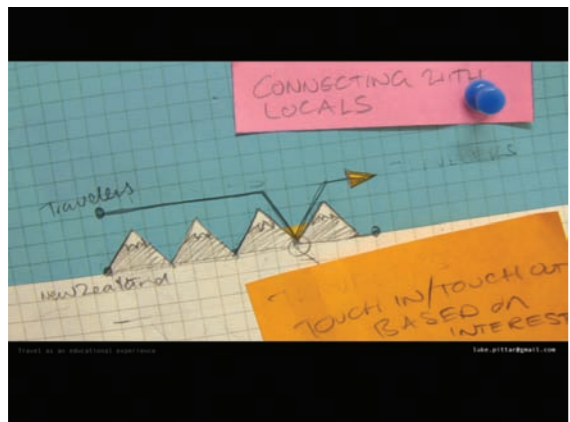
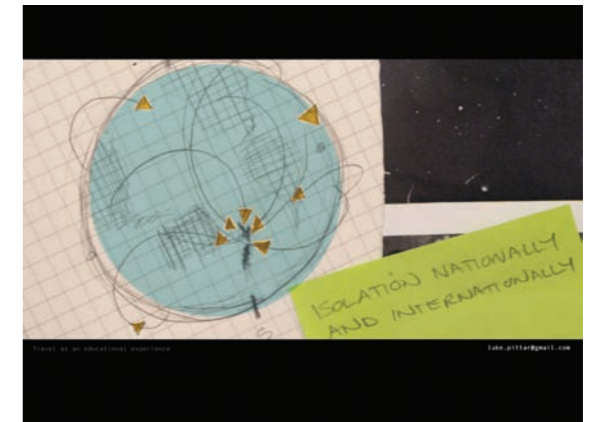
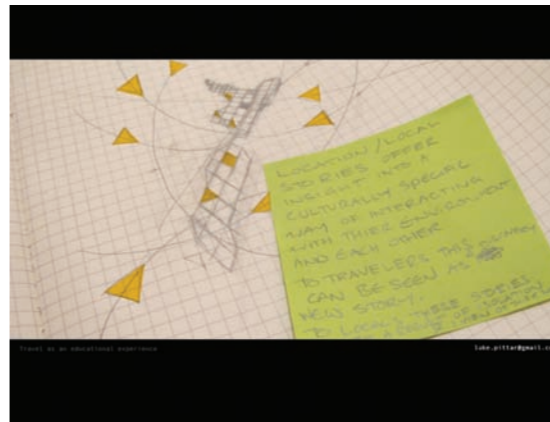
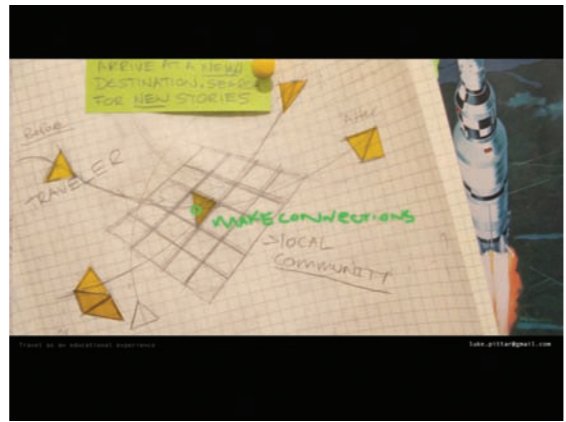
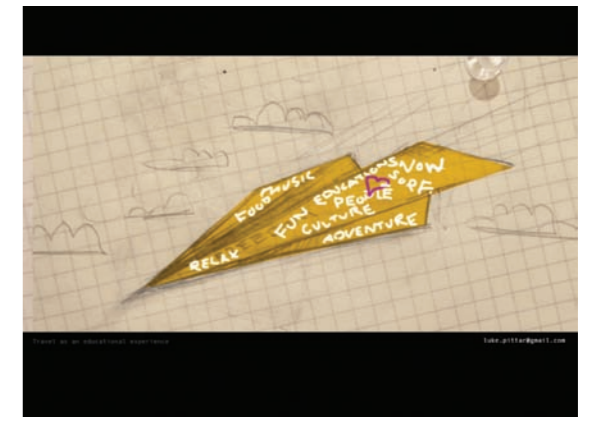
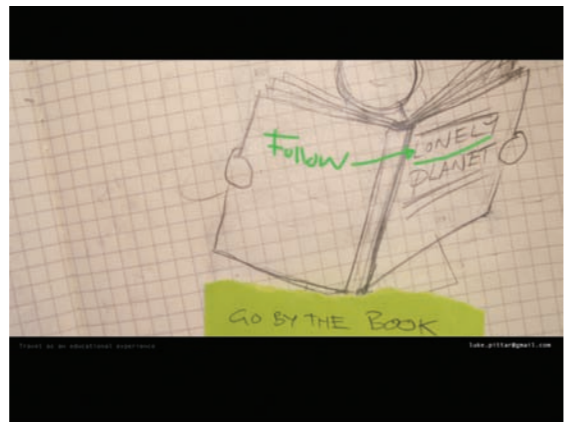
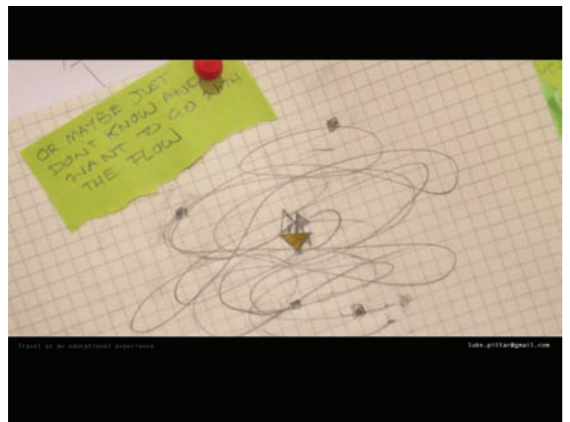
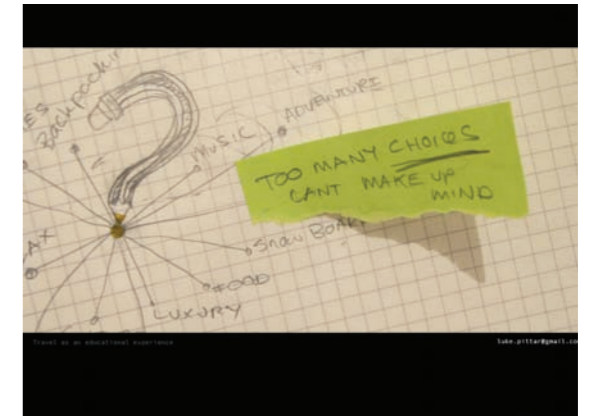
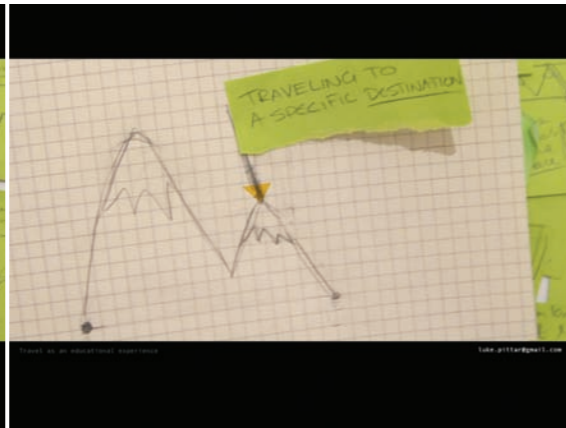
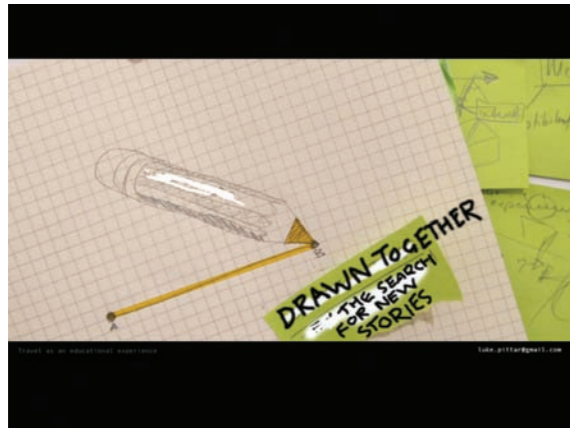


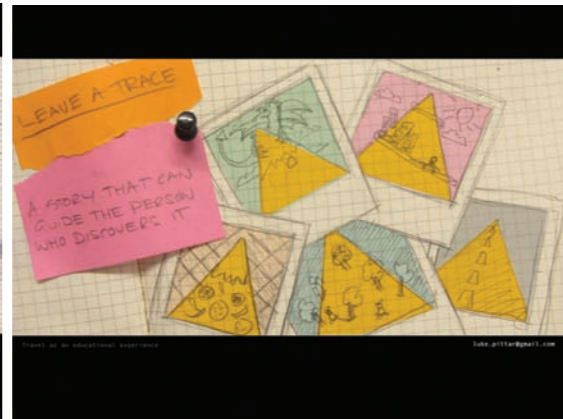
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appliance	art	big screen TV	books
bauch	beer	challenging	clean
bubbles	butter	comfort	communal
coffee	colorful	convenience	conversation
community	complicated	cuddle	cyber
cool	costly	easy access	educational
digital	easy	family night	fascinated
ironments	fireplace	floating computer	free
fast food	functional	Fung Shi	funky
fun	future	garage	garbage
futile	generic	healthy	hidden
gel	holographic	home	home server
hi-tech	integrated	interaction	jetsons
infused			



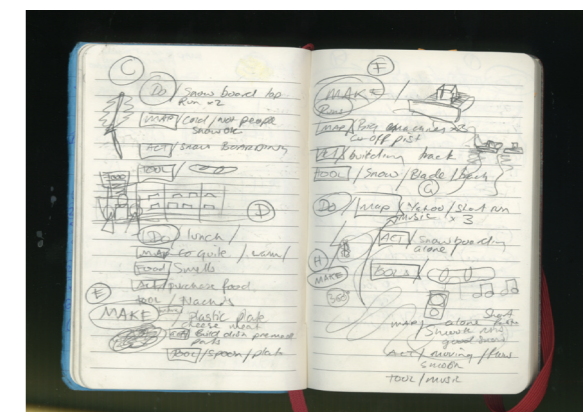
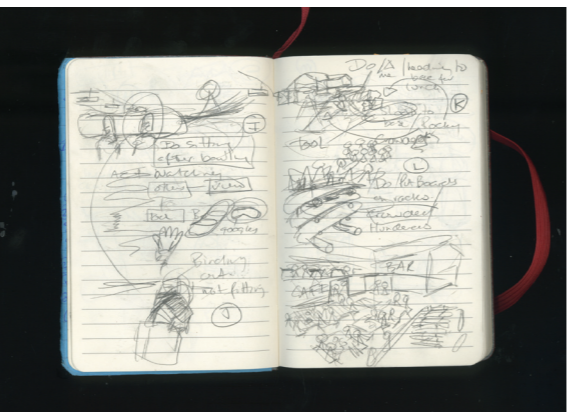
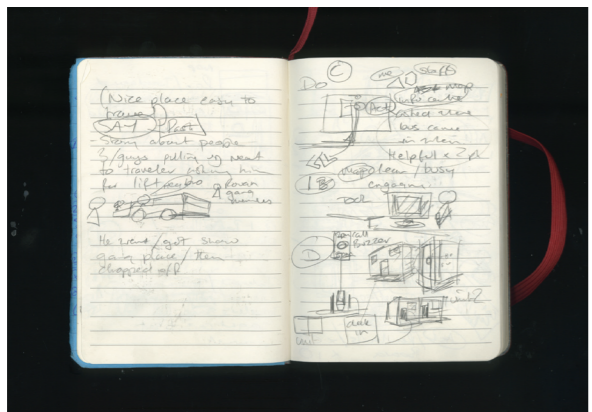
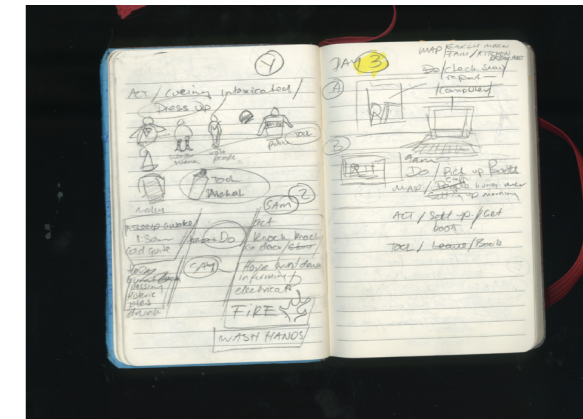
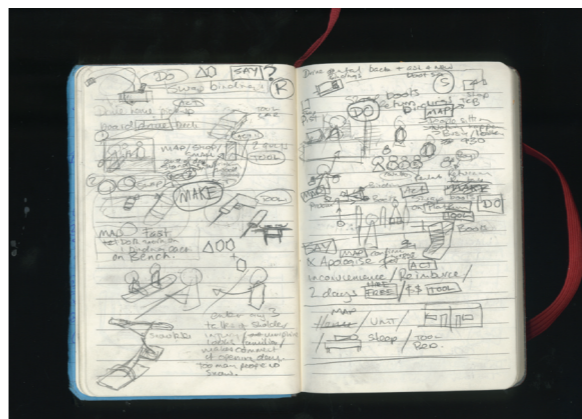
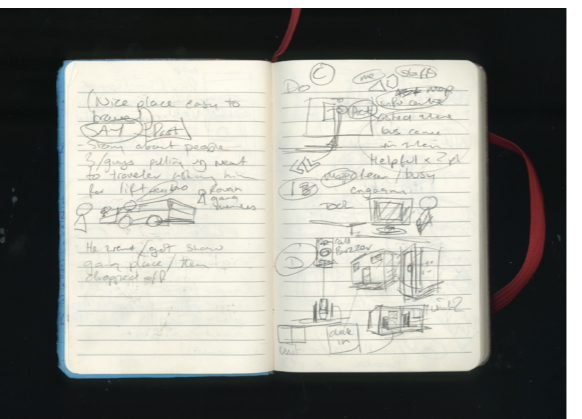
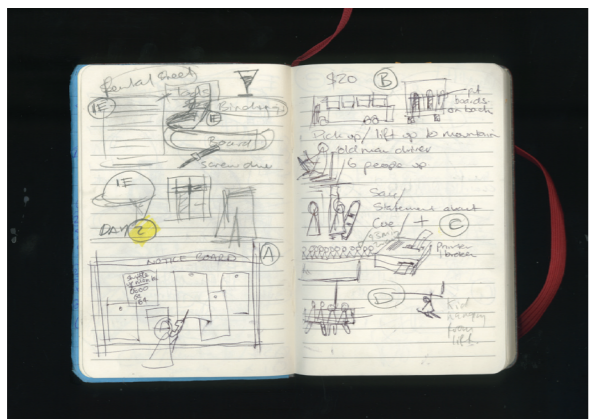
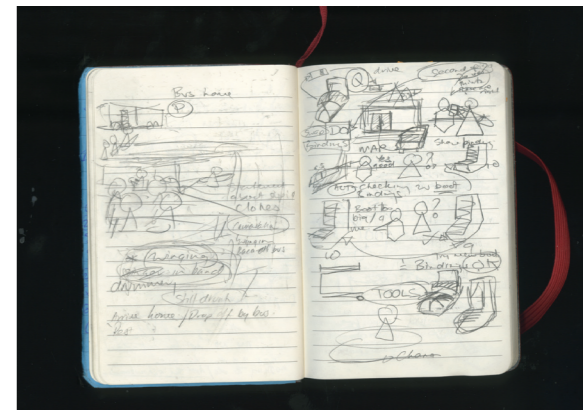
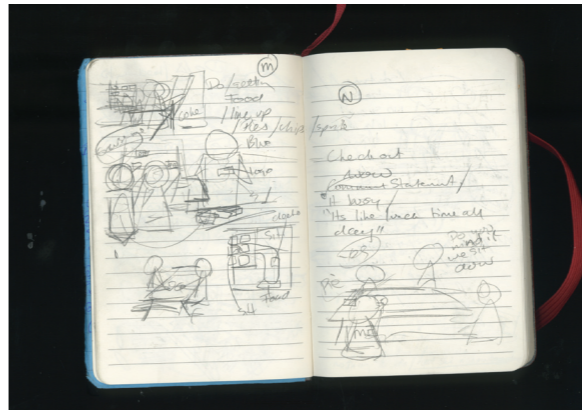
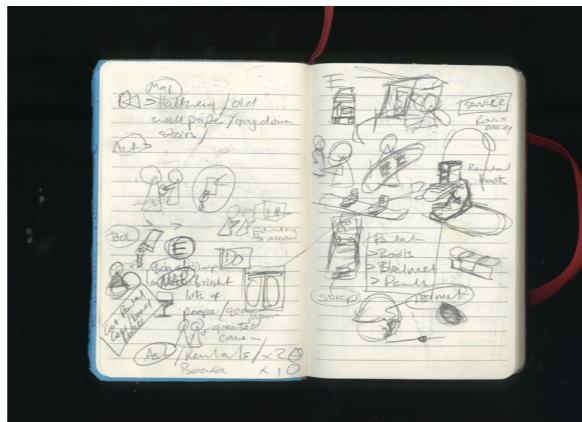
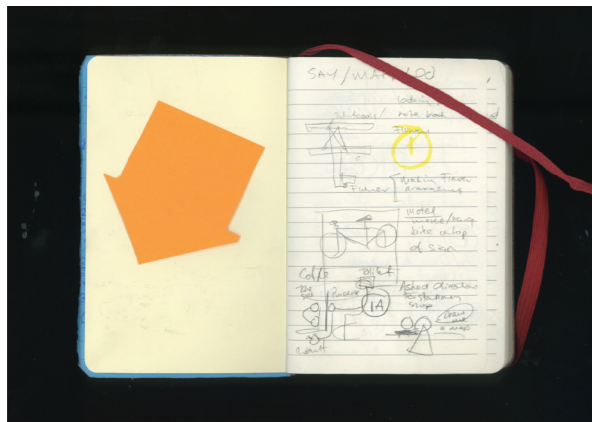
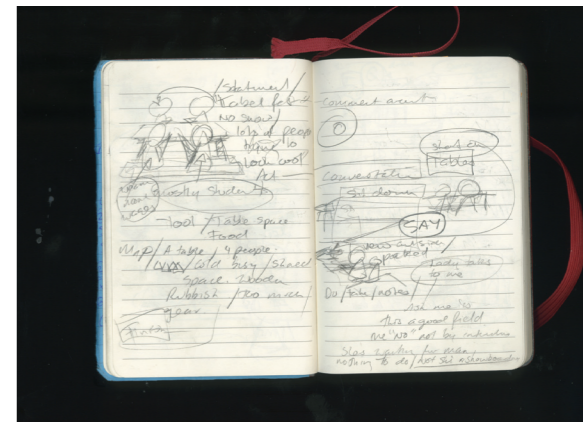
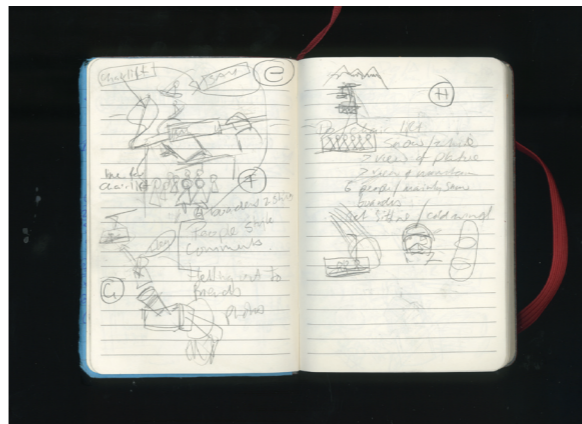
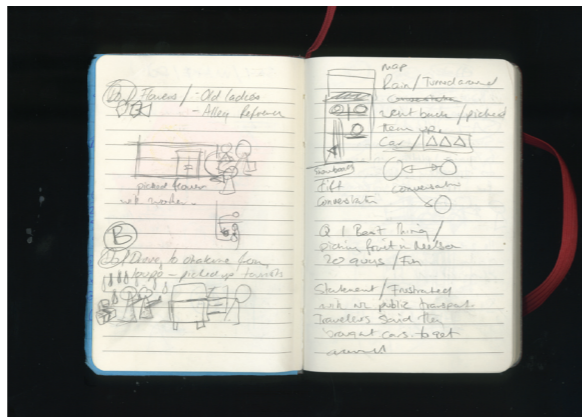
Appendix. ii
Story Bank Concept Presentation
for Pecha Kucha



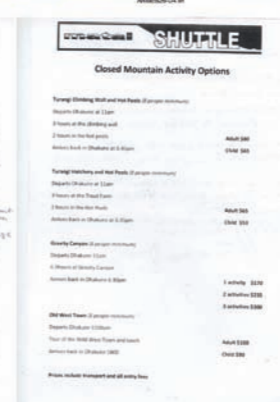
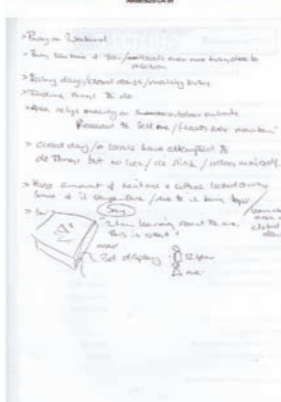
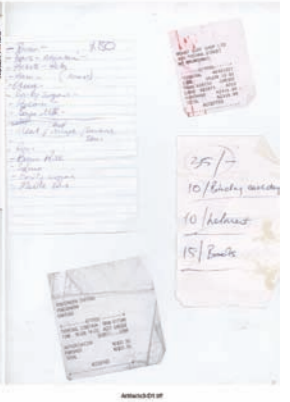
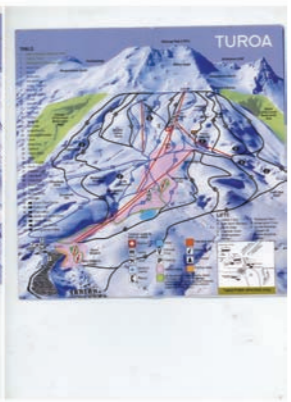




Appendix. iii
Reflective Sketches



Appendix. iv
Types of Information Sources
Gathered During Reflective Sketching





Attachment 04.01



Attachment 04.02



Attachment 04.03



Attachment 04.04



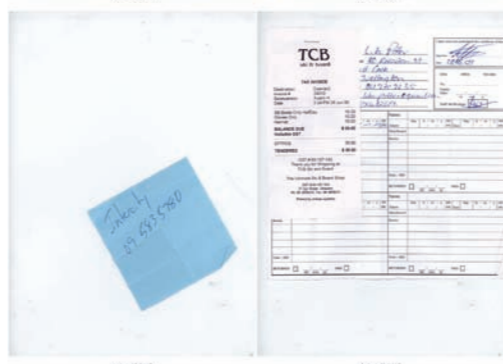
Attachment 04.05



Attachment 04.06



Attachment 04.07



Attachment 04.08



Attachment 04.09



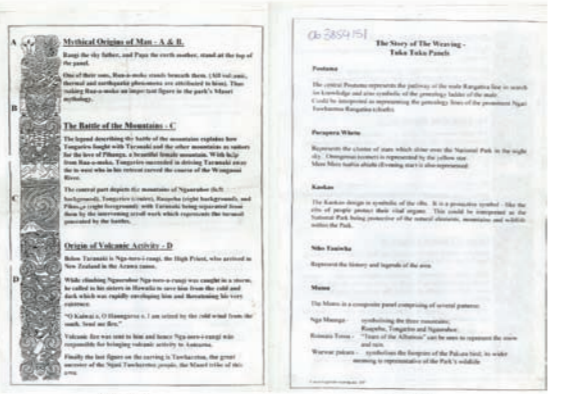
Attachment 04.10



Attachment 04.11



Attachment 04.12



Attachment 04.13



Attachment 04.14



Attachment 04.15



Attachment 04.16

Appendix. v
Photos Taken During Reflective Sketching



IMG_1161.JPG

IMG_1162.JPG

IMG_1164.JPG

IMG_1165.JPG



IMG_1186.JPG



IMG_1188.JPG

IMG_1190.JPG

IMG_1191.JPG



IMG_1166.JPG

IMG_1168.JPG

IMG_1169.JPG

IMG_1173.JPG



IMG_1193.JPG



IMG_1194.JPG



IMG_1196.JPG



IMG_1197.JPG



IMG_1174.JPG

IMG_1175.JPG

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IMG_1179.JPG



IMG_1199.JPG

IMG_1201.JPG

IMG_1202.JPG

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IMG_1181.JPG



IMG_1182.JPG



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IMG_1230.JPG



IMG_1231.JPG



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IMG_1235.JPG



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IMG_1237.JPG



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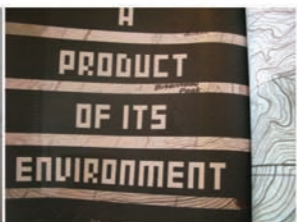
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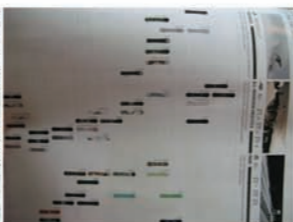
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IMG_1015.JPG



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IMG_1017.JPG



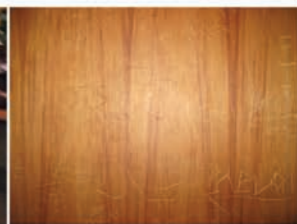
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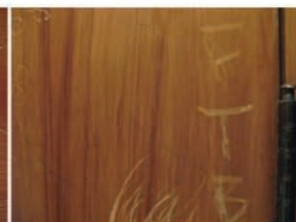
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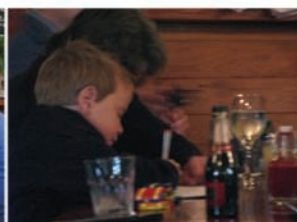
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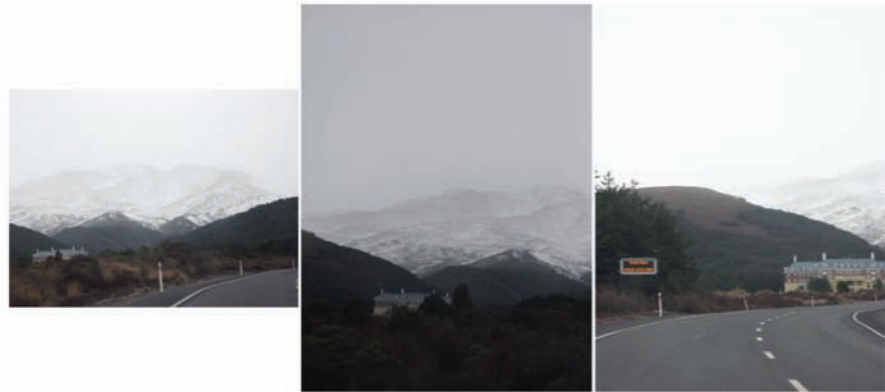
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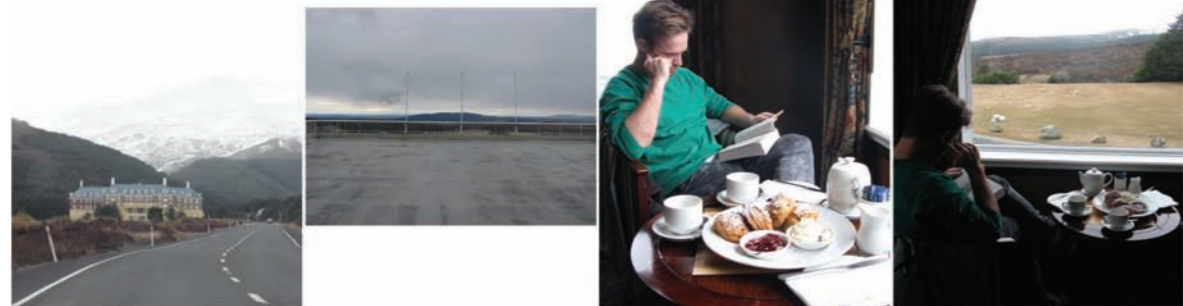


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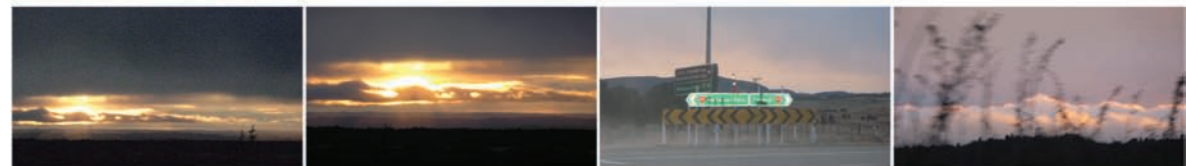
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IMG_1104.JPG



IMG_1049.JPG

IMG_1050.JPG

IMG_1052.JPG

IMG_1055.JPG



IMG_1110.JPG

IMG_1111.JPG

IMG_1113.JPG

IMG_1123.JPG



IMG_1244.JPG

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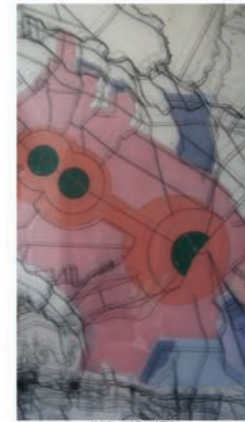
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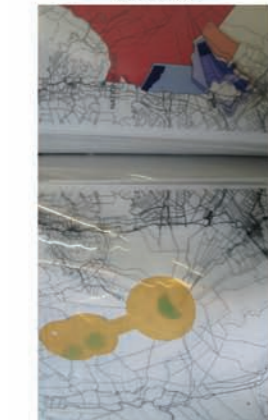


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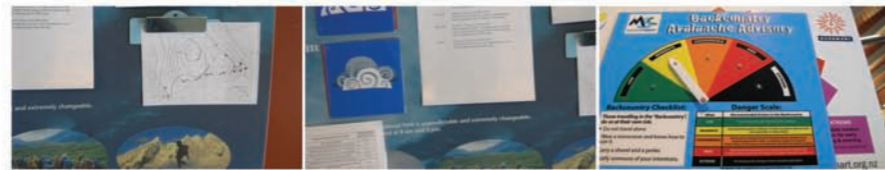
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IMG_1255.JPG



IMG_1269.JPG



IMG_1270.JPG



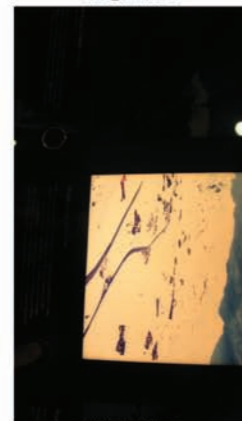
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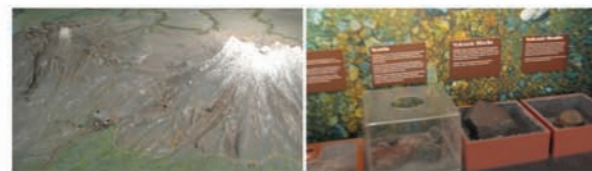
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IMG_1273.JPG



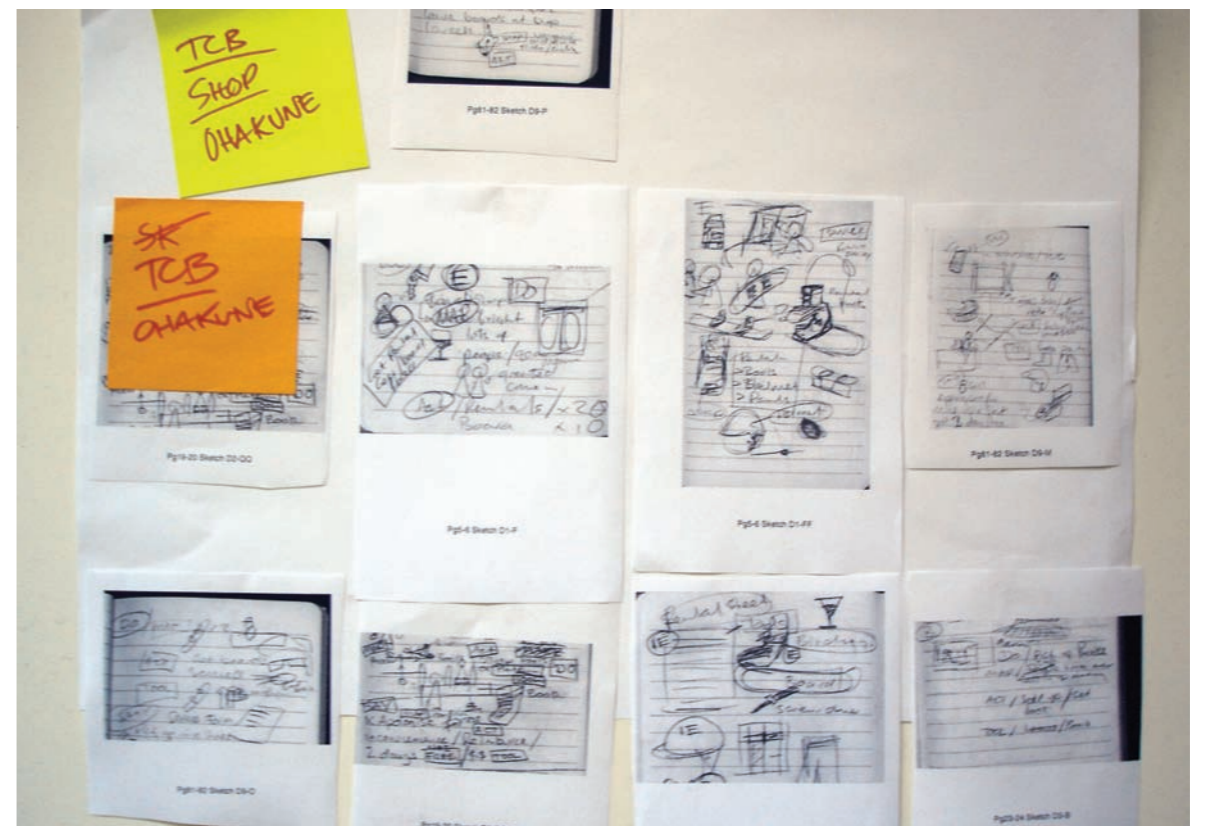
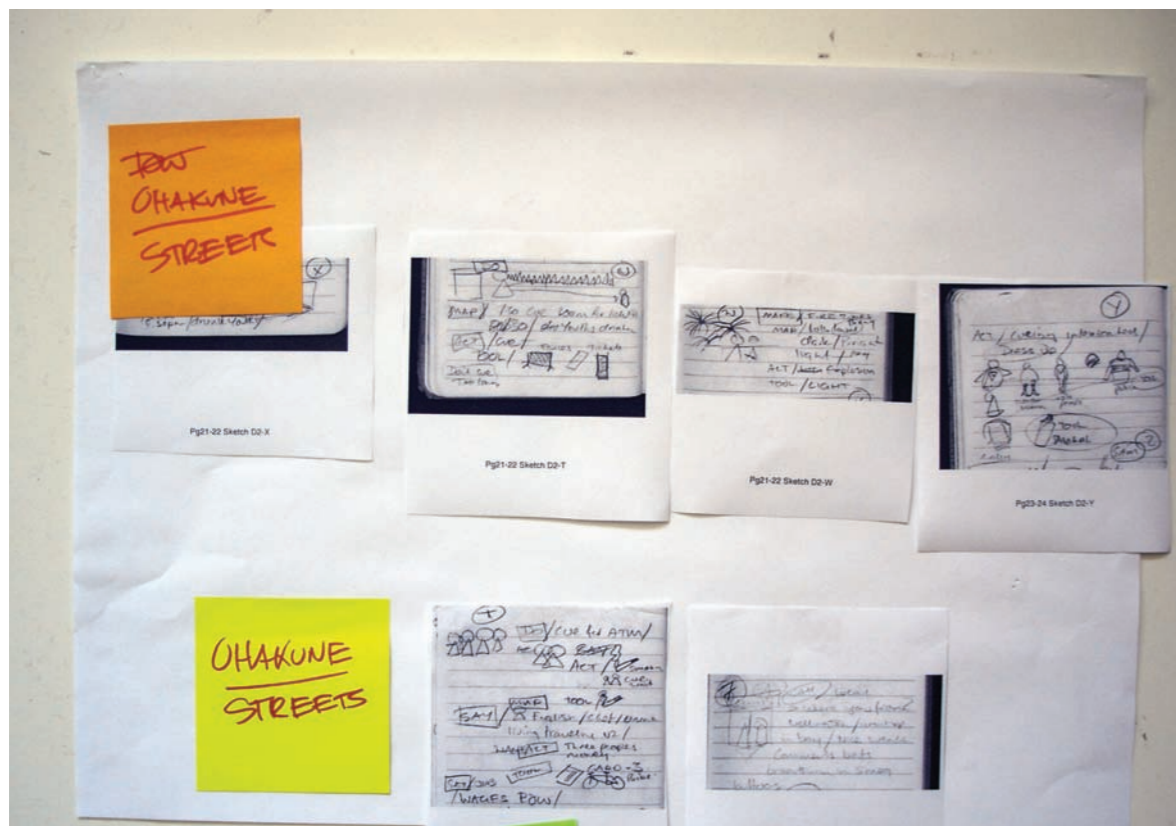
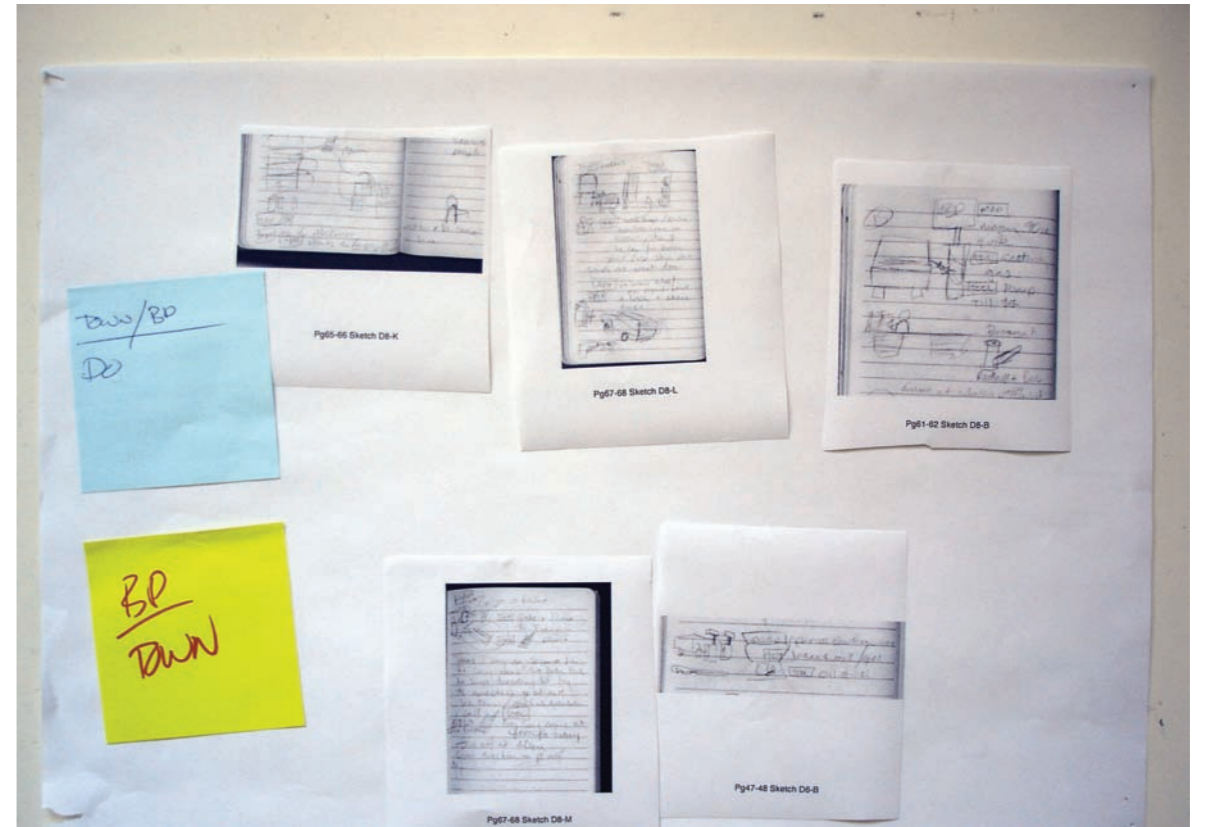
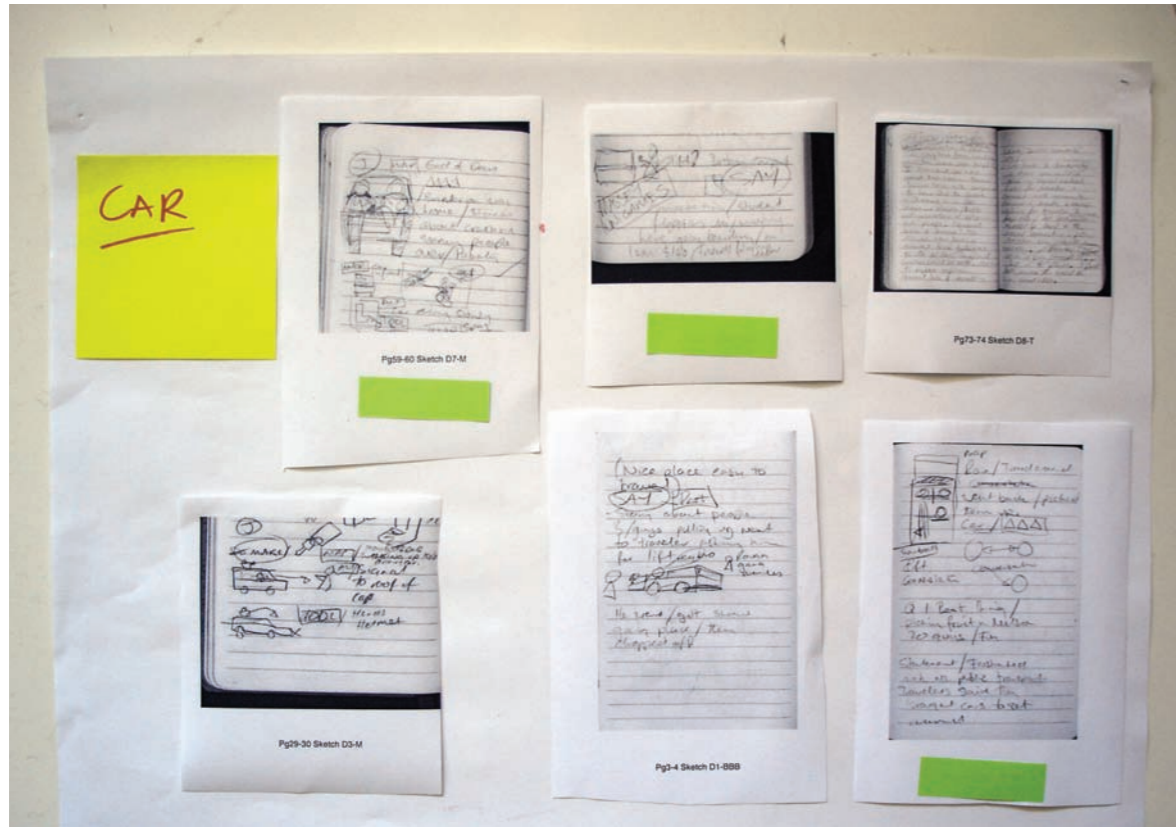
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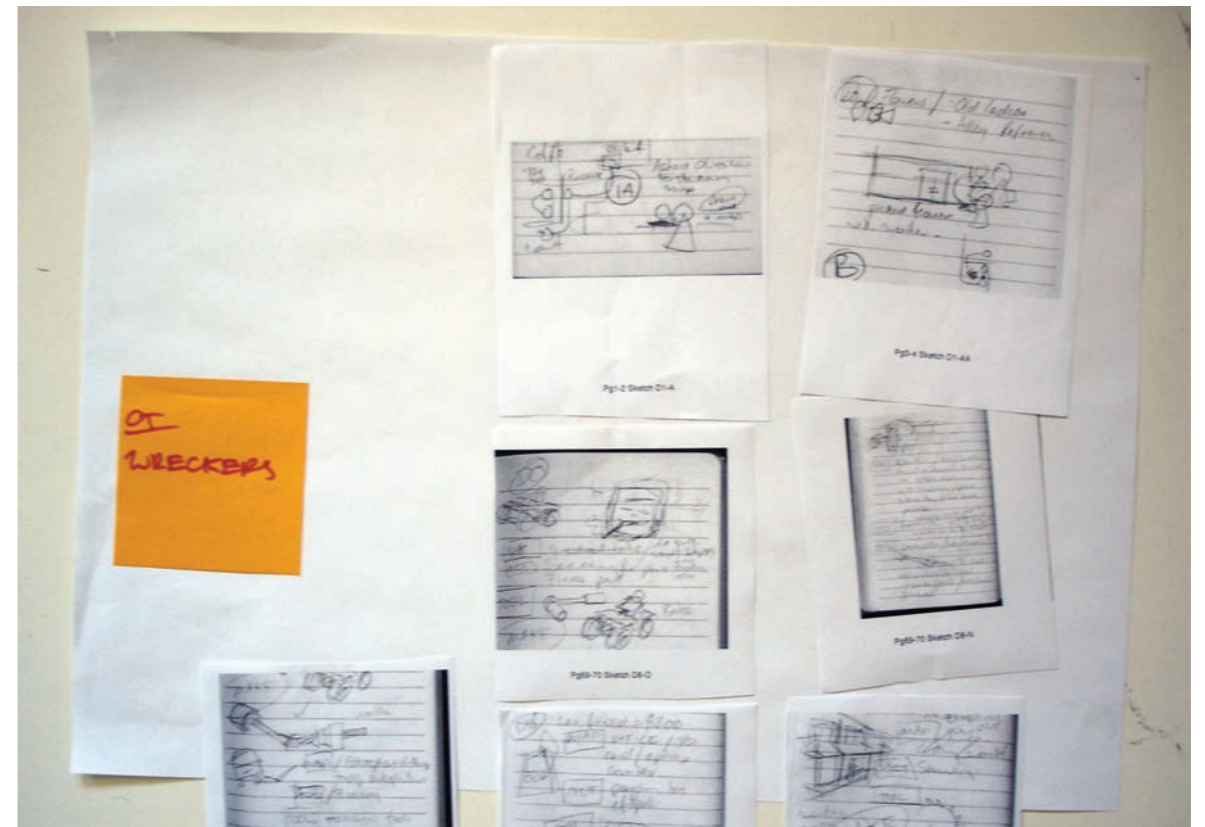
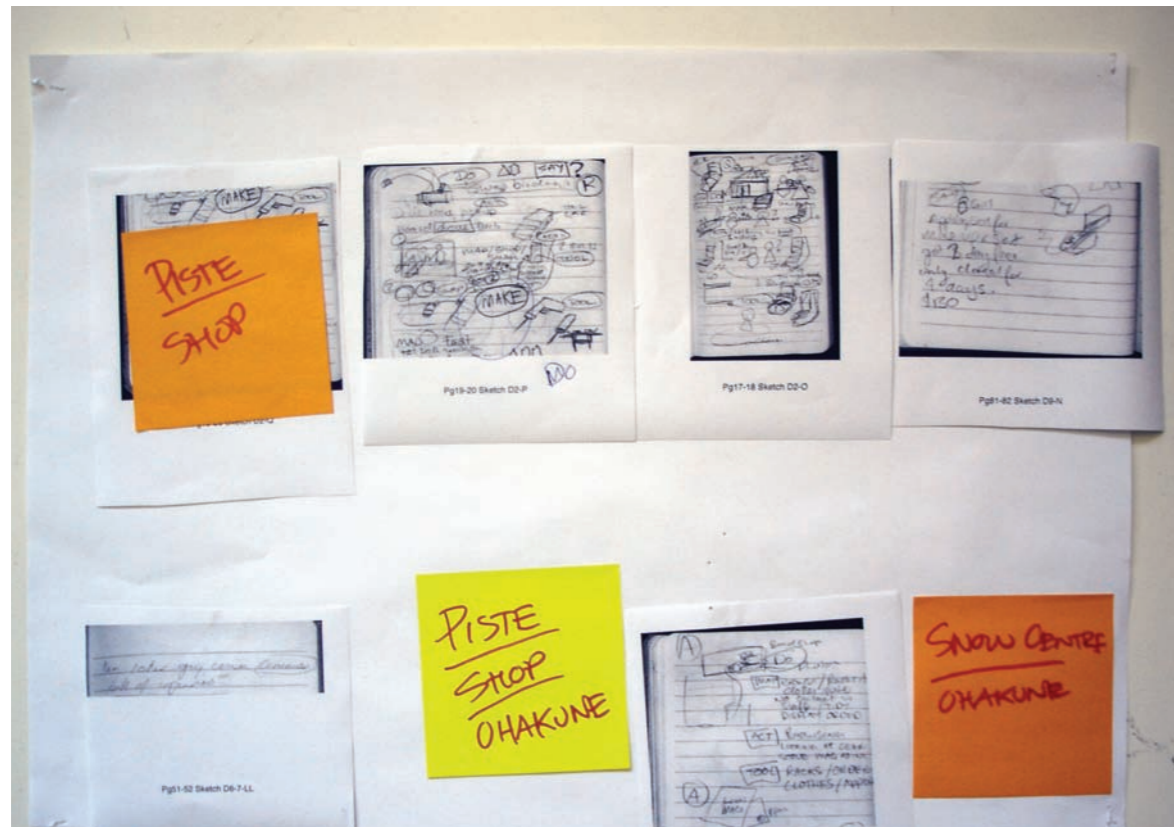
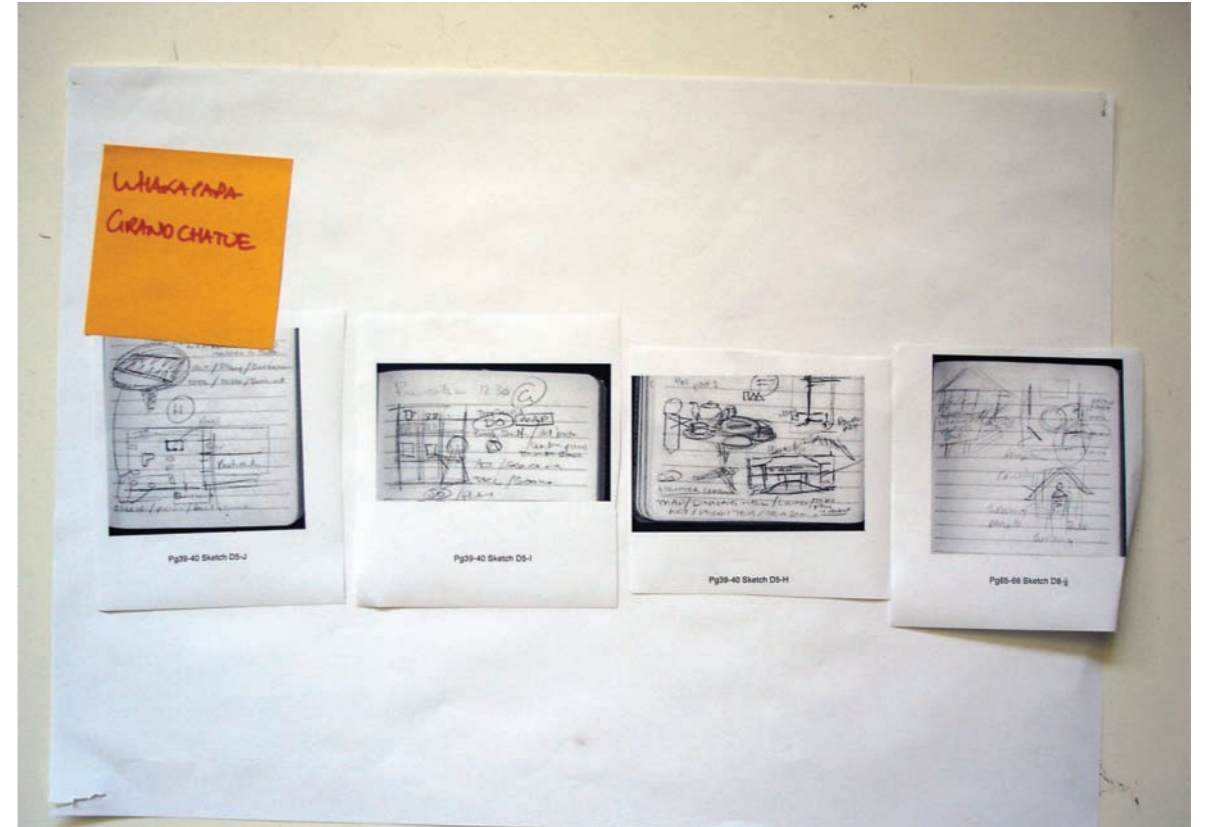
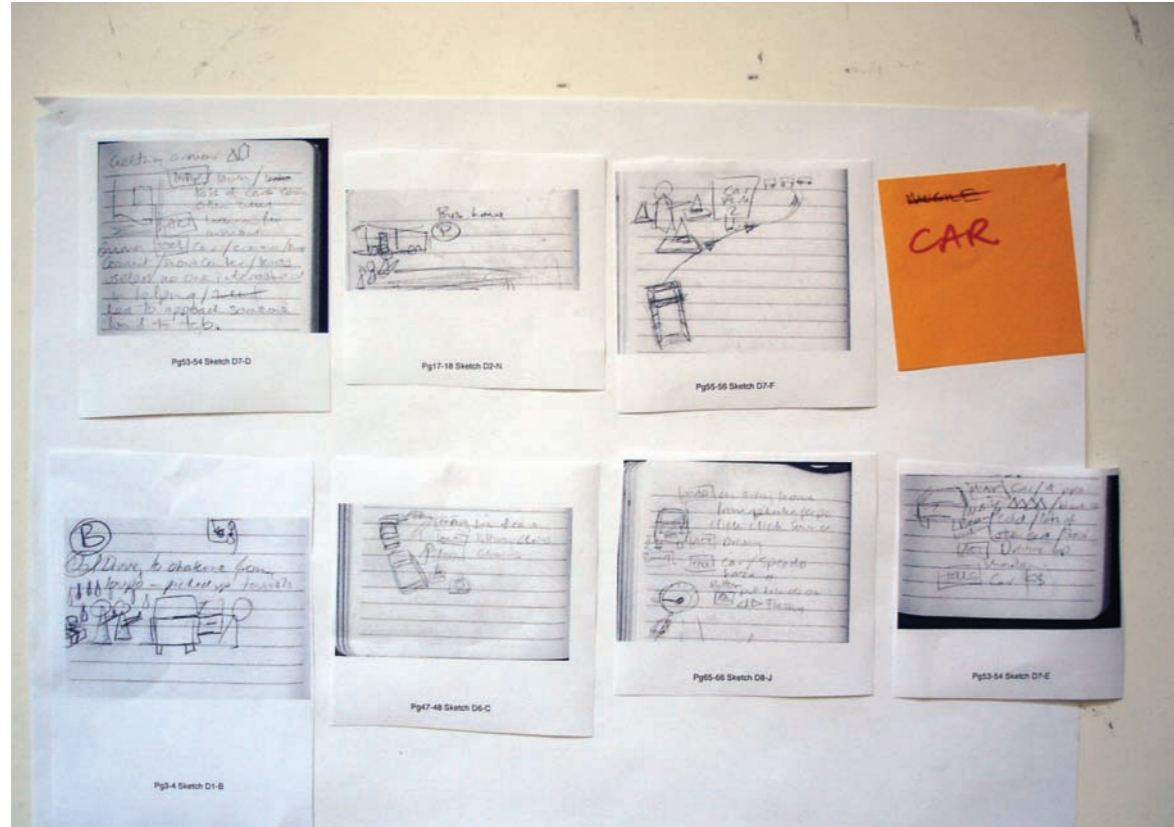


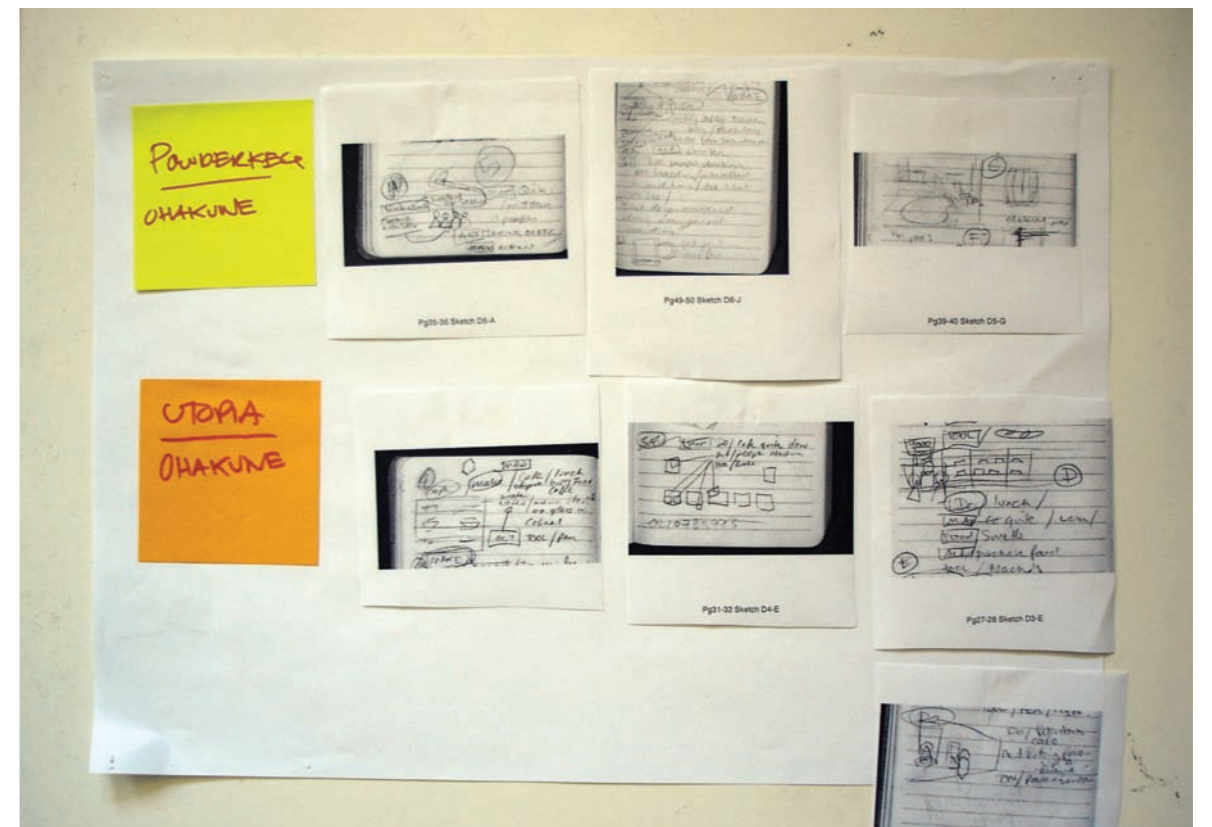
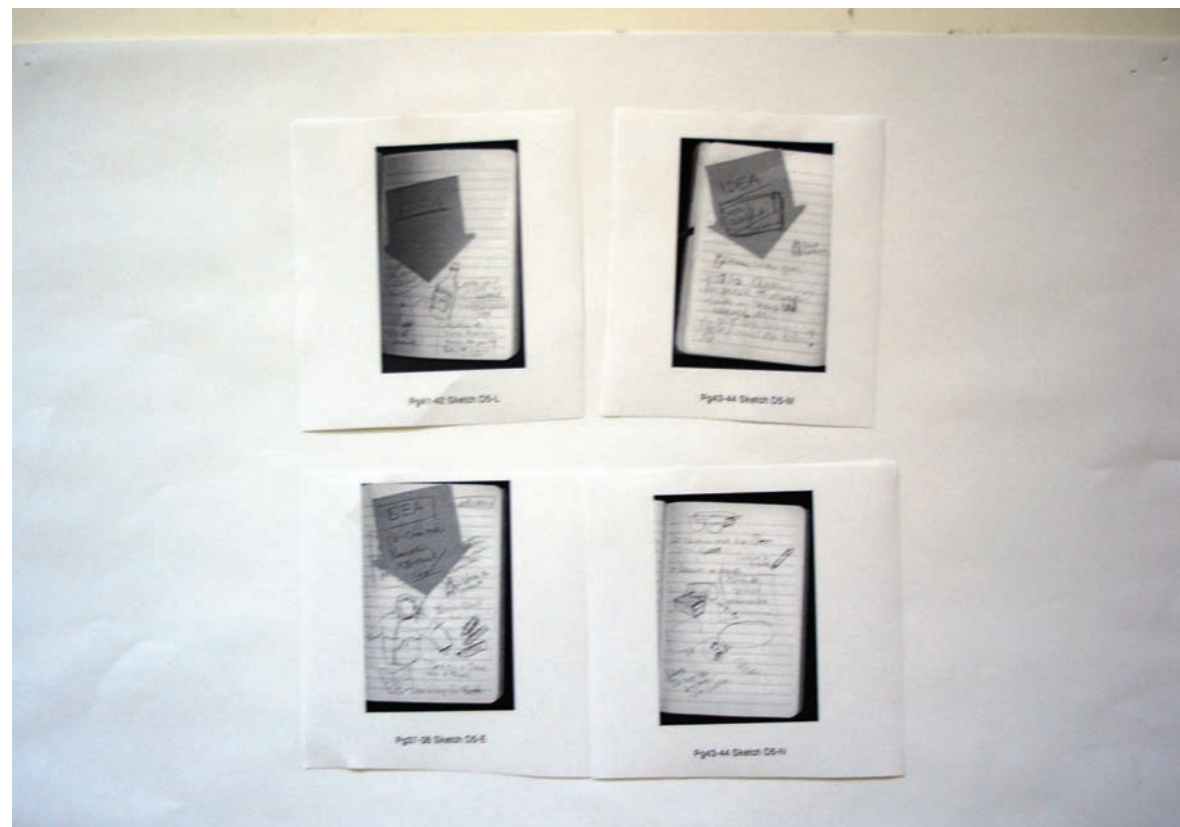
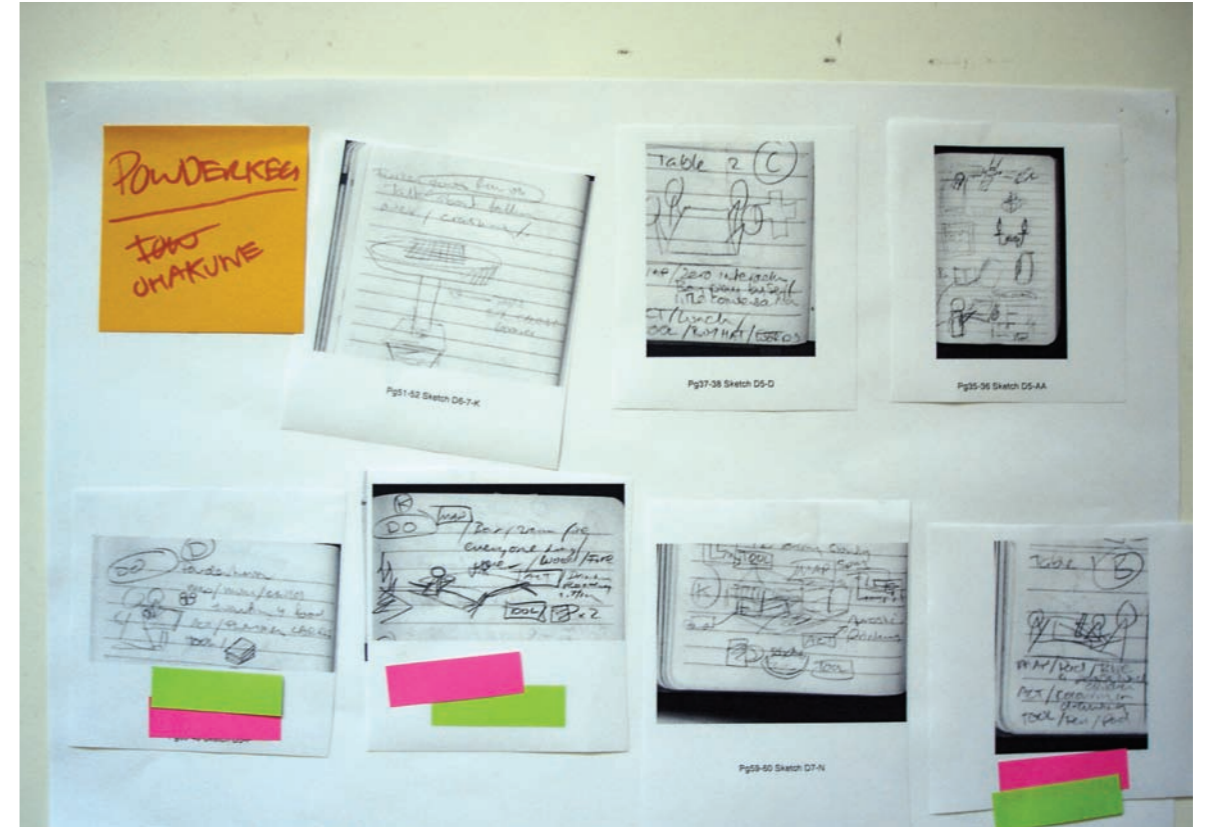
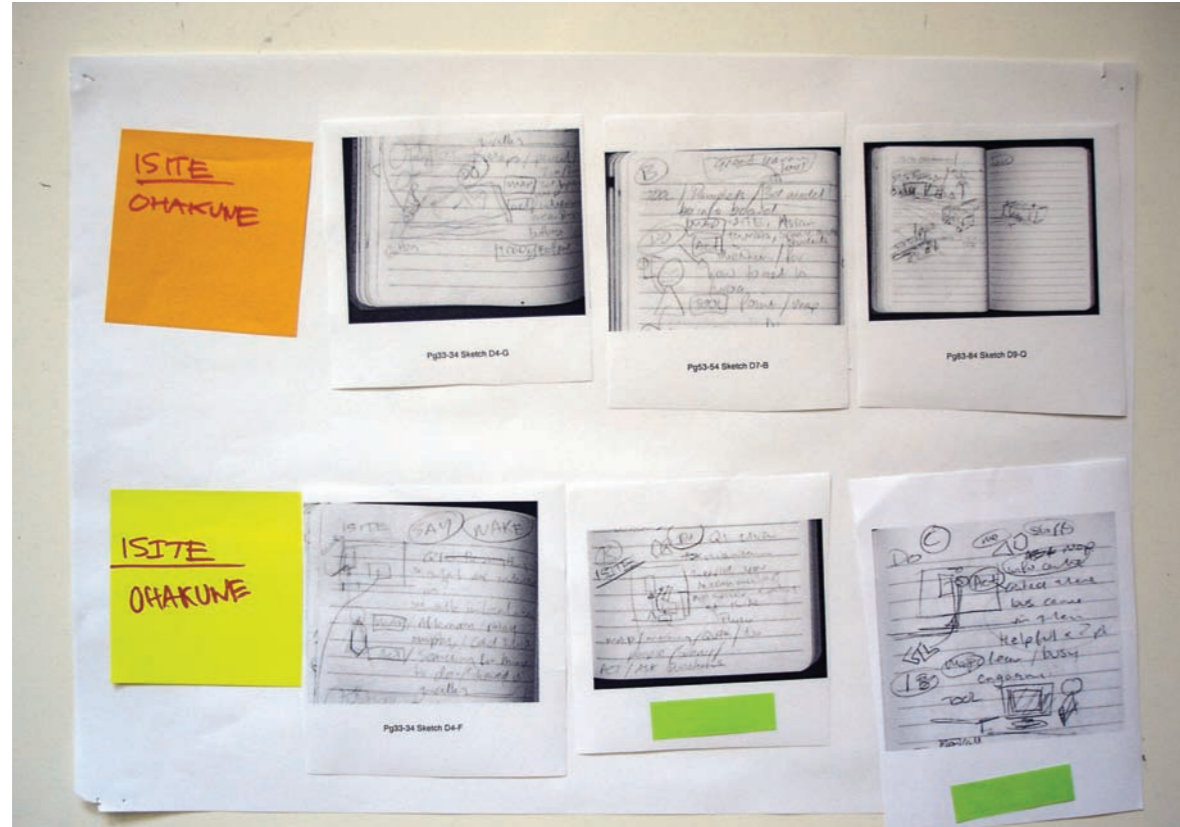
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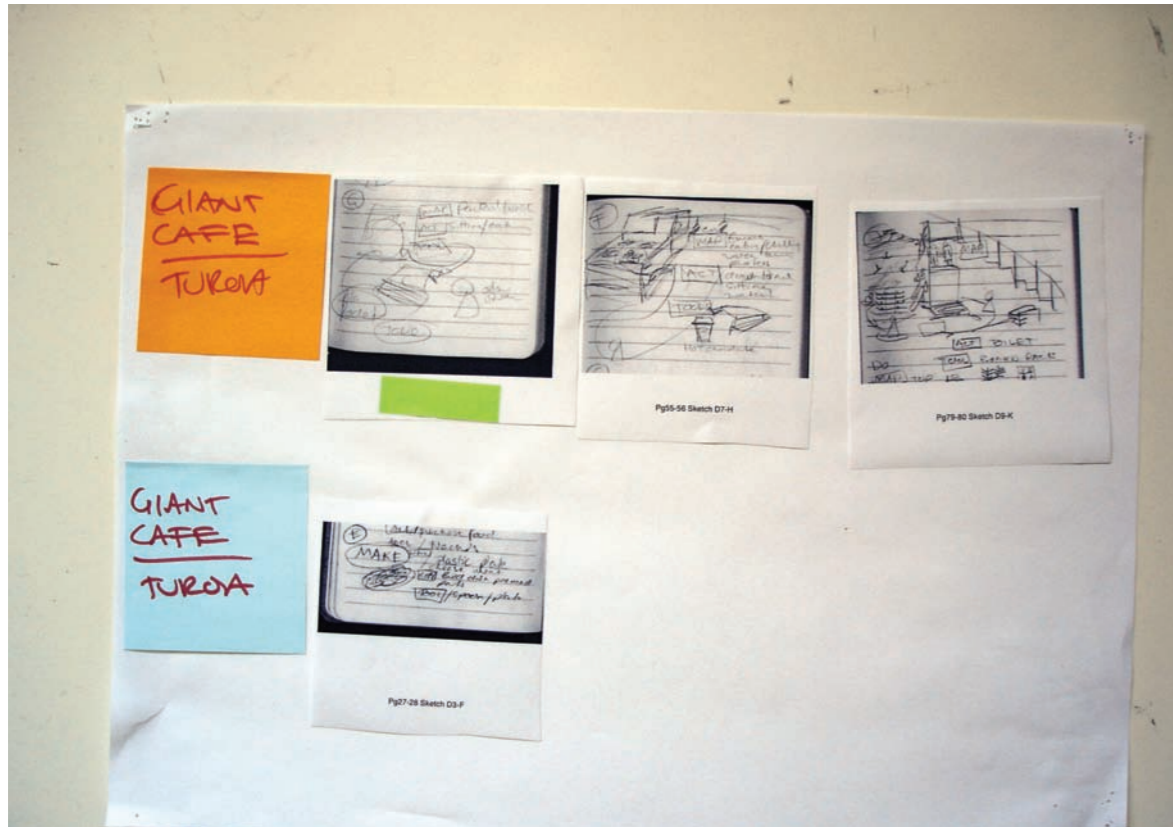
Appendix. vi
Analysis of the Reflective Sketches



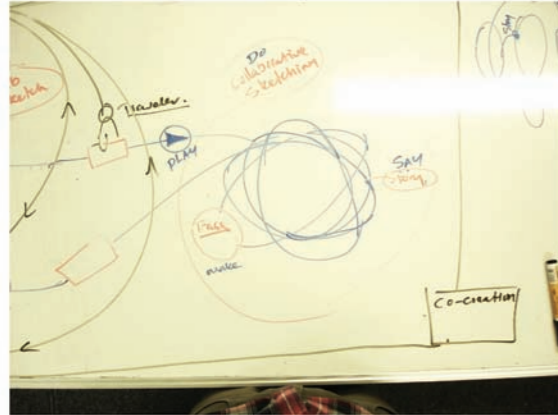
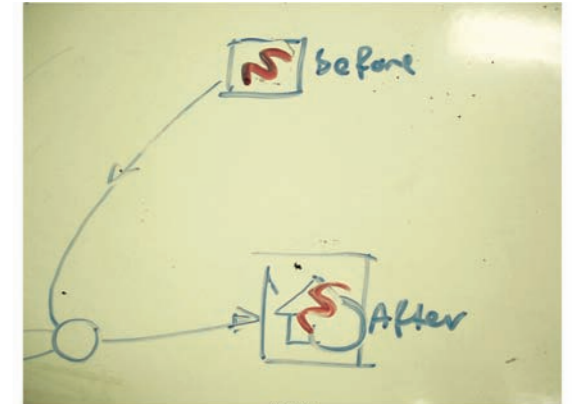
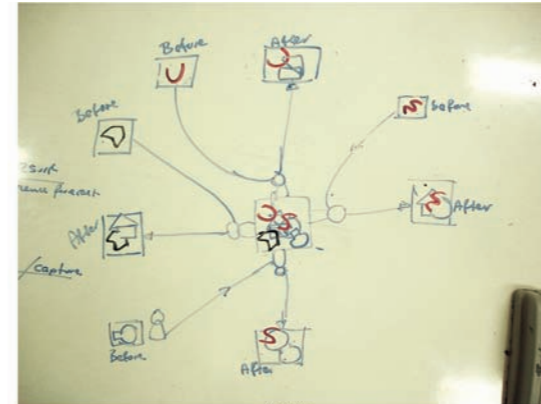
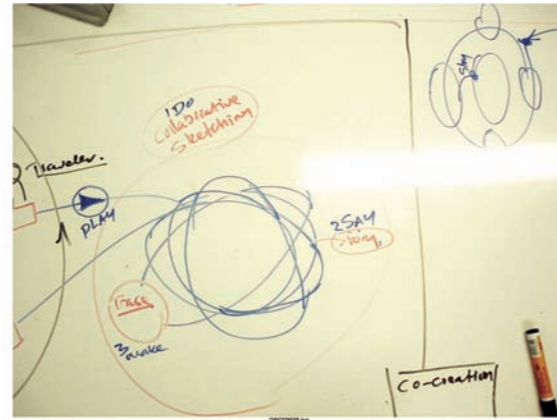
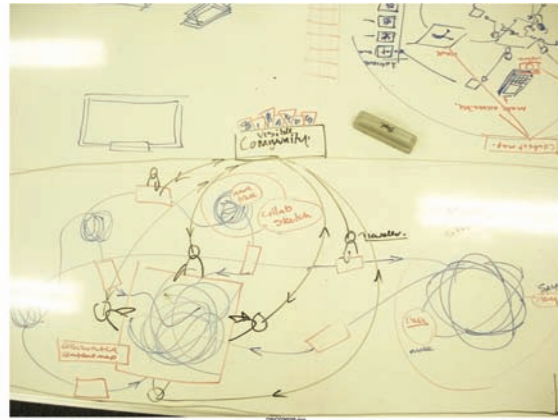




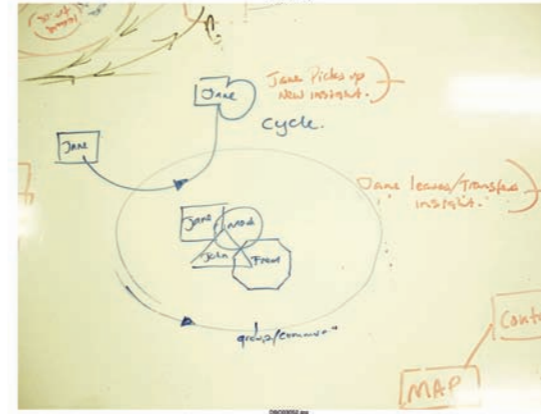
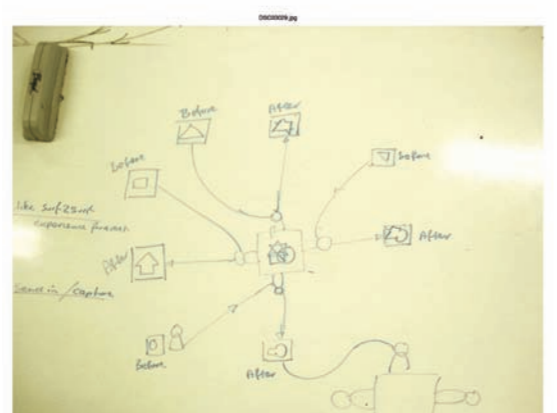
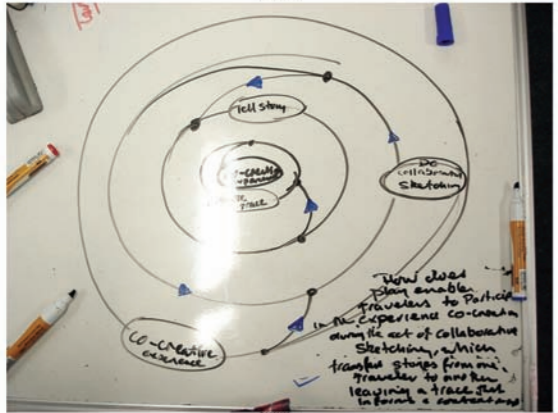
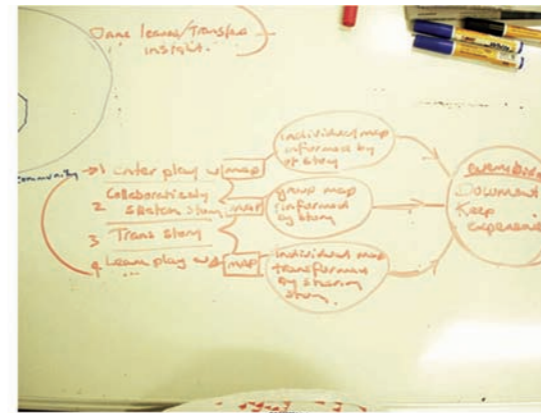
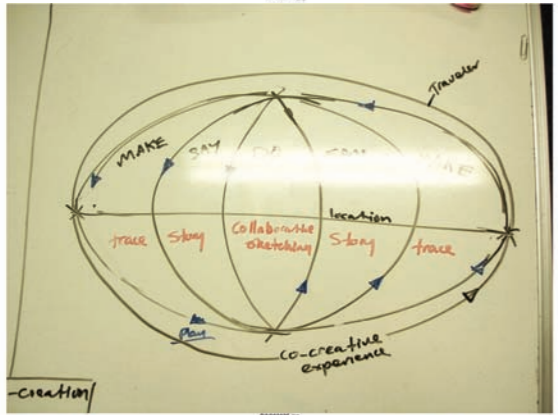
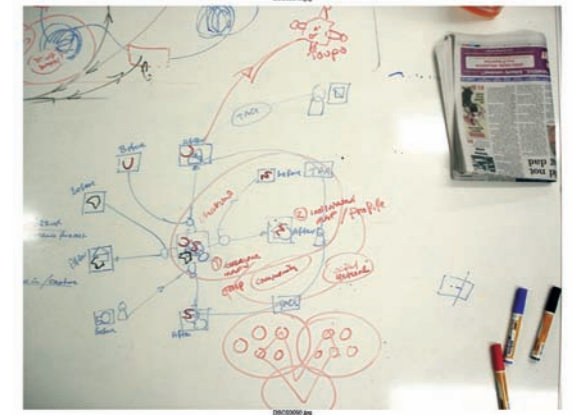
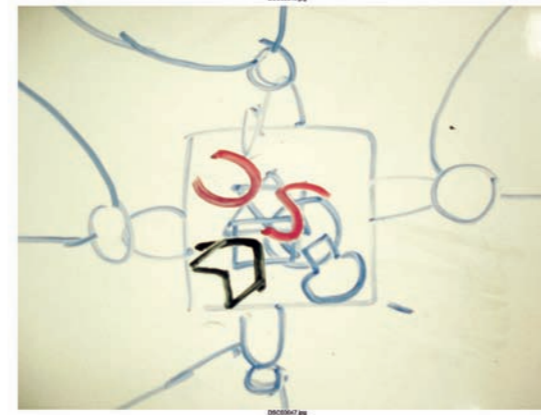
Make Do Say Sharing Collaboration



Appendix. vii Conceptual Development



Input	Process	Output
CO-CREATION	Collaborative sketching	MAKE
CO-CREATION	Collaborative sketching	DO
CO-CREATION	Collaborative sketching	MAP
CO-CREATION	Collaborative sketching	CO-CREATION



Appendix. viii
Images Gather from Snowboarding
and Skiing Related Media

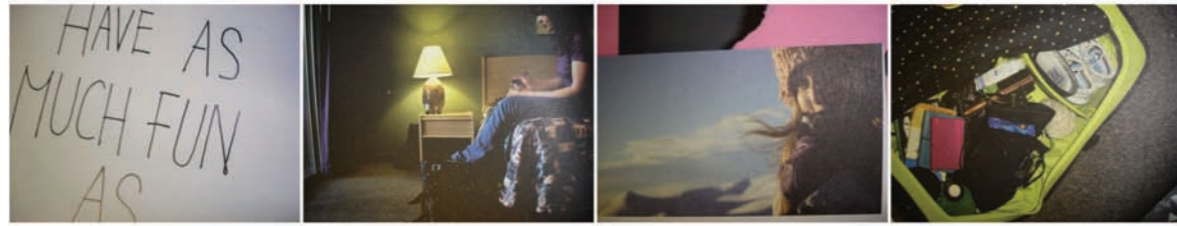


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DSC03168.JPG

DSC03169.JPG

DSC03170.JPG



DSC03171.JPG

DSC03172.JPG

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DSC03174.JPG



DSC03175.JPG

DSC03176.JPG

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DSC03178.JPG



DSC03179.JPG

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DSC03183.JPG

DSC03184.JPG

DSC03185.JPG

DSC03186.JPG



DSC03187.JPG

DSC03188.JPG

DSC03189.JPG

DSC03190.JPG



DSC03191.JPG

DSC03192.JPG

DSC03193.JPG

DSC03194.JPG



DSC03195.JPG

DSC03196.JPG

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DSC03198.JPG



DSC03199.JPG

DSC03200.JPG

DSC03201.JPG

DSC03202.JPG

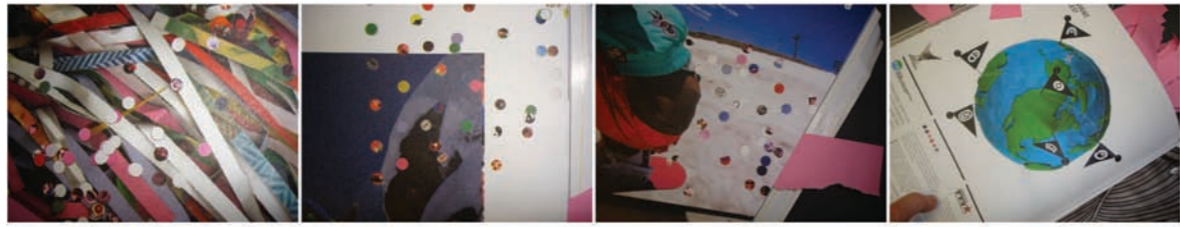


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DSC03209.JPG

DSC03210.JPG



DSC03211.JPG

DSC03212.JPG

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DSC03214.JPG



DSC03215.JPG

DSC03216.JPG

DSC03217.JPG

DSC03218.JPG

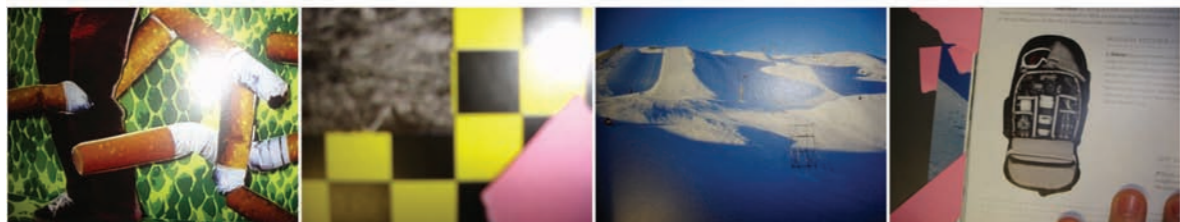


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DSC03223.JPG

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DSC03226.JPG



DSC03227.JPG

DSC03228.JPG

DSC03229.JPG

DSC03230.JPG

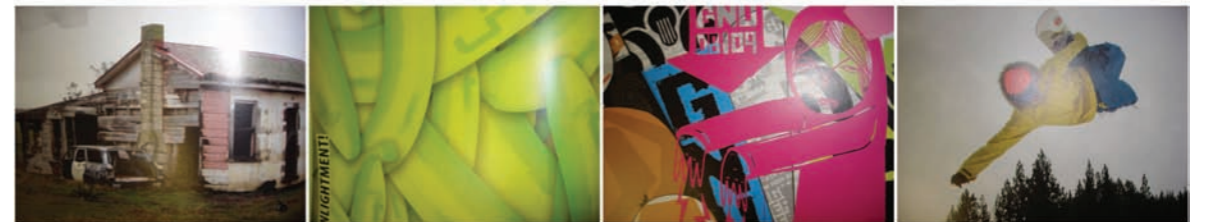


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DSC03234.JPG



DSC03235.JPG

DSC03236.JPG

DSC03237.JPG

DSC03238.JPG



DSC03239.JPG

DSC03240.JPG

DSC03241.JPG

DSC03242.JPG



DSC03243.JPG

DSC03244.JPG

DSC03245.JPG

DSC03246.JPG

Appendix. ix
Results from the Card Kit



DSC03698.JPG



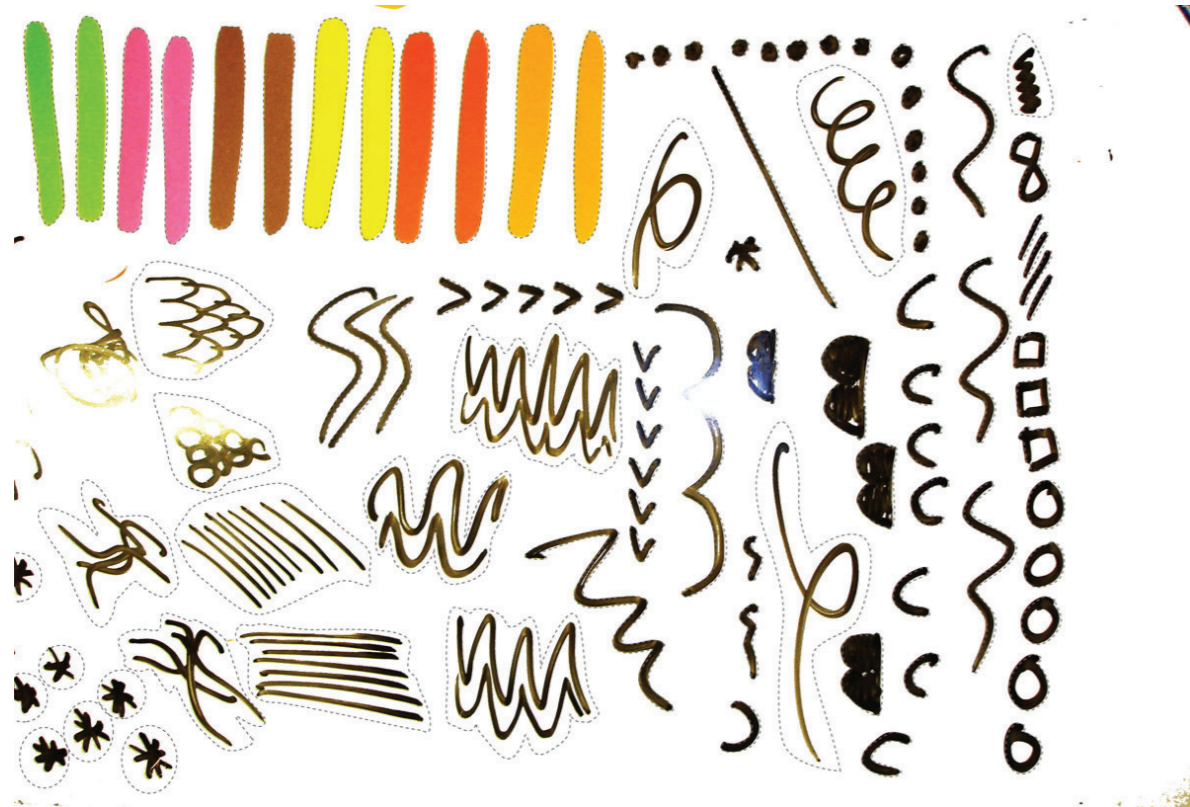
DSC03692.JPG



DSC03691.JPG



DSC03693.JPG





Appendix. xi
Images from Co-creation Phase 2



Picture 34.png

Picture 35.png

Picture 36.png

Picture 37.png



P1120738.JPG

P1120739.JPG

P1120740.JPG

P1120741.JPG



Picture 38.png

Picture 39.png

Picture 47.png

Picture 48.png

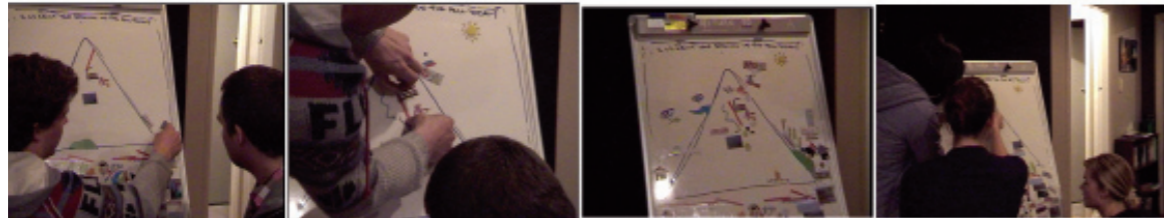


P1120742.JPG

P1120743.JPG

P1120744.JPG

P1120745.JPG



Picture 49.png

Picture 50.png

Picture 51.png

Picture 52.png



P1120746.JPG

P1120747.JPG

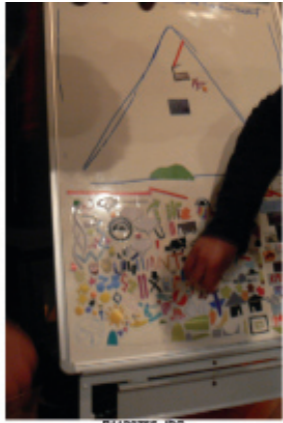
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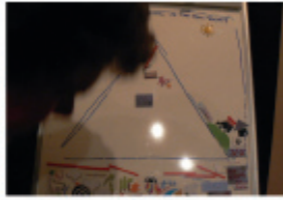




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P1120773.JPG



P1120758.JPG



P1120759.JPG



P1120760.JPG



P1120761.JPG



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P1120775.JPG



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P1120777.JPG



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P1120763.JPG



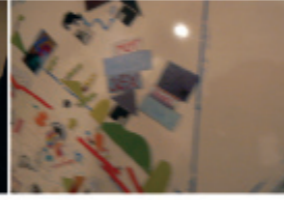
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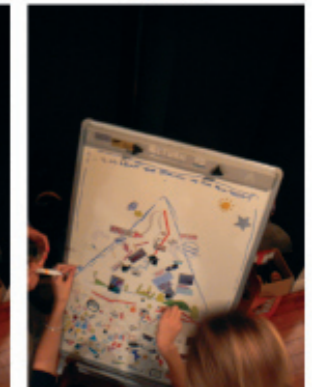
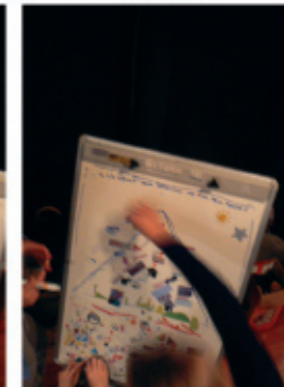
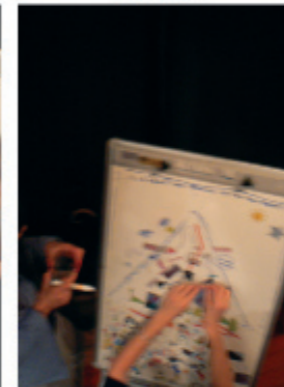
P1120779.JPG



P1120780.JPG



P1120781.JPG



Appendix. xii
Images from Co-creation Phase 3



Picture 56.png

Picture 57.png

Picture 58.png

Picture 59.png



Picture 60.png

Picture 61.png

Picture 62.png

Picture 63.png

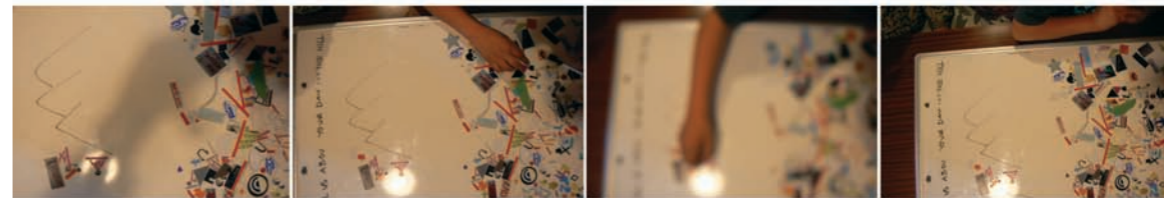


Picture 64.png

Picture 65.png

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P1120798.MOV



P1120801.JPG

P1120802.JPG

P1120803.JPG

P1120804.JPG



P1120805.JPG

P1120806.JPG

P1120807.JPG

P1120808.JPG



P1120809.JPG

P1120810.JPG

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P1120817.JPG

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P1120838.JPG

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P1120844.JPG





P1120849.JPG

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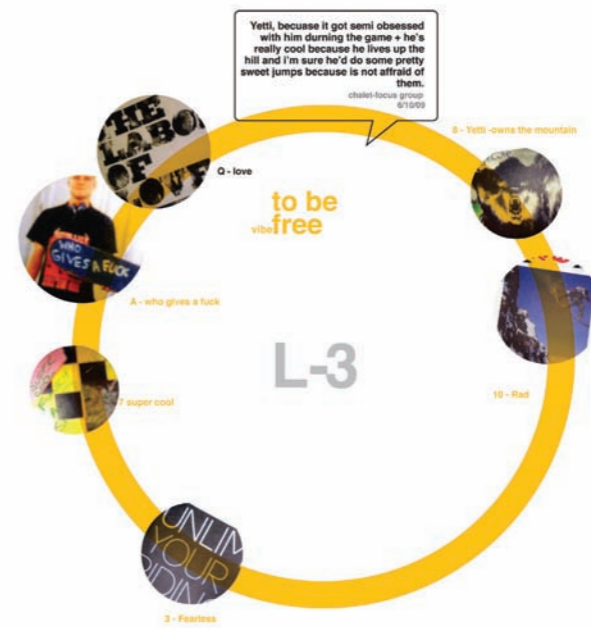
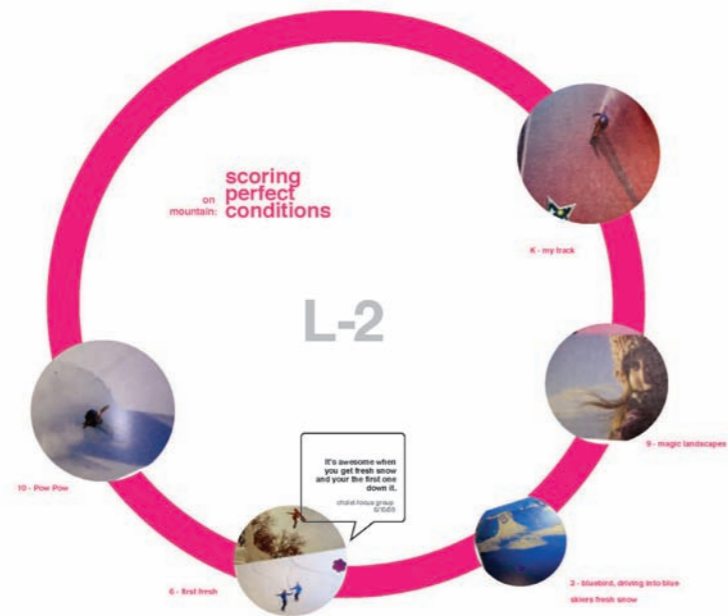
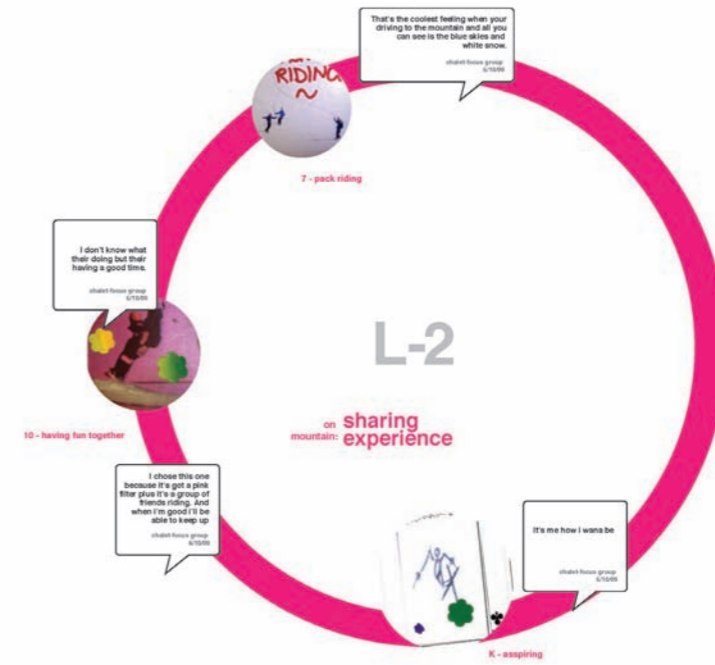
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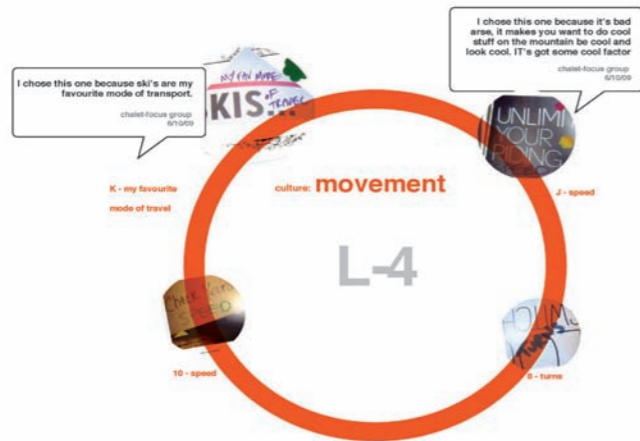
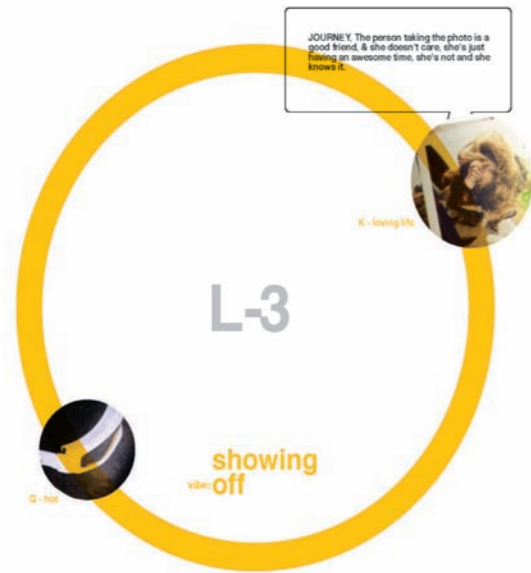
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Appendix. xiii
Mood Boards

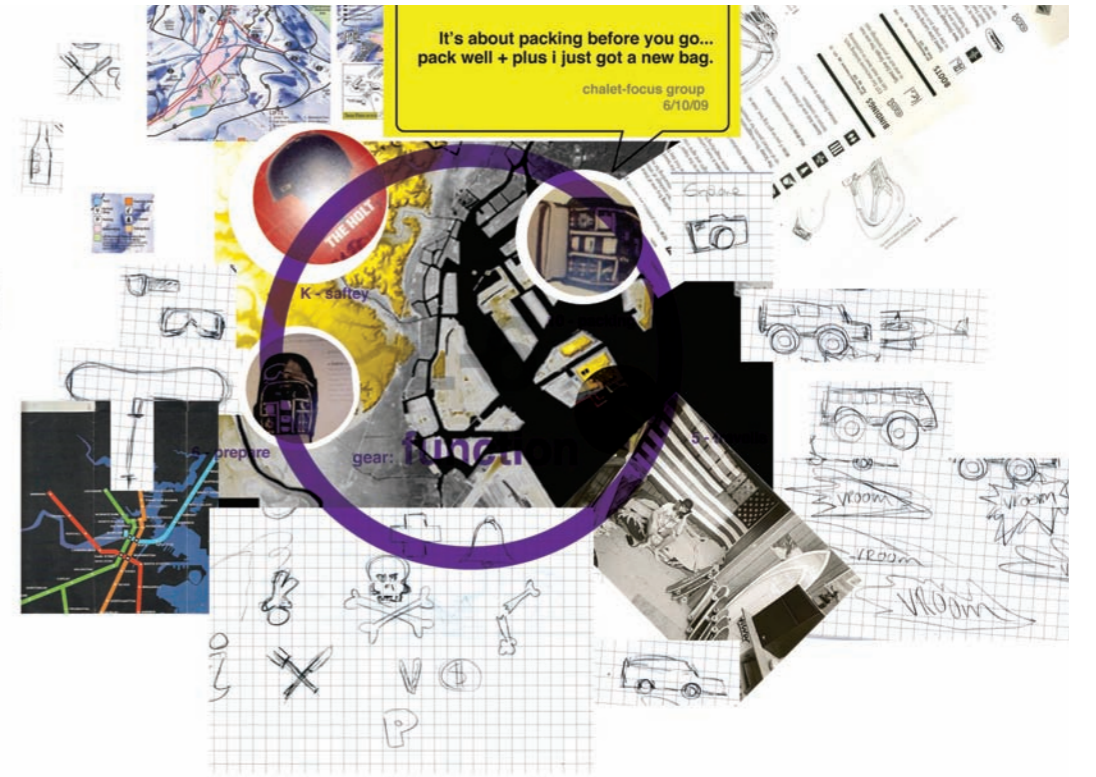


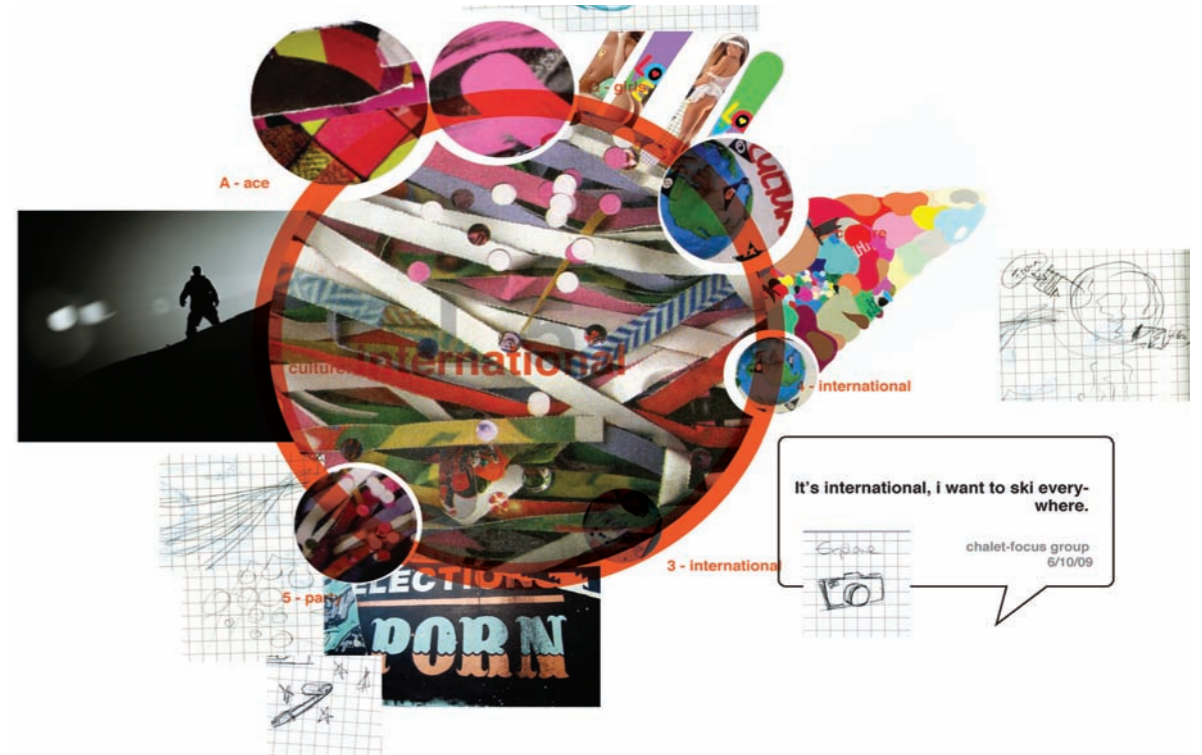






Appendix. xiv
Inspiration Boards







Appendix. xv
Initial Sketches of an Iconic
Visual Language



all.psd



anger.jpg



arrow-1.jpg



arrow-2.jpg



bang-bang.jpg



bang.jpg



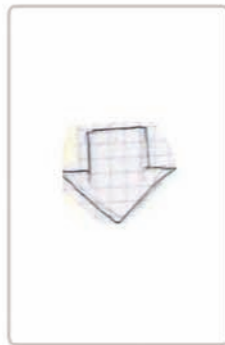
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blanket.jpg



bowl-2.jpg



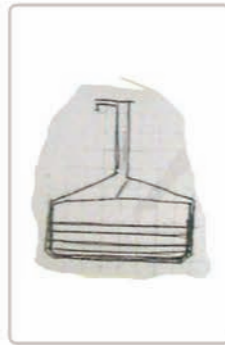
bowl.jpg



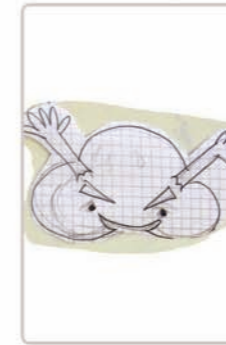
bus.jpg



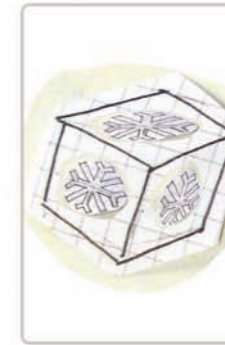
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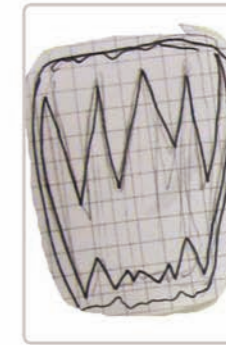
chopper.jpg



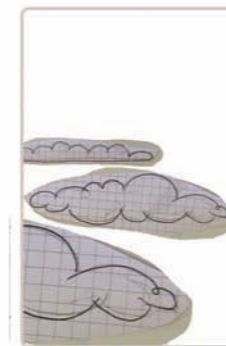
chuck-cloud.jpg



chunksOfsnow.jpg



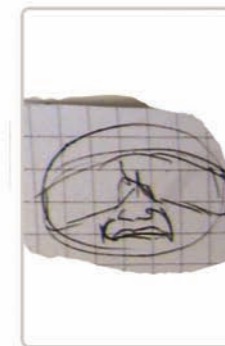
cliff.jpg



clouds.jpg



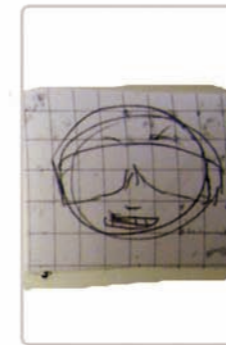
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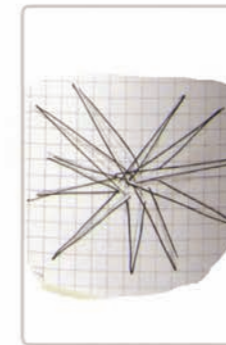
disgust.jpg



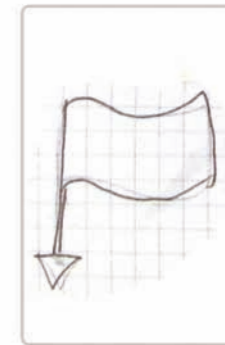
drink.jpg



dunno.jpg



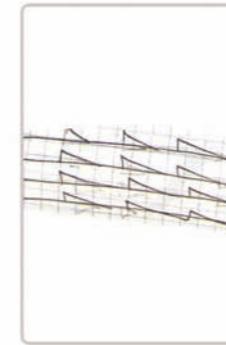
fireworks.jpg



flag.jpg



fun.jpg





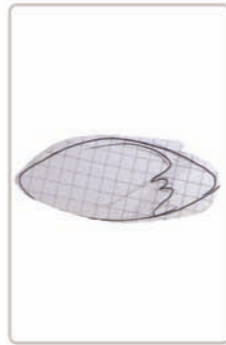
ice.jpg



info.jpg



joy-ride.jpg



kicker-1.jpg



party.jpg



piss.jpg



plane.jpg



pow.jpg



kicker-2.jpg



killer.jpg



knife-fork.jpg



knife-fork.psd



powder-bomb.jpg



rain-bomb.jpg



rock-2.jpg



rock-3.jpg



light-rain.jpg



lunch.jpg



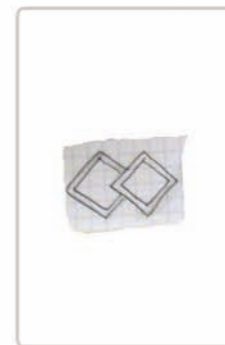
mean.jpg



med-wind.jpg



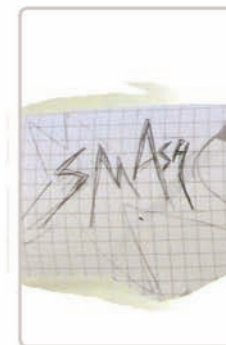
rock-bed.jpg



run.jpg



sad.jpg



smash.jpg



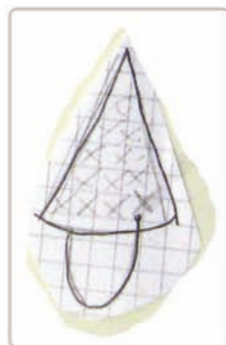
smile.jpg



time.jpg



park.jpg



tree.jpg



person.jpg



hammer.jpg



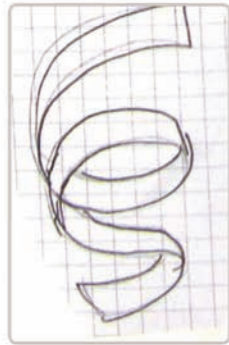
hand.jpg



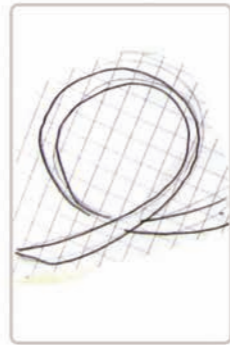
flower.jpg



stema-1.jpg



stema-2.jpg



stema-3.jpg



strong-wind.jpg



sun.jpg



suprise.jpg



table.jpg



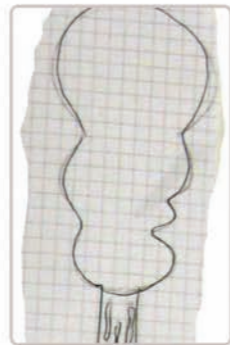
trail-1.jpg



trail-2.jpg



tree-1.jpg



tree-2.jpg



tree.jpg



van.jpg



lightning.jpg



lightning-2.jpg



lightning-3.jpg

Appendix. xvi
Paper Shape Version of an
Iconic Visual Language



party-pop.jpg



ping.jpg



plane.jpg



skis-1.jpg



skie-2.jpg



snow-board-1.jpg



snow-board-2.jpg



snow-board-2b.jpg



snow-board-3.jpg



snow-maker.jpg



vid-camera.jpg



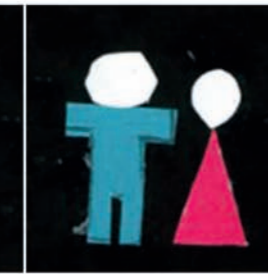
wheels-1.jpg



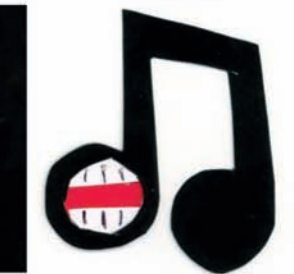
info.jpg



parking.jpg



toilet.jpg



beats.jpg



beer.jpg



bench.jpg



Camera.jpg



chopper-1.jpg



clock.jpg



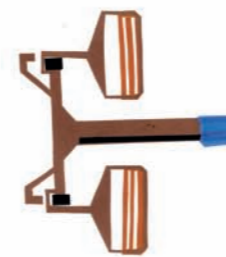
hut-1.jpg



hut-2.jpg



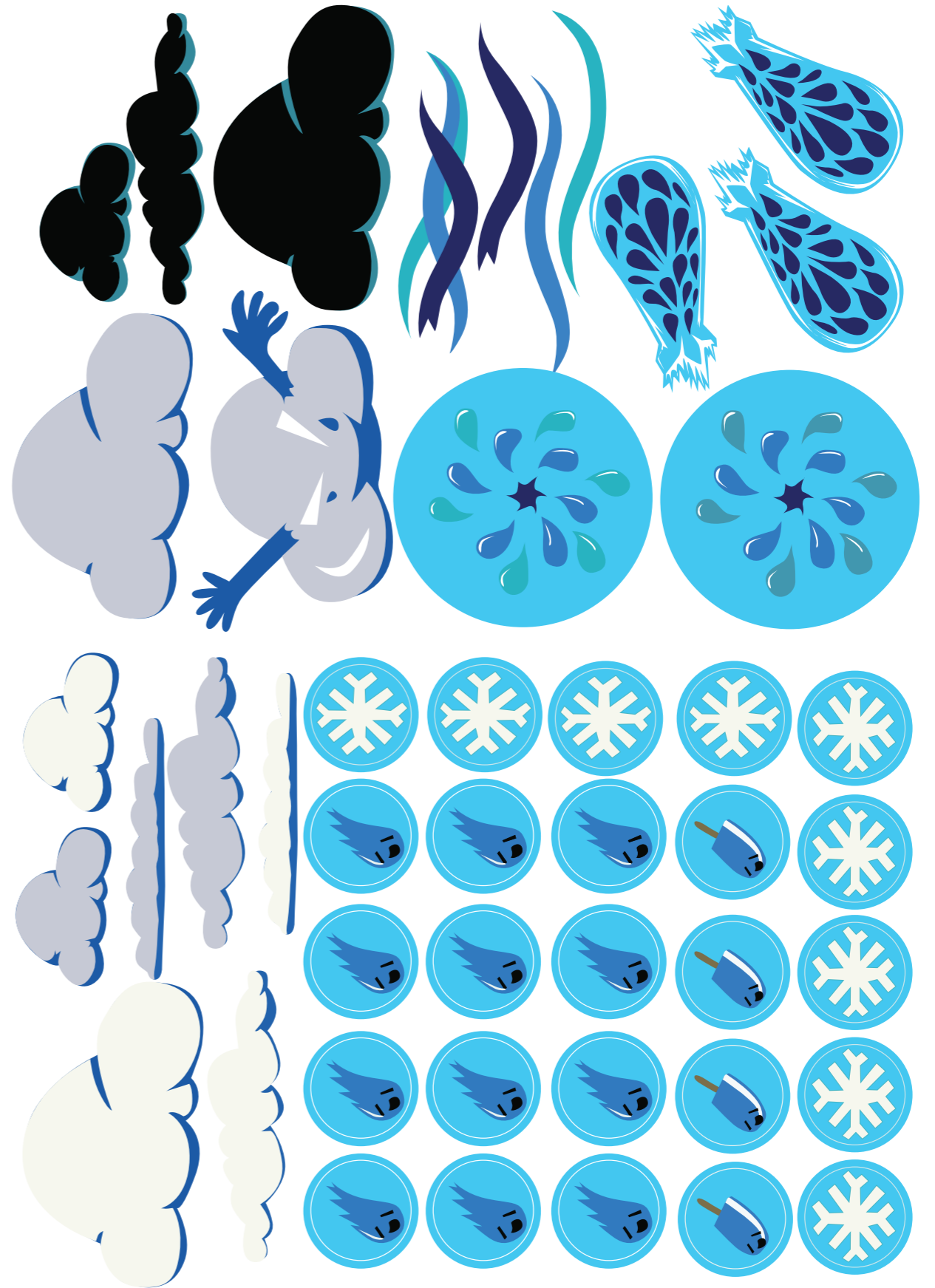
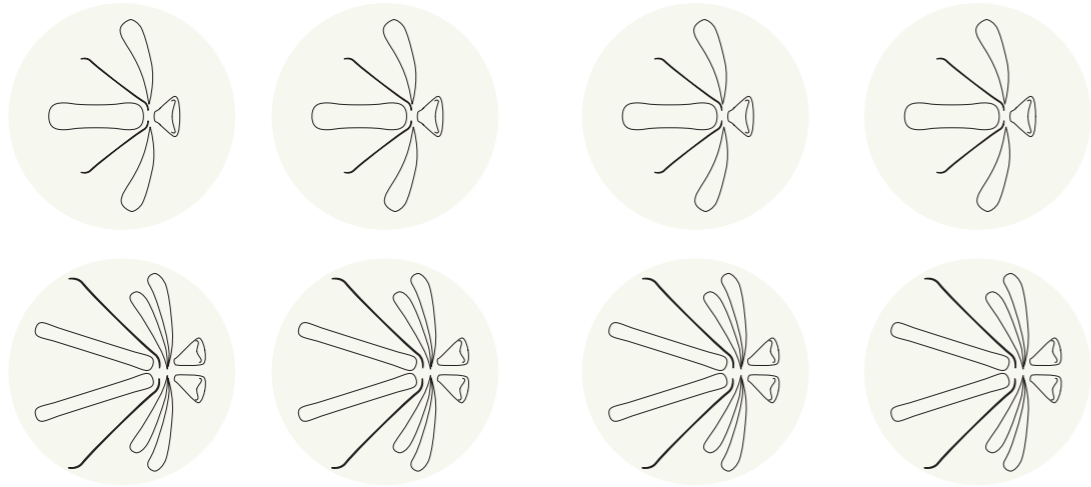
hut-3.jpg

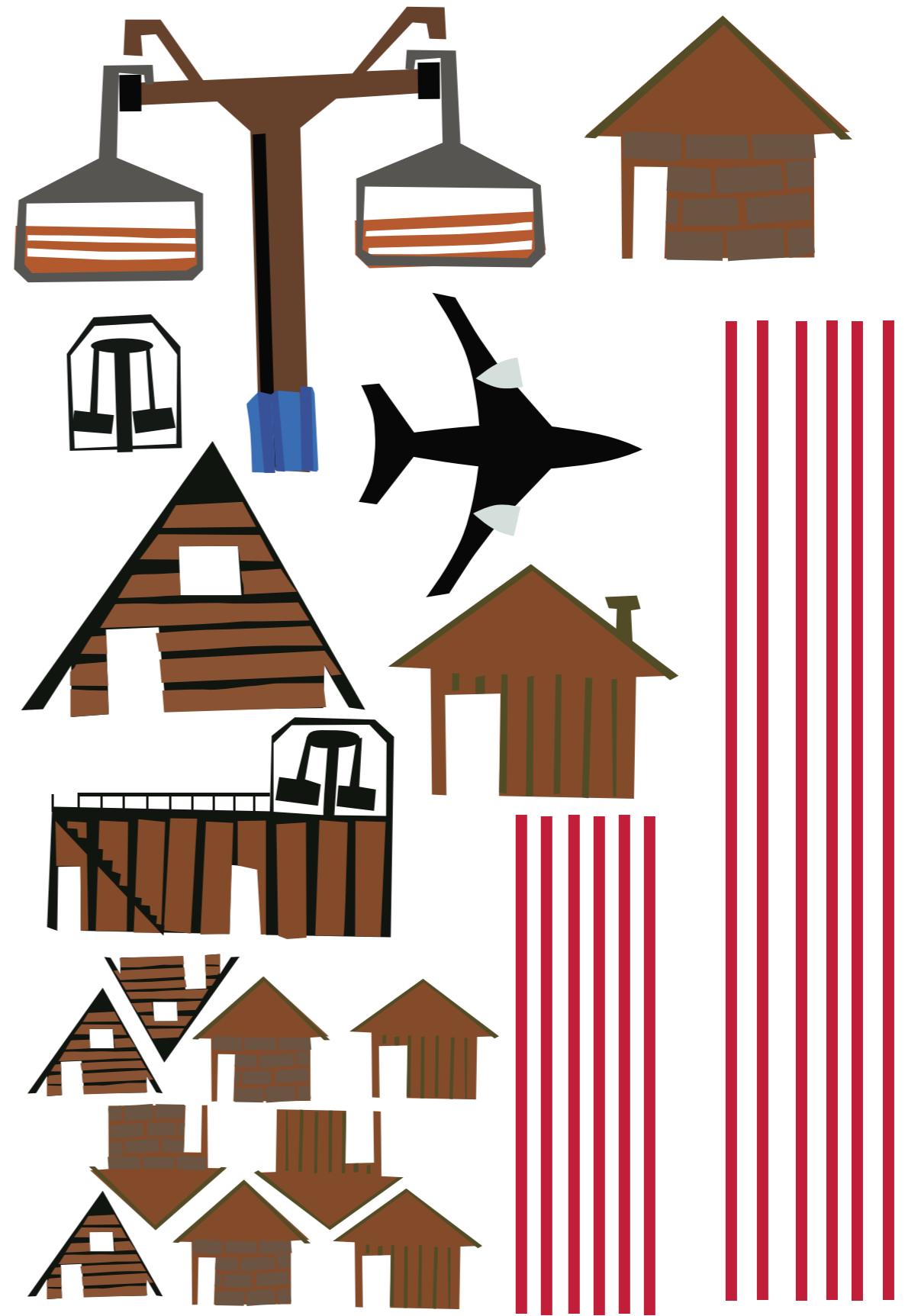
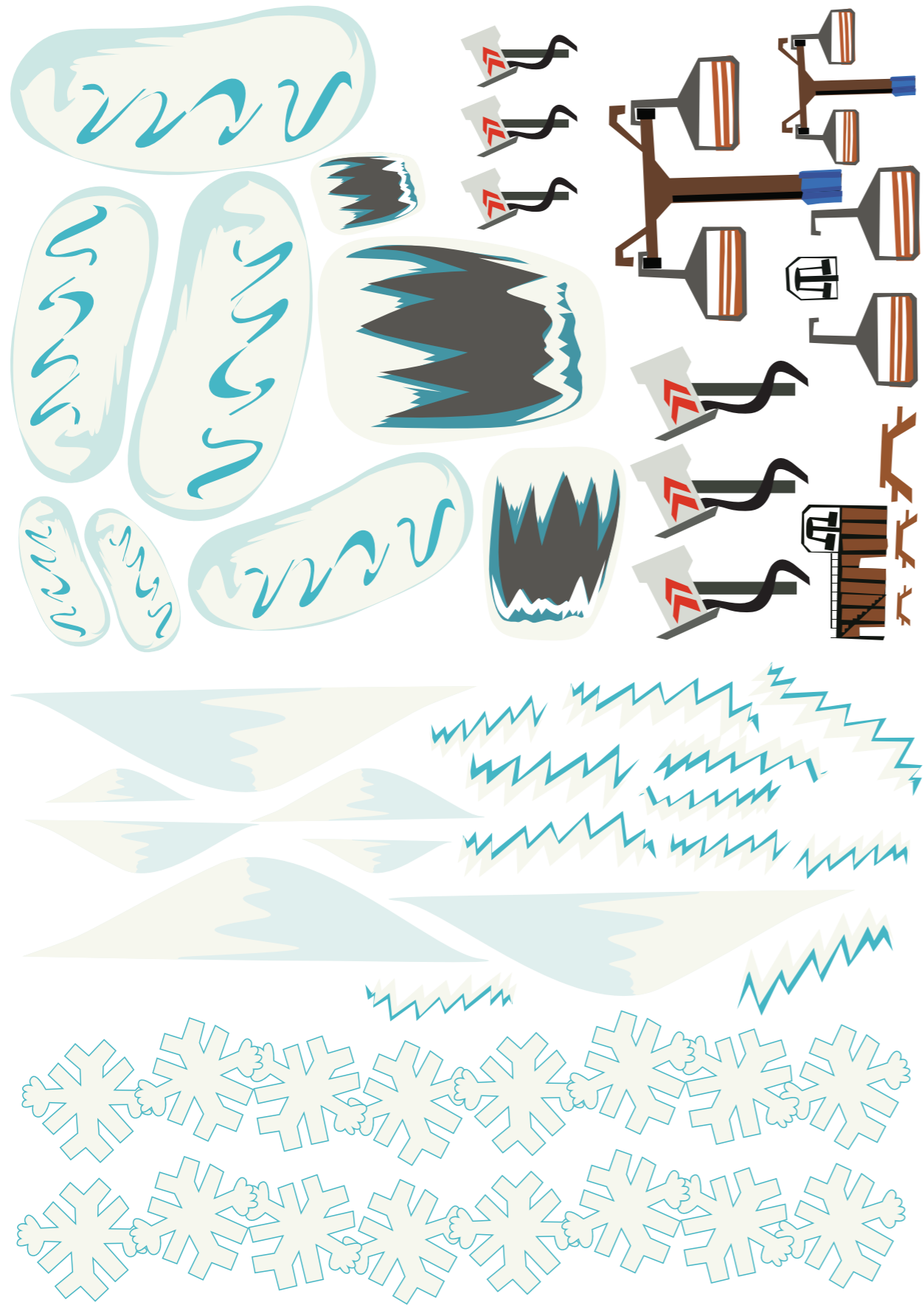


Appendix. xvii
Vector Art Version of an Iconic
Visual Language



- Jumbo T
- High Noon
- Giant Chair
- Highflyer
- Winter Gardens
- Movenpick
- Alpine Meadow







Appendix. xviii
Concept Work for the Brand Package







Appendix. xix
Ethics Approval Forms



MASSEY UNIVERSITY
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TOI RAUWHIRANGI

Name: _____
Title: _____
Address: _____

Date: 1 May 2009

Public Prototyping INFORMATION SHEET

Researcher(s) Introduction
Luke Pittar, Post-Graduate Assistant, Massey University
College of Creative Arts, Institute of Communication Design
Private Bag 756, Wellington 6140

Participant Recruitment

Include details regarding:

- Affiliation: I know of _____ through _____ from _____.

Project Procedures

Include details regarding:

- I will be using the data I collect towards my MDes.
- Data collection: I will be archiving and duplicating the video recordings and made artefacts from focus group sessions.
- Method for preserving confidentiality of identity (if offered) – anonymity.

Participant involvement

I have organised to undertake a qualitative 'co-creative focus group session'.

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TOI RAUWHIRANGI

Name: _____
Occupation: _____
Address: _____
Date: 1 May 2009

Public Prototyping PARTICIPANT CONSENT FORM

This consent form will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being documented.

I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: _____

Full Name - printed _____

Date: _____

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Participant's Rights

The following Statement of Rights must be included: You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study (no specific timeframe);
- ask any questions about the study at any time during participation;
- give permission to the researcher to use the data for the purposes of the research;
- be given access to a summary of the project findings when it is concluded;
- ask for the audio/video tape to be turned off at any time during the research.

Support Processes

While there is encouraging evidence of the positive psychosocial consequences of martial arts practice, most of these studies assess the long-term effects of practice, and do not control for self-selection and attrition over time.

Project Contacts

Please feel free to contact me at any stage if have any questions about the project.
Luke Pittar, Post Graduate Assistant, Massey University
College of Creative Arts, Institute of Communication Design
Private Bag 756, Wellington 6140
MOB: 021 270 22 35

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Ethics & Equity), telephone 06 350 5249, email humaneethicspr@massey.ac.nz.

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Name: Jason Hawthorne
Occupation: Solicitor
Address: 1/11 St Georges Bay Rd, Kowhai, Auckland.
Date: 3/10/09

Public Prototyping PARTICIPANT CONSENT FORM

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I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: _____

Full Name - printed JASON HAWTHORNE

Date: 3/10/09



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Name: Jason Hawthorne
Occupation: Solicitor
Address: 1/11 St Georges Bay Rd, Bevel, Auckland.
Date: 3 10 2009

Public Prototyping
PARTICIPANT CONSENT FORM

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I agree to participate in this study under the conditions set out in the Information Sheet.

Signature:  Date: 3/10/09
Full Name - printed: JASON HAWTHORNE

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Name: Kamela Nepia
Occupation: -
Address: 40, RIMU STREET, OHAKUNE
Date: 7 10 2009

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I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the focus group being documented.

I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature:  Date: 6/10/09
Full Name - printed: Kamela Nepia

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Name: Claire
Occupation: Student
Address: 62, RIMU ST, AUCKLAND
Date: 7 10 2009

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PARTICIPANT CONSENT FORM

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I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature:  Date: 07/10/09
Full Name - printed: Claire Redden

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Name: Tim Graves
Occupation: Tourism New Zealand Marketing, Project manager
Address: 61 John St, Ponsonby, Auckland.
Date: 3 #10 2009

Public Prototyping
PARTICIPANT CONSENT FORM


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Signature:  Date: 3/10/09
Full Name - printed: Timothy Andrew Graves

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Name: SMILO KOZEKUL
Occupation: CAMP/LODGE ORGANISER
Address: HIDDEN VALLEY OPAKUNE
Date: 7 10 2009

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PARTICIPANT CONSENT FORM

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Signature: S. Kozekul

Date: 6/10/2009

Full Name - printed: Smilo Kozekul

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Name: Sally Gibbons
Occupation: IT Telecommunications Engineer
Address: 61 JOHN ST, PONSLOW RUCKLAND
Date: 3 10 2009

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Signature: Sally Gibbons

Date: 3/10/2009

Full Name - printed: Sally Gibbons

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Name: James Webb
Occupation: Dealer, Financial Markets
Address: 61 John St, Ponslow, Ruckland
Date: 3 10 2009

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I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: James Jarrod Goodall Webb

Date: 3/10/09

Full Name - printed: James Jarrod Goodall Webb

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Name: Rebecca Kopecka
Occupation: Recruitment Consultant
Address: 61 John Street Ponslow
Date: 3 10 2009

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I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: Rebecca Kopecka

Date: 3/10/09

Full Name - printed: Rebecca Kopecka

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Name: Nhan Tran
Occupation: Designer
Address: Wellington

Date: 5 November 2009

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I agree/do not agree to the focus group being video taped.

I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: Nhan Tran

Date: 5/11/09

Full Name - printed Nhan Tran

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Name: Richard Dignall
Occupation: Software Developer
Address: 49A Purvese St

Date: 5 November 2009

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I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: [Signature]

Date: 2009/11/05

Full Name - printed Richard Dignall

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Name: KATH HARTONO
Occupation: ASSISTANT DESIGNER
Address: 124 LAUNCE PL.

Date: 5 November 2009

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I agree/do not agree to the focus group being video taped.

I wish/do not wish to have my tapes returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: [Signature]

Date: 5/11/09

Full Name - printed KATH HARTONO

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ki Pāwhiri

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Author's Name (student):	Luke Pittar
Title of Thesis	Public Prototyping
Student number	108790
Degree	MDes
Year	2010

Except where specific reference is made in the main text of the thesis, this thesis contains no material extracted in whole or in part from a thesis, dissertation, or research paper presented by me for another degree or diploma and has not been submitted for the award of any other degree or diploma in any other tertiary institution.

No other person's work (published or unpublished) has been used without due acknowledgment in the main text of the thesis.

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The Assistant Vice-Chancellor (Research) has approved an embargo for this thesis. (underline)	YES <u>NO</u>
<p>Note: The period of the embargo will not exceed two years from the date on which the thesis is presented in its final format. During the period of the embargo the thesis will be treated as confidential and access restricted to supervisors, examiners and student. The Library will hold the completed thesis securely until the end of the agreed period; it may be released earlier with the approval of the Post Graduate Director or nominee.</p>	

Post Graduate Director name: Patricia Thomas

Date: 14/05/10

Signature:

