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Zoro and  
***THE GUARDIANS***  
of Chiribiquete

# Zoro and the Guardians of Chiribiquete:

The Design of Creatures for VR Location-Based Experience to Contribute to the Preservation of Chiribiquete National Park.

A thesis presented in partial fulfilment of the requirements for a  
Master in Design Weta Workshop School at Massey University, Wellington, New Zealand

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## 1.0 Abstract

Fantasy worlds, creatures, and their stories can inspire people to learn and care about specific places, creating empathy and a sense of identity that transcends differences between cultures. “Chiribiquete” is a Colombian national park that only researchers and indigenous communities, to whom this place is sacred, should visit. This park, one of the world’s largest tropical rainforest national parks, belongs to Unesco’s World Heritage Sites List. Due to the park’s fragile biomass and its sacred significance to several indigenous communities, visitation is strictly limited. Therefore, location-based VR experiences can help to create a sense of belonging around this place.

My design outcome consists of three creatures for a VR Location-Based Experience in the Gold Museum of Bogotá, based on the fantasy book *Zoro* by Jairo Anibal Niño. *Zoro* is a fantasy story about an indigenous child looking for his people in the Amazonian rainforest. This book has been part of the Colombian education syllabus for over three decades, facilitating a connection between Colombian identity and the Amazon rainforests. This project aims to communicate the

relevance of preserving Chiribiquete National Park by offering an alternative to allow teenagers to empathise with this sacred place remotely.

Drawing on IDEO methodology, I have developed creatures for a VR experience based on *Zoro* combined with Chiribiquete’s cosmogony. Based on the creatures from the book, these designs employ fantasy to help people understand the park’s complexity and the need for its conservation.

## 2.0 Acknowledgements

Claire Hackett, Tanya Marriott, Rebeka Tisch, Vaughan Flanagan, Ryan Le Quesne, Kendra Marston, Yoryeth Bastidas, Sky Liw Tianzi, Ingrid Diaz, and my family (Roberto Leon Fernandez, Gloria Patricia Zapata, Santiago Niño Moralez y Don Jairo Anibal who taught me to protect a little piece of the native forest).

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## 4.0 Introduction

Let me start by telling the story of how I got enchanted by the Amazon rainforest during the COVID-19 pandemic. In December 2019, my family and I saw in the news that the Amazon rainforest was on fire. Watching those images was heartbreaking. The fires reminded me of the 2009 movie *Avatar* (Cameron, *Avatar* 2009), in which aggressive extractivism from human outsiders destroys a fantasy tropical rainforest on a planet called Pandora. Specifically, the moment in which the “Dire-horses” (creatures based on horses but designed for the environments in the movie), were dying in the middle of a war.(2:19:00 - 2:19:10) By engaging with the movie, I related to the animals and people dying during the Amazon fires. I went together with my family to see this movie when I was 15 years old, and the story sparked curiosity in me; I wanted to know more about the rainforest.

As a Colombian, I had never been in the Amazon rainforest before. I live in the Andean chain mountain, and in a way, my city might be a kind of “jungle”. It is a place made of orange bricks and asphalt. Instead of the sound of birds, monkeys and frogs, there are cars honking, ambulances and hydraulic hammers. Tall ceiba trees are replaced by skyscrapers, and instead of sacred rock art, there is graffiti, street art, and muralism. This labyrinth called Bogotá is the capital city of my country and is completely disconnected from the Amazon Rainforest.



F1: My family and I in the Marasha Reserve Amazon rainforest

Soon after the heartbreaking experience of imagining people and little capybaras on fire, as if they were the Dire-horses dying in Avatar, we started to plan our next family trip to this unique environment. Inspired to know more about this place, we travelled to Leticia, Colombia in January 2020. On this trip, we saw beautiful butterflies and bioluminescent worms, ate an anaconda, navigated three different countries on the same day, and offered our blood to thousands of mosquitoes. Despite all these adventures, the most impactful moments occurred when the lines between what I consider reality and fiction were blurred. One of those moments was during a night walk under a new moon; our guide told us to dim our lights and close our eyes for a few seconds. Upon reopening them, we saw countless bioluminescent fungi illuminating our path. As we continued, he showed us a log teeming with the same fungus that was enlightening the night and offered the possibility of touching it; he said, “Take a look at your palms, as now you have the Stars in your hands”.

This trip inspired a fascination with the Amazon. As a fantasy illustrator, I visited the Lerner Library in Bogota to look for books about the Amazon rainforest. There, I discovered a book called Chiribiquete: La Maloca cosmica de los hombres jaguar by Carlos Castaño Uribe. I went to the library the same week that the COVID-19 lockdown started in Bogotá, Colombia.

In a way, I became trapped by this book, as well as in my memories from the amazing adventure my family and I had experienced. By recalling the fantastic Amazon rainforest in Leticia, Colombia, and imagining Chiribiquete from Carlos Castaño Uribe’s perspective, I overcame the apocalyptic experience that the world endured during COVID-19. As a fantasy illustrator and concept designer, I decided to create guardians who will help us protect the park.

### **The Book about Chiribiquete**

As I discovered during the 2020 pandemic, one of the best ways to travel is by book. You can travel to the past, possible futures, fantasy worlds, and parks that nobody should visit as a tourist, such as Chiribiquete National Park.

The anthropologist Carlos Castaño Uribe conducted influential research about Chiribiquete for over 30 years.

The author refers to Chiribiquete as the ‘cosmic maloka of jaguar men (360)’. Nowadays, access to Chiribiquete National Park is highly restricted; The scientific community is trying to protect the non-contacted indigenous groups that have been spotted. (348-350)

According to Castaño-Uribe the word ‘Chiribiquete’ originates from the Carijona language, it means: Casa solar del enjambre de estrellas o casa del enjambre solar. This can be translated to “Solar house of the star swarm”. Also could be interpreted as “Great maloka of the jaguars”, “The house of the sun”, or as a place where the “paths of power” meet” (360)

### **The Chiribiquete National Park**

Chiribiquete National Park is the biggest protected tropical forest national park in the world (WWF) and belongs to the List of World Heritage Sites of Unesco (2018) due to three primary reasons: Firstly, there are rock art sites, which exhibit an extensive quantity of paintings by contacted and non-contacted Indigenous communities, documenting their cosmogenies from 20,000 BCE to the present day. Secondly, this geographical location intersects three distinct ecological regions: Orinoquia, Guyana, and Amazonia. Thirdly, the park boasts vast biodiversity, including twenty-one endemic species, such as the emerald hummingbird, jaguars, anteaters, and giant otters. (UNESCO.org) Despite its UNESCO listing, Chiribiquete

remains vulnerable to invasive agriculture and road building. This is why creating a VR location-based experience that engages young people and facilitates interest in Chiribiquete could bring the park closer to people without jeopardising it.

Chiribiquete is a Biodiversity hotspot that only researchers and indigenous people should visit. The main three reasons are the sacred nature of the park (Castaño Uribe 360-362), the fragile environment on top of the Tepuys Mountains, and the isolated indigenous communities (Castaño Uribe 350)

Threats that Chiribiquete encounters include deforestation, drug trafficking, illicit mining, and wildlife exports, all of which have impacted conservation in the park.(Castaño Uribe 344 - 345)

## Gold Museum

Bogotá's Gold Museum was the place that inspired me to become a designer. This place narrates the pre-Columbian history of goldsmiths throughout a collection of more than 26,000 pieces made of Tumbaga; a technique used in pre-Columbian times to generate gold alloys with other metals. It was officially founded in 1939 from private collections and different curiosity cabinets ([banrepcultural.org](http://banrepcultural.org)). This museum also has a strong narrative around the legend of El Dorado. Some researchers speculate that Chiribiquete was linked to the "El Dorado" legend, which is also connected to the sacredness of the park and the connection to the sun (Castaño 338 - 341). The museum's function is to help Colombians build our identity and memory, to portray us with a diversity reflected in its pieces, a diversity that is our true wealth. (Museo Del Oro (Colombia) minute 3:20 - 45:58)



Mood Board of pieces from the Gold Museum

### The Zoro Book.

Zoro is a fantasy children's book by Jairo Anibal Niño, first published in 1977. This fiction blends fantasy with reality by telling the story of Zoro, an indigenous child looking for his people, in the company of an old man and a Gray-winged Trumpeter. I believe that fantasy world-building can help us preserve the fantastic world we live in. The person who told me that was my step-grandfather and the writer of this tale, Jairo Anibal Niño. Moreover, he taught me that we care about the places around which we hear stories. This book has been part of the Colombian educational curriculum since the 1980's and connects generations of children with the rainforest. Zoro can help us protect Chiribiquete National Park by creating a bridge between literature and the people's perspectives in the Amazon rainforest. Furthermore, Zoro's fictional nature portrays a culture that respects actual existing indigenous communities who live there and to whom this place is sacred. (Niño)

## 5.0 Research Question

How can creature design within a youth museum experience contribute to preserving Chiribiquete National Park?



Figure 6 me and Don Jairo Anibal (my step-grand father) at his home in Tenjo, 2009.

### My Audience

My target Audience is teenagers between 15 to 19 years old. According to the SURA group, most projects developed for the public (until 2020) around Chiribiquete were for adults and children. The only strategy made for teenagers at that time was specifically with young people from the vicinity of the park, not teenagers from other parts of the country or the world. ('Chiribiquete es un patrimonio de todos')

Cesario and her colleague Nissi acknowledge that adolescents have been studied little in interactive design. Furthermore, they acknowledge that museums offer experiences directly aimed at adults and children but have few experiences specifically for youth between 15 to 19 years old (Cesario and Nisi 1)

In the research carried out by Cesário and company, it is considered that experiences that emulate games are important in museums since they could greatly boost the interest and learning of adolescents. It also suggests that it is essential to use gamified experiences to display information that would otherwise be limited by the museum space. (Cesário and Nisi 284)

### The Scope

This project's scope includes three creatures inspired by Zoro's original book. Furthermore, the concept design of a fantasy indigenous community for a location-based experience in a museum requires the assessment of the researchers and the indigenous communities involved with Chiribiquete National Park. It is important to clarify that at this stage, the scope of the project does not include research with the target audience. The stage contemplated for this master's degree focuses on designing the three creatures for the location-based experience at the Gold Museum.

The design of these creatures and my role as a creature designer is only a small part (Vertical Slice) of a wider exhibition that could exist in the Gold Museum. The wider exhibition would include the work with the communities done by the communities themselves, advance research, indigenous artists, and a deep understanding of rubber slavery and Colombian conflict in this specific area. The exhibition aims to create curiosity and educate people about Chiribiquete National Park.

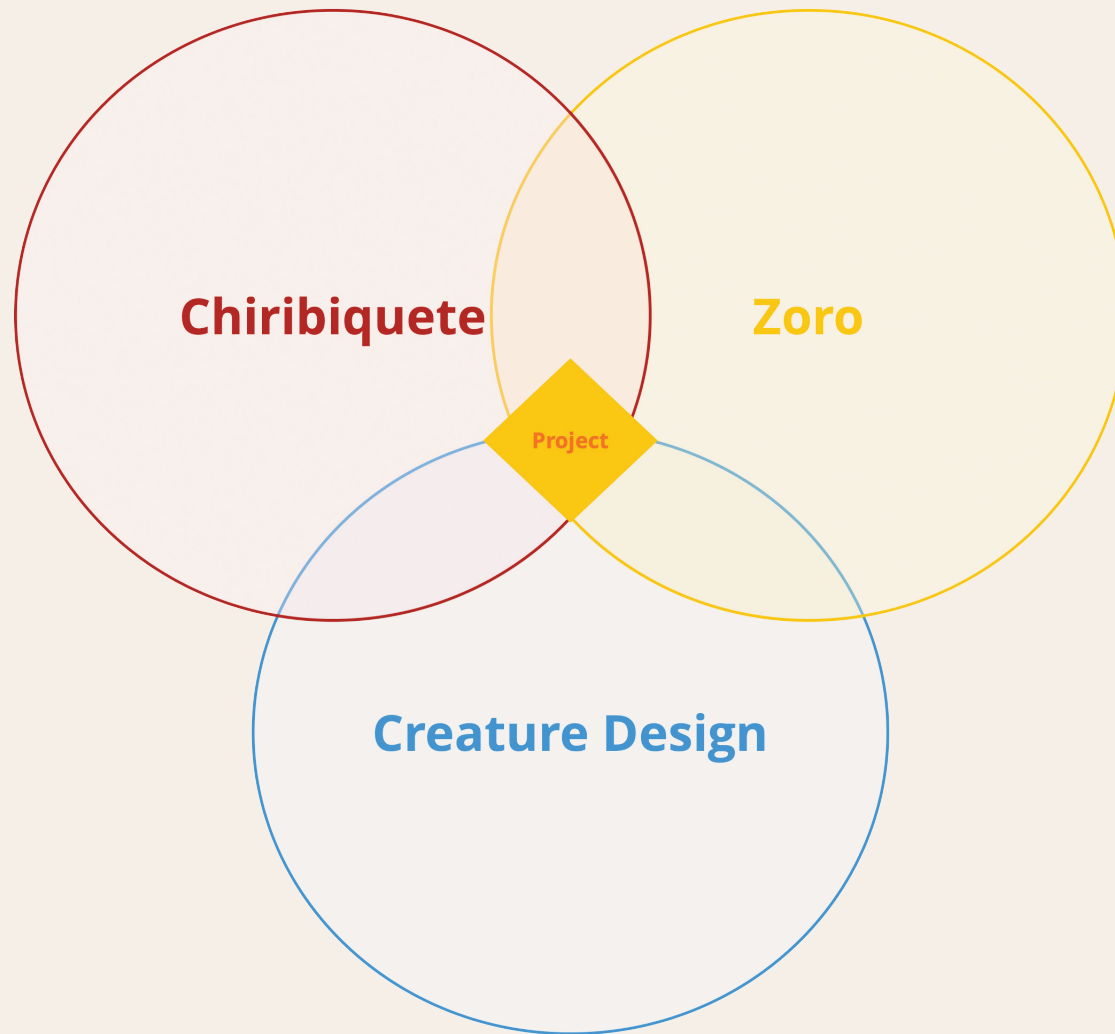


Figure # The Scope

# 6.0 Literature Review

## 6.1 Conservation in Colombia National Parks

Chiribiquete is the largest rainforest national park in the world (Colombia's Chiribiquete Now World's Largest Tropical Rainforest National Park!). According to the "Parques Nacionales de Colombia" web page, Chiribiquete is only one of 59 natural protected areas of the National Natural Parks System, also known as "SPNN" ('Sistema Nacional de Áreas Protegidas'). Chiribiquete became a National park in 1989 after Carlos Castaño Uribe and his team landed there due to an emergency in 1987. (El hombre que nos contó sobre Chiribiquete)

### Chiribiquete is a Sacred Territory:

Chiribiquete should not be visited due to several factors, most of all its sacredness. Before the category of National Park, it is essential to understand that Chiribiquete is a sacred ancestral indigenous area that in shamanic knowledge, is protected by the creators and owners of the rainforest.(ICAN and PNNC). Thanks to the cultures near the park, the excavations and the



Figure #: Diagram of the four reasons why Chiribiquete must be protected. Diagram by Sara

study of the contents of the park's paintings, Chiribiquete is considered a centre of Shamanic identity and thought (Castaño 360-361) as such that it must be visited with our imagination('Chiribiquete desde la imaginación')Minute 30:52 to 31:16('Chiribiquete desde la imaginación').

The Pictograms are not just representations but manifestations of the spirits themselves. Uldarico Matapí, sabedor (Elder / Sage) from the Yucuna community, explains that the murals are the spirits that maintain the ecological balance and have a metonymic character.

(Matapí-Yukuna 62-63 citado en Castaño 107)

Entheogens are psychoactive plants that have a religious and spiritual purpose as part of traditional rituals.(Tupper 146) In the case of Chiribiquete, these plants are “Yaje (banisteriopsis caapi), yopo (Anadenanthera peregrina and Anadenanthera colubrina) Virola (Virola spp.) Coca (Erythroxylum coca novogranatense) and Tabaco (Nicotina tabacum)” (Castaño 207 - 220) Several objects in the Gold museum are linked to the consumption of entheogens like “El poporo quimbaya” being poporos a device in which lime is loaded “that indigenous communities use in the ritual of mambeo chewing coca leaves”. ('Poporo Quimbaya')

One reason this project focuses on the design of the creatures is that to be respectful of the communities, the sacred nature of the pictographs, and the complexity of concepts like entheogens, other aspects of the project must be developed with the organisations and the communities themselves. . Chiribiquete National Park is the most recent title the area has had. It is essential to understand Chiribiquete in its wholeness, not only its recent history (ICAN and PNNC 13). That being said, for the purpose of this project, I'm going to refer to this place as a National Park.

### **Indigenous Groups in Voluntary Isolation**

Another reason why no tourist should go to Chiribiquete is the presence of indigenous groups who choose to be hidden from the Western world. Castaño mentions that there is evidence of the presence of indigenous groups in voluntary isolation, which has been obtained from research done in conjunction with the surrounding indigenous communities, observations from research overflights, as well as interviews with ex-combatants of armed groups(348 - 350). When communities in voluntary isolation come into constant contact with the rest of the country, it can be disastrous for them and their

ways of life. (Castaño 348 - 350) A quite tragic example is that of the Nukak community located in the department of Guainía, Guaviare and Valle del Cauca in Colombia. This is a nomadic community whose history began to be known during the 80s ('ONIC - Nukak'). The same period in which they constantly interacted with the town of Calamar had led to serious repercussions since loggers and coca growers invaded their territories. Moreover, they suffered diseases that, in a decade, decimated more than half of their population. (survivalinternational.org) (International)

#### **Threats:**

Chiribiquete National Park faces several threats, the most significant of which are armed groups, "Illicit mining," "Wildlife exports," "Drug trafficking," and "deforestation" (Castaño 344 - 345). For the scope of this project, the emphasis will be mainly on deforestation and wildlife exports.

#### **Wildlife exports**

In Colombia, it is difficult to calculate the percentage of illegal species trafficking statistically, but it is estimated that the number of animals trafficked is still quite high (Baptiste et al, in Castaño 344). Talking specifically about Chiribiquete, some

examples of threatened species are the endemic hummingbird "Chiribiquete emerald", "the giant otter", and "the giant anteater" (Colombia's Chiribiquete Now World's Largest Tropical Rainforest National Park!). Wild sport hunting was prohibited in Colombia during the 70s, but before this, it was quite frequent (Baptiste 2002; Mancera and Reyes, 2008)

#### **Deforestation:**

"El círculo maldito deforestación- Cultivo de Coca -expansion de la frontera ganadera, prevaleciente en los últimos 40 años en la Amazonia, parece haberse consolidado en los dos departamentos de Caqueta y Guaviare."(Castaño Uribe 344)

"The cursed circle of deforestation- Coca cultivation - expansion of the livestock frontier, prevalent in the last 40 years in the Amazon, seems to have been consolidated in the two departments of Caquetá and Guaviare."(Castaño Uribe 344)

The expansion of the livestock frontier and coca cultivation are the two main causes of deforestation in this area. Furthermore, cocaine production laboratories have been found in the southern area of the park. (Castaño Uribe 344 - 345).

However, in 2017, after the signing of the peace process, deforestation in the Colombian Amazon increased significantly, especially in the departments where the Chiribiquete mountain range is located. (Castaño Uribe 344 - 345)

Atmospheric rivers or flying rivers are large formations of water in their gaseous state that nourish ecosystems in their path). These structures are made of water vapour and humidity that they collect on their way, connecting tropical oceans with other latitudes. (Hu and Dominguez p 13,826) We could say then that these atmospheric rivers are the connection between the city of Bogotá and Chiribiquete National Park.

### **Guardians of Chiribiquete Strategy**

The Guardians of Chiribiquete strategy diffuses everything known about the Serranía del Chiribiquete National Natural Park and seeks to make it accessible for more people, whether Colombians or foreigners. (Colombia and ximena.borre) This strategy was first launched in 2017 and then relaunched in 2022. Luis Olmedo Martínez, director of Parques Nacionales de Colombia “Colombian national parks”, mentions that the challenge institutions have is to make people fall in love with the protected areas that Colombia has since it is

through knowing them that people decide to protect them. Therefore, the strategy “Guardianes de Chiribiquete,” or The Guardians of Chiribiquete, focused on actions to diffuse knowledge. A Guardian of Chiribiquete Is a person who visits the park by travelling through their reading, imagination and thoughts, but also the communities around the park who have been working hard to educate other people about this place (Súmate a Los #GuardianesDeChiribiquete ‘Conocer Sin Ir’) Among the strategies are the books Chiribiquete: the Cosmic Maloca of the Jaguar Men, from which proceeds went to support the park’s protection, The Good Traveler’s Guide and Looks at Chiribiquete. This content is mainly aimed at adults. As for children, “Miradas a Chiribiquete” is a book made by children aimed at other children. (Colombia and ximena.borre). The strategy “Conocer Sin Ir” was part of a social media strategy linked to the concept of guardianship . Grupo Sura explains that with these resources, they sponsor projects such as the podcast “Chiribiquete desde la imagination” and the children’s story Aluna y Chiribiquete and strengthen the educational actions that have been carried out with children and young people in the departments of Caqueta and Guaviare, near the park. (‘Chiribiquete es un patrimonio de todos’)

Among the guardians of Chiribiquete is Felipe Henao, who was born in Calamar Guaviare, the same department to which the park belongs. He has dedicated his life to caring for this region and has championed one of Colombia's most dangerous projects: protecting the Amazon rainforests and Chiribiquete national park. ('Luis Felipe Henao Murcia')

### **Jaguar as an Umbrella Species**

Umbrella species are ones whose conservation can help to protect many others. This term is part of the category of "surrogate species" - a blanket term covering various others, including keystone species and flagship species (Thornton et al. 1112). According to Thornton et al., the concept of the Umbrella Species is considered a conservation plan that focuses on the needs of one species. Doing this may benefit others that are connected to the environment of the protected one. In many cases, these species require large territories or particular habitat needs. (1112)

## 6.2 Spirituality and representation of the creatures

Origin of the Jaguar and the Concept of “jaguaridad” for the cultural tradition of Chiribiquete

Castaño refers to Jaguaridad as the emblematic, almost sacred character of Jaguars within the cultural tradition of Chiribiquete (111-114). This idea is based on the fact that Jaguars are the most represented figure in the pictograms. According to Castaño’s estimates in a sample of some 40,000 iconographic representations, the felines are much larger than other animals and the most represented at over 20% of all figures. Deer are the second most represented figure at 17%. Meanwhile, other animals have a percentage equal or less than 10%.(67)

Furthermore, some Amazonian indigenous groups consider that the Jaguar was born from the incestuous relationship of the sun with his daughter the moon (and the sun and the moon are Sacred) (Castaño 111-114).

According to Reichel-Dolmatoff and Villa-Posse, cited by Castaño-Urbe in his book, for Desano’s cosmogony, the Jaguar was entrusted to supervise that everyone complies with the law of nature, it is the representation of the sun in the earth. The sun gave the jaguar his colour, his power and his voice. Furthermore, the jaguar transforms himself into the constellation that the Greeks called Orion, to supervise if

everyone follows the rules that maintain balance, order, and duality in the world. This constellation is visible all year round in the equatorial region of the Amazon and is represented as a leaping Jaguar. (qtd. in Castaño 111 - 116) Therefore, the Jaguar became a keystone, not only for the protection of Chiribiquete National Park but also for this project’s design work.

### **Anaconda in Chiribiquete**

According to Reichel-Dolmatoff, one of the most prevalent archetypes among indigenous communities in the Amazon is the Anaconda-Boa. This archetype has mythological connections with fertility, water, femininity and the Milky Way, with the Milky Way being an essential association due to how its serpentine shape is associated with the birth of human populations. It is said that when the Milky Way descended from the sky in the form of a Boa, it gave rise to humanity and formed the Amazon River. In some creation myths, the anaconda-woman is the daughter of the incest between the sun and the moon, being the sister of the jaguar (qtd. In Castaño-Urbe 138-139).

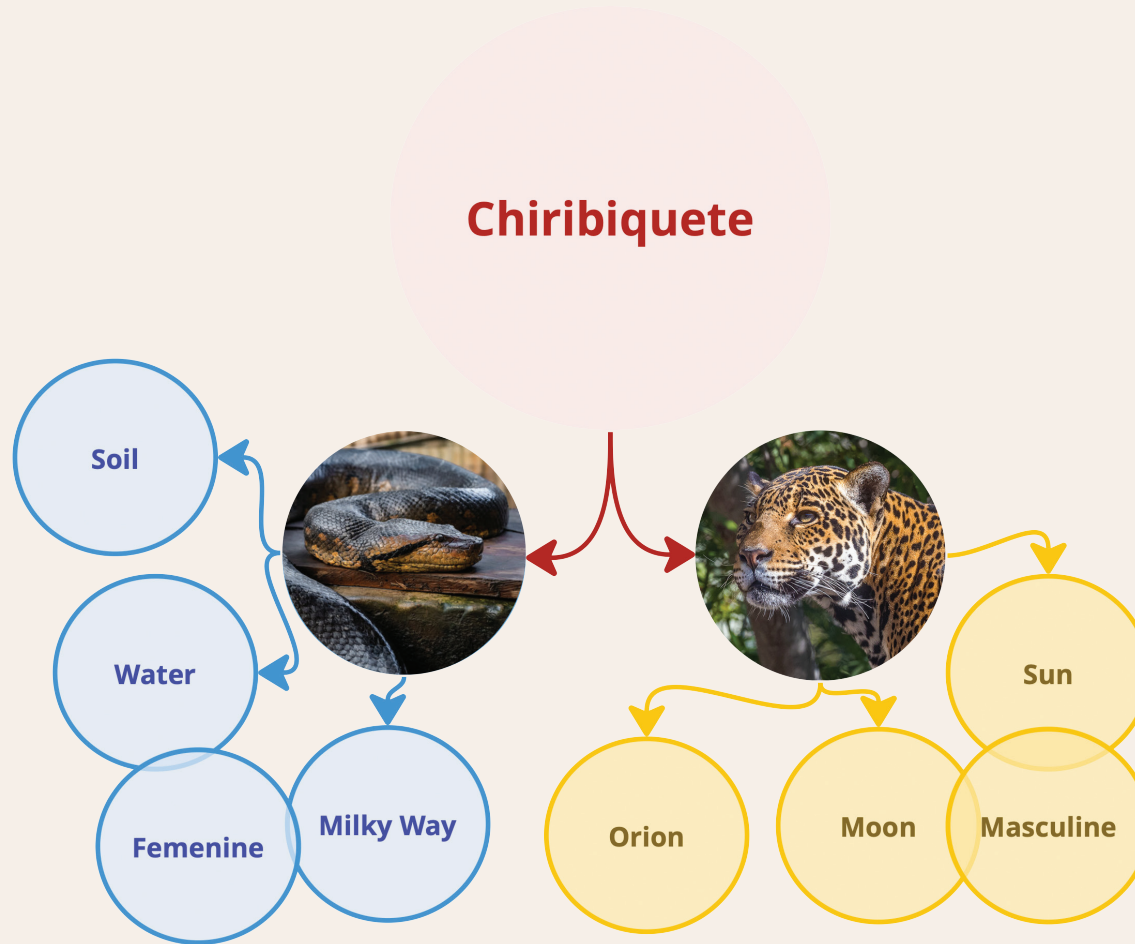


Figure # Diagram of Chiribiquete's cosmogony

## 6.3 Fantasy Creatures

### **The Power of Storytelling and Fantasy**

The work of Diana Uribe has been a key referent in my journey. As a Colombian historian and communicator, she is a clear example of the power of storytelling as an educational tool. I like to call her “the Colombian storyteller of history”. Through her podcast, she has narrated Chiribiquete desde la imaginación (Chiribiquete from imagination), explaining the history of Latin America through their museums with one special chapter about Museo del Oro (Gold Museum), and the importance of magic and fantasy in the chapter Rescate de la magia y la fantasía (Rescuing magic and fantasy). (‘Dianauribe.fm’)

### **The Role of Fantasy**

In her book *Fantasy* Armitage defines fantasy narratives as fiction that immerse and engage users in worlds completely different from their own and subsequently returns them to the reality they inhabit. Furthermore, she explains that fantasy offers us the possibility to travel to places that only exist in imagination, questioning reality, natural Laws, logic, and geography. When talking about portals and entry points she mentions that a key

element of this kind of narrative is the instrument that makes it possible to travel (Armitage 3–9). For the case of this project, we might say that a VR headset could fulfil that purpose.

### **Anthropomorphism**

Since Jaguars are an Umbrella Species, and sacred for Chiribiquete, this project focuses on creatures emphasising concepts like Anthropomorphism. Maija-Liisa Harju in “Anthropomorphism and the Necessity of Animal Fantasy” tells us that anthropomorphism is a mechanism that we as humans use to understand the perspective of other animals. Since we, as yet, don’t have enough research about the knowledge that these species may have. Moreover, Anthropomorphism emphasises the connection that human beings have with the rest of the animal world, making it easier to understand the importance of conserving the rest of the environment. (Harju 1 -2)

One of my first introductions to how representing creatures can help in conservation came from Mauricio Anton, a paleo-artist who has worked with National Geographic Magazine and diverse museums, and who specialises in Sabertooths. In his talk ‘Bringing Sabertooths to Life’ Anton explains the origins of paleo-art and its connection to conservation by

explaining that people used to believe fossil bones belonged to mythological creatures like Cyclops and Dragons (Bringing Sabertooths to Life. Mauricio Antón Minute 13:11 - 13:44 ). As a scientific illustrator and creature designer, Terryl Whitlatch has been a key referent in my concept design and fantasy illustration career. In her book *Principles of Creature Design: Creating Imaginary Animals*, Whitlatch explains that imagination is nurtured by our experience with reality (9). Everything we imagine has nature as its main point of reference. Therefore, even fantasy creatures and characters are connected to their environment. She further explains the difference between designing creatures with intent and designing cool-looking creatures. Designing with intent is considering the ecology of this creature, asking key questions like 'What interactions does it have with their environment? What role does it play in the food chain? How does its anatomy work? Furthermore, asking consciously the key question for the fantasy genre, What if this creature is the predator? What if this creature is made of a precious material? What if this creature is considered a sacred being in its world? (Whitlatch 9)

## 6.4 Character Archetypes

To explain the concept of “Archetypes”, Carl Jung explains that they are part of the collective unconscious that is incorporated into human beings through their history and culture (qtd. In Castaño-Urbe 71-72). Later on, Castaño explains to us that, in the archaeological context of Chiribiquete, the word “archetype” is used to designate the most figurative pictograms. This allows the archaeological team to relate figurative iconography with more schematized or abstract representations, and in this way be able to interpret its meaning within the cultural tradition of Chiribiquete. (71-72) However, for this project, I’m going to narrow the definition to “Character Archetypes”. In the book *The Protagonist’s Journey* by Scott Myers, Myers defines “Character Archetypes” as prototypical symbols that perform a function in the narrative. Myers emphasises five specific archetypes for writing for films “the protagonist, the nemesis, the mentor, the attractor, and the trickster”. By reflecting on the function that each character has, the story grows and develops in order to leave a message. In this way, the characters work together to make the story a cohesive idea (Myers 132). For the purpose of this project I’m going to focus on two character archetypes, those being “the

protagonist” and “the mentor”, with the remaining archetypes are aspects that may be developed in the future.

### **Protagonist**

Of all the character archetypes, Myers tells us that the most important is the protagonist, not only because he is the backbone of the entire story, but all the other archetypes are connected and function in relation to the protagonist. This is the one who will make the decision of taking a trip and the one who is going to embark on an adventure. This is also the one who will change at the end of this journey, demonstrating the most significant metamorphosis by the end of the story (Myers 3–5)

### **Mentor**

The archetype of the mentor suits this specific project since, according to Myers, the mentor “is an ally to the protagonist and becomes their intellectual guide”. The Mentor is the one in charge of ensuring that the protagonist understands relevant information that they will need to fulfil their goals. Furthermore, the mentor archetype has an outstanding knowledge of his world, or at least, greater than that of the protagonist. (Myers 175)

The role that these creatures are going to play is based on “The Mentors Archetype” (Myers 175), as they guide our protagonist, who is the user of the VR location-based experience, on deforestation in the Amazon and forms of conservation. For example, the crystal jaguar in the story acts as a kind of mentor, as he is the one who explains to Zoro at different stages of the story where his town is and what challenges he will have to go through to find them.

It is key to be mindful about the purpose of each character in the story. (Myers 132) In this case, they are going to be our mentors teaching us about the sacred nature of Chiribiquete and the key roles the tepuys, rivers and atmospheric rivers play in the conservation of the park.

## 7.0 Case Studies

### 7.01 Avatar the Last Airbender Creatures and Frailejon Ernesto Perez (Cuentitos Mágicos)

#### **Avatar the Last Airbender:**

In the TV show Avatar the Last Airbender, the animals were the first teachers; they taught humans how to control the elements. This fictional world built by Bryan Konietzko and Michael Dante DiMartino perfectly explores the idea of human beings in connection with their environment, not only through the idea of affinity with the elements of nature, but of human beings with the creatures that inhabit it. While the entire story is full of examples, the most relevant for this project are “Hei Bai” - the Spirit of the Forests; a panda bear that transforms into a spiritual creature; “La” - the Spirit of the Ocean; a Koi fish that able to connect spiritually with the protagonist, and Appa, a “flying bison”; in representation of all the animal mentors for the benders. These creatures have played a role in my interest in conservation. In other words, in Avatar the Last Airbender, creatures are the connection with the spiritual world and represent complex concepts in a fantasy world in which the main character connects the spiritual world with the real one.

Frailejon Ernesto Perez is an Iconic creature that became relevant in Colombia for the protection of the biome called paramo in 2021. (Frailejon Ernesto Perez) This character is

based on a plant called Frailejon, according to Grarcía et al. These plants belong to the genus Espeletia and are key for the protection of the paramo biome since they regulate the cycle of water, prevent soil erosion, and are the largest biomass in that ecosystem with more than 125 animal species relying on them (Diazgranados) Through this character, people became curious about what a frailejón is and what role paramos play in the environment.

## 7.02 The Jaguar and the Butterfly - Colombian National Museum

“El Jaguar y la mariposa” (The Jaguar and the Butterfly) is a virtual and location-based 2020 exhibition at the National Museum of Colombia, which is still available online.

This experience aimed to immerse the Bogota public in Chiribiquete, with adult audiences as their main focus of attention. Inside we see comprehensive information about the park and the cutting-edge research on this territory. Some strategies that spoke to me were the fact that indigenous artists were included in this exhibition, for example the research of the Colombian butterfly expert Dr Blanca Huertas, and an exhibit in the Museum of Natural History in London. A key piece for this project is the representation of the Anaconda as a creature made of stars in and infographic.

Due to the pandemic, the curators created a virtual experience that allows everyone to visit the exhibition at home. The constraints and emergency solutions of translating an

exhibition that was originally planned as a location-based experience created notable limitations. The virtual version of “The Jaguar and the Butterfly” is challenging to navigate, so users lose track of key points and educational information.

### 7.05 Curious Alise and Flutter Away

#### **Curious Alice:**

Curious Alice is a VR experience designed for the Victoria and Albert museum in England. It consists of a series of mini-games based on the children’s book Alice in Wonderland written by Lewis Carrol. The story is one that is a fundamental part of English culture and identity. In addition, this experience expands the museum’s possibilities; it is affordable for many people since you can play it both in Colombia and New Zealand if you have a VR device.

#### **Flutter Away:**

The Flutter Away game for PC allowed me to immerse myself in the Amazon rainforest, with a story relatively similar to the one I had with my family. This game focuses on taking photographs and learning about your surroundings, exploring to find butterflies, and a capybara among other species. This digital experience allows you to visit the Amazon from a country as far away as New Zealand.

### 7.06 Carlos Jacanamijoy, “Guache” And Muralism in Bogotá

#### **Carlos Jacanamijoy:**

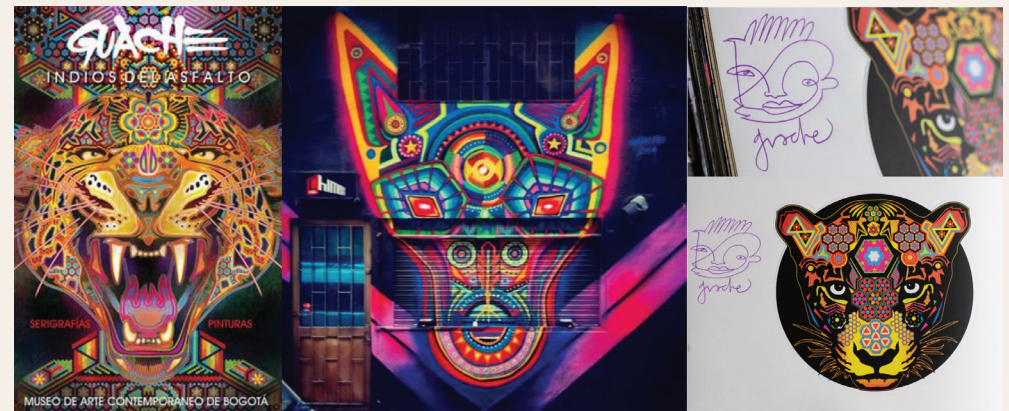
In Carlos Jacanamijoy’s paintings, I found a portal to understanding the rainforest. Carlos Jacanamijoy is an Indigenous abstract painter and fine artist from Putumayo Colombia. His paintings translate for me the patterns that I saw in the trees, the spots generated by the sun on the floor, the skin of several animals, all of them connected together. His abstract paintings played a key role in my understanding of the rainforest and its complexity - painting is a way of knowledge that explains what words can not. Put differently, his work allowed me to understand and connect with the complexity of the Amazon rainforest.

### Oscar Gonzalez Guache

A key referent in my story as a designer is the Colombian artist Oscar Gonzalez “Guache”. A visual artist who started as a street artist and graphic designer in Bogotá, His work references inspiration from his roots in the town Sogamozo, Colombian handicrafts, and several influences from different Latin American countries. Since 2009, I have grown up being surrounded by his colourful street art. His work influences the design of the creatures and became a way of explaining entheogens to teens without being explicit.

### Small Jaguar of spirals from the gold museum

Although the most emblematic figures of the gold museum are the la Balsa Muisca and el Poporo Quimbaya, for the purpose of this project I would like to talk about my favourite figure, which is a small Jaguar no larger than an inch. The jaguar is barely the size of a thumb, yet it is full of gold spirals. This was one of the figures I was studying for this project and it allowed me to understand how patterns and repetition are used in pre-Columbian art.



# 8.0 Methodology

In this section, I will explain how a diverse set of experiments and methods have contributed to my practice and this project. IDEO methodology, best known as 'Design Thinking,' is a set of tools that helps designers to solve complex problems by centering their attention on human needs. Complex questions require a set of tools that can be provided by the IDEO philosophy and its five phases: Discovery, Interpretation, Ideation, Experimentation, and Evolution. It is key to understand this phase of design thinking as a map instead of a rigid, linear structure, since this flexible structure adapts to unpredictable problems that require complex solutions. (IDEO 14)

Discovery is about defining an audience and understanding the challenges that this problem may have. This stage is about getting all the information possible to prepare the investigation, in addition to learning from our peers and our audience. (IDEO 24-38)

The interpretation stage is related to telling stories, making field observations, getting to know the place, getting inspired by small conversations, searching for meaning, and identifying

opportunities, (IDEO 39 - 47)

Ideation is the phase in which you do brainstorming, iterations and explorations like blue sky; it is the stage in which you make drawings and sketches. Ideas are observed and grounded in reality, they are put on paper and described at the same time as they are simplified and summarised (48 - 55)

Experimentation Is when one of the prototypes are made and feedback is obtained from the audience(56 - 65). The experimentation stage is not included in the project scope. Beyond that, the evolution phase is in what learning is generated and progress is made for future projects (66 - 74)

## 8.1 Fractals Principles present in nature

The mathematician Mandelbrot established that the figures of nature generate repetitive patterns that are slightly modified until they transform into absolutely new structures. Each part is like the whole but smaller, with slight modifications that generate an infinite pattern. Nature is full of these examples. (Mandelbrot) In his analysis, Castaño identifies these principles within the Chiribiquete pictograms and considers that their design is based on a fractal approach that is related to the consumption of entheogens, which allows us to understand “una dimension fractal replicadora” (replicating fractal dimension) (Castaño 147 -148).

Within design principles we usually talk about repetition and scale (Lidwell et al.) For my work, I analysed Chiribiquete’s pictograms (Figure #) and applied these principles to the definition of specific figures. So, if Chiribiquete pictograms have an equivalent abstract synthesis for figurative symbols, I defined some symbolic syntheses for each creature, taking elements from nature that are articulated with Chiribiquete. The elements and symbols I chose were quartz and hexagons for the Jaguar, the Milky Way and spiral circles for the anaconda, and the flying river and spirals with triangles for the eagle.

# "Jaguaridad"

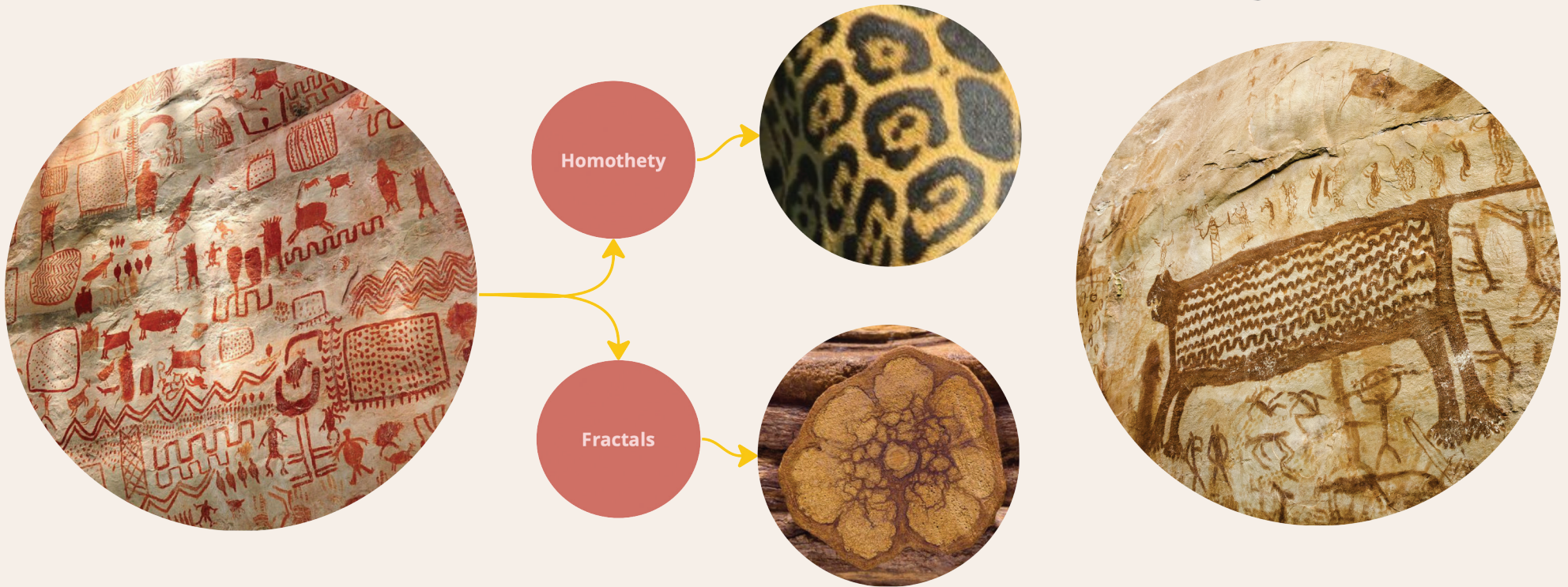


Figure # Diagram explaining the principles of fractals in Chiribiquetes pictograms.

### 8.3 Using 2D and 3D

A method that contributed to this design project was visiting zoos and museums to draw animals. These spaces allowed me to understand the appearance, movement and behaviours of one of the animals I'm designing. It is also an opportunity to observe how the public learns from, enjoys and interacts with the exhibit.

I started drawing in museums, zoos, botanical gardens and aquariums in 2013. At that time, I heard an interview from Terril Whitlach in which she explained how drawing at the zoo was essential to her work as a creature designer. She explained that drawing animals from photographs is not the same as a tangible reality, as with the latter, you can see the animals in movement and understand their way of walking and the function of their muscles interacting with their bones. Paleo-artist Mauricio Antón became influential in my work. He explains how the drawing of animals in their natural habitat influences the understanding of the creatures that he represents in scientific illustration and paleo-art. In particular, he emphasises the importance of drawing big cats from reality to represent sabertooth and has a course on drawing the big cats in Botswana.

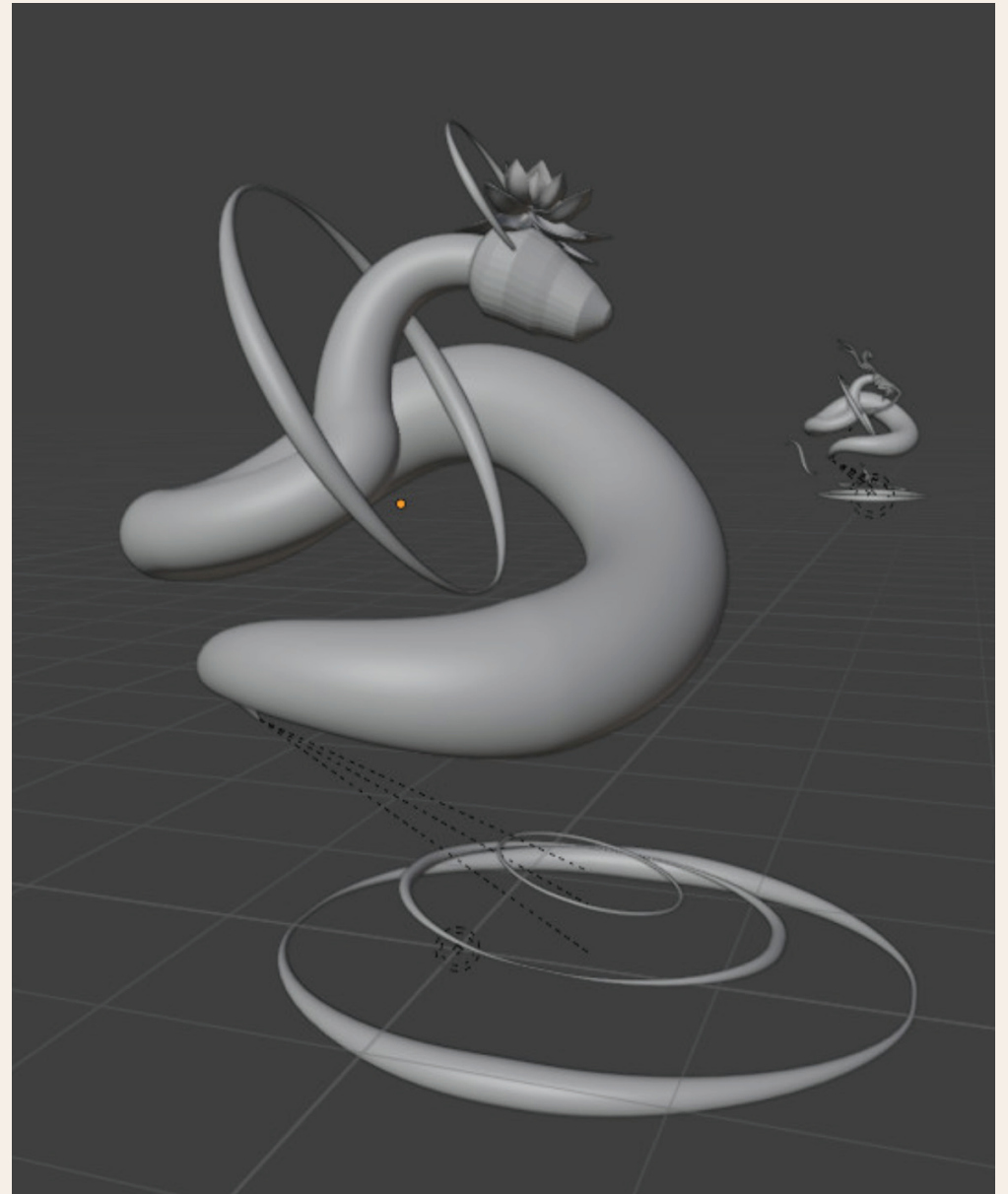
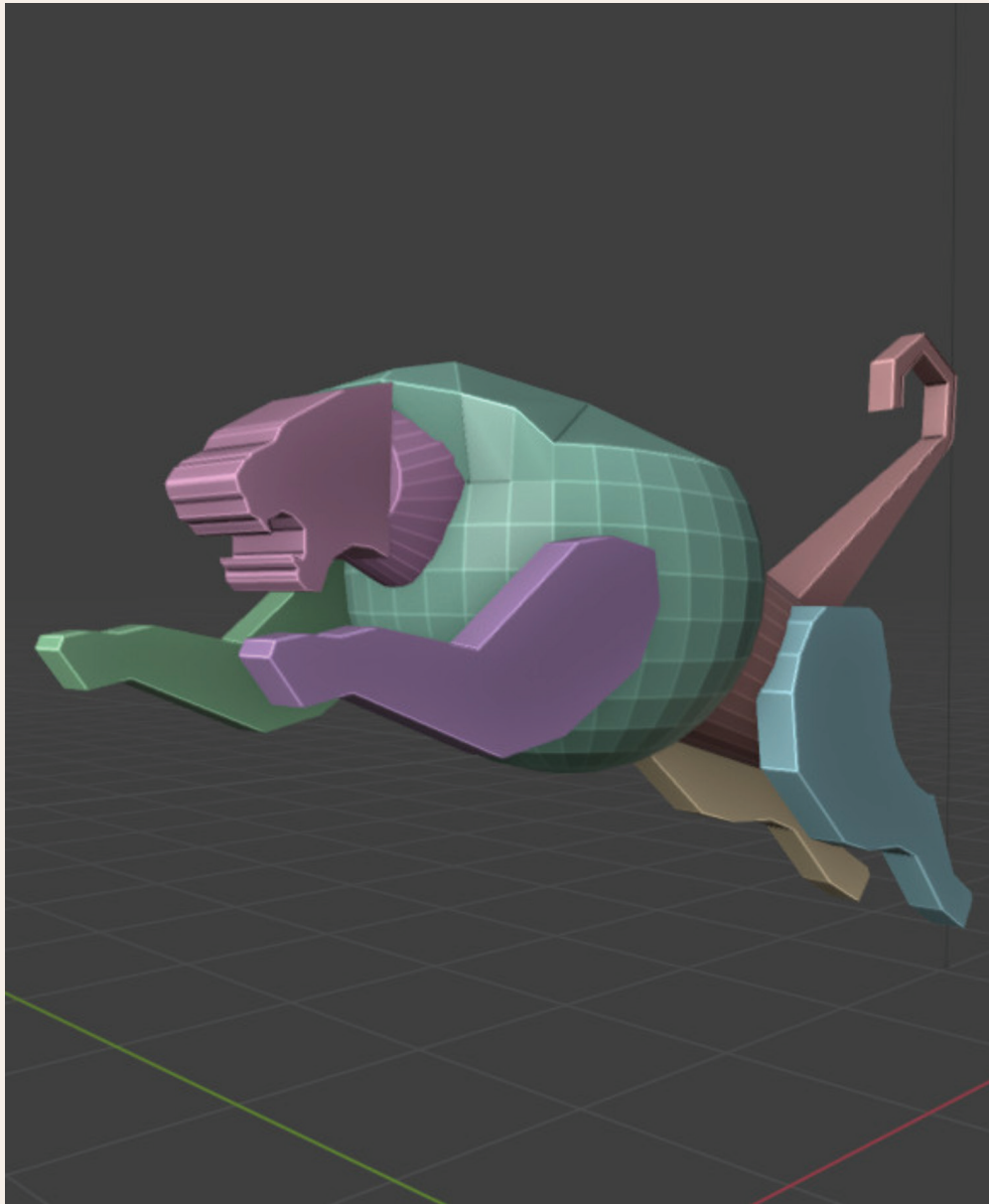


One of the experiences that contributed to this project was going to draw at Parque de la conservación in Medellín during 2021. In this place I had the opportunity to draw a female jaguar who was a victim of animal trafficking. The team from the park found it on a farm where some people had it as a pet. Sadly, when an animal like that Jaguar has been captive for so long, it cannot return to the rainforests because it no longer has the skills to survive.

Seeing this animal in person allowed me to articulate many of the ideas that are palpable in the project. These include the jaguar's spots and the concept of "jaguaridad," similar to Jacanamijoy's work. This helped me understand that painting and drawing are a way of knowledge that explains what words cannot.

In the discovery phase, drawing the jaguar influenced the ideation phase by creating a map with its spots. Likewise, this contributed to the evolution of the project when I decided to focus on creatures and transfer the characters into Blender.

### **3D Design Explorations:**





## 8.4 Story

### **3 Act Structure Zoro's Story:**

Chiribiquete needs representation, and as concept designers, we can create a sense of belonging around the park by representing and designing for its needs, by remembering that our wealth is not in the gold but rather in our diversity that makes us immensely creative (Uribe Gold museum minute 44:20 - 44:43). Previously, most of the strategies that I knew about protecting Chiribiquete were targeting adults and children, and not teenagers. I'm not part of an indigenous community and my first idea about the Amazon rainforest was through the book *Zoro*, so I decided to design based on the book.

I divided the story into three acts (Figure #). In her book *Design is Storytelling*, Lupton connects our brain's pattern recognition of the number three with the structure of beginning, middle, and end (Lupton 40). This structure helped me simplify the story in my head so that I could later select the parts of the story I found related to Chiribiquete.

It is important to clarify that *Zoro* is poetry for kids, allowing artists to adapt the book in several ways. For example, the

only clue the book gives you that it is located in The Amazon rainforest is a bird called Tente (Grey Winged Trumpeter), which only exists in the Amazon rainforest.

### **Adaptation:**

In this adaptation we become Zoro at 16 years old, who has already learned from his father how to enter into a deep spiritual connection with animals and creatures. Among those experiences he finds that his mother has such a deep connection with the river that it reaches the level of transforming her into a giant anaconda of water and stars.

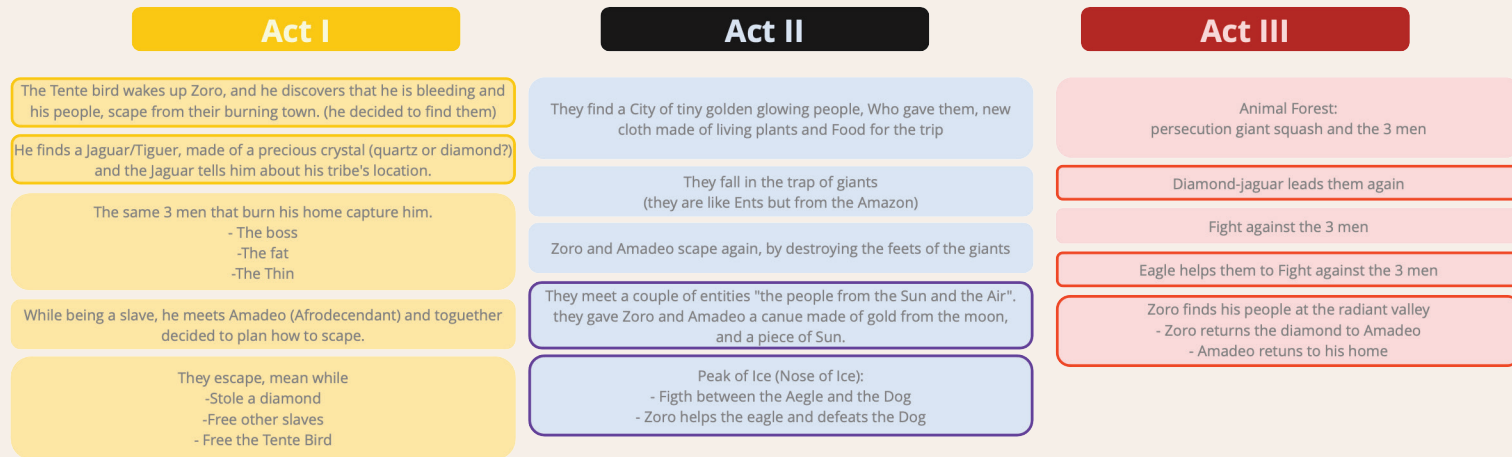
Act I

Act II

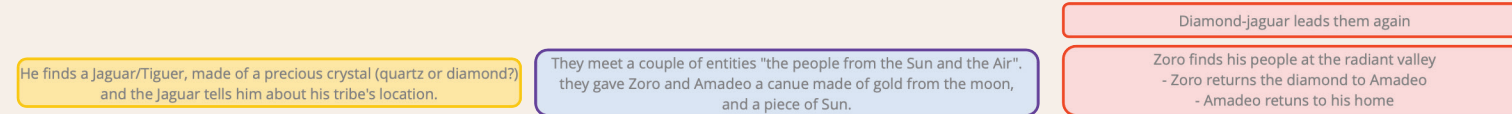
Act III



Figure # Three Act Structure of Zoro with emotional journey of the reader.



### Related to Chiribiquete



### Related to Conservation

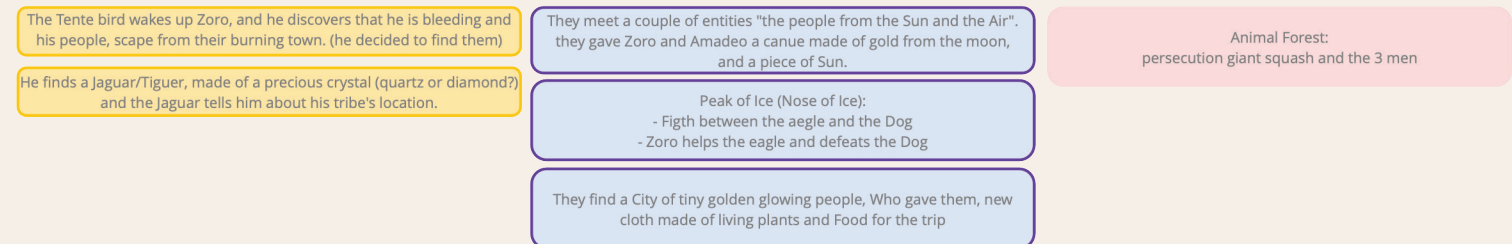


Figure # Three act Structure key moments and moments connected to Chiribiquete and conservation.

# List of characters, creatures, environments and props

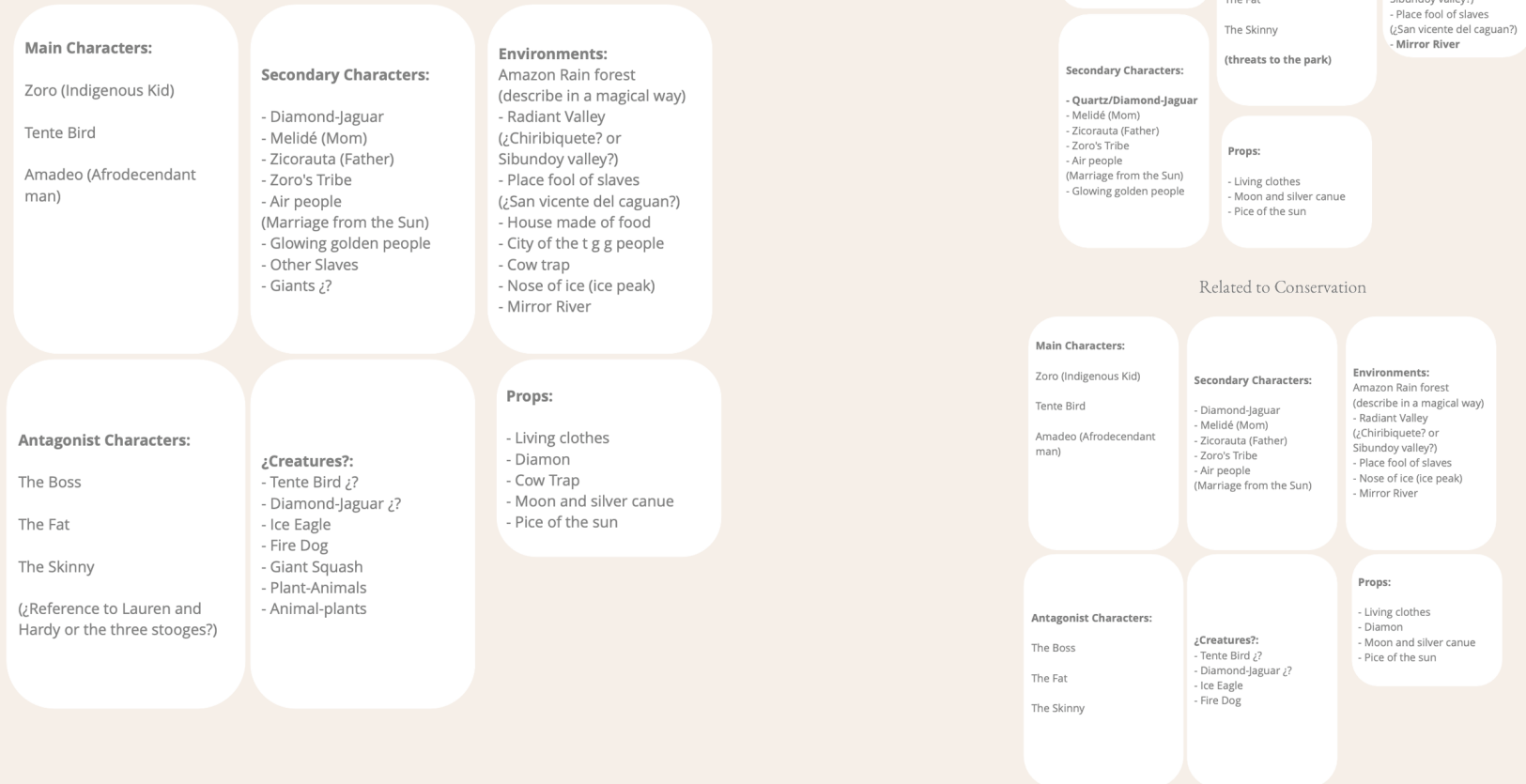


Figure # List of characters, creatures, environments and props related to Chiribiquete and Conservation.

### 8.5. Character selection

In Zoro's worldbuilding animals are considered equal to human beings, not terrifying creatures that we must destroy and defeat. In the original story, these creatures communicate with Zoro through his heart.

I decided to select the characters based on two criteria: first, their potential to help us tell a conservation story, and second, their ability to generate a direct connection with Chiribiquete. Later, when the challenge of exclusively representing indigenous communities in conjunction with specialised organisations arose, I decided to make an adaptation with greater artistic freedoms.

#### **The Cristal Jaguar:**

In Zoro's book *The Jaguar* is a creature that guides Zoro through his journey, acting like the mentor archetype. The Crystal Jaguar or the Glass Tiger as it is known in the book is a character that appears at the very beginning. He is the character who gives instructions to Zoro on how to find his people. He appears at different occasions throughout the story to guide and help him. He is not exactly a kind character, rather he is a threatening character, but kind only when he decides to be so.

#### **Melidé:**

Melidé is Zoro's mother. The only description of her is when the Jaguar tells Zoro that her mother is looking for him, that she is sad, and she is crying near the river with her hair covered in flowers. I decided to choose this character because I wanted to highlight the female representation in my project and in Zoro there were only two female characters.

#### **The Ice Eagle:**

The Ice Eagle is a direct reference to the water cycle within Zoro's world. It appears in the middle of the story and has a key role in the final battle; dying from being melted by the heat of the environment, and then being reborn as a cloud. Although the eagle as a character is not present in Chiribiquete's cosmogony, it does have a symbolism of rebirth within Zoro's book; it becomes a cloud that generates an excellent connection with the atmospheric rivers that are affected by the deforestation of the Amazon Rainforest.

## 8.6 Characters in Relationship to Each Other

The main reason to create celestial beings is the name of the Place. I decided to be guided by the translations of Chiribiquete's name of casa solar del enjambre de Estrellasestrellas and la maloca del jaguar which could be translated as "Solar house of the Star Swarm" and "Great Maloka of the Jaguars" (Castaño 360). Yet more important than that is connected with Jairo Anibal Niño the author of Zoro's story, who was my step-grandfather (abuelastro). I used to call him Abuelo-Astro as if he were my star-grandfather.

## 8.7 Petroglyphs and patterns

The petroglyphs in Chiribiquete are gigantic murals found in the park. Castaño explains that these murals are the most significant archaeological evidence that has been found in Chiribiquete (42). These murals contain ideas with a symbolic content that is quite important for the communities of the region (62). It is in these murals in which the concept of "Jaguaridad" is portrayed.

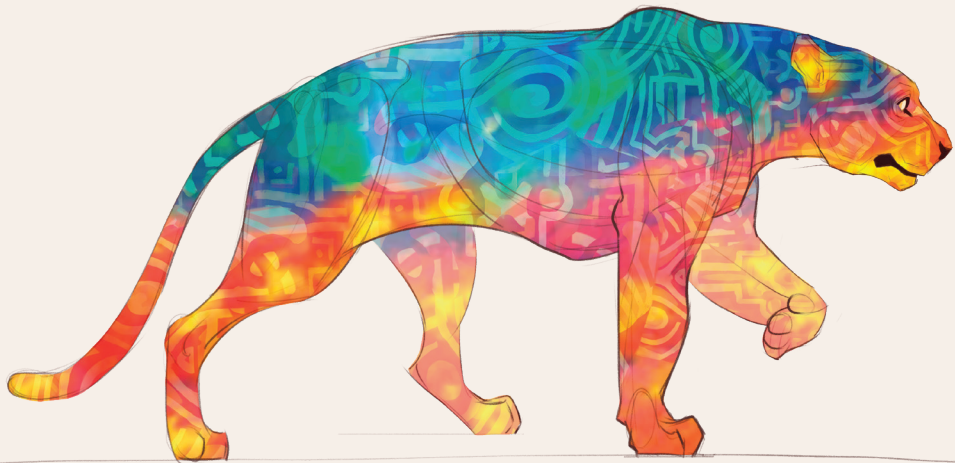


Figure # Taking Chiribiquete's pictograms as a reference for the design of the Jaguar

# "Jaguaridad"



Figure # The concept of jaguaridad as a key part of the research defines the fact that the project was going to be led by the design of the jaguar.



# Wich Path I choose and Why

## 8.8 Preventing Cultural Appropriation

The creatures for this master's project do not accurately represent or imitate the characteristic petroglyphs of Chiribiquete because of the sacred representation for several indigenous communities in Chiribiquete. According to Castaño-Uribe, most indigenous communities who live on the periphery of the park consider Chiribiquete the centre of the world (Castaño-Uribe 131). Thus, the purpose of this mountain range is ritualistic and religious (Castaño-Uribe 42); the petroglyphs are part of a tradition that must be treated with respect. Therefore, the use of these symbols must be represented by working with a team of experts who belong to the communities to whom this place has a sacred meaning. To be respectful of these communities, I decided to develop a style that represents these creatures for this project.

It is necessary to reevaluate the narratives we have around the indigenous world in Colombia because there is a remnant of Eurocentric narratives from Spanish colonial times and its processes of whitewashing race and culture (Uribe minute 22:47 - 23: 07). Yet, being mestizos, we share a blood bond that is important to articulate within our narratives.

One of the biggest challenges I faced because of my western perspective was not being able to avoid the topic of entheogens. That is, the use of psychedelic substances for religious rituals. I realised when re-reading Castaño's book that it would be disrespectful not to include this in my project as it is part of the sacred in Amazonian cultures. Therefore, I decided to emphasise them based on the connection that these substances generate with the spiritual world.

Added to this, the western mestizo culture does not look favourably on talking about the consumption of psychoactive substances with minors. Therefore, I decided to address this topic without the need to be explicit. Thus I represented them through the use of vibrant colours that became a characteristic element of the spiritual connection with the creatures. For this I relied on the graphics of Óscar González (Guache), Molas Guna Dule, and the graphics of the paintings of the master Jacanamijoy. Through them I was able to understand how this type of experience could be perceived without the need for their consumption.

# Sara - 2021

Oscar Gonzalez  
(Guache)



Molas  
Gunadule



Figure # resignifying an old work to talk about entheogens with teens from Bogota preventing cultural appropriation and misrepresentation.



Figure # Analysing my references and where this ideas came from

## 8.9 Asking Nature: Common Design Attributes

From there, my formula during this project was:

**If you have doubts, ask nature.**

The Jaguar uses Quartz as its material. For the quartz, I defined the hexagonal figure and replicated it in connection with the pentagons found in the constellation of Orion. I used the Western Greco-Latin constellation since I am not part of the indigenous worldview.

For the Anaconda, I used The Milky Way, which has a large number of iconic representations in vectors, it generated a very interesting idea. When I modified one of these vector graphics, it became similar to the fall of drops on water. Since the character of Melidé represents the river and is made of water, this idea of a drop that falls generating waves on the water while being the Milky Way arose as part of the design process. For the Eagle I used the Flying Rivers, reference was taken from NASA photographs in which these representations of large spirals of clouds and storms appeared, which are these corridors that transport moisture across the planet. It also has this connection with the cycle of water, the cycle of life and with the Gold Museum, being that most pieces in the Gold Museum are full of spirals that represent cycles.

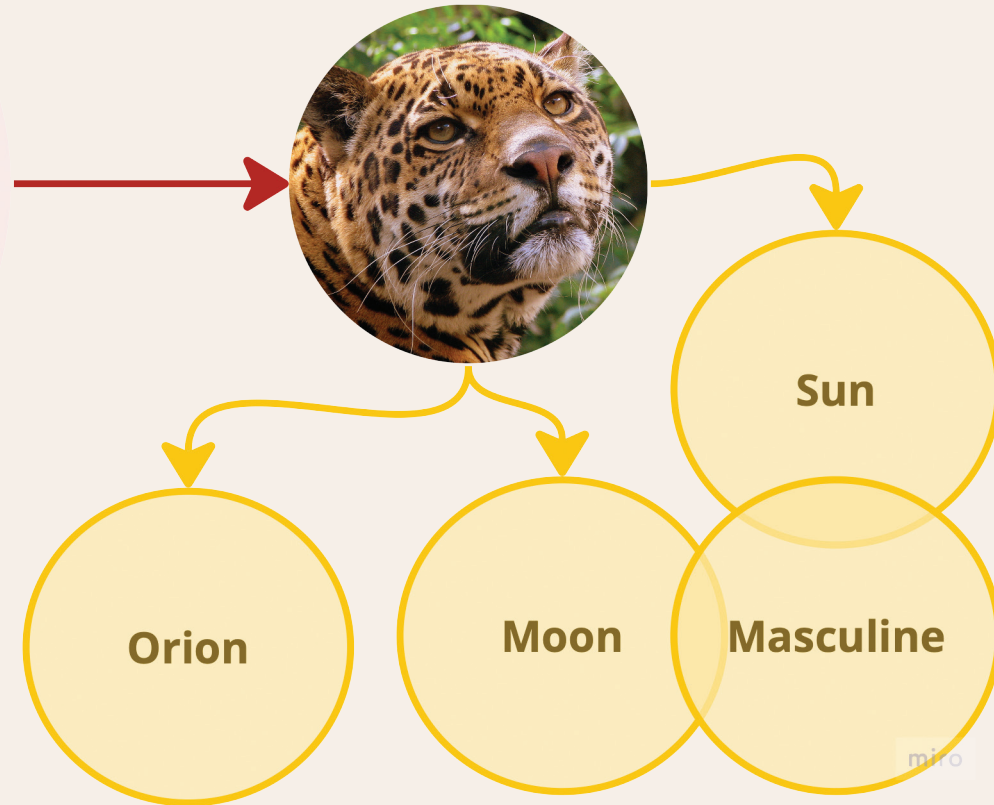
# 9.0 Design



For this adaptation, I decided to connect Zoro with the cosmogony of Chiribiquete, turning the characters into celestial beings. Furthermore, they are the mentors who will guide us and teach us within the VR experience what Chiribiquete means and its cosmogony.

Figure # character Line Up

# Chiribiquete



## 9.1 Crystal Jaguar

Zoro is poetry for kids, and “The Crystal Tiger” a literal translation of tigre de cristal can be interpreted as a jaguar since no scientific evidence or studies demonstrate tigers’ presence in the Amazon.

I decided to follow the reference that Castaño-Uribe makes to the Orion constellation and emphasise the connection that the jaguar has with constellations. I chose quartz as a material due to the symbolic implications attributed to it, associating it with the seminal power of the sun (Castaño 56)

I use the character of the Crystal Jaguar to explore the Blue Sky phase of the project. The main reason for this was related to The concept of “Jaguaridad”, as explained before a key concept in Castaño’s perspective.

Figure # Diagram of the Jaguar in relation to Chiribiquete’s symbolic archetypes.

I have selected a character that connects us with Chiribiquete (The Glass Tiger), a character that connects us with conservation (The Ice Eagle) and a character that represents the power of the feminine (Melidé).

Overall the design process for the three characters consist of iterations mainly from several the silhouettes and thumbnails. After making these iterations, I chose one and tried to draw the structure of the characters, then I placed and repeat the symbols using the principles of scale and homotethy (Fractals), later I placed a photograph of the corresponding group of stars, whether it was a nebula or a galaxy. Next I designed what the stars of the corresponding constellation would look like. During the hole process I made 5 minute studies to warm up before every design session. Finally, I moved on to the final image, choosing a hero pose based on the connection they have with the conservation aspect they are going to teach us in the VR experience.

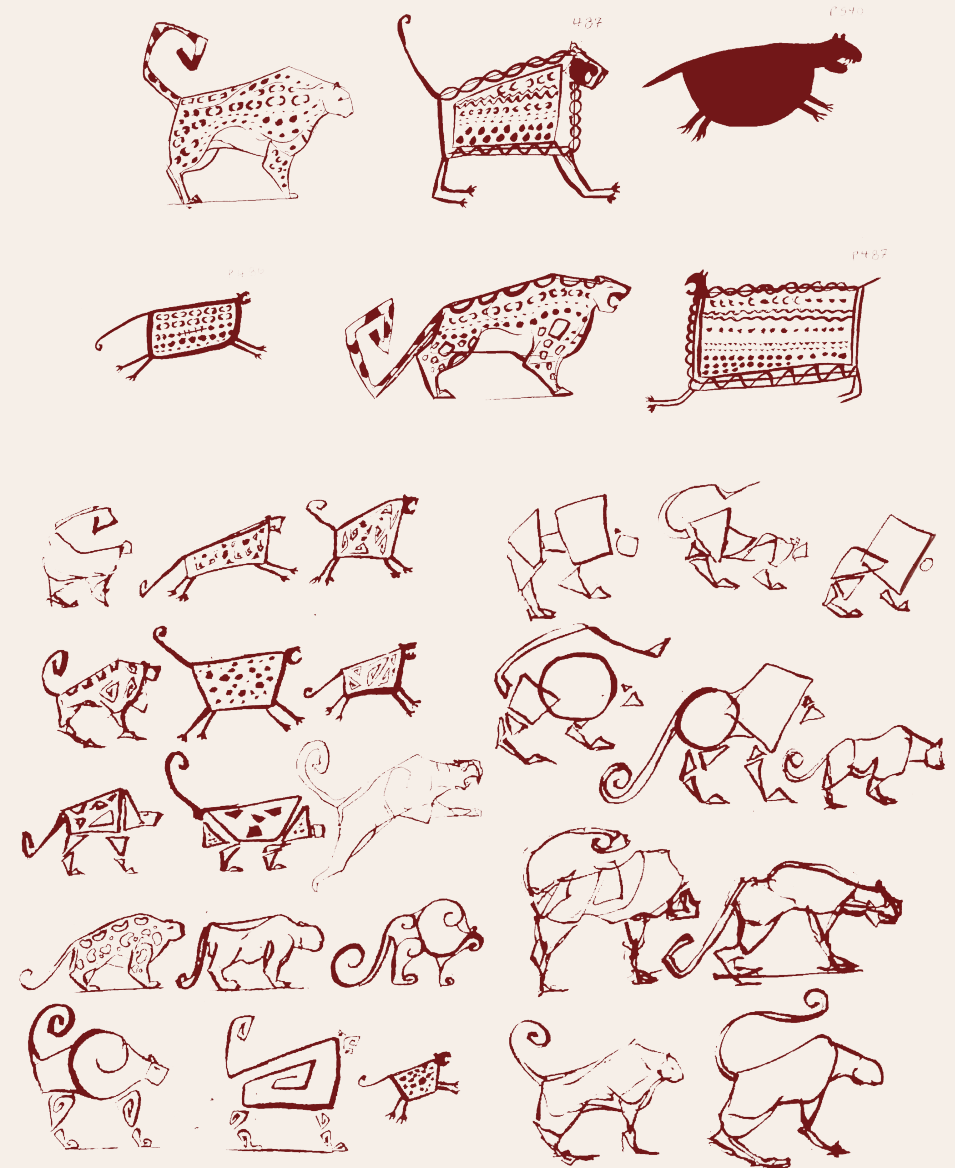


Figure # Designing based on Chiribiquete's pictograms



Figure # 5 minute studies to warm up

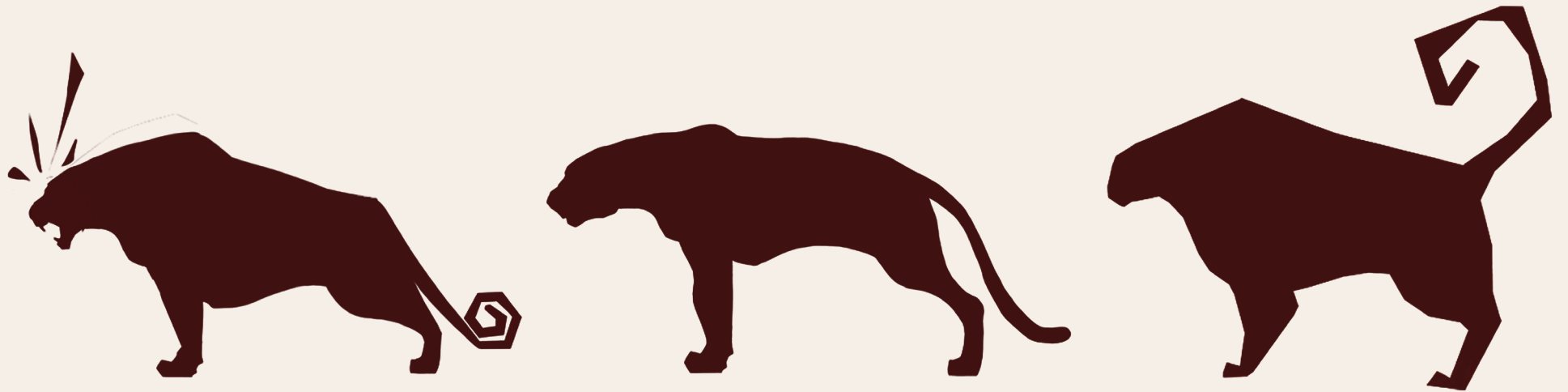


Figure # Silhouettes of the Jaguar.

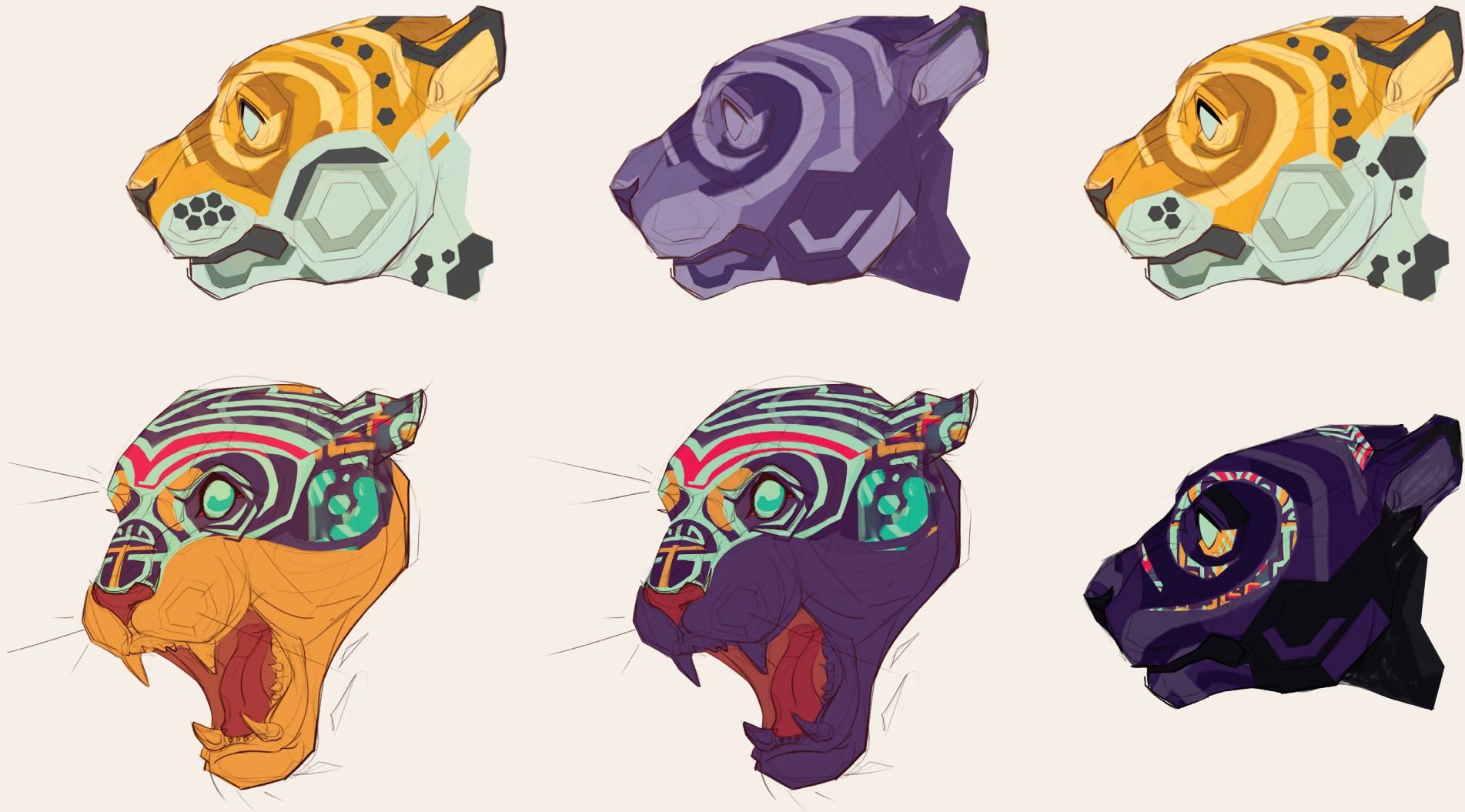


Figure # Exploring the head of the Jaguar.



Figure # Jaguars in a Blue Sky face 1.2.

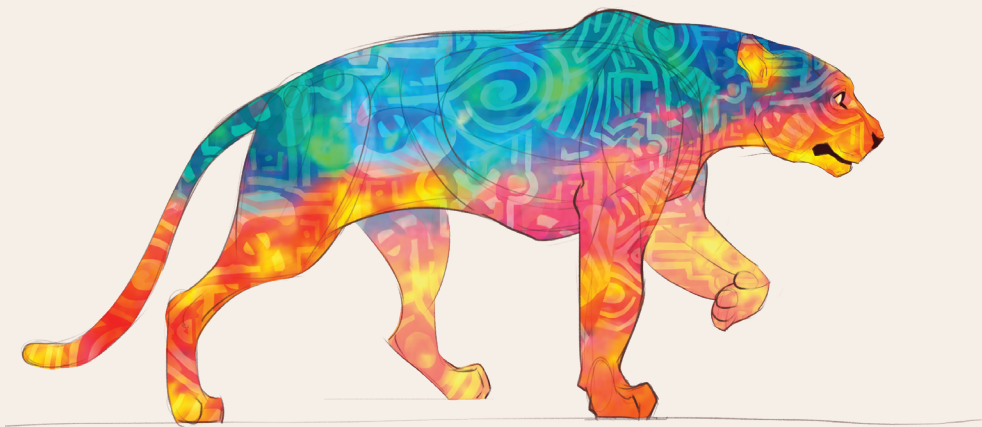
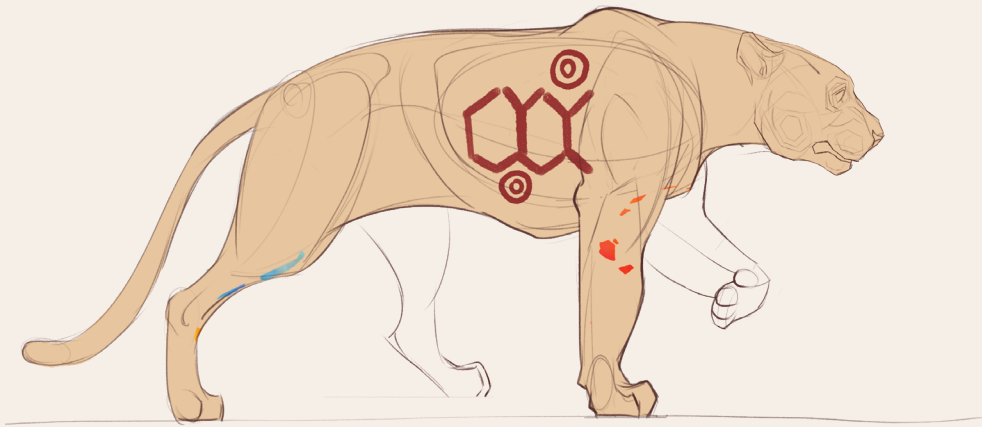


Figure # Jaguars in a Blue Sky face 3.



Figure # Jaguars in a Blue Sky face 4.



Figure # Hero Pose.



Figure # Jaguar Turnarounds.

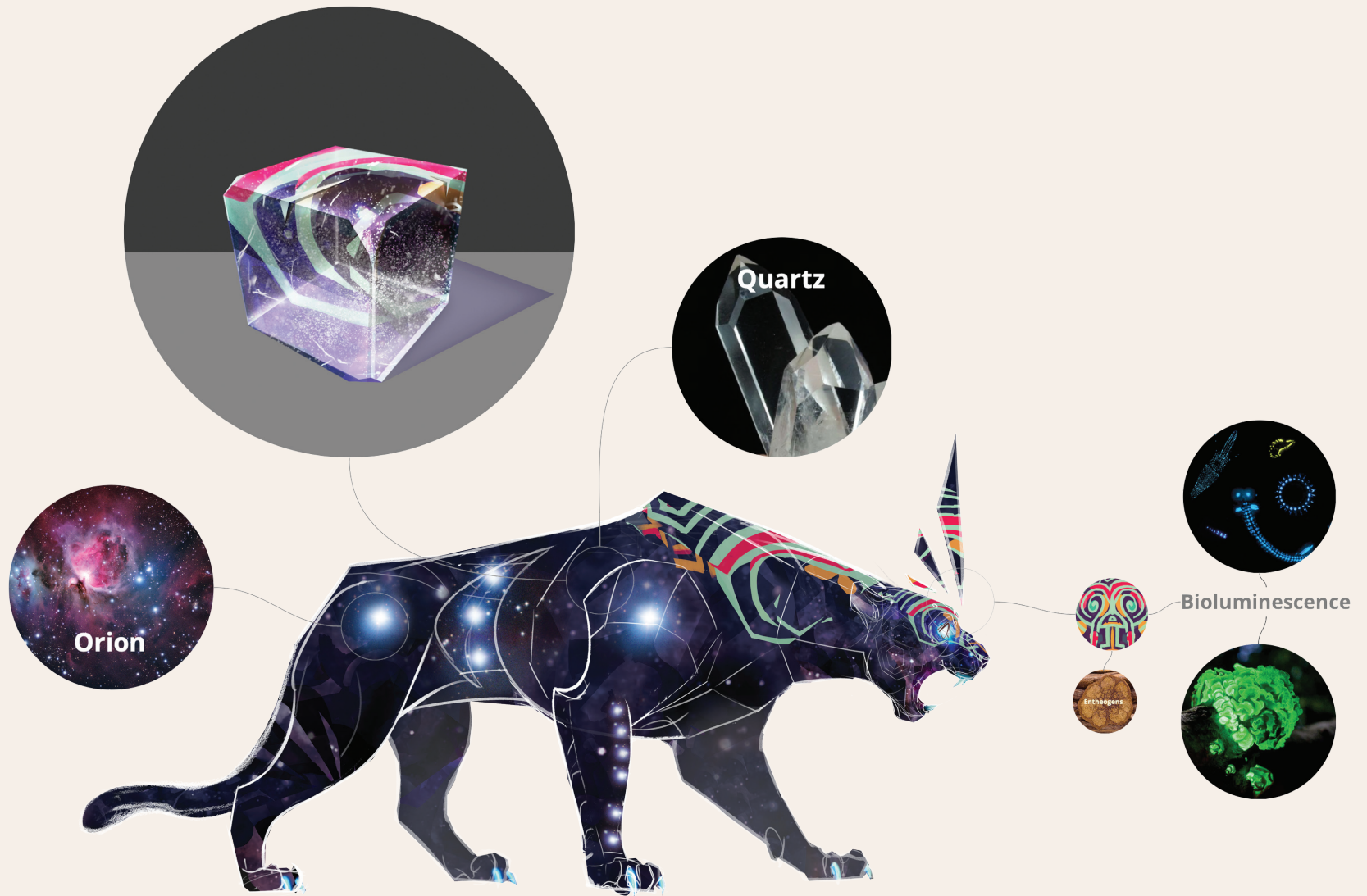


Figure # Jaguar Material Callouts.



Figure # Diagram of the size of the Jaguar.

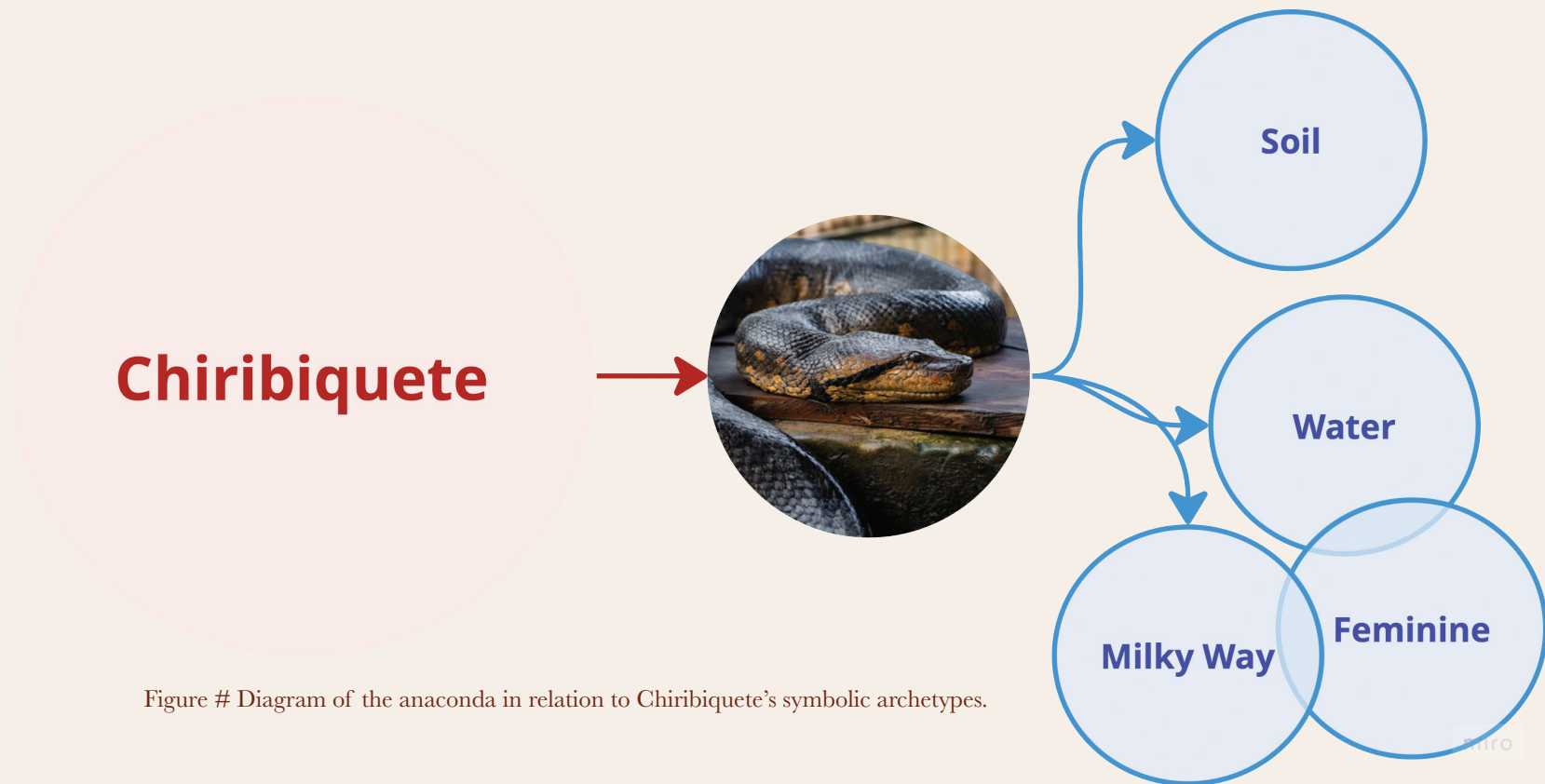


Figure # Diagram of the anaconda in relation to Chiribiquete's symbolic archetypes.

For me, as a woman, representation of the feminine is fundamental. So, despite my love for cats and that my guidebooks are Zoro and Chiribiquete, the cosmic Maloca of jaguar-men, I decided to enhance the little I found about female representation in both books. As a consequence, Melide became one of my priorities in the design.

Remember that Chiribiquete means "Solar house of the star swarm" or "House of the solar swarm" (Castaño-Uribe 360). For that reason, I decided to prioritise the ideas that Castaño Uribe mentioned in relation to the Milky Way and the river, making Melide a river that not only reflected the stars but also contained them.

Later, when I decided that human characters must be represented by working in connection with communities that want to be involved in a project like this one, I turned Mélide into a giant Anaconda. By converting Mélide into a creature, I return to a closer reference to the cosmogony of Chiribiquete, "Yakumama" from Peruvian Amazon mythology in which this took place. This creature is a giant Anaconda made of Water. Additionally, another character from Ghibli Studios pop up as a referent (The Kami River) Nigihayami Kohakunushi (Haku) from the movie Spirited away.



Figure # Melide Hero Pose.

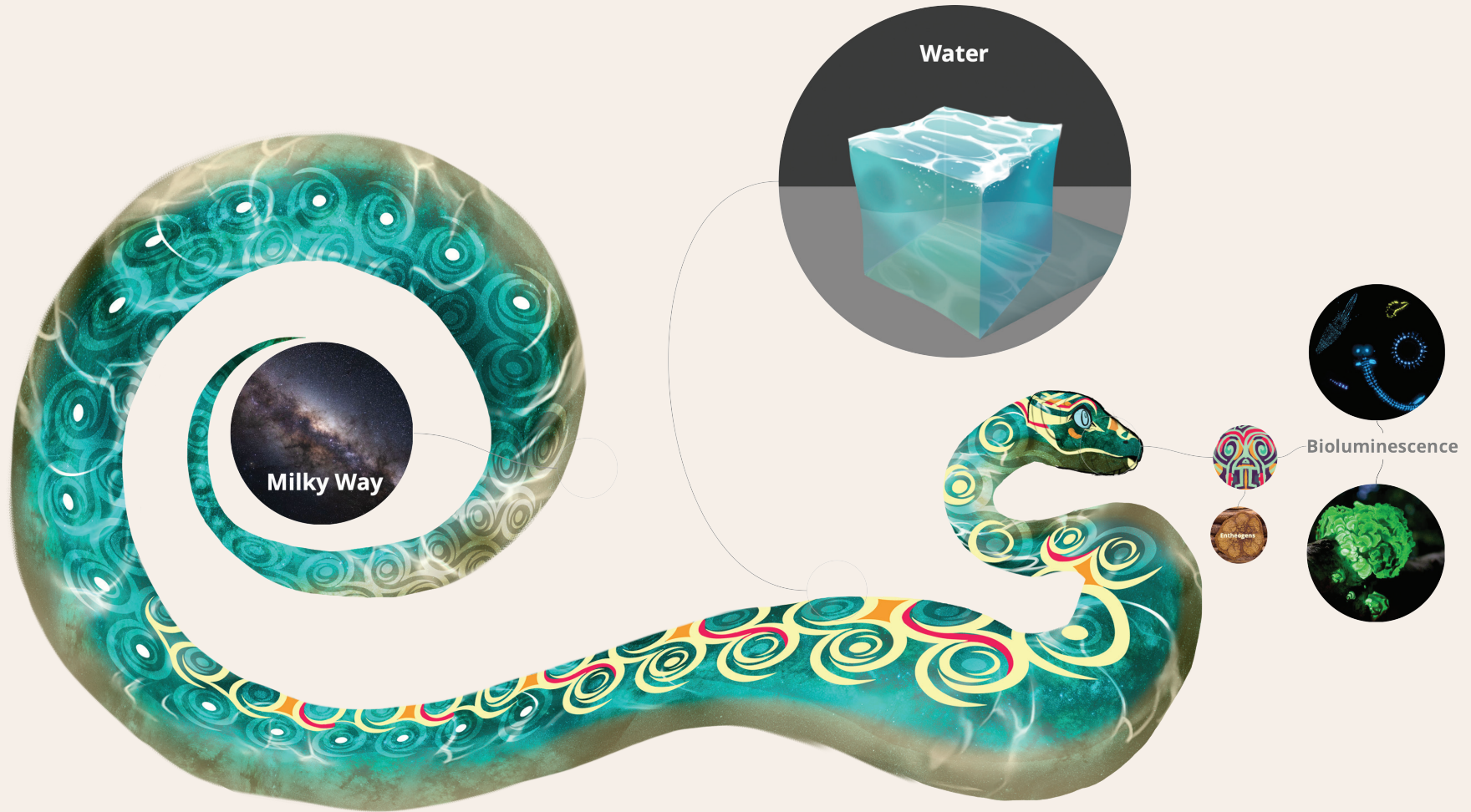


Figure # Melide Material Callouts.

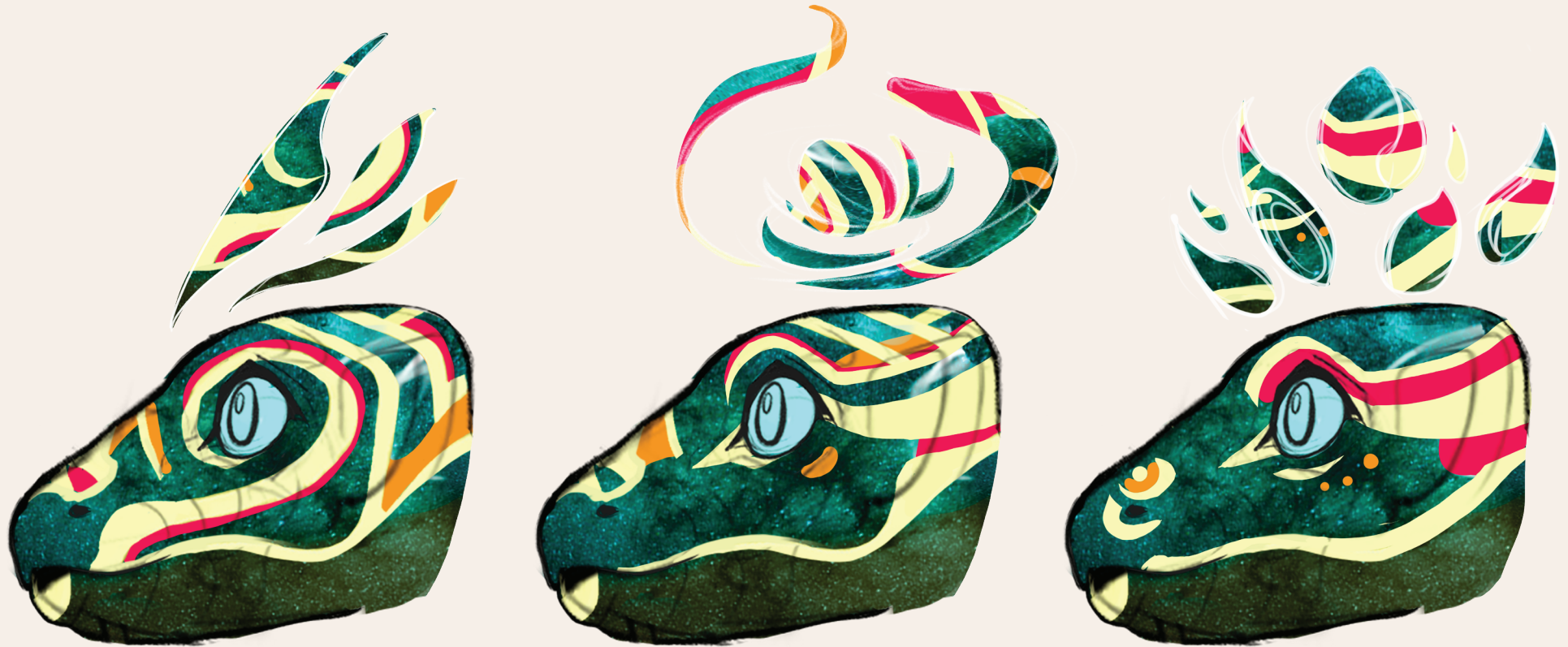


Figure # Melide Celestial Crown.

Callicore Cynosura



River Connection



Butterflies and flowers



Amazon Woman



Rock Art



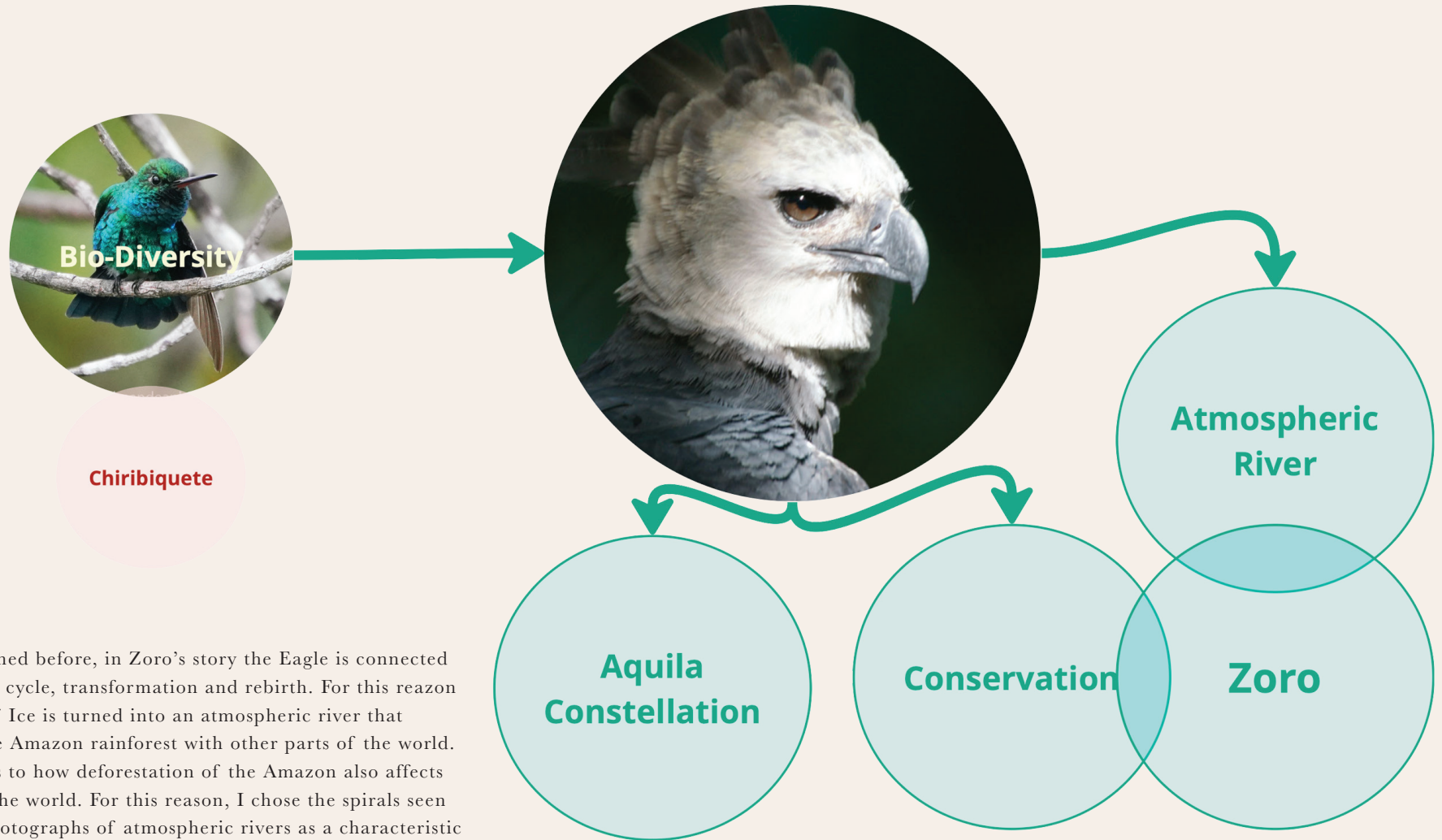
Hair full of flowers



Amazon Woman



Figure # Early designs of Melide in her human form.



As I mentioned before, in Zoro’s story the Eagle is connected to the water cycle, transformation and rebirth. For this reason the Eagle of Ice is turned into an atmospheric river that connects the Amazon rainforest with other parts of the world. This, relates to how deforestation of the Amazon also affects the rest of the world. For this reason, I chose the spirals seen in NASA photographs of atmospheric rivers as a characteristic symbol for the eagle’s design.

The Eagle represents the connection of the Amazon rainforest with the western culture, therefore the Eagle is directly based in Aquila constellation

Figure # Diagram of the Eagle in relation to conservation and Chiribiquete.



Figure # Eagle of Mist Hero Pose.

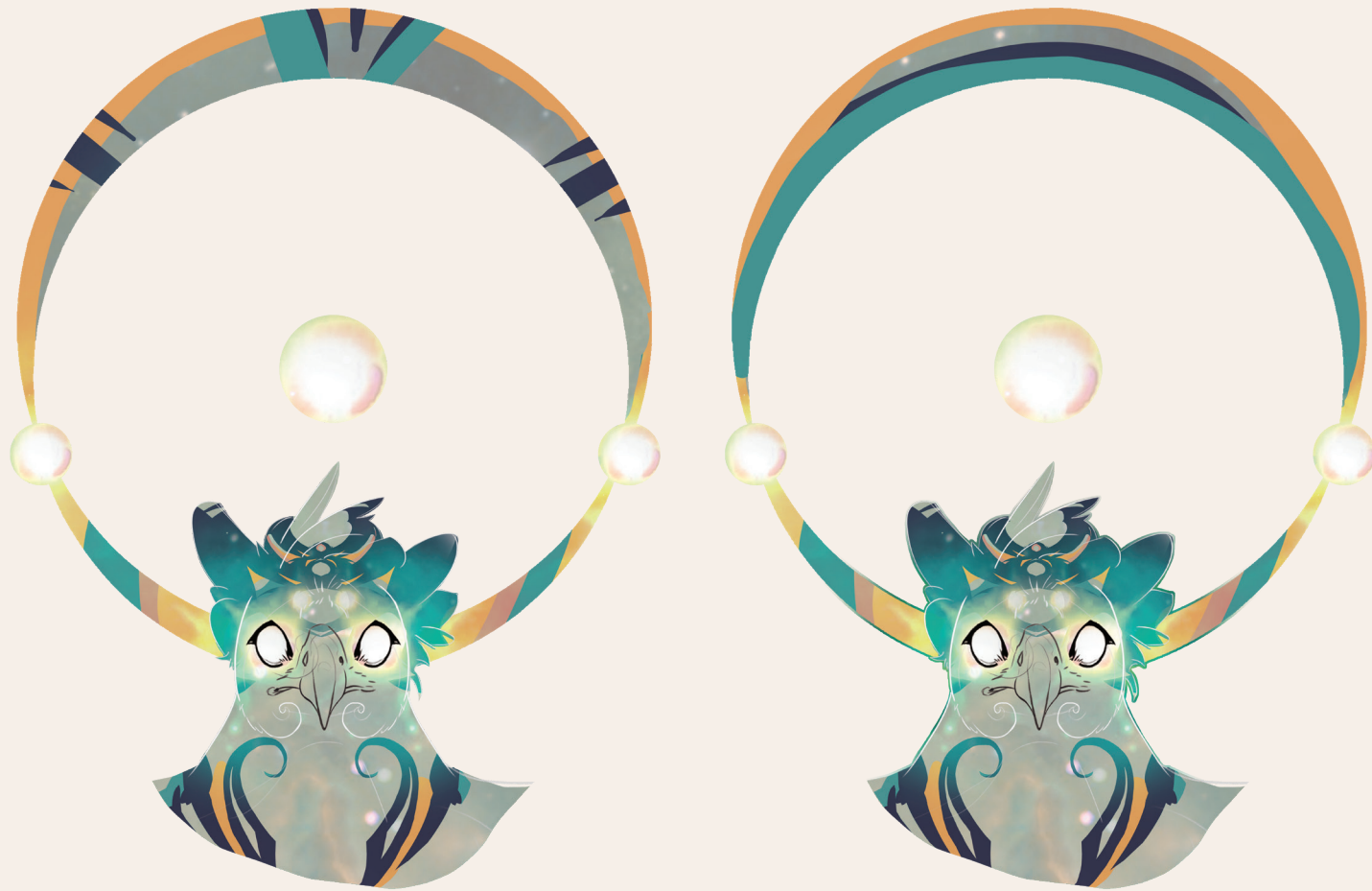


Figure # Eagle of Mist Celestial Crown.



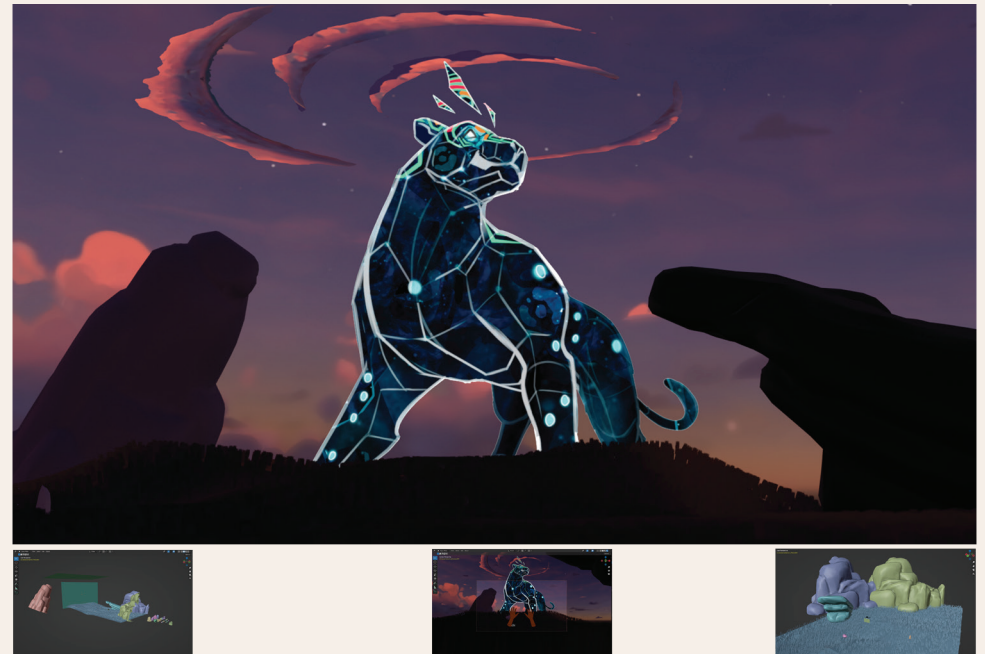
Figure # Eagle of Mist Face variations.



Figure # Eagle of Mist early designs.

## 9.4 VR display

The final idea of the location-based experience consists of three short games. The first one would feature the Jaguar teaching us how to protect Chiribiquete from what is threatening it. The second one is with Melide, focusing on the importance of the river in connection with other regions. The final game is played with the Eagle teaching us how the Amazon rainforest is connected with every other region through rivers in the sky and how the deforestation of the Amazon also affects Global Warming.



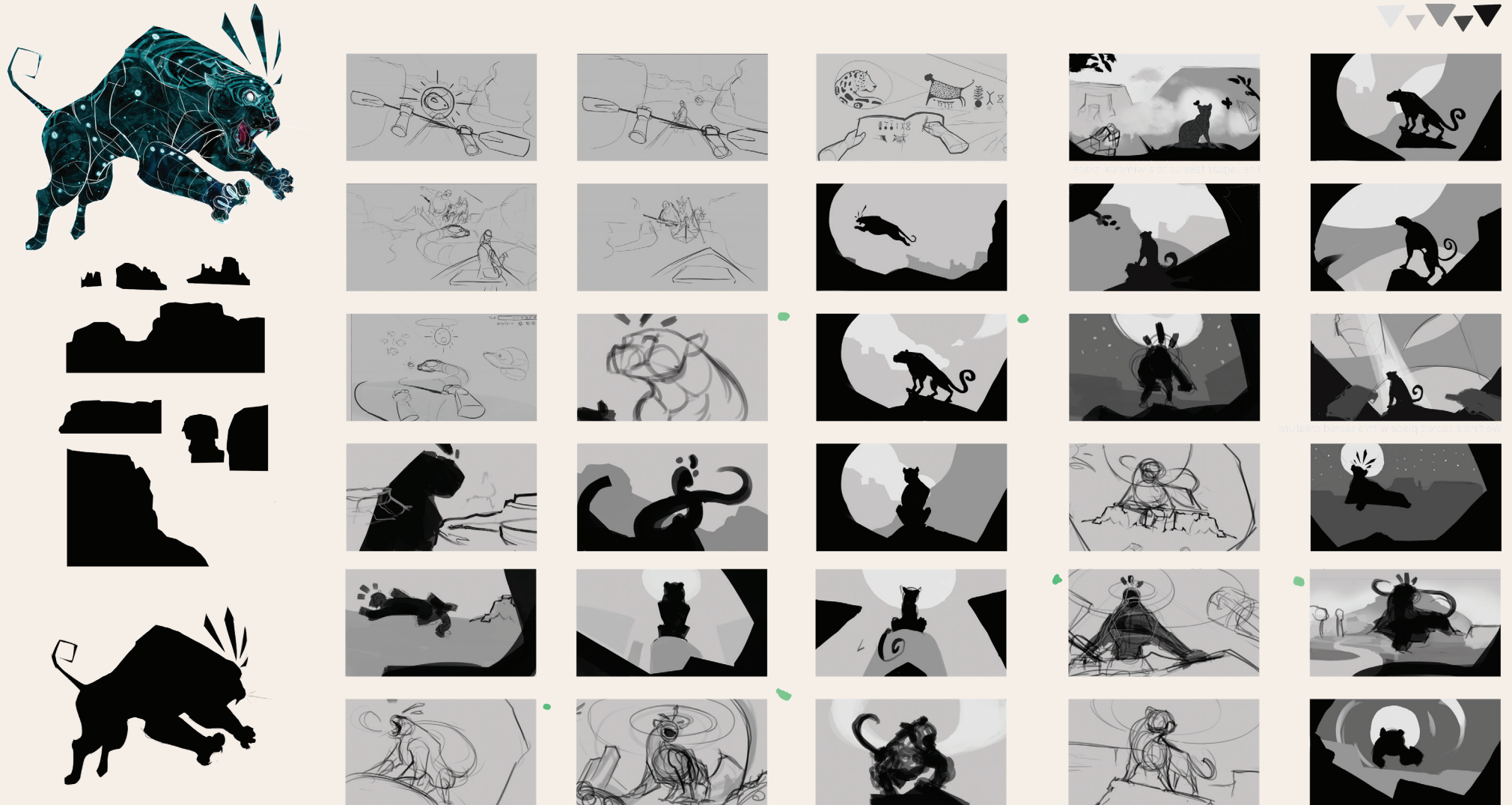


Figure # Thumbnailing the VR Experience.

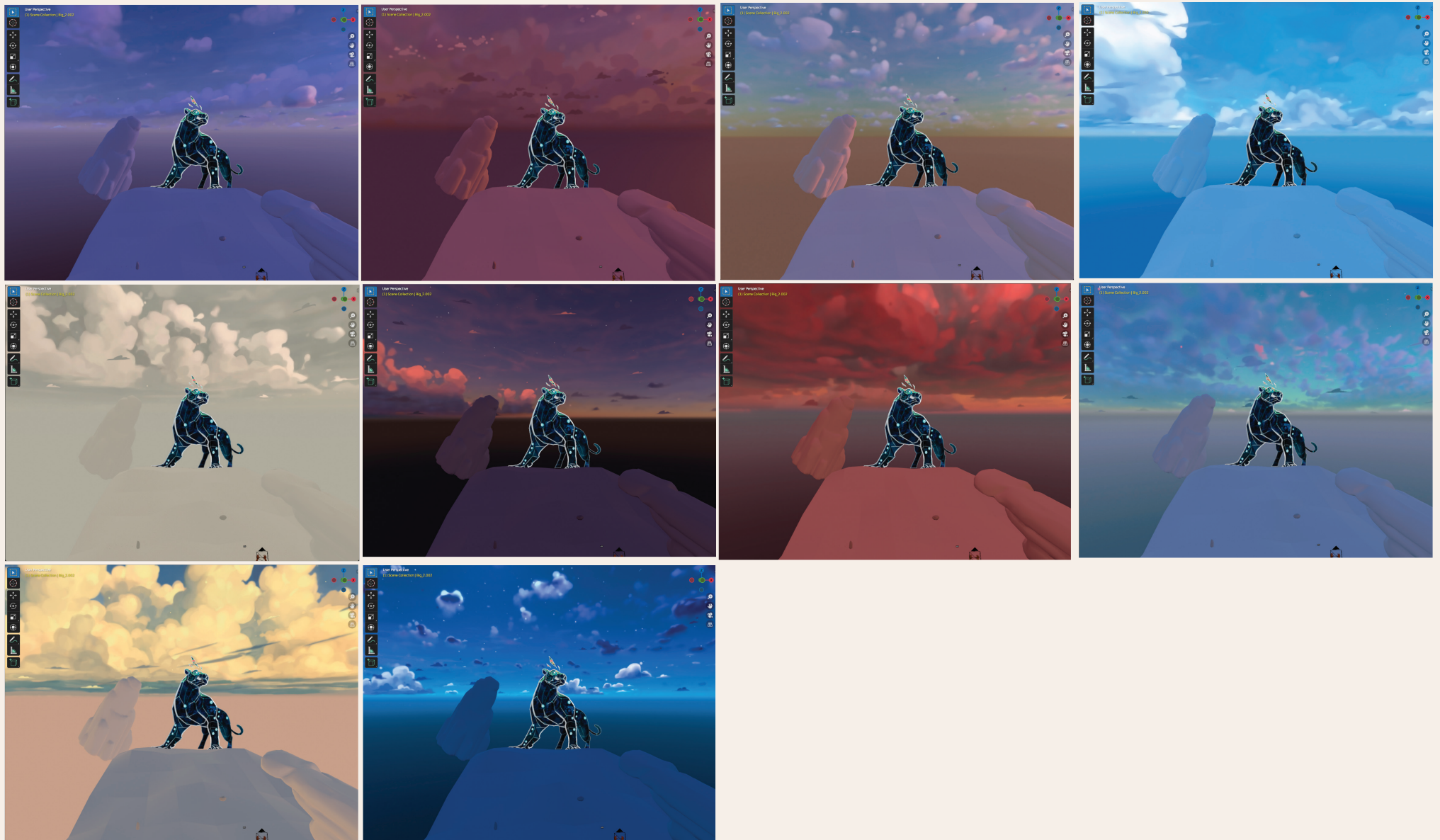


Figure # Color Variation of the VR Character in situ  
HDRI of the Sky design by Liya Bohnat.

## 10. Findings, Conclusions, Trajectory

### **My Design findings**

This project would be presented as part of a proposal for the design of a location based experience located in the Gold Museum of Bogotá to collaborate with organisations that are working directly with the communities in the vicinity of Chiribiquete National Park.

This project focuses on the design of the creatures because, to be respectful of the communities, the sacred nature of the pictographs, and the complexity of concepts like Eneogenous, other aspects of the project must be developed with the organisations and communities that want to be involved in a project like this one.

Although I am interested in generating stylised and unique designs that do not necessarily replicate the animal scientifically, they do have to have a sufficient resemblance to the species that are being represented. By facing the challenge of not using Chiribiquete's pictograms as a direct reference, I found my own aesthetic path as a designer and fantasy artist. One of the key learnings from this project is my desire to narrate my country and who I am as a Colombian from diversity. From a perspective that celebrates difference and

otherness, that helps us to preserve the biodiverse country in which we live. Despite not understanding other cosmogonies and encountering the cultural barriers that we Westerners have with the indigenous world, I can learn to articulate something that we all need—and that is conservation and caring for our environment.

Anthropomorphised animals that are based on the Cosmogony of Chiribiquete can generate an identity impact on adolescents that, in future, might generate a sense of belonging around the park.

Through anthropomorphisation creatures allow us to translate quite complex concepts into symbols and archetypes, Inspiring curiosity with cultures that are different from ours, and in this way be more respectful of their symbology and the differences with the western world.

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