

Visual Narratives and Emulating Architecture

by
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Lands of the North

Alberwood
Cascades

Lastview
White Brook

Danwin Sea

Merifail Woods

Violet Fields

Latcher Passageway

Western
Grasslands

Daemarrel Woods

Dewgull

Scarlets Range

Daemarrel

Millock

Eastern Canal

Fordcook Woods

Arcton

Ormskirk

Windborne Cove

Arith

The Old Fields
and surrounding Lands

Abstract



This thesis will examine how architecture is used in videogames to tell stories. It will explore how we, the player, make references and connections to the real world and our own experiences. Architecture becomes a reference, an emulation designed to trigger memories in the player, forming a relationship between the lived-in world and the digital world. Similar to progression in a movie, the buildings in games do not always serve a function as they do in the actual world; however, it is still necessary to suspend the player's disbelief, enveloping them into the game space. Video games offer the possibility of reflecting upon what it means to experience a place. It allows us to immerse ourselves into an environment; architecture— both landscape and structure — plays an integral part in conveying the game narrative. This project aims to explore this hypothesis by creating a game proposal.

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Section 1: What is a Narrative?

Introduction



In our day-to-day life, we use different forms of media as a way to transport ourselves to other worlds; to the imagined worlds translated by words in books, worlds brought to life through the big screen, and worlds we can experience through the realm of video games. Games did not always have a narrative; earlier games were mainly focused on the gameplay, such as *Pong* (1972), *Tetris* (1984), *Blockade* (1976)—as we know today as *Snake*, *Space Invaders* (1978), and so on (Akagi 28,33,38,43). However, the 2D platformer game *Donkey Kong Arcade* (1981) would change that for the gaming world. It was the first game to present a **narrative**, where the main character, Mario, has to save his girlfriend Pauline from Donkey Kong after being kidnapped. The game introduced the use of **cutscenes** as a mode of storytelling, creating the first digital narrative. The game starts with an animation of Donkey Kong abducting Pauline, setting up the premise for the rest of the narrative (Guinness World Records). These cutscenes allow the player to take breaks from gameplay, giving them time to process the information being given to them. In addition, to experiencing a game, the game should balance the players' freedom so that they enjoy

Narrative

A way of presenting or understanding a situation or series of events that reflects and promotes a particular point of view or set of values (Narrative Definition & Meaning).

Cutscenes

A non-interactive phase in a video game that interrupts the gameplay. These scenes are used to depict character interactions, set the tone, reward the player, introduce newer models and gameplay components, demonstrate the consequences of a player's actions, create emotional ties, improve pacing, or foreshadow future events (Hancock).

the game while maintaining the narrative, revealing plot points to keep the player engaged with the overarching story.

Games such as *Dear Esther* are examples of games that heavily rely on storytelling. "A deserted island...a lost man...memories of a fatal crash...a book written by a dying explorer." This first-person experience allows the player to roam an uninhabited island as a mysterious voice reads the "letters to Esther" to them (*Dear Esther*). This **walking simulator** gameplay focuses on the player moving around the environment exploring and making discoveries. This game in particular has no actual game function, nor quests, games, or puzzles for the player to decipher to proceed to the next stage. With minimal game mechanics, the game is essentially a visualized work of fiction. In any case, *Dear Esther* is still considered a video game, though there is a debate between **ludologists** and **narratologists** on whether games express meaning through mechanics or the structure of the narrative (Watts).

Walking Simulator

Players can experience the storyline through exploration and discovery in narrative games that forgo any sort of gameplay other than mobility and environmental interaction (Watts).

Ludology

The study of games and gaming, especially video games (*Ludology: Meaning & Definition for UK English*).

Narratology

The study of narrative structure. Narratology looks at what narratives have in common and what makes one different from another (*Narratology*).



Figure 1 *Dear Esther* in game screenshot.

This thesis will consist of three explorations which will help make sense of the end design product.

1. Examining what is a narrative

Understanding types of narrative structures, how do we understand them and how do we form links to our own experiences.

2. Game analysis

Playing through existing games, taking note of the ways a narrative can be told through the environments

3. The Game Design Document (GDD)

Finally my own attempt at making a “video game”. This project aims to end with a GDD, essentially a blueprint for a video game, focusing on the “levels/ environments”. This document will include the different “levels/areas of the game”, and detailed descriptions of each level including concept drawings, models and maps. The goal is for the player to connect to the areas in the levels and through implicit storytelling gather information about the space.

Game Design Document

This serves as a template for your video game’s development. It aids in the defining of your game’s scope and establishes the project’s general direction, ensuring that the entire team is on the same page. (*Game Design Document Template and Examples*).

Things, Objects, Memories



How are objects used to provoke memories? When we are in the **virtual world** of the game, we use our real-life knowledge to process what we are seeing. In our everyday lives, we experience places, things and objects. These things we see we relate to society, nature, history, or culture; meanings change according to the individual. When we see these “things” we give them meaning which allows us to use them as facts (Brown 4). We use this kind of memory to give meaning to what we see in the game space, retrieving memories from our episodic memories. Episodic memory is a neurocognitive (brain/mind) system that allows humans to recall past events (Tulving 1). It allows us to mentally time travel through our memory, allowing one to re-experience one’s own earlier experiences. Its operations rely on the semantic memory system (long-term memory of facts, information and meanings that is not related to any specific event personally experienced in the past (Semantic memory)) but go above it (Tulving 5). Object–location memory is a form of episodic memory that reflects a type of contextual memory in which object (identification) information must be linked to location information (Lupker 1341).

Virtual world

Is a computer-simulated environment that can be occupied by users who can explore the virtual world and participate in its activities through an avatar/online character (Techopedia).

This type of memory is processed through three steps; (a) object processing, retrieving the memory associated with the object (b) spatial-location processing, retrieving the memory associated with the space and (c) object to location binding, placing that object in the space (Lupker1339).

Understanding Narratives



“Simply put, the narrative is the representation of an event or a series of events.” H. Porter Abbott explains in *The Cambridge Introduction to Narrative* (Porter Abbott 13). People have been telling stories for as long as time, stories about our ancestors, legends, myths, fables and so forth. These stories were passed down for numerous reasons; for educational purposes, for instilling moral values or simply for entertainment. Since then, we have begun to record some of these stories, studying these narratives. Aristotle suggests several principles which contribute to formulating a narrative. One of which is that narratives should consist of a beginning, middle and end. A beginning where the characters are confronted with an issue, a middle where they then struggle to solve the issue, and a conclusion in which the problem is resolved (Aristotle).

In today’s day and age, storytelling has become such an essential component of how we understand events. It is found in various forms; from books, musicals, television, and is now seen more in the digital space through video games.

Because we recognize that every incident in our lives

can be conveyed through a narrative, we begin to think of everything as a storyline. While speaking has long been the primary means of storytelling, today, we consume narratives prominently through digital media, particularly television and (more recently) video games. Helen Fulton summarizes this well by writing,

"In a world dominated by print and electronic media, our sense of reality is increasingly structured by narrative. Feature films and documentaries tell us stories about ourselves and the world we live in. Television speaks back to us and offers us 'reality' in the form of hyperbole and parody. Print journalism turns daily life into a story. Advertisements narrativise our fantasies and desires."
(Fulton 1)

Narrative Structures



When discussing narratives, there are several types of ways narratives can be structured. Jesse Schell demonstrates the “string of pearls” method of visualizing a narrative timeline. Schell explains,

“The idea is that a completely noninteractive story (the string) is presented in the form of a text, a slideshow, or an animated sequence and then the player is given a period of free movement and control (the pearl) with a fixed goal in mind. When the goal is achieved, the player travels down the string via another noninteractive sequence to the next pearl, in other words, cut scene, game level, cut scene, game level” (Schell 298)

Three common narrative structures seen in video games are linear narratives, non-linear narratives and branching narratives. Linear narratives traditionally move from one event to another in a single movement with no deviations. An example is games in the *Pokémon* series. Each game plot begins with the main character being given a pokémon to train, then through gameplay, they capture and train more pokémon, and then story events are triggered by gym battles. This gameplay and event sequence continues until the final pokémon

battle, ending the storyline. Non-linear narrative structures provide the player more freedom when playing the game; they are typically given the option to take different paths to the same end goal, explore separate subplots and play through optional side quests. Open world **RPG** games generally take on this structure, such as the *Final Fantasy* or *Assassin's Creed* series. Finally, the narrative structure that branches into multiple story ends is where the player is given multiple options throughout the plot, and each decision will affect the narrative ending. This format is typically seen in visual novels type games; however, games like *Detroit: Become Human* follow this method of gameplay as well (Schell 299).

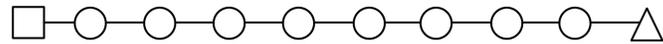
RPG

Role-playing game, a video game genre in which players progress through a story objective and typically several side quests, gaining experience that enhances various traits and skills for their character or party of characters (*Role-Playing Video Game*).

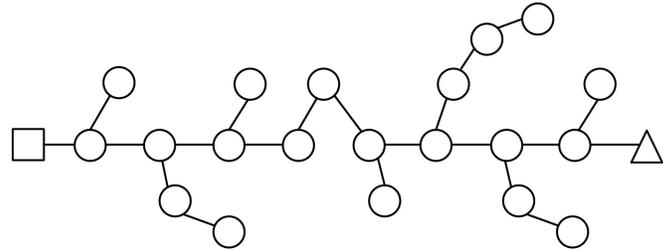
Narrative Structures



Linear



Non-linear



Branching

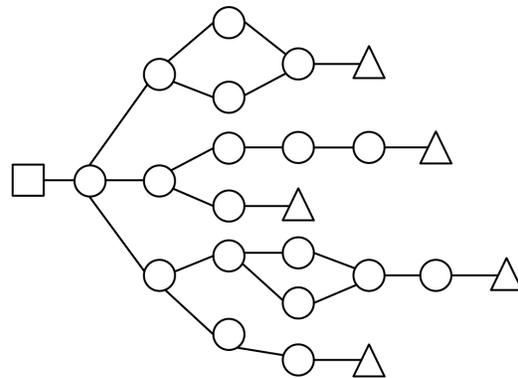


Figure 2 Narrative Structure diagram.

Narratives Models used in the Game Space

“Game designers don’t simply tell stories; they design worlds and sculpt spaces (Jenkins 121).” Henry Jenkins is a Professor of Communication, Journalism, Cinematic Arts and Education at the University of Southern California. In his article “*Game Design as Narrative Architecture*,” Jenkins attempts to bridge the two sides of the **Ludology-vs-Narratology -feud**. According to Jenkins, every game does not always want to tell a story. Nonetheless, many do. Jenkin’s main objective with the article is to propose the idea that spatiality is an important new aspect of the study of games and narrative and sets up four ways these immersive narratives are experienced. First, evocative narratives where spatial stories can provoke pre-existing narrative connections. Second, enacted narratives function as a staging ground for narrative events. Third, embedded narratives incorporate narrative information within its “stage set.” Lastly, emergent narratives are where the player is given the resources to create a narrative (123). Although these four models are not solely the only way games can express narratives, they can also take on elements from each other.

Ludology-vs-Narratology -feud.

Ludologist is a person who believes games should be studied as games. While a narratologist is a person who studies narrative and believes games should be studied as narrative (Cobb).

The Evocative

Evocative narratives build upon traditionally well-known genres and stories so that the player makes connections to these pre-existing narratives. In his essay, Jenkins compares this to amusement park-themed attractions, for instance, the ones in Disneyland. The park sets the stage for the world and counts on the visitor to fill in the rest, luring the audiences in with their familiarity. This same strategy is used in video games, for example, the game *American McGee's Alice*, an interpretation of Lewis Carroll's *Alice in Wonderland*. In the McGee's version of *Alice in Wonderland*, Alice has been driven insane after years of questioning whether her time in Wonderland was real or all a hallucination; she ends up back in through the looking glass, but this time she is on the hunt. In contrast to Carroll's whimsical version of Wonderland, McGee's Wonderland is a tragic nightmarish realm. McGee relies on the fact that the player will have prior knowledge of the world, spaces, characters, and events in the original *Alice in Wonderland* fantasy world. Hence, making connections to the redesigned distorted spaces in the game (123,124).



Figure 3 Lewis Carroll's *Alice in Wonderland*.



Figure 4 *American McGee's Alice*.

The Enacted

Enacted narratives function as “a staging ground where narrative events are enacted,” an approach in which stories “may be structured around the character’s movement through space and the features of the environment may retard or accelerate that plot trajectory” (129). In Jenkins terms, enacted stories highlight the importance of progression in video game narratives through environmental storytelling and spatial exploration. Jenkins also brings up the concept of “micro-narratives.” Micro narratives can take the form of a specific incident in the game, for example, or they can be some kind of emotionally impactful event. These instances can take the form of cutscenes, conversation, interactable items, **NPCs** and so on (125).

NPC

Non-playable character. Any character in a game that is not controlled by a player. (The Next Generation 1996 Lexicon A to Z).



Figure 5 *Before Your Eyes*, (in game screenshot) an example of an enacted narrative, the players progress through the story making decisions that affect the narrative.

The Embedded

Henry Jenkins compares embedded narratives to films where the viewer can “assemble and make hypotheses about likely narrative developments on the basis of information drawn from textual cues and clues.” “[A] story is less a temporal structure than a body of information.” This means that information can be collected in a number of different ways. “[A] game designer can somewhat control the narrational process by distributing the information across the game space.” Embedded narratives are essentially stories within stories; information is provided to the player in this manner across a variety of objects and spaces. On the other hand, the player is not expected to discover or recognize the significance of any particular aspect (126). Walking simulators are a subgenre where this type of narration appears, as the player walks through the environment making discoveries looking to trigger events. An example which incorporates an embedded narrative would be the game *What Remains of Edith Finch*, which will be later discussed in detail in a subsequent section.



Figure 6 *What Remains of Edith Finch* in game screenshot.

The Emergent

Emergent narratives do not have pre-structured narratives. Instead, the story takes shape through gameplay, an approach in which “game spaces are designed to be rich with narrative potential, enabling the story-constructing activity of players.” This model implies that the players have some authorship over the narrative, allowing them to design their own stories and goals they will experience through gameplay with the assets provided by the game. Stories arise as a result of a player’s choices and actions within the game environment, offering room for different possibilities (129). *The Sims*, a sandbox simulation game (meaning elements are given to the player to create freely), is an example of having an emergent narrative. In the case of *The Sims*, players can create Sims characters and buildings to place in the world, giving the player autonomy over what sort of plot occurs in their world.



Figure 7 *The Sims*, in game screenshot interior from the gallery.

Section 2: Game Analysis

Video Game Analysis



We experience video games through the characters we play, taking part in their journey alongside them taking in the virtual world. To develop a plan for my own game, first, I need to look and play through existing video games. Playing through several games to experience firsthand how the relationships between the game environment and narrative work together, taking note of what role architecture takes. When playing through these games, I plan to examine the function of implicit storytelling— visual cues that create an impression of a story — and explicit storytelling. This analysis will result in a series of evidence boards, taking note of the different spaces I will observe in each space, theorizing what they may allude to, any sort of repetition through the game and so on.

When choosing which games to play, I decided to choose games that were at different scales. *The Legend of Zelda: Breath of the Wild* at the scale of the world, *Everyone's Gone to the Rapture* at the scale of a town and *What Remains of Edith Finch* at the scale of the home. Diversifying the scale in which these games were developed showcases the ranges of details the game

designers tend to put into each space. This analysis aims to make discoveries on how these games use architecture to tell a story and how I can take these pieces and implement them into my own game.

The Legend of Zelda: Breath of the Wild

at the World Scale



The Legend of Zelda: Breath of the Wild or *BOTW* is an open-world RPG based on the adventure game series of *The Legend of Zelda*. In this game, you play as Link, who has woken up after a 100-year slumber to a Hyrule that has been taken over by Calamity Ganon. It is up to Link to travel around Hyrule Kingdom to find a way to defeat Ganon. When playing through *BOTW*, I noticed the real-world influences of some of these fictional locations, ranging from cultures and regions to types of architecture and belief systems.

Hateno Village

Hateno Village is one of the two Hylian settlements that survived the Great Calamity. The vernacular architecture is arranged the same for most of the buildings, rough-cut stone foundations, stucco exterior walls, small windows with blue shutters, gable roofs and tall chimneys attached to the side of the structure. These characteristics take inspiration from the countries of southern Europe, notably small, traditional villages in Italy, Spain, and Greece.



Figure 8 Hateno Village in game screenshot.

They take inspiration from southern Europe, but the Bolson Construction company's new home models are influenced by modern prefabricated and modular architecture. These homes comprised cubes and rectangular prisms; each piece was meant to be a separate room in the space, i.e. living space, bedroom, etc (Talbot, Hateno Village and the Ancient Tech Labs)

Gerudo Town and the Great Desert

Gerudo Town is the main settlement of the Gerudo Desert and consequently the Gerudo people. As the town is walled in and holds the Gerudo royal palace, it is a landmark, differentiating it from the rest of the desert. The desert biome is influenced by middle eastern cultures, more specifically modern and ancient Egypt. The town is similar to medieval mud towns like Al Qasr in Dakhla Oasis, comprising collections of low buildings enclosed by a large wall. The town consists of a large main courtyard where merchants sell their products. Stores and rental shops make up most of the town, but there are also schools, an inn and a bar. Awnings, decorative rugs and other hanging textiles decorate the town's walls, with bluestone mosaics lining the bottoms (Talbot, Gerudo Town and the Great Desert).



Figure 9 Gerudo Town in game screenshot.



Figure 10 Gerudo Desert in game screenshot.

Zora's Domain

Zora's Domain serves as the home of the aquatic race

known as the Zora. Zora's Domain is a single large construct rather than individual buildings, unlike other towns in the game. It has a series of curving bridges and open spaces, which are often bordered by colonnades rather than walls. The structure of the Domain contains a substantial amount of Luminous Stone (a glowing local stone used in both armour and architecture).



Figure 11 Zora's Domain in game screenshot.

The architecture style takes inspiration from the Art Nouveau era, which broke from tradition and created a new style. Inspired by nature, Art Nouveau takes on vegetal shapes and makes use of flowing and organic lines, taking many curves in whimsical motions. Elements from jewelry making and metalworking in the art nouveau style are seen in the stained glass inspired structures and columns, also tying back to the Zora themselves, who are jewelry makers/ have a close relation with jewelry (Talbot, Zora's Domain).

Goron City and Death Mountain

Goron City is the home of the Goron Tribe. They are located in the far north-east on Death Mountain, at the base of a volcano. The land inhabited by the Goron is minimally altered by them, making only a few interventions in the landscape, arranging bridges and walkways. Dwellings are situated within rock caverns marked in fronts with steel arches, most likely leftover material from mining construction. The architecture is naturalistic and embedded into the landscape, using what is provided and found within the area. Ties to the



Figure 12 Goron City in game screenshot.

real world can be seen in the landscape and path leading up to the villages. The red rocky landscape and naturally formed archways are similar to those in Rock Bridge of Kharaz in Jordan or the Corona arches of Utah.

The Goron's primary industry is mining. Several mining operation bases can be distinguished throughout the landscape by metal wrapped around rocks, a few metal structures and bridges and mining rails and carts (Talbot, Goron City and Death Mountain).



Figure 13 Death Mountain mining operation in game screenshot.

Rito Village

The Rito Village is the home of an avian race known as the Rito. Located on a large stone pillar emerging from a lake's center, the village itself is up along the stone pillar, spiralling upward, housing a few dwellings, shops and take-off platforms. The Rito have a rich background based on Andean culture, especially seen through the textiles and pottery around the village. The form of the dwellings are influenced by how we understand birds. Their homes are designed similarly to hanging birdcages, hanging by chains off the sides of the stone pillar and are anchored to the wooden walks. The roofs of the dwellings are reminiscent of nests, being composed of rough planks of wood, twigs, and straw (Talbot, Rito Village and the Wild's Frontier).



Figure 14 Rito Village in game screenshot.



Figure 16 BOTW evidence board page 2.

Everyone's Gone to the Rapture

at the Town scale



The world ended 37mins ago.

Yaughton, Shropshire. 06:37 am 6th June 1984.

Everyone's Gone to the Rapture is an open-world game set in an empty town in the countryside of Shropshire. You play as an individual investigating the non-linear narrative, discovering the events that occurred before the townsfolk's disappearance. Strange voices are heard through the radio, and a mystery light guides you through the town, recreating memories burned to the landscape (*Everybody's Gone to the Rapture*). Some general observations I made while playing through this game is that this game is meant to feel like there are no borders. They are immersing the player into the thought of the town as being a real town in a real country, even though the game design places camouflaged boundaries around the areas that are not necessary for the player to explore. The player is given full autonomy over where they move in the space and in what order they do it. Barriers may restrict access to particular areas, although they are frequently embedded into the game's structure or shown as in-game architecture with clearly defined borders. Though there are borders, the game gives us the feeling



Figure 17 *Everyone's Gone to the Rapture* in game screenshot. Event triggered by the player while exploring. A memory imprinted in the space plays out through the light.

of empowerment when navigating the environments (Gazzard 8). Using the architecture to guide the player around, maintaining the player's **suspension of disbelief** makes the player believe that the world could be infinite; however, it is up to the game designer to dictate how much freedom of exploration the player has. Using everyday objects and landscapes to close in the playable areas, for example, if the environment were a barnyard, the designer could use objects such as hay bails, machinery and fences to block in the playable areas. In the case of *Everyones Gone to the Rapture*, some doors are closed if they are not meant to be explored. There are road closures with barricades with signs posted mentioning the road is closed due to the town being quarantined (adding to the narrative). Strategically place fences and cliffs to create boundaries around the landscape. By creating boundaries, some paths are created as well. Alison Gazzard writes in *Mazes in Videogames: Meaning, Metaphor and Design*,

"These paths were often thought about in terms of what street they followed and how they combined with other landmarks such as the buildings placed along them. It was the architecture along the path that defined the memory of the street name, or other buildings in relation to the street, not the path of the actual street itself. However, it is only through the path that we can experience these acts of nature and/or architectural design (Gazzard, 23)."

Gazzard touches on how paths are used and how we begin to form these connections from travelling along these paths to the things we see along with them, such as landmarks linking back to how we process and make sense of the objects we view.

Suspension of disbelief

Accepting events or characters that would otherwise be unbelievable as believable for a short period of time. This is frequently done to allow an audience to appreciate works of literature or theatre that explore uncommon concepts (Martin).



Figure 18 Road closure barricade. Part of the game's boundaries.



Figure 19 Quarantine poster on a closed door, providing a reason to why you can not enter the building.



Figure 20 Everyone's Gone to the Rapture evidence board page 1.



Figure 21 Everyone's Gone to the Rapture evidence board page 2.

What Remains of Edith Finch

at the Home scale



What Remains of Edith Finch is a walking simulator where you play as Edith Finch. You will explore the Finch house, search for stories behind the Finch family's mysterious history and try to figure out why Edith is the last one in her family left alive. With each room, you explore and experience the life of a family member on the day of their death, with stories ranging from the distant past to the present day (*What Remains of Edith Finch*).

Observations that I made while playing this game was how many or how few details can be used to understand a story, whether or not it is the intention of the game designer to highlight every bit of information. Since this game is at a smaller scale, we get a closer, more in-depth look at each of the spaces and are given the time to explore and digest what we are seeing from our first impression. For example, looking at the home itself, it is filled with personality and is modelled after the "old home," which was brought over from Norway but had stunk just outside of the new property due to a storm. The "new house" was built by Edith's great-grandfather Sven. With each new member of the family, the house grew vertical, creating additions for the new family members, having the finished house resemble the Finch



Figure 22 *What Remains of Edith Finch*, the Finch family home is an extension of their family tree.

family tree. This connection implies a strong emphasis on the notion of “family” from the beginning of the game.

Another instance where the detail of the space adds to the narrative is one of the rooms, specifically Molly’s. When you walk into her room, your initial impression is that the room was lived in by a little girl by the twin-sized bed, pink walls and children’s toys. However, when you take a closer look at the details in the room, you can tell that Molly had an interest in the physiology of animals. For example, her desk includes a dissected starfish with a deer’s skull on top, bottles of scorpions, several drawings, as well as books and plushies of various animals. This theory is later strengthened by a dream sequence the game cuts to where we play as Molly imagines herself as being different types of animals.



Figure 23 Images of Molly’s room from various angles, detailing the characteristics of the room.



Figure 24 What Remains of Edith Finch evidence board page 1.

Conclusion



When playing through these games, I came across different aspects I had not fully realized just how much they affect the player's experiences. In *Breath of the Wild*, the different regions took inspiration from the actual world and we are able to use these references and connections to interpret the game spaces. *Everyone's Gone to the Rapture* presents how boundaries and paths are created by having the player still feel as though they have complete control over how they travel through the spaces. Finally *What Remains of Edith Finch* gives us an up-close and personal look at each family member. Using the details in each person's room as a showcase to whom that person was, allows the player to make connections to some of the cut scenes. They can use these details to construct an understanding of who these people were. These are just some of the aspects I will consider when designing my game.

Section 3 The Game

Section 3.1 Developing the Game



Before starting the game design document, I needed to develop an initial concept to expand upon. Making decisions on the genre of the game, the locations, story or stories and the game mechanics if this game were to be created. When deciding on the genre, I choose to go with the adventure fantasy genre. This genre of speculative fiction gives leeway in some of the more fantasy aspects I want to explore when designing the game. With starting this project, I plan to work in a reverse order; I plan to come up with the different spaces and stories behind these places and then add a plot that the game will follow. The environments I chose were a product of a process of elimination. I first made a list of general environments I have seen in other games and general media, such as; medieval towns, coastal villages, cyber/steampunk cities, forest communities and so on. The environments I ended up deciding upon were a provincial city, a fishing village, and a community that resided atop a tree. These environments were a good blend of different spaces seen in typical fantasy genres, a central city, a trading port and a naturalistic location.

Next in my process was to make of list of questions I plan on answering as I plan this game;

Questions:

- What narrative model will my game be following?
How and why?
- How will the architecture be telling a story?
- How will the player experience the space?
- How are these spaces being related to each other?

Furthermore, what goals I have in mind for developing the games:

Goals:

- Producing concept art
- Producing models of the environments
- Producing a series of maps showing the site, the playable areas, the paths the player may take etc.
- Producing a world history and a location history of each place
- Storyboards - the main narrative (the plot) and the subnarratives
- An animatic presenting how the gameplay will work

Genre



Typical games under the fantasy, RPG and adventure genres evolved from the influences of J. R. R. Tolkien's *The Hobbit* (1936) and *The Lord of the Rings* trilogy (1954) and the tabletop game *Dungeons & Dragons*. J. R. R. Tolkien's series of novels came to establish the "high fantasy" subgenre in fiction and established fantasy as a unique genre. These novels created a universe complete with its own customs, traditions, and history, all centred around a great battle. Among other things, sacrifice and heroism, love and grief, beauty and fear were all part of the adventures in the world of Middle Earth. This leads into the classic tabletop game *Dungeons & Dragons*, better known as D&D. D&D was the first pen-and-paper role-playing game, and it led to Tolkien's fantasy inspiration to lay the groundwork for a system of magic (Hoey). Adventure games often have rich storylines and involve a lot of exploration. Typical gameplay focuses on puzzles instead of combat (Adams).

Choosing to develop this game under a fantasy adventure genre allows me to explore fictional architecture to a degree. The environments chosen are

meant to range from a degree of realism, forming structures we would see in our day to day, to structures we have seen in movies or have imagined through books. Reading through a portion of *The Hobbit*, I hope it will help formulate a fantasy world with a rich culture and history, something that the player can use their own connections to from other media they have consumed.

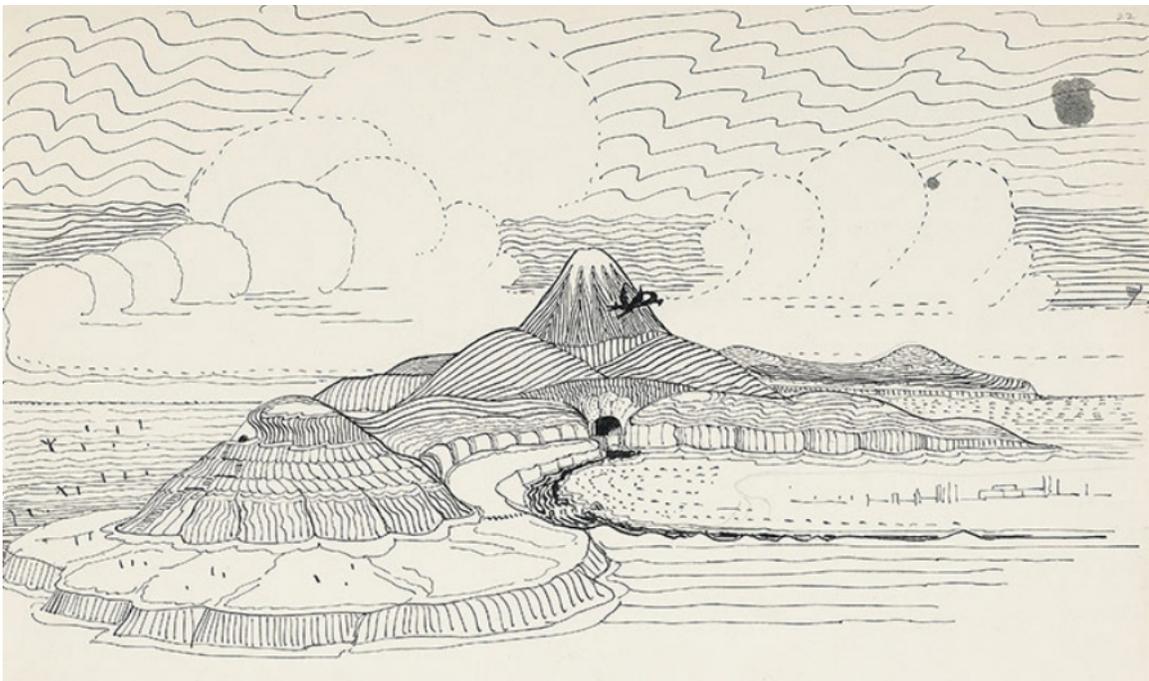


Figure 26 *Smaug Flies Around the Lonely Mountain*, JRR Tolkiens illustration of how he imagined the world from *The Hobbit* would look like.

Environment Design



I initially came up with environments from my own experience with adventure fantasy games and other fiction-based media. Environments such as medieval towns, coastal villages, cyber/steampunk cities, haunted/spiritual areas, caverns, forest communities and so on. I was able to narrow it down through a process of elimination, deciding on three types of environments I could weave a history around and also wanting to have the designs of these places range from a dash of realism to fantasy. The final environments are a provincial town, a fishing harbour and a treetop community.

Provincial City

This city is meant to be the first town the player enters, the home residence of the character. Like other adventure games influenced by D&D, the area where the character starts their adventure intends to be based on Western European medieval aesthetics. This town is loosely inspired by Mont Saint Michel in France. I found that this particular town was used as a reference for other towns in media, such as the Kingdom of Corona in *Tangled* and the Minas Tirith from the film *The Lord of the Rings: The Return of the King*.

Based on medieval European towns, this town will be the characters' hometown, the town that the player will start in. The town will be large and be a central location of this world. A major town in which many people reside and have businesses.



Figure 27 Illustration of how the provincial city may look in the game.



Mont-Saint-Michel



Tangled, Kingdom of Corona



The Lord of the Rings: The Return of the King, Minas Tirith



Beauty and the Beast, Belle's village



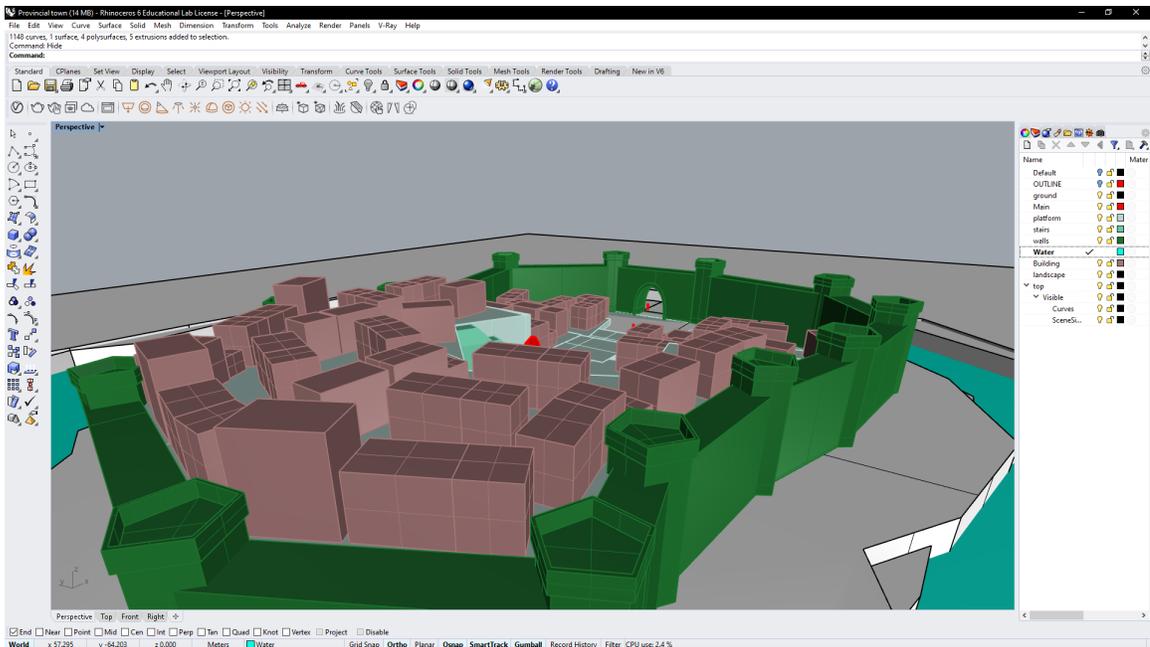
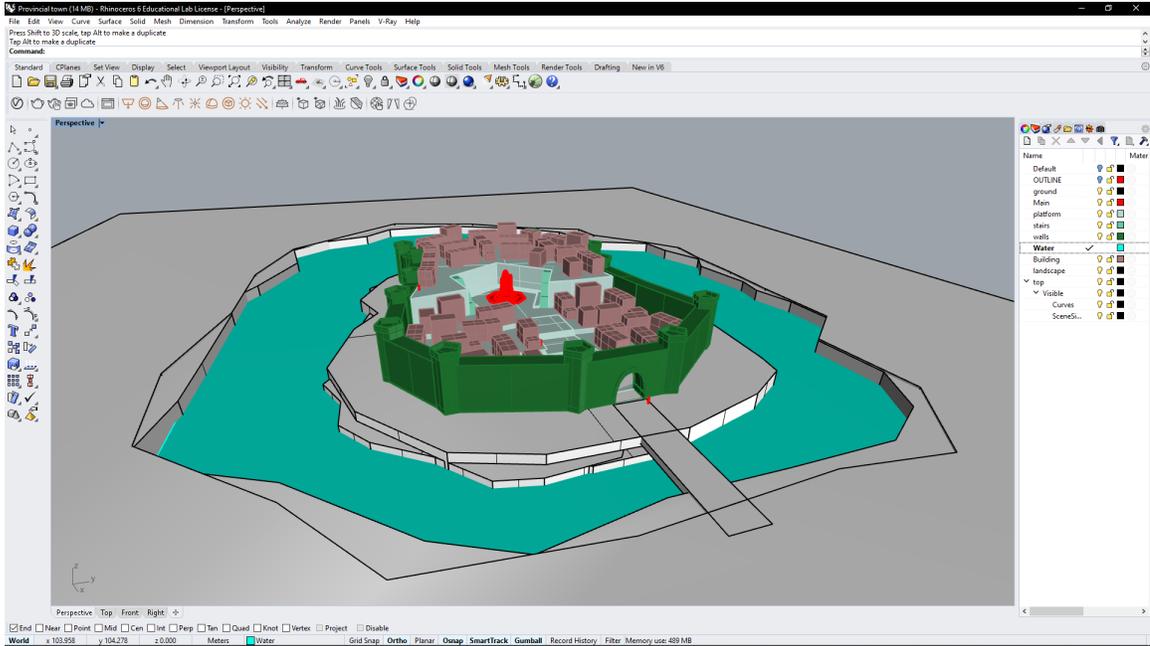
Rothenburg, Germany



Saint-Cirq-Lapopie, France



Figure 28 Reference images and sketches for the provincial city.



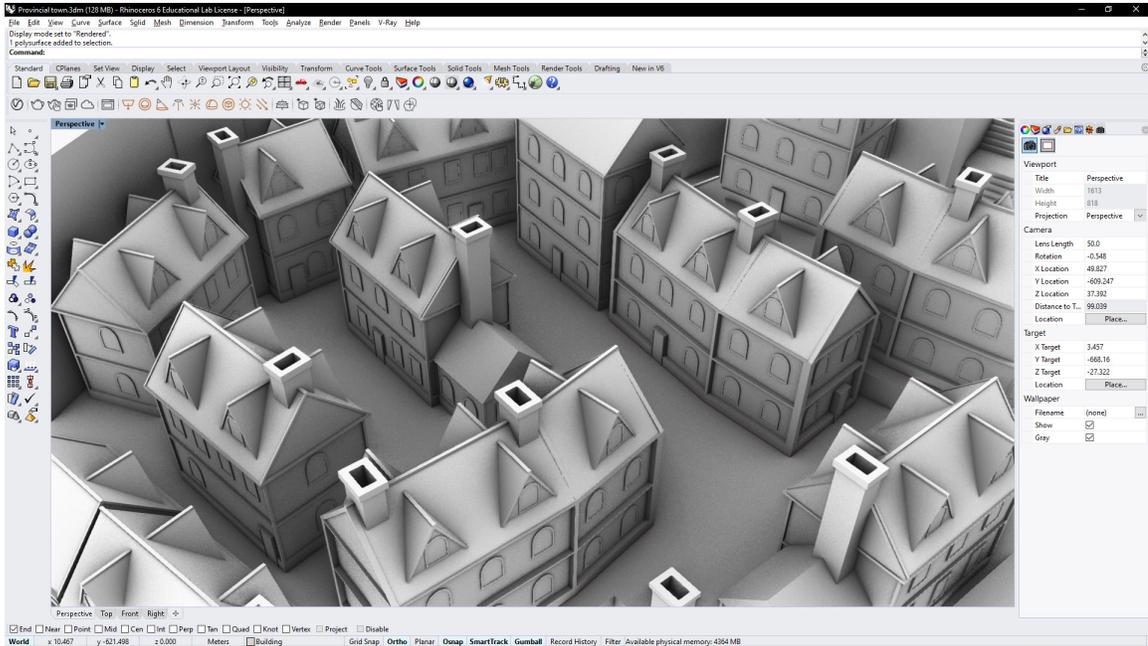
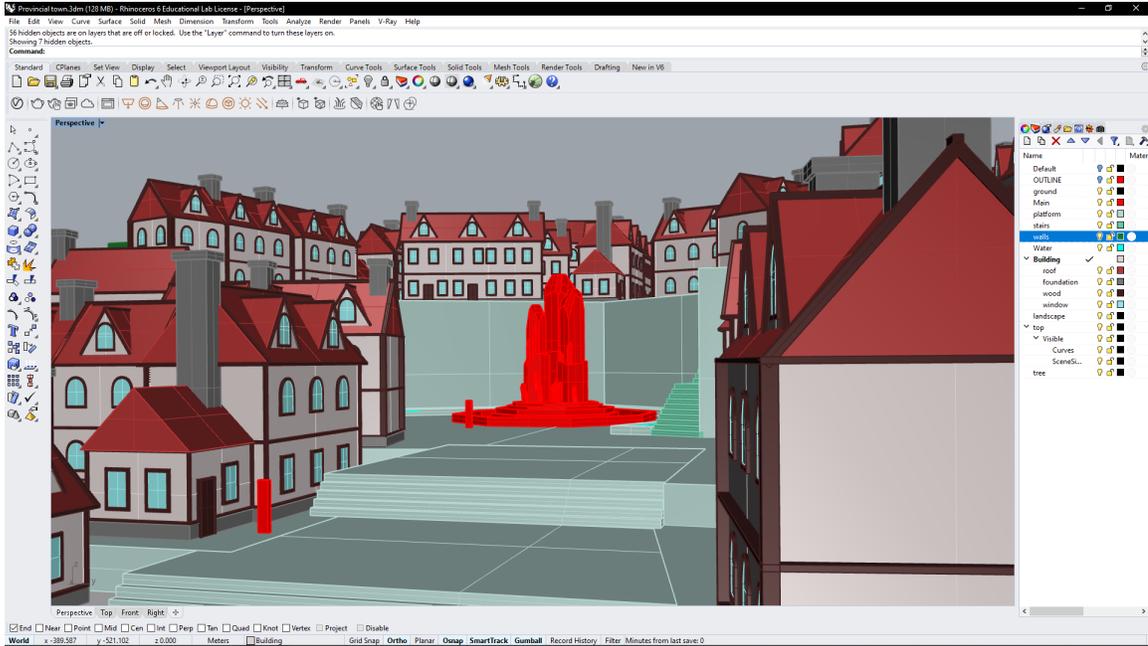


Figure 29 Daemarrel schematic models.

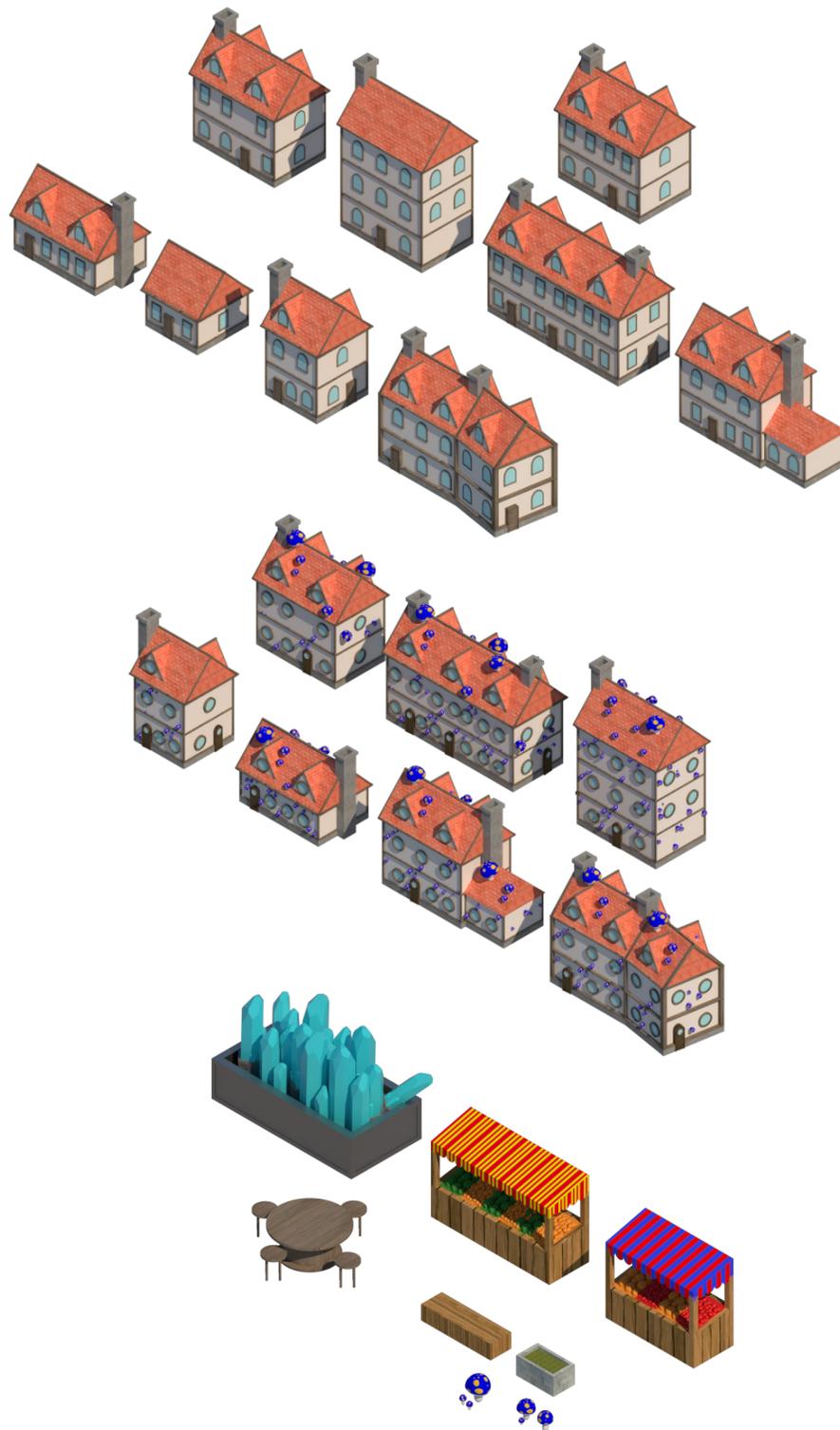


Figure 30 Daemarrel assets.

The Harbour

This area is meant to be a trading town, a waypoint for travellers and merchants to stop by. This environment takes inspiration from coastal villages along a body of water. This location will be the mid-way point between the other two playable areas. The base for this harbour will be Jobson's Cove in Bermuda. The cove's landscape is compelling, a beach area by the water that is semi-enclosed by a series of large cliff rocks. This made for a compelling query about how architecture could be retrofitted into the cove instead of having the cove altered to fit the architecture. The structure will be based on different fishing villages from south and southeast Asia. Lining the sides of the cove, the makeshift structures, deck and docks will branch out, fanning over the water.

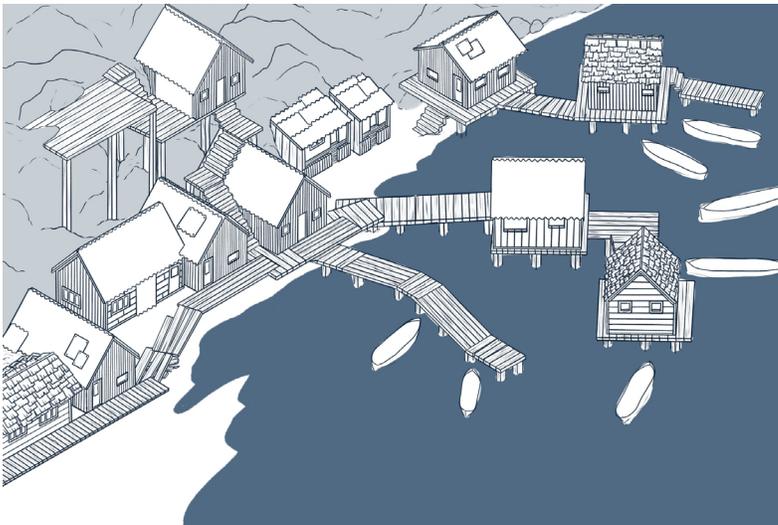


Figure 31 Illustration of how the harbour may look in the game.



Jobson's Cove



Site sketch



Ghost of Tsushima, Umugi Cove



Ghost of Tsushima, Umugi Cove



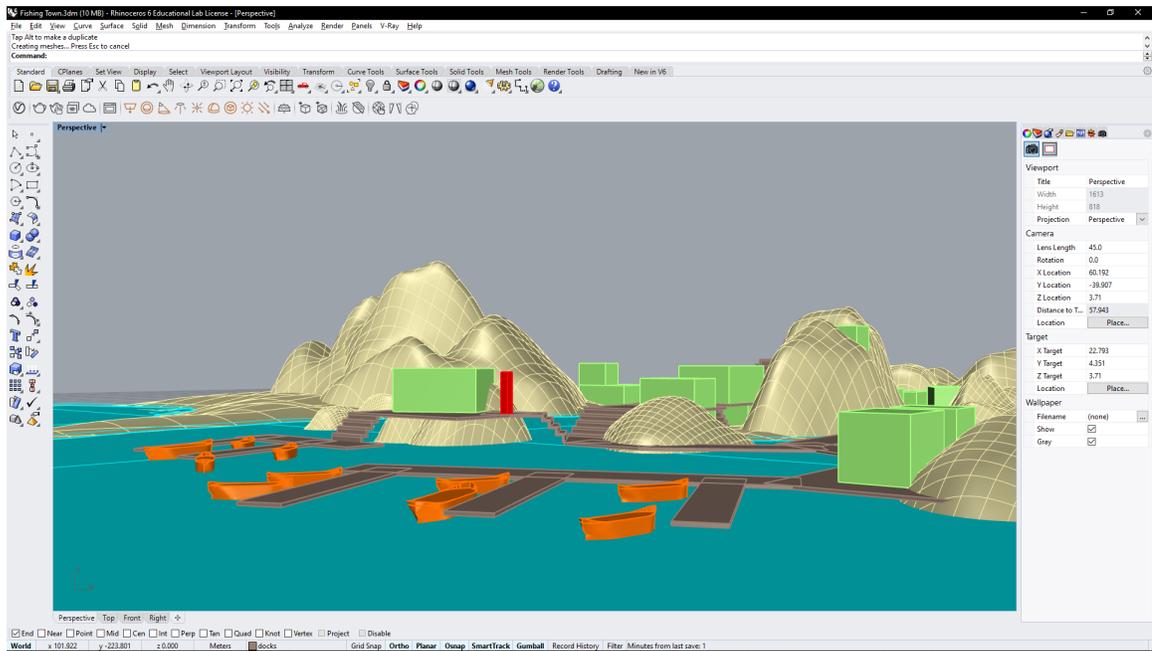
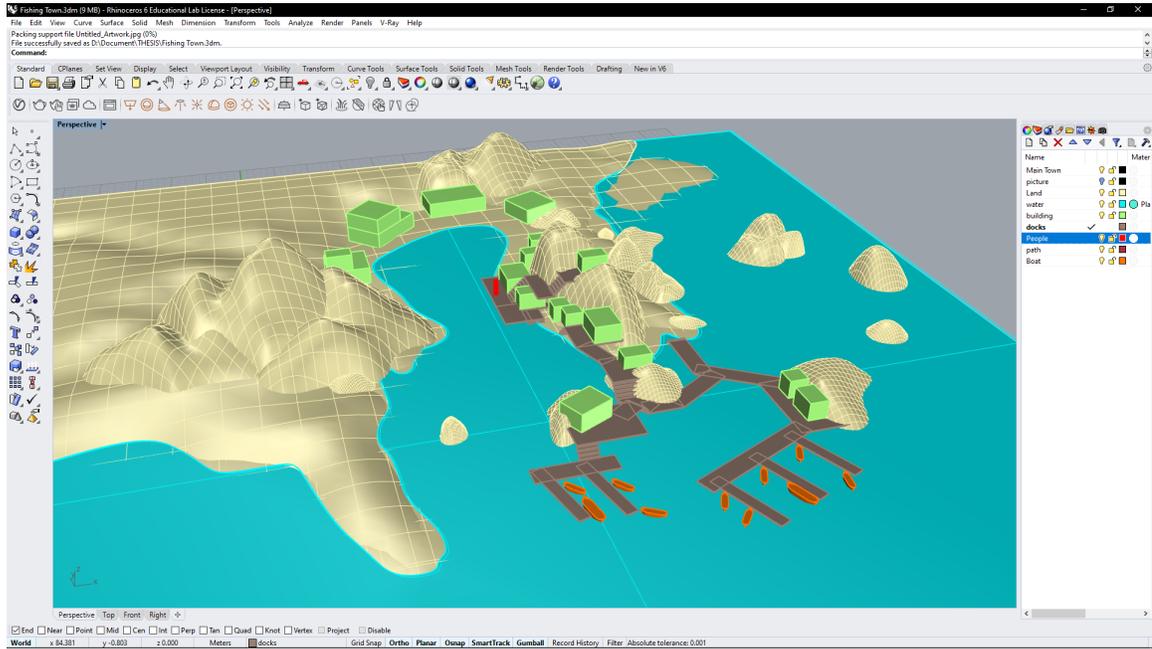
Cai Beo Fishing Village, Vietnam



Bangladeshi sampan fishing boat
bangladesh



Figure 32 Reference images and sketches for the harbour.



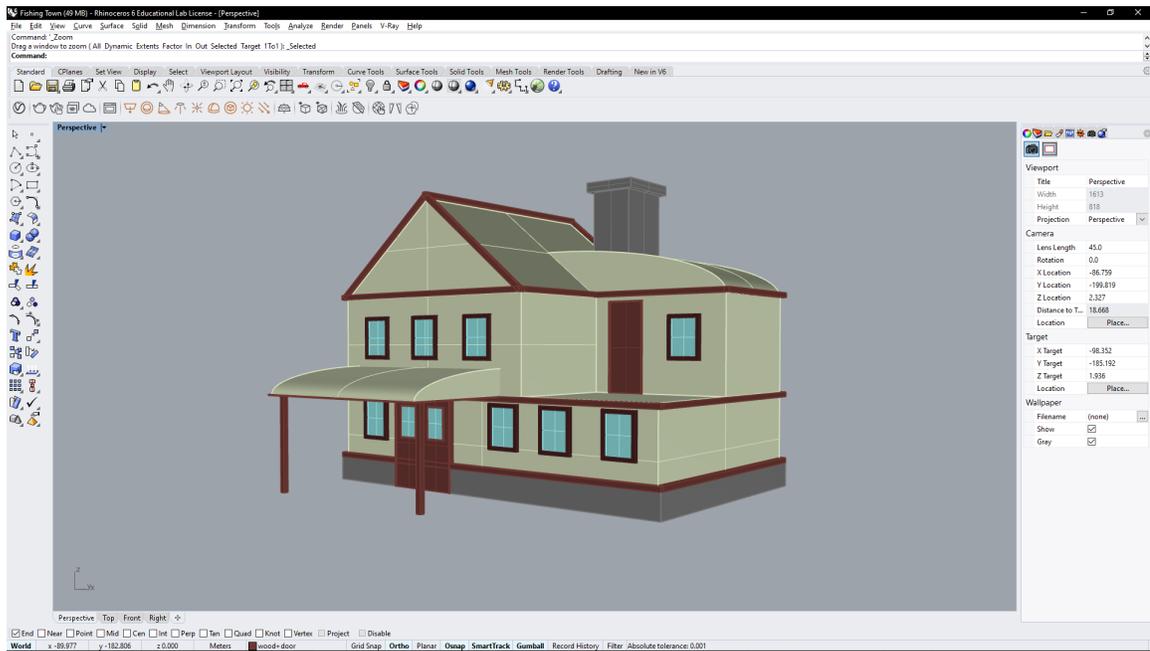
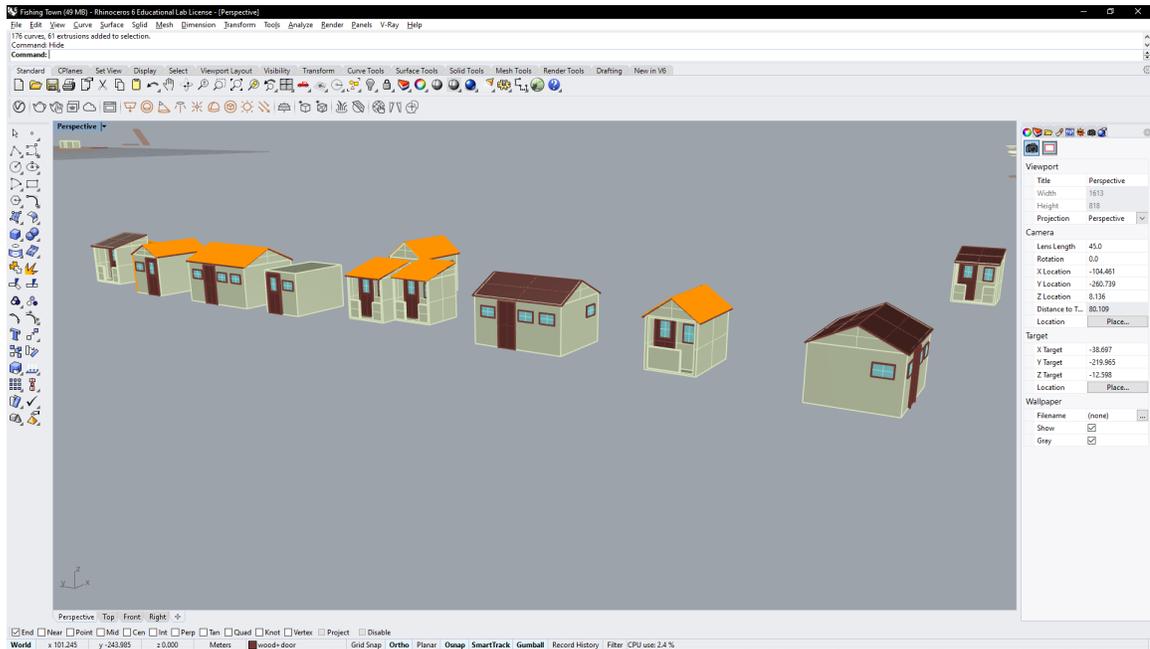


Figure 33 Windborne Cove schematic models.



Figure 34 Windborne Cove assets.

Treetop Community

Some video games have some sort of area themed around nature and have a spiritual relationship to the Earth (or whatever planet). The theme of treetop communities/ settlements specifically was taken from several television shows and movies such as the Freedom Fighters treetop hideout and Bayan grove tree from *Avatar: The Last Airbender*. The notion of having a community of people live amongst the trees, similar to that of some species of animals, was intriguing—an element of fantasy that could be explored unconventionally, the only limitations being of the imaginary world. Depending on the sort of history and culture, this settlement will influence the space’s architecture. I imagine it to be comparable to a “nest,” similar to birds. The structures would be made up of found objects and materials directly from the tree. How would the people of this place travel around? Ladders, makeshift elevators, stairs? Would vehicles or animals be a mode of transport supported by this elevated structure? Many questions are to be explored

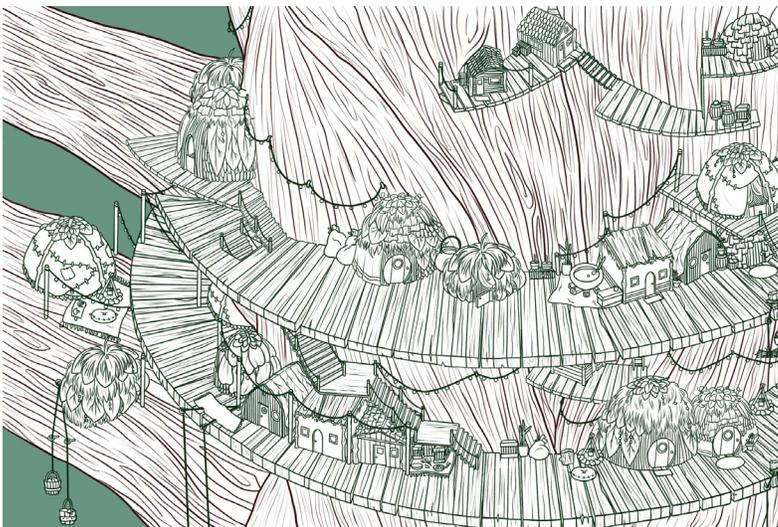


Figure 35 Illustration of how the treetop community may look in the game.



Avatar the Last Airbender, Freedom Fighters hideout



Avatar the Last Airbender, Banyan-grove tree



A Whisker Away, secret cat village



A Whisker Away, secret cat village



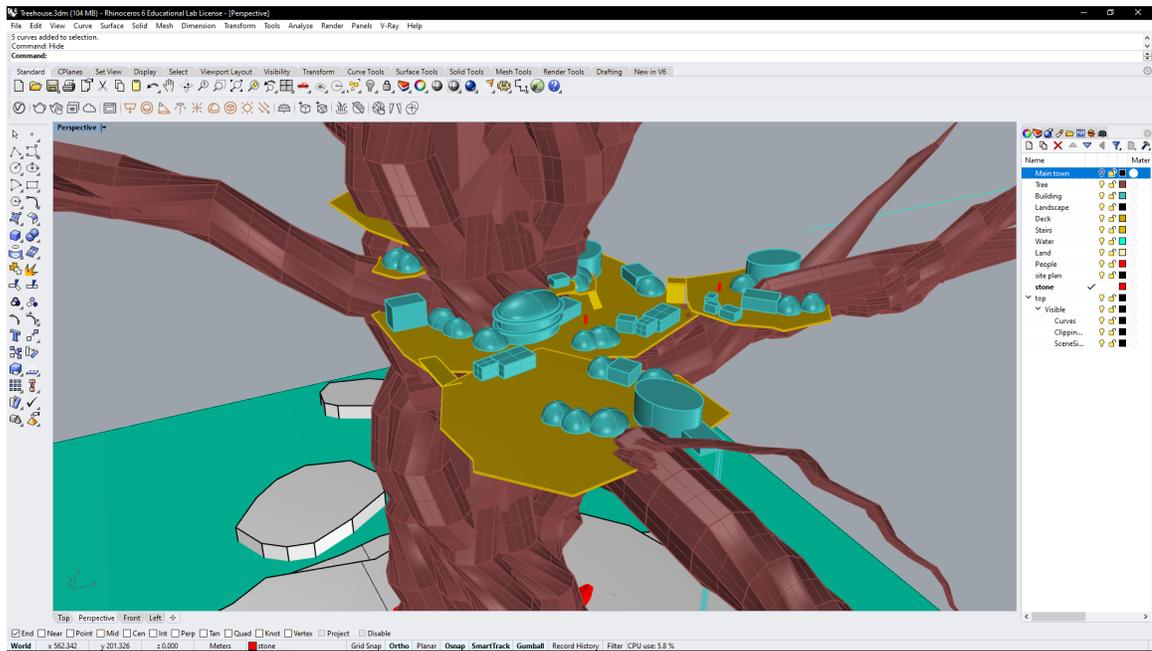
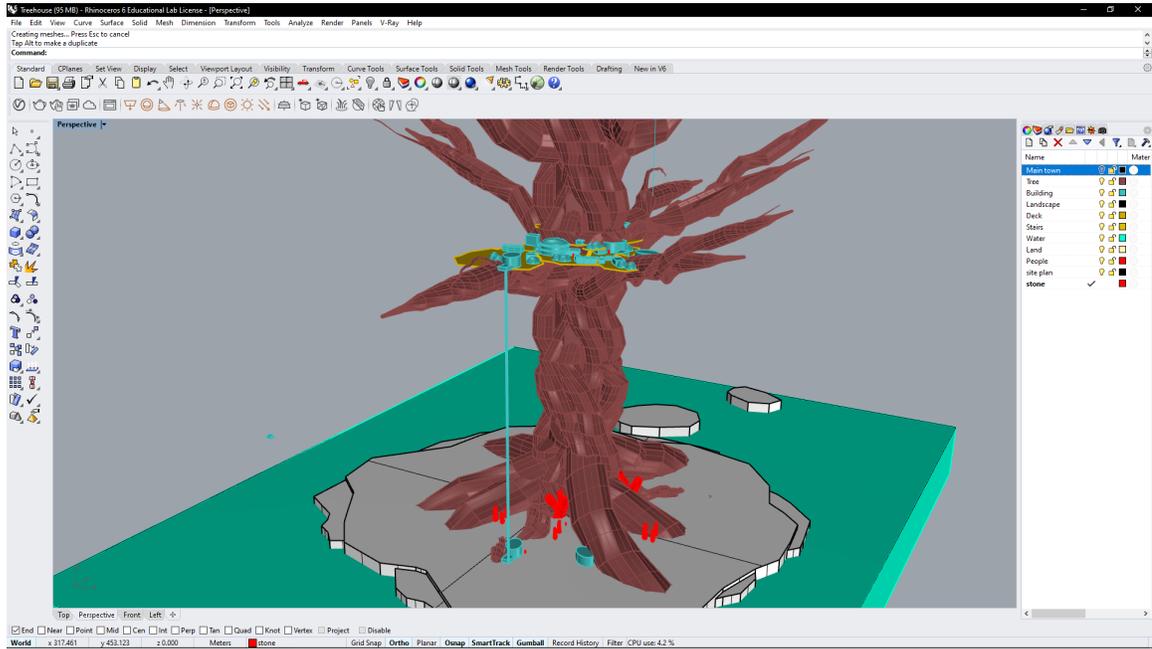
Ni no Kuni, Forest of Niall



Ni No Kuni, Niall's Throne from



Figure 36 Reference images and sketches for the treetop community.



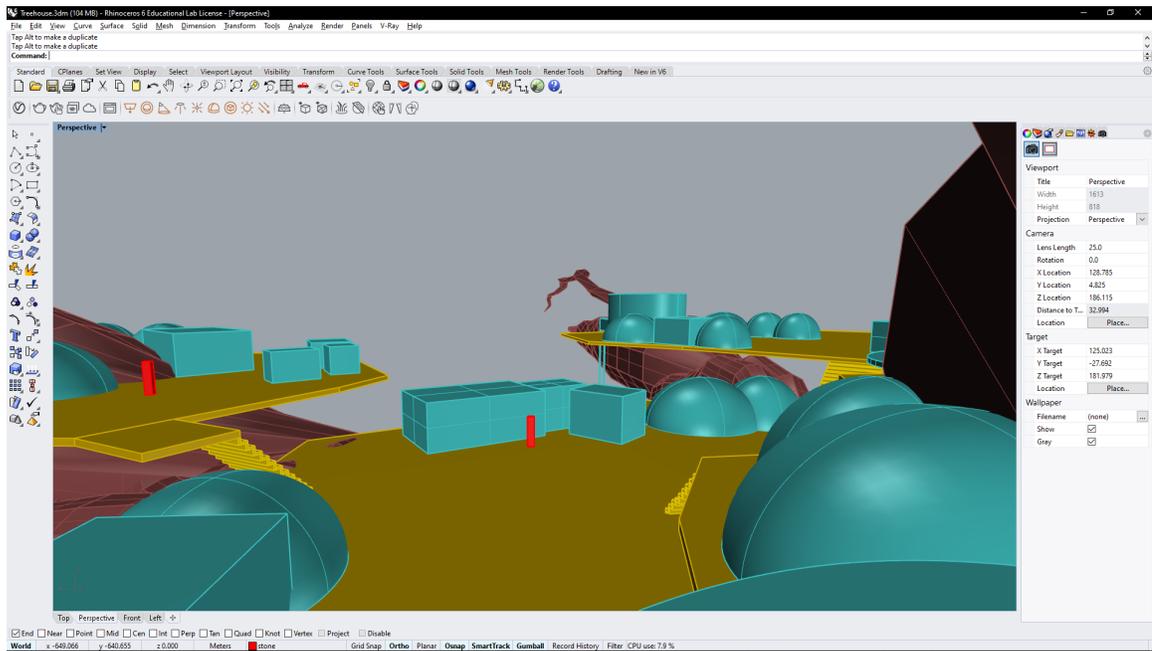
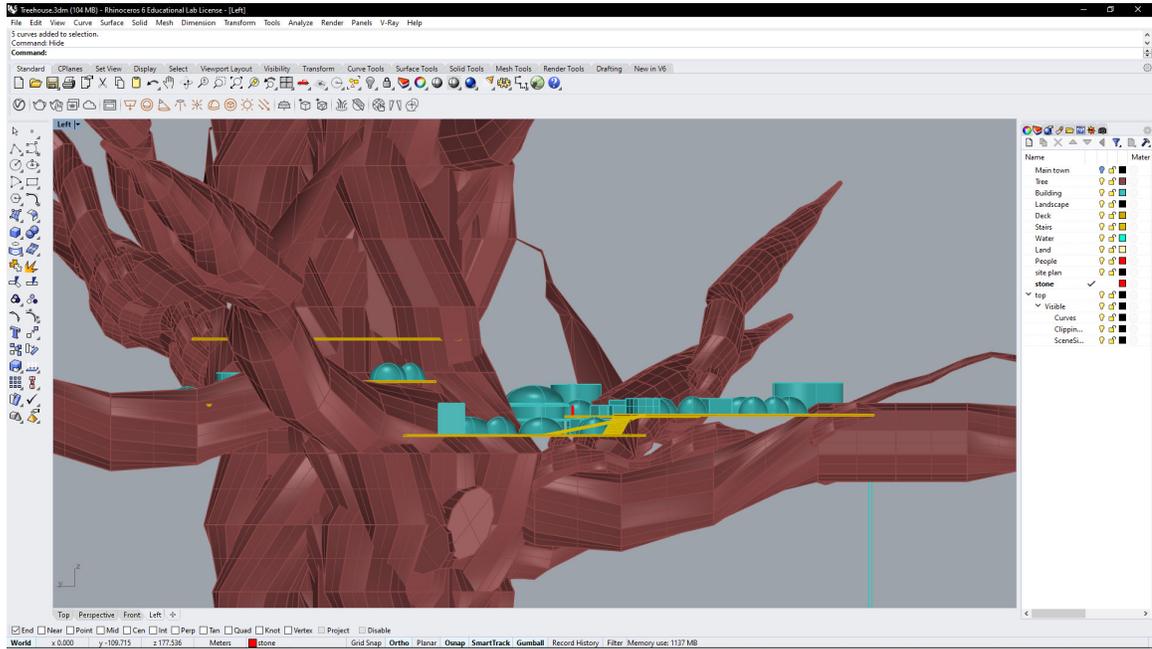


Figure 37 Arith schematic models.



Figure 38 Arith assets.

Section 3.2 Game Design Document

Title Page



WANDER

Design by Tahsin Khan
April 2022
For IOS, Android and Windows PC
ESRB rating- E (Everyone)
Ship Date TBD

Characters & Gameplay

Characters

The Traveller

The main character will be the player and will not be shown. Since the game will be played from a first-person perspective allowing the player to perceive the game through the eyes of the character, observing the world around them up close, giving a clear view of the scenery in front of them. This perspective provides the most immersive feel for the playe

The Alchemist

The alchemist is a side character the traveller will be searching for towards the end of the game. The traveller will be shown a memory of the alchemist coundrning a potion that seems to go wrong and it is up to the traveller to use the clue within the memory to find the alchemist. The characteristics of the alchemist's home will be a reflection of how the environment looks in this future timeline, influenced by their spell, elements such as rounded doors and windows and mushroom growth will affect the future environments. These visual cues are clues to help the player piece together that this is who they are looking for.

Gameplay

The player will have to find memories to find out what happened to their home. They can find these memories in balls of light which they will be led to by a trail.

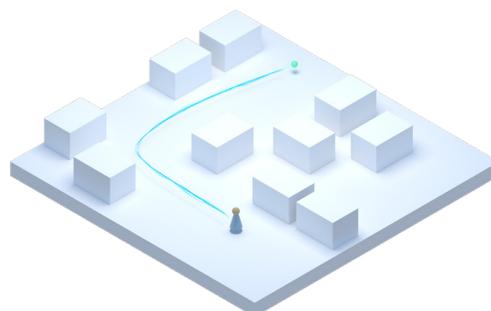


Figure 39 Gameplay diagram

Game World

These aspects are not explicitly explained to the player; however the information gives background as to how the levels were developed.

World History

Long before any roots were put down into the land, three serpents were considered the guardians of the lands. No one knows where they came from, but they looked over the people and the lands, protecting them from any sort of disaster. At the time of the serpents' deaths, they came together above the ocean, intertwined themselves, letting magic turn their body into a tree and emerged an island underneath them. Though the guardians do not have a physical form, they continue to watch over the region.

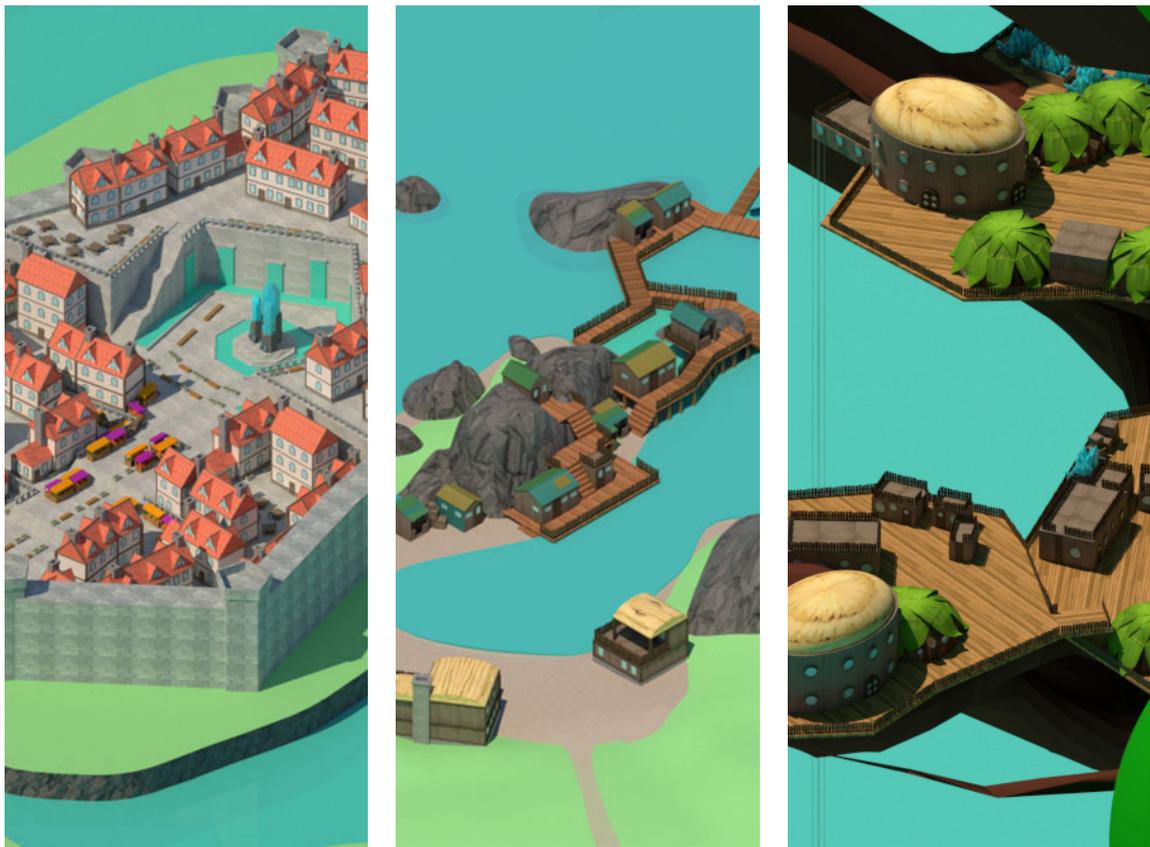


Figure 40 Overview of Daemarrel, Windborne Cove and Arith.



Figure 41 Illustrative world map.

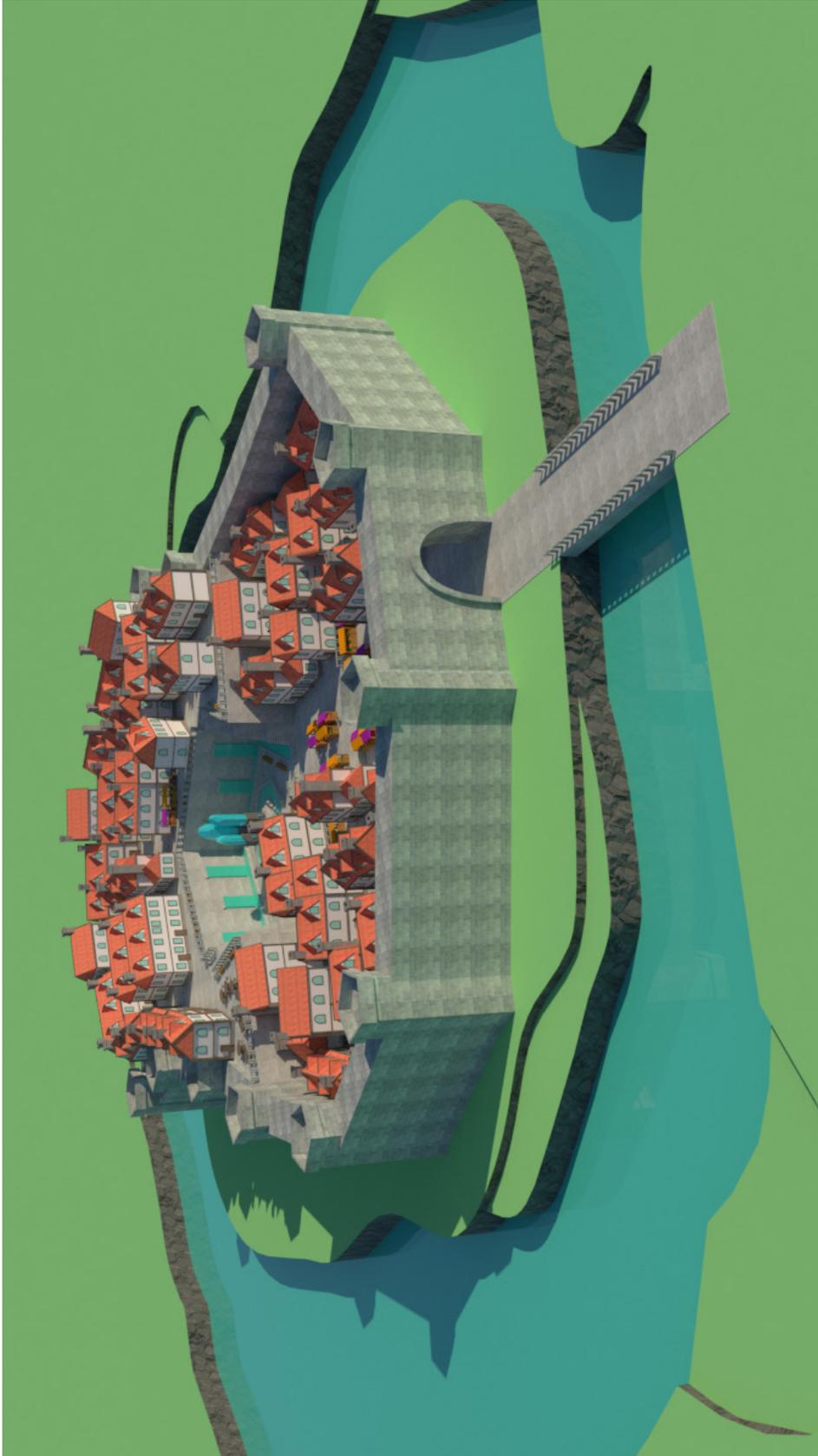


Figure 42 Overview of Daemarrel.

Daemarrel

Level 1: The Provincial City, Daemarrel

The central hub of the region.

This location serves as the region's central city since it was the first and largest settlement. When the guardians of the land fell, a moat was dug around the city in honour of the guardians, meant to resemble the island they created. At the center of the town are gems from the guardian tree placed in remembrance. The buildings in Daemarrel are made from sturdy materials, wood, bricks and plaster, which are for the most part imported through Windborne Cove. Daemarrel typically exports lumber cultivated from the surrounding forested areas; however, for every tree cut down, another is planted to ensure the forests continue to grow.

Some key features of Daemarrel are its prominent markets and businesses. Merchants and restaurant owners tend to live in their shops' buildings. They also favour conducting business in the streets when the weather is nice, lining the streets with all sorts of stalls selling trinkets and delicacies. Many visit all year round for festivals held in the city's core. It is a tradition that many people from all around visit to enjoy the assortment of things to see and do. The festivities lead into the night, where the city is lit street to street, illuminating each and every corner. It said that the lights can be seen all the way from Ariths tree top.



Figure 43 Daemarrel vignette.



Figure 44 Right: Daemarrel level map, Left: Daemarrel playable area + memory route



Figure 45 Daemarrel vignettes.

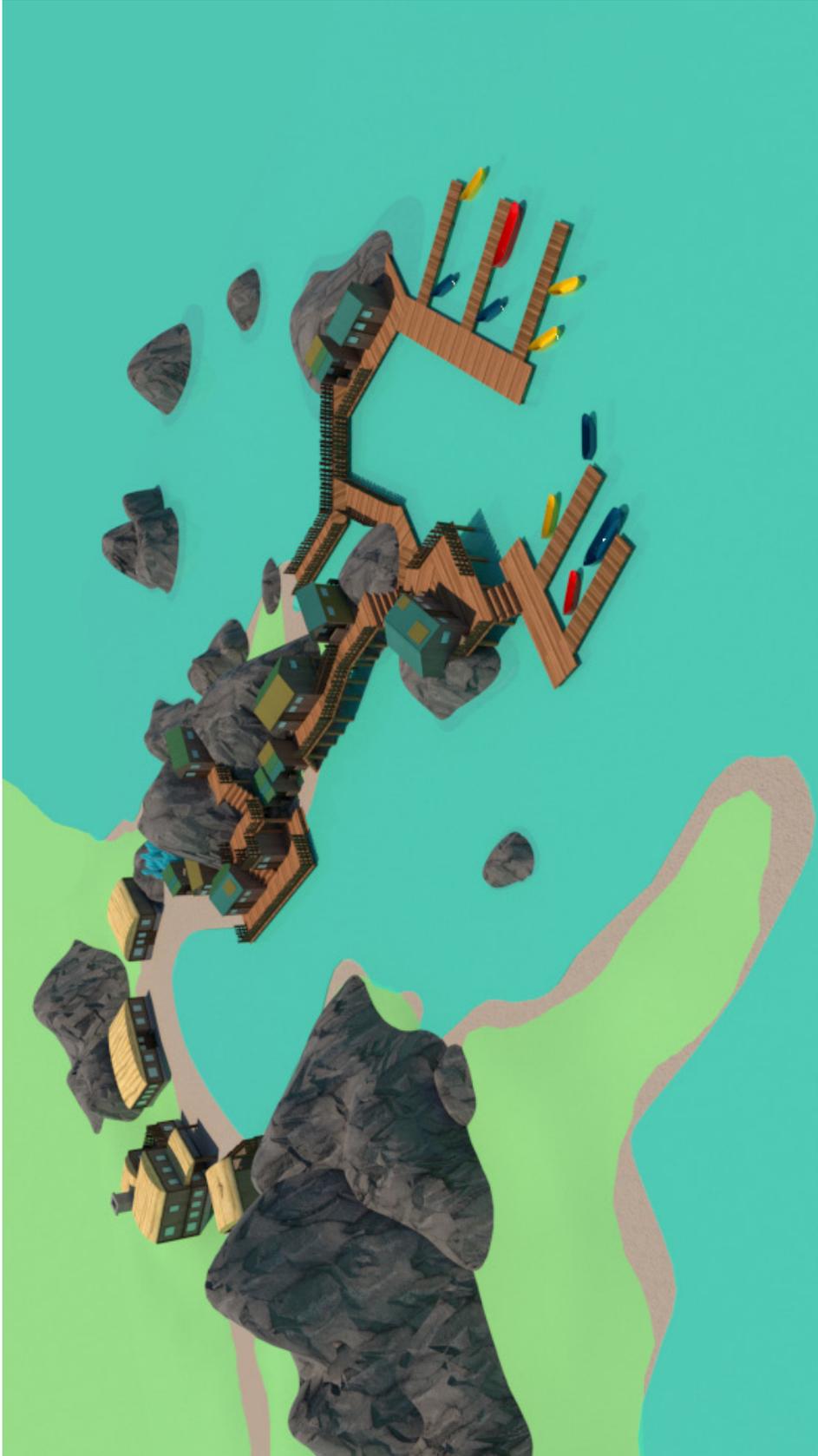


Figure 4.6 Overview of Windborne Cove.

Windborne Cove

Level 2: The Harbour Town, Windborne Cove

Nestled into a cove.

Windborne is not a typical town. It is a harbour that connects prominent settlements such as Daemarrel and Arith. It is the only harbour close to Arith, so all the sorts of goods from Arith are transported through Windborne. However, it still works as a waypoint for all sorts of travellers and merchants passing by. The half of the town located closer to shore is more developed, with more lodging and accommodation for those passing by and a spot or two to grab a meal. The other half of town is where the harbour is located, where the original docks seem a bit slapped together, although they have not been touched in years because they still function as they should! No need to fix what is not broken. Those who reside in Windborne take pride in how they upcycle other materials to build and repair their town, nicknaming it “the town of renewal.”

Most of the wood is salvaged from Daemarrels lumber industries, using whatever is leftover or regarded as unusable. Scrap metal can be traded for other materials or even objects fetching great prices from the locals.



Figure 47 Windborne Cove vignette.

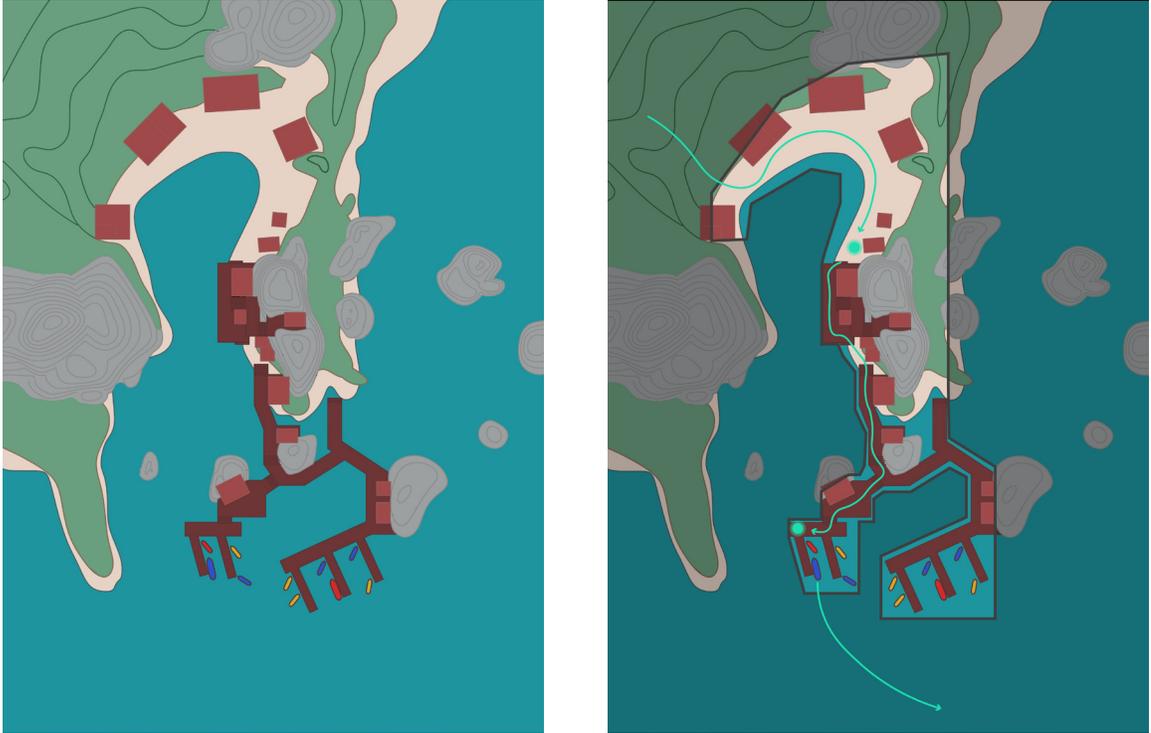


Figure 48 Right: Windborne Cove level map, Left: Windborne Cove playable area + memory route

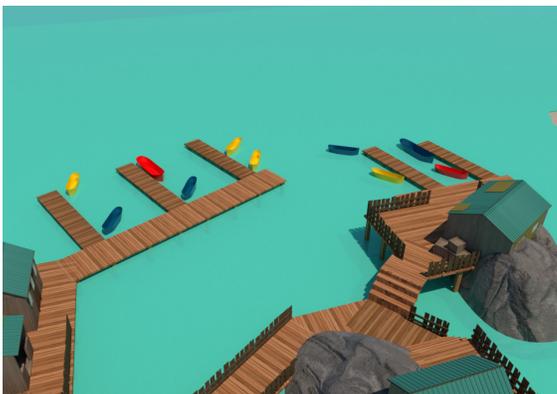


Figure 49 Windborne Cove vignettes.



Figure 50 Overview of Arith.

Arith

Level 3: Treetop Community, Arith
Probably the best sunsets anyone ever witnessed.

Located along the trunk of the guardian tree is where Arith can be found. This community is known for using the resources on the island. The tree provides materials such as unique leaves used for making garments and armour, wood for building and saps for potions. The dwellings are primarily composed of material foraged from the tree. Due to the size of the tree, the size of the materials is equally as large. The community comprises a section designated for harvesting material at the foot of the tree, and the upper sections are designated for shops and homes. The shops primarily cater to selling medicines, ointments, and other herbal remedies. It is common for those interested in medicine to visit the grove and learn from elders about the types of natural medicines. It is common for those interested in medicine to visit the grove and learn from elders about the types of natural medicines. Due to the community being divided into several levels, a favourite form of transporting things to and from levels is through pulley systems—smaller systems for a few items or large elevator systems for large carts and ore.



Figure 51 Arith vignette.

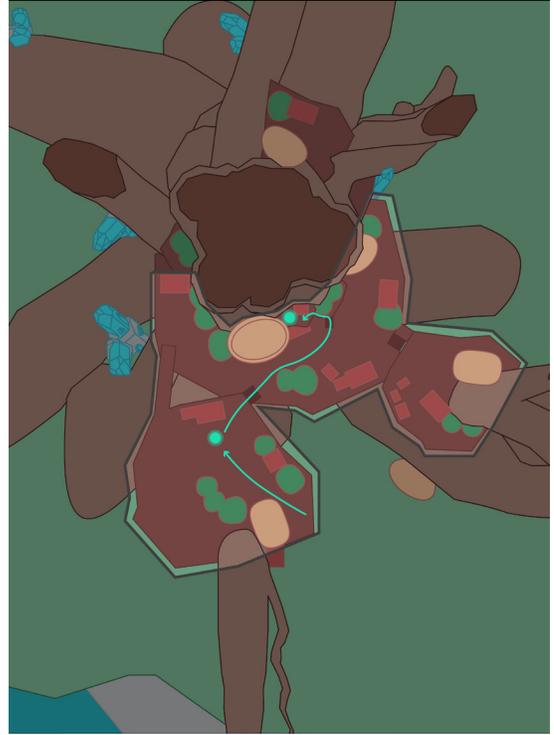


Figure 52 Right: Arith level map, Left: Arith playable area + memory route.



Figure 53 Arith vignettes.

Game Outline



The player begins the game in the first level, the town of Daemarrel



The player sees a trail of light



This light will lead them to an orb



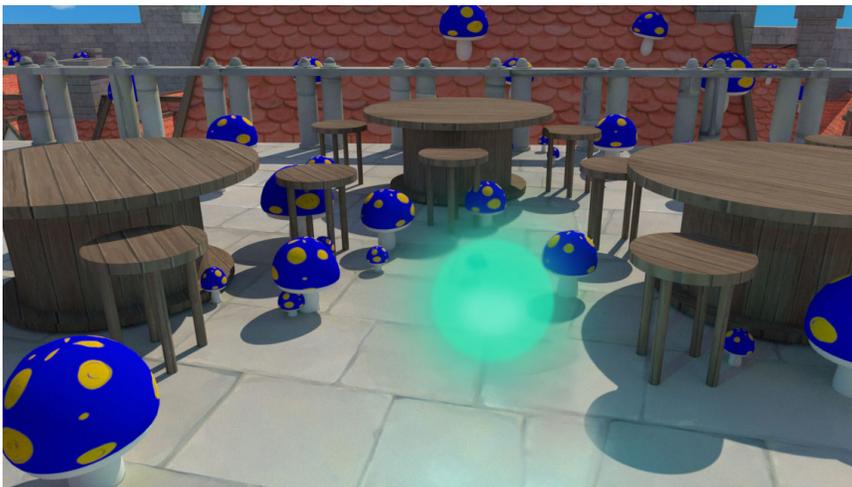
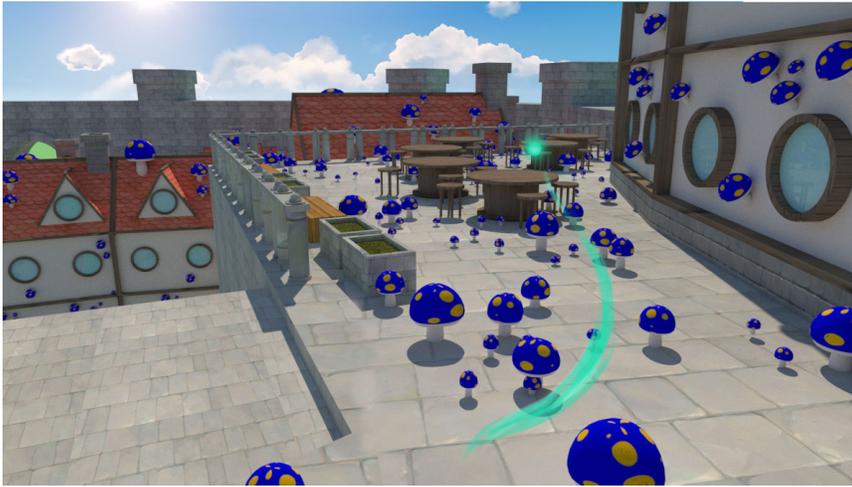
When they get to the orb, it shows the player a memory



Memory 1 - Shows a scene of part of the market



The player is guided to the next memory



Memory 2 - Shows a restaurant with people dining outside

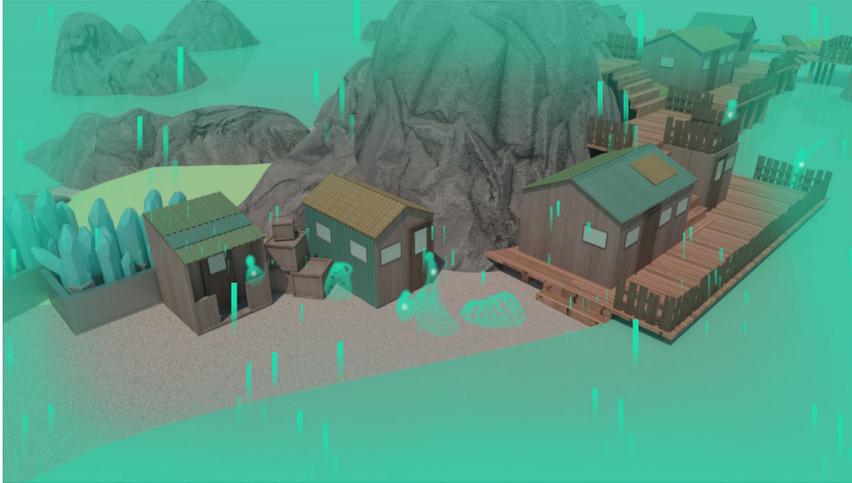


Cutscene - The player travels to the second level, the harbour, Windborne Cove



The player searches for more memories

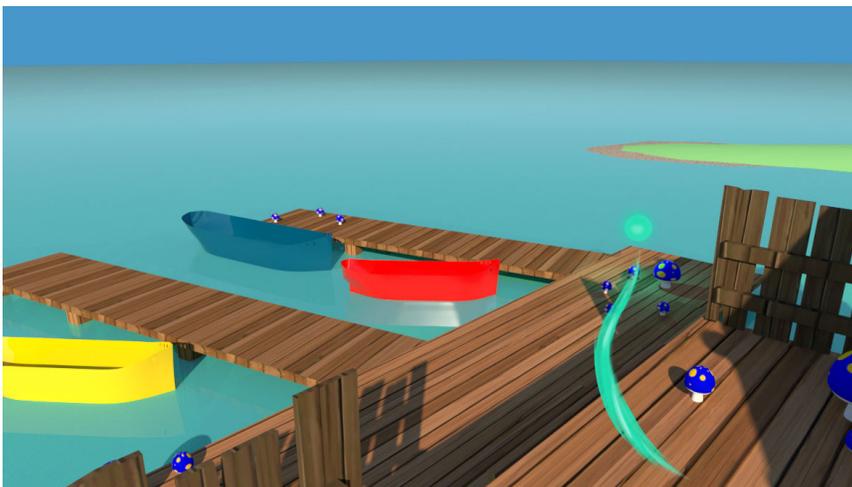


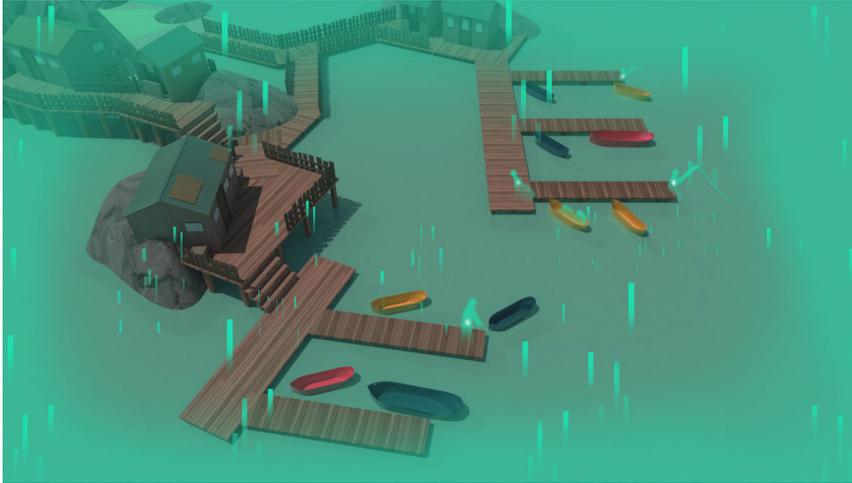


Memory 3 - Shows a people bringing in their catch

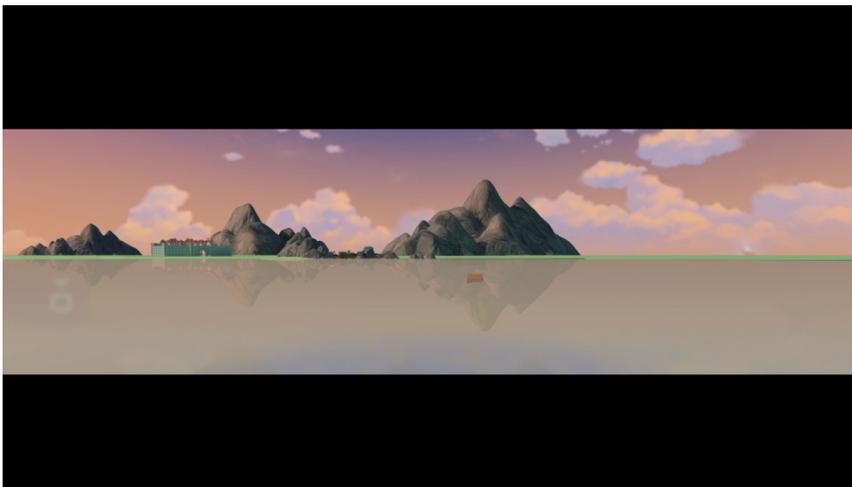


The player is guided to the next memory

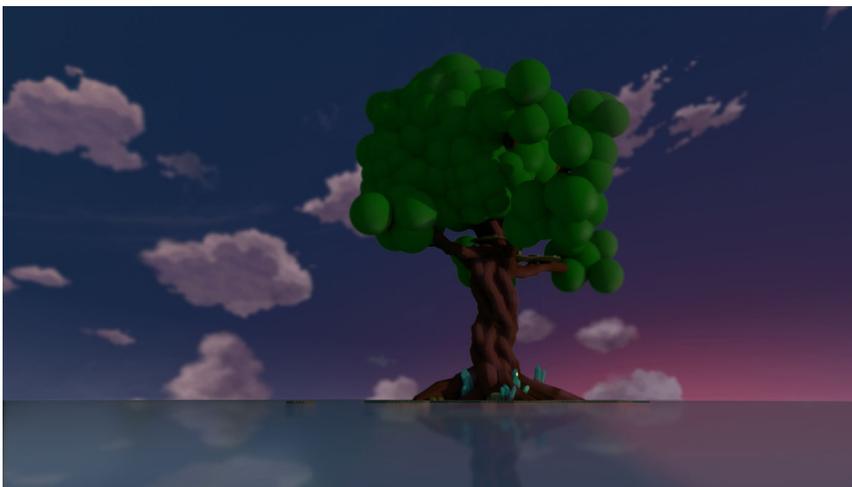




Memory 4 - Shows people fishing and docking their boats

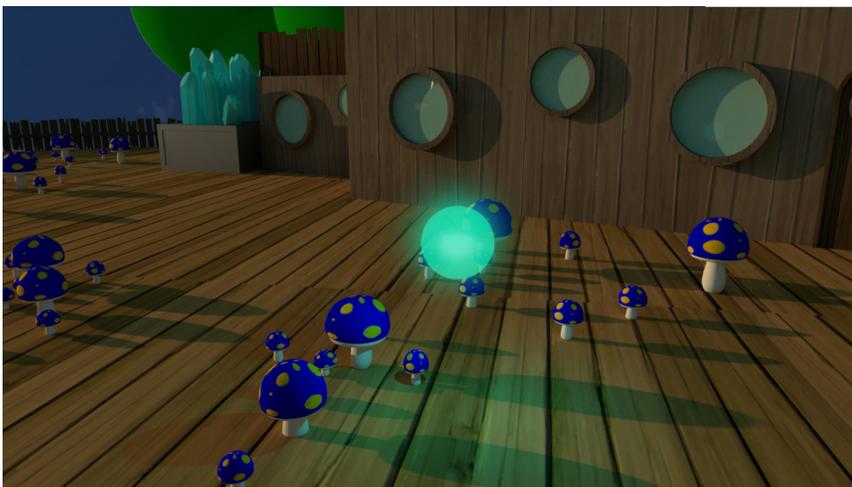
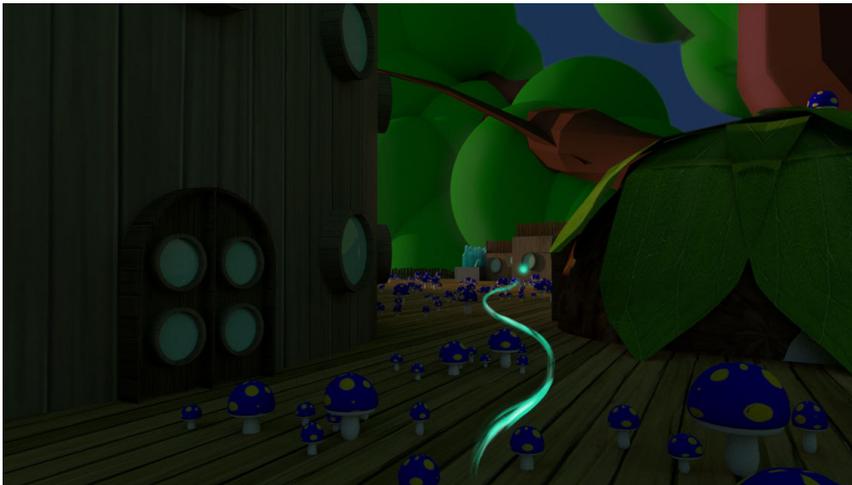


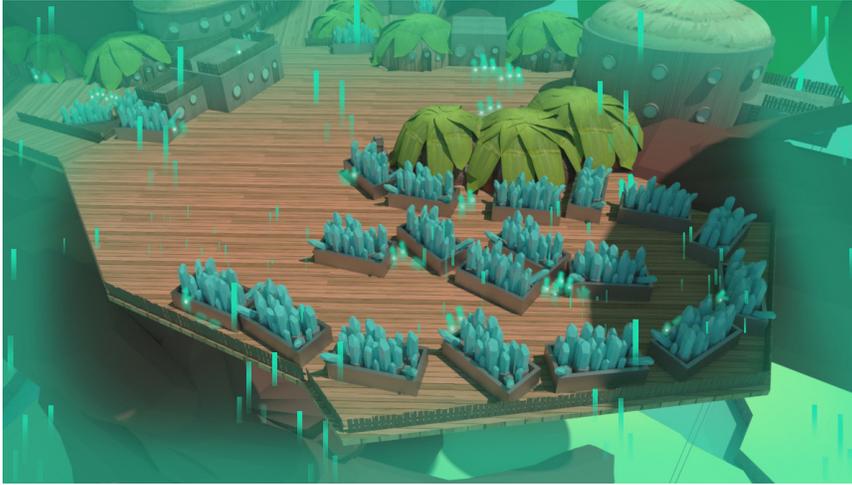
Cutscene - The player travels to the third level, the tree community, Arith





The player searches for more memories



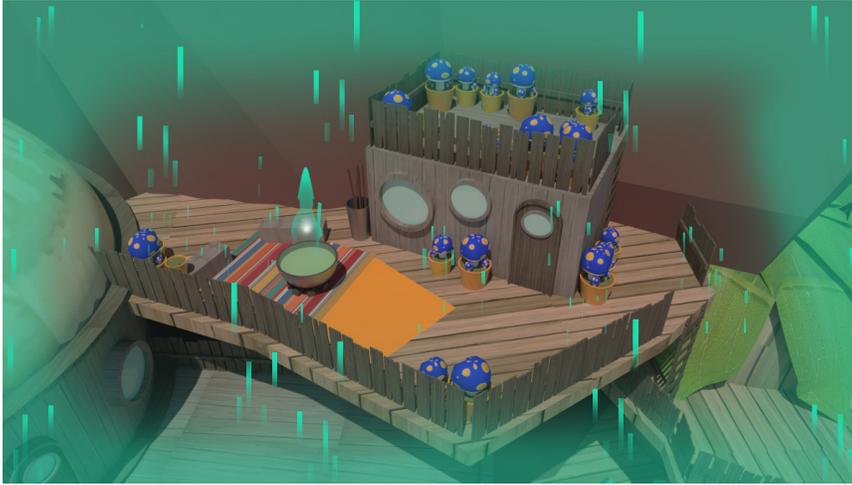


Memory 5 - Workers around the main ore storage area



The player is guided to the next memory





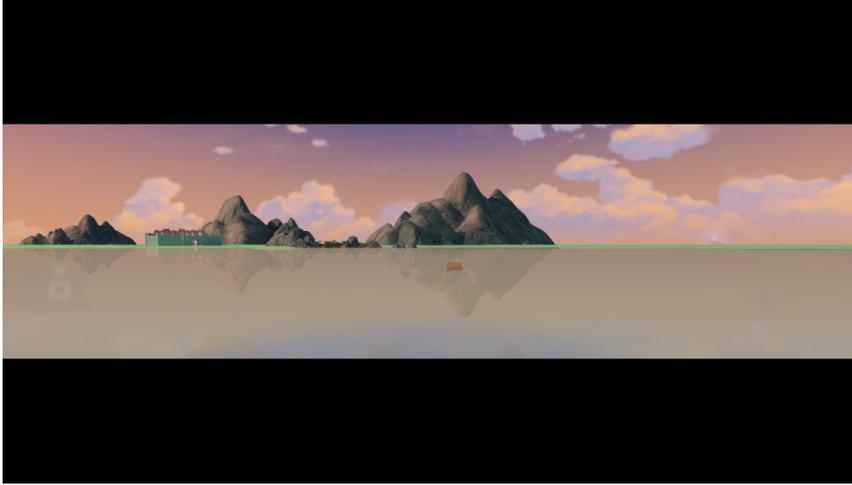
Memory 6 - Shows an alchemist having their experiment go wrong



The player is transported to the present



The player travels to Arith



The player uses the clues from the future and the last memory to find the alchemist and explain to them what will happen, stopping everyone's disappearance

Game End

Figure 54 Storyboard images pg 66-75.

Section 4: Reflections



Reflections on Storytelling and Architectural Lessons

This thesis set out with the intention of examining how architecture is used in video games to tell stories through environmental storytelling—exploring how we make sense of narratives by making references and connections through our own experiences. I learned how crucial environmental storytelling is to a video game’s success, especially when the game is mainly reliant on a backstory or lore, discovering this through the game analysis. Designers tend to purposefully place objects or choose specific rooms where things are found to tell us that something happened and to help us progress through the story. Rather than explicitly detailing events, players are encouraged to interpret the context cues surrounding them, deepening their immersion in the virtual world. Moreover, these games take real-world places and objects and place them into their own spaces with their own context. Sometimes, they keep the space as it would be in the real world or transform them into new spaces with commonalities.

Reflections on Design and Architecture

Through this project, I realised that there is a strong consideration for space, materiality, and light similarities found in architectural design and game design. Space where there is a consideration of how someone will navigate through an area, whether there are any barriers used such as walls or landforms etc to guide someone along. Materiality is where the material informs a person's experience of an area through its aesthetic and visuals and its associated social, cultural, and historical meaning. Lastly, lighting, which ties everything together, interacting with materials, filling spaces, and the presence, or lack of it in a space. Regarding this game, "*Wander*," the space within the levels is open for the play to explore within the boundaries. The materiality of the levels is quite bright and colourful, invoking a playfulness to the spaces and the lighting, which changes through the gameplay and indicates the passing of time. In the future, I think architecture will be adopting more digital forms of representing space and will start to share more commonalities with video game design. This project proposes that architects can participate in projects other than building practical structures, specifically in game development, broadening horizons to explore creative ventures in a different medium/expression.

Reflections on Making a Game

Initially, at the start of the projects, I had ambitious plans for creating a playable game; however, through

the research and making process, I gained more of an understanding of how long it takes to make a video game and the number of elements that goes into developing one. Elements include coding, music, animation, lighting, creative and scriptwriting, modelling, etc. Unfortunately, I was constricted by my knowledge in each field, only having some experience with computer modelling through architectural programs such as Rhino. Since there were many components that went into creating a video game, I did not have the time to develop various skills needed to create a game that I would be satisfied with. Instead, I looked into starting from a base and developing a proposal for a game through a GDD. In the future, if I were to work on a similar project, I would look forward to working in a team, exploring different concepts with an array of people with expertise in different fields.

Conclusion

As for my final remarks, this thesis started as a playful exploration of what could be done in a digital space, focusing on video games and how we, the player, would experience these places. Through research and developing the designs, I learned quite a bit about how much time and effort goes into essentially creating these works of art. I believe that architects do not have to be confined to designing practical structures; designing for the digital world allows for freedom in creation.

Glossary



Narrative

A way of presenting or understanding a situation or series of events that reflects and promotes a particular point of view or set of values.

Cutscenes

A non-interactive phase in a video game that interrupts the gameplay. These scenes are used to depict character interactions, set the tone, reward the player, introduce newer models and gameplay components, demonstrate the consequences of a player's actions, create emotional ties, improve pacing, or foreshadow future events.

Walking simulator

Players can experience the storyline through exploration and discovery in narrative games that forgo any sort of gameplay other than mobility and environmental interaction.

Ludology

The study of games and gaming, especially video games.

Narratology

The study of narrative structure. Narratology looks at what narratives have in common and what makes one different from another.

Game Design Document (GDD)

This serves as a template for your video game's development. It aids in the defining of your game's scope and establishes the project's general direction, ensuring that the entire team is on the same page.

Virtual world

Is a computer-simulated environment that can be occupied by users who can explore the virtual world and participate in its activities through an avatar/online character.

RPG

Role-playing game, a video game genre in which players progress through a story objective and typically several side quests, gaining experience that enhances various traits and skills for their character or party of characters.

Ludology-vs-Narratology -feud.

Ludologist is a person who believes games should be studied as games. While a narratologist is a person who studies narrative and believes games should be studied as narrative.

NPC

Non-playable character. Any character in a game that is not controlled by a player.

Suspension of disbelief

Accepting events or characters that would otherwise be unbelievable as believable for a short period of time. This is frequently done to allow an audience to appreciate works of literature or theatre that explore uncommon concepts.

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- Figure 28** Reference images and sketches for the provincial city
Selected Image sources:
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Figure 29 Daemarrel schematic models.

Figure 30 Daemarrel assets.

Figure 31 Illustration of how the harbour may look in the game.

Figure 32 Reference images and sketches for the harbour.
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Figure 33 Windborne Cove schematic models.

Figure 34 Windborne Cove assets

Figure 35 Illustration of how the treetop community may look in the game.

Figure 36 Reference images and sketches for the treetop community.

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Figure 37 Arith schematic models.

Figure 38 Arith assets.

Figure 39 Gameplay diagram

Figure 40 Overview of Daemarrel, Windborne Cove and Arith.

Figure 41 Illustrative world map.

Figure 42 Overview of Daemarrel.

Figure 43 Daemarrel vignette.

Figure 44 Right: Daemarrel level map, Left: Daemarrel playable area + memory route.

Figure 45 Daemarrel vignettes.

Figure 46 Overview of Windborne Cove.

Figure 47 Windborne Cove vignette.

Figure 48 Right: Windborne Cove level map, Left: Windborne Cove playable area + memory route.

Figure 49 Windborne Cove vignettes.

Figure 50 Overview of Arith.

Figure 51 Arith vignette.

Figure 52 Right: Arith level map, Left: Arith playable area + memory route.

Figure 53 Arith vignettes.

Figure 54 Storyboard images pg 66-75.

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