VRDD - VR Design Document

Team name: Crows Zero

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Apr 17, 2024

Permission to Show Your Work in Future Classes:

Agree.

Table of Contents:

1. Title of project

Boat

2. Razor

On a fishing boat surrounded by children’s ghosts, complete tasks based on clues and locate all the dolls aboard.

3. Slogan

Sailing into the Unknown: Uncovering the Secrets of a Century-Old Village, a Cult? Sacrifice? Do everything you can to appease her soul.

4. Vision statement & top level summary of your project idea

As a fisherman, the player accidentally reeled in a strange doll during a regular fishing trip. After that, the player is trapped in a sudden attack of thick fog and his boat anchors to the sea, meanwhile, the player realizes that there are more dolls on this boat now. He must explore every corner of the boat and follow the clues and hints to find every doll on the boat. What ensues is the truth behind the strange dolls and an unpredictable ending.

This game blends elements of horror and puzzle solving to deliver a heart-pounding experience that gives players insight into the depths of fear and the complexity of human emotion.

5. Goal of project/Differentiator

Our project for a horror puzzle/escape room type game offers a mini-horror experience that doesn't rely on excessive gore and traditional jump scares to create fear. Instead, we focus on building tension and suspense through atmospheric storytelling and a gradually unfolding narrative that culminates in a surprising ending.

To enhance immersion, we added depth and coherence to the player's experience by including first-person, self-talking dialog between stages and storyline animations that progressively advance as the player progresses through the game. By leaving out NPCs, we give players the ability to drive the story forward on their own, deciphering clues scattered throughout the environment in order to progress.

In addition, our gameplay process incorporates a multi-sensory experience that blends visual and auditory cues to help players cope with in-game challenges. This multi-sensory approach facilitates intuitive decision making and enriches the overall game experience.

6. Theme(s) of project

Isolation: The feeling of being alone in the vast expanse of the open water contributes to a sense of isolation and vulnerability, amplifying the horror experienced by the player.

Fear of the Unknown: The foggy night setting and the presence of the siren create an atmosphere of uncertainty and fear of the unknown. Players must confront their deepest fears as they navigate through the darkness, never knowing what dangers lurk just beyond their field of vision.

Survival: At its core, "Boat" is about survival against overwhelming odds. Players must use their wits and resourcefulness to navigate the treacherous waters and escape the horrors that await them.

7. Visual style of project


Figure: Screenshot from game Ghostwire Tokyo (2022)

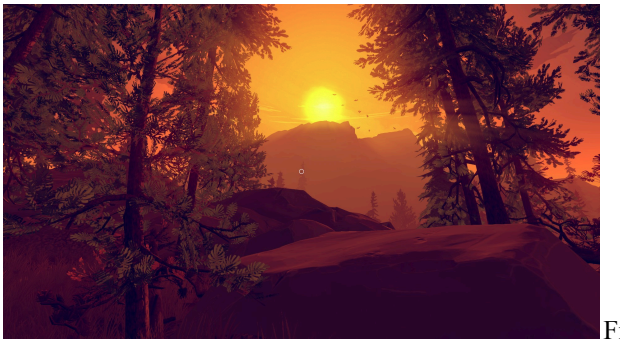
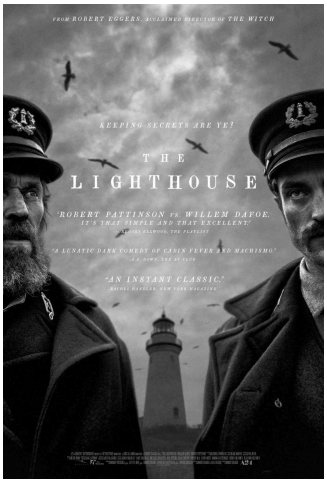


Figure: Screenshot from FireWatch

Realism: Realistic graphics, sound design, and gameplay mechanics can enhance immersion by making the game world feel more believable and immersive. This sense of presence can draw players deeper into the experience, amplifying the suspense and tension as they navigate through the game environment. It can create bigger sense of dread. Realism can make the horror elements of your game feel more tangible and immediate, heightening the sense of dread and anticipation as players explore dark and foreboding environments. By creating a sense of verisimilitude, you can make the player's fear feel more real and visceral.


Figure: Screenshot from Nosferatu the Vampyre(1979)



Figure(left): the poster of the film Lighthouse (2018),

Figure(right): Screenshot from the film Lighthouse(2018).

The visual inspiration is from a film called Lighthouse. Although it was made in 2018 it followed the old school film production way, black and white film shooting. The genesis of the film originated with Max Eggers' reinterpretation of Edgar Allan Poe's incomplete short narrative bearing the same title. In collaboration with Robert Eggers, Max Eggers commenced the adaptation process, drawing upon nineteenth-century folklore depicting a lighthouse mishap in Wales. The visual aesthetics of "The Lighthouse" are influenced by photographic documentation of 1890s New England, as well as maritime motifs prevalent in French cinema during the 1930s, intertwined with elements of symbolist art.

This film didn't have many obvious horror visuals to make audiences feel scared. However, the visual and art direction give audiences a feeling of tension and nervousness, which draws attention a lot. We get lots of information from that.

Edge Allen Poe & Japanese Edo period style

Edgar Allen Poe's poems: https://poestories.com/poetry.php

Inspiration from Edgar Allan Poe: Edgar Allan Poe's mastery of Gothic literature and his exploration of the human psyche serve as the cornerstone of our game's narrative. Drawing from his poems such as "The Raven," "The Tell-Tale Heart," and "The Fall of the House of Usher," we aim to instill a sense of foreboding and unease in players as they navigate through eerie environments and unravel the mysteries hidden within.

Influence of Japanese Edo Period style (Japanese Samurai Animation): The artistry and depth of Japanese samurai animation, with its emphasis on honor, loyalty, and the supernatural, provide a unique aesthetic and thematic backdrop for our game. From the graceful movements of the samurai to the intricate details of traditional Japanese architecture, players will find themselves immersed in a world that seamlessly blends historical authenticity with otherworldly terror.

8. Core desired user experience

a) Who are the target audiences?

Our target players will be those interested in VR immersive horror games as well as puzzle games. In addition, our gameplay will follow a Japanese horror tone, therefore our players should have some knowledge as well as interest in Japanese or East Asian horror elements, which will make them more empathetic to the game's setting.

User group: VR Enthusiasts / Japanese Horror Enthusiasts / Puzzle Game Enthusiasts

b) Desired user experience and how your VR experience ideally transforms immersants

The desired user experience of "Boat" is to transport players into a world of terror and suspense, leaving them with a lasting emotional impact. The main storyline of the game involves the player following hints to find 5 traditional Japanese dolls which are hidden in an old and broken fishing boat.

The beginning of the game is made to be unpredictable but not confusing.Players will learn that the way to play the game is to collect all the dolls on the boat, but they don't know how this will end. Additionally, we designed a backstory for the game and it appeared as a transitions animation after each doll the player found. This made the gameplay more interesting and fulfilling for the player.

Through the constant creepy and terrifying overtones of the game's scenarios, we want the player to be constantly on edge as the game progresses, yet as clues and dolls are found, they'll feel that hope is very close.And for the final reversal ending, we hope players will feel unexpected and shocked. And since the ending won't explicitly say where the player will end up, we hope players will have more room for imagination and perhaps look forward to the game's sequels.

c) How is your project taking advantage of the special affordance and opportunity of VR?

We think the biggest advantage that sets VR games apart from other forms of gaming is the immersive experience that players will have, and that fits right in with the goal of a horror puzzle game. Even if based on different backgrounds, human understanding of fear is generally similar, based on this, we will utilize the powerful multi-sensory combination of VR to create a game that fully embodies horror and creepiness. Most horror puzzle games played on other platforms proceed by clicking or touching the screen and are much less immersive. In a VR environment, however, users will interact with the environment through somatosensory manipulation, at the same time, the scene seen in front of them

will not be affected by external factors, which gives them more of a sense that they are experiencing the adventure themselves.

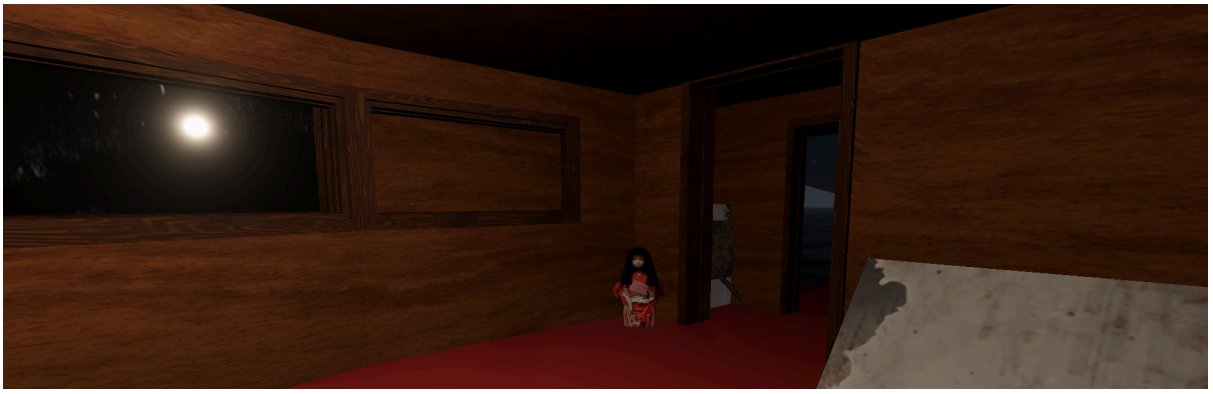
9. Introduction

Premise

The game begins with the player taking on the role of a fisherman who is on a normal fishing mission and then gets stuck on an anchored boat surrounded by thick fog because of a strange doll.

Objective

The player will need to collect clues on the boat to find all 5 dolls and then release the ghosts imprisoned in the dolls. The ultimate goal for the player is to collect all the dolls, learn the truth behind what is happening on the boat, and try to escape the ship.



Core Interaction

The player will walk through the entire boat collecting clues. Some of the objects in the environment can be touched and interacted with, such as a fishing rod with a fishing function, a diary that can be flipped open, and a combination chest.

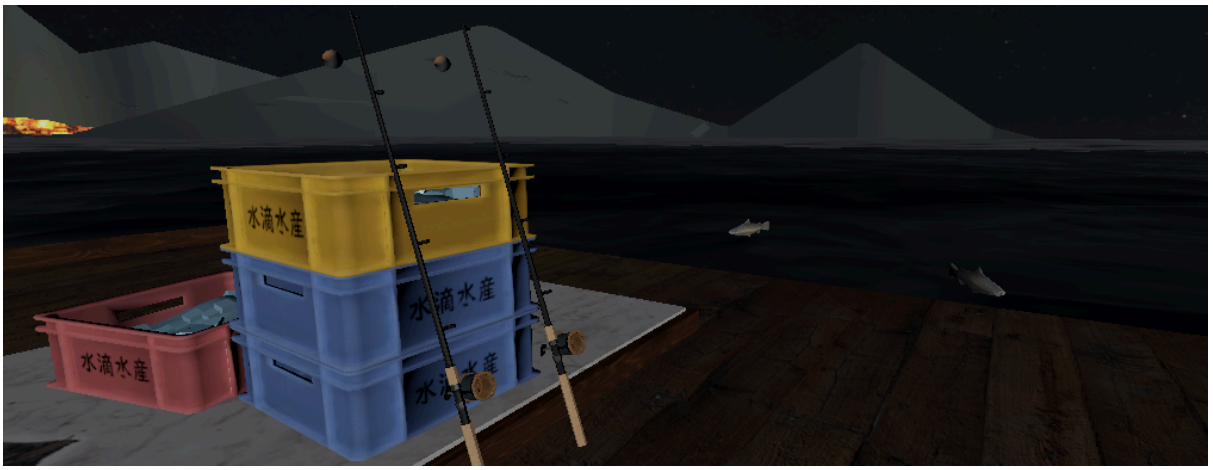
10. Narrative/Story

The story takes place in a village that has been fishing for generations, this village that has maintained a tradition for centuries of sacrificing a kid to some mysterious creature of the sea for peace before go to sea. Some young people in the village think this tradition is ignorant and cruel, so they want to rebel against this tradition. Our protagonist is one of these young people. Once before going to sea, the protagonist defied the other villagers and saved a girl who was about to be sacrificed, so the sacrifice failed. The villagers are very angry about this, as a price, the villagers force the protagonist to go fishing alone.

After going out to sea, the protagonist finds himself gradually surrounded by fog, and the boat is also affected by some kind of power that prevents it from moving forward. At that moment, a strange doll appeared in the corner of the cabin, the protagonist went forward to pick up the doll, a spirit instantly rushed out of the doll and disappeared. At this point, the protagonist realizes that it is the ghosts of those children ensconced in the boat that are preventing him from leaving. So he starts searching the boat for all the dolls in order to free all the ghosts, which he thinks will get him out of the trap.

11. Storyboard

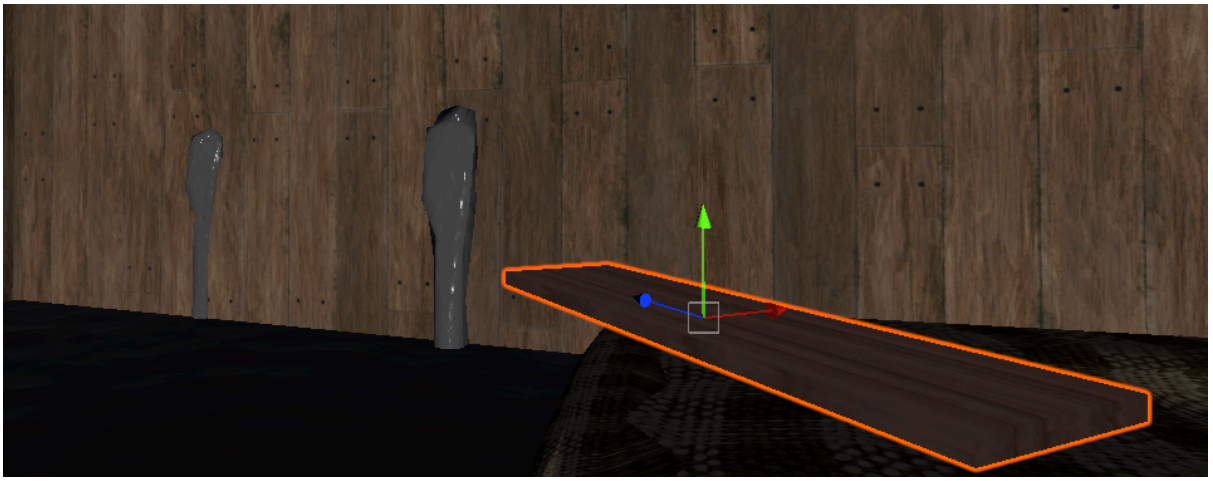
Step 1: Wearable Safety Helmets with Lights on



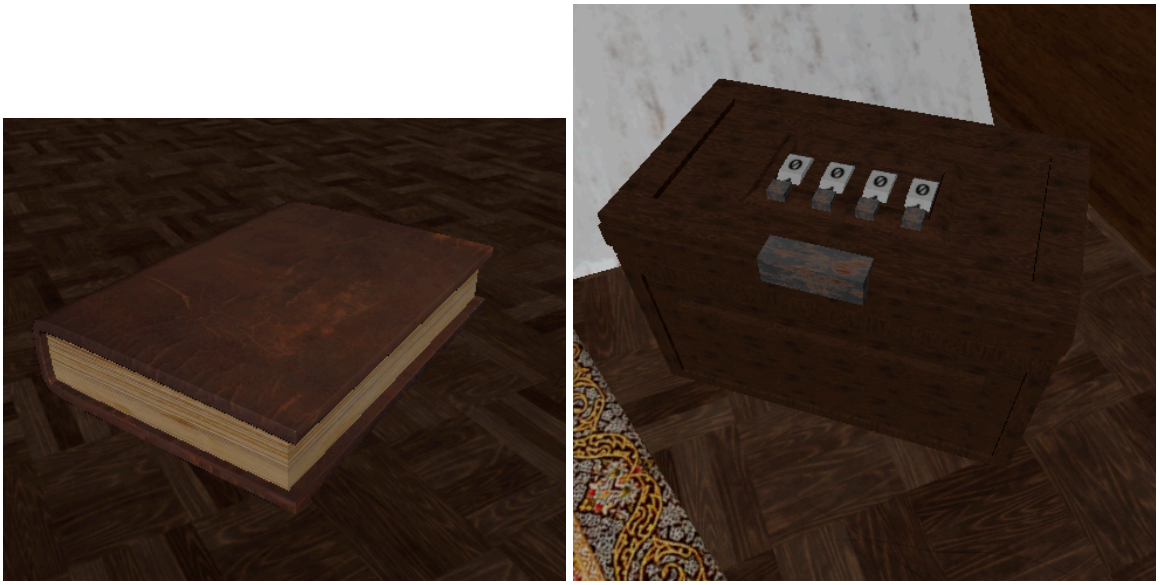
Step 2: Fishing Using Rod

Step 3: Insert key to Maneuver the Boat

Step 4: Collecting the Japanese Dolls



Step 5: Use Boards to Repair Leak



Step 6: Finding the Code in the Book

12. VR mechanics & Physical Rig

Core Mechanics

Collecting the Dolls - users interact by physically grabbing the dolls. When releasing them the doll will disappear and sometimes trigger an event like a cutscene. Collecting the dolls is the core experience of the game. The creepiness of the dolls and the expectation that there might be a scary cutscene when they pick one up adds to the experience we created.

Secondary mechanics

Fishing - Used at the start of the game to introduce the player to their environment of being on a fishing boat, then also to grab a wooden board needed later and the first doll. The player uses this by picking it up then holding the trigger while they swing the rod to cast it. Holding the second hand by the reel will pull in the line. There is a floating UI attached to the rod when picked up that explains the controls since it is the most complex interaction in the game that may not be obvious how to use.

Boat console - near the beginning of the game, the player will need to try to start the boat. This will require them to pick up a key and place it in the console, then push forward a lever to give power to the boat.

Fixing the leak - when the boat is started, something will break and the player will go downstairs to fix it. There are two holes in the wall with leaking water that the player needs to cover by picking up a board and then placing it on top. This interaction adds a sense of urgency for the player, but also forces them to problem solve the puzzle aspect of the game since they will need to remember to go find the second wooden board they fished up at the start.

The locked chest - there is a locked chest with a 4-number combination lock on it. each number has a button below it that the player can press with their hand to cycle between the numbers.

Envisioned physical setup

Wind: Player feels the wind from the sea.

Smell: The smell of a diesel-burning engine.

Heat: It's a little chilly out at sea.

Locomotion technique

Teleportation

Advantages

Reduces Motion Sickness: Reduces motion felt by the user in the virtual environment through instantaneous movement, thus reducing motion sickness.

Rapid movement: allows the user to quickly traverse to different locations in the virtual environment, increasing the pace of the game.

Disadvantages

Breaks immersion: frequent teleportation may make users feel disjointed, thus reducing immersion.

Poor spatial awareness: Users may be confused by the spatial layout of the environment, especially if teleportation is used frequently.

Smooth Locomotion (Smooth Locomotion)

Benefits

Enhanced immersion: mimics real-world movement, increasing the user's sense of immersion.

Good spatial continuity: maintains the continuity of the environment, which helps with spatial orientation and memory.

Disadvantages

Risk of motion sickness: for some users, smooth movement may trigger motion sickness, affecting the experience.

Slow movement speed: compared to teleportation, smooth movement is slow, which may affect the game rhythm.

13. Inspiration Analysis

Figure: Screenshots from the animation Blue Eye Samurai (2023).

Figure: Screenshot from the animation Samurai Champloo (2004)

The main story inspiration is from some Animation in which the background are Japanese Edo period. Both of them have special aesthetics and give audiences a feeling during that era. Wood Architecture, Kimono, Snow Day…These are pretty but also give a sense of alienation which we want to use in our game design.

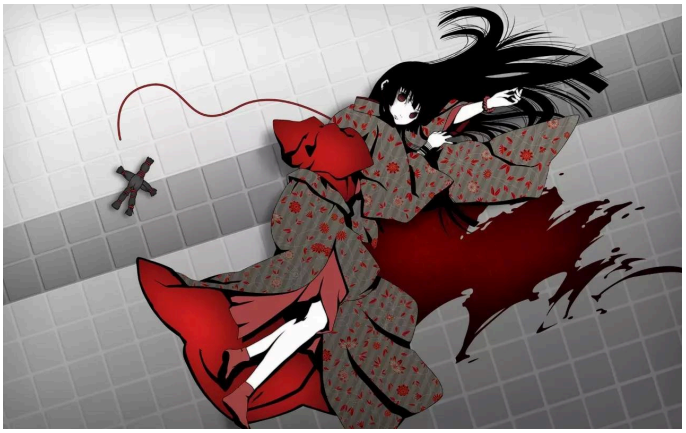


Figure: Screenshot from the animation Hell Girl (2004).

The set design is inspired by the animation Hell Girl (2004). The representation of the gates of hell in the animation inspired us to build the final scene, including the use of a torii that connects reality and hell, a sea of flowers that symbolize death, and blood-colored water.

14. Immersion Frameworks

Sensory Immersion: We created some very grand scenes to provide a sense of immersion, and for the main environment we created fog to make the scene even more eerie and mysterious. Utilize high-quality graphics and sound design to create a visually stunning and realistic representation of an old-school Japanese boat. Incorporate dynamic weather effects to enhance the sensation of being on the water. Implement haptic feedback to simulate the feeling of movement and interaction with objects in the environment.

Challenge-based Immersion and Narrative Immersion: As for the script, our script is mainly about collecting dolls on the ship. Each doll has its own story and interaction process, which makes our game layer richer. And not just a pretty scene. Design the game with progressively difficult puzzles and obstacles that require players to use their wits and skills to overcome. Introduce elements of suspense and urgency to keep players on their toes and fully engaged in the experience. Incorporate branching narratives and multiple endings to provide replay value and encourage players to explore different strategies for escaping the boat. Use voice acting and dialogue to bring characters to life and deepen the emotional connection between players and the game world.

15. Why Your Project is Innovative

(a) What’s new/interesting/cool/exciting/different about your project?

Cultural Fusion: By setting the game in old-school Japan, you're immersing players in a rich and vibrant cultural backdrop that's both visually stunning and historically fascinating. This cultural immersion adds depth and authenticity to the game world, making it feel like a truly immersive experience.

Strong Narration: Our game stands out for its strong storytelling, and players will be immersed in a compelling background story as they play. As the game progresses, they will gradually unravel the layers of the story and

delve into the secrets of the game world. This coherent storyline not only attracts players' attention, but also stimulates their curiosity to keep pursuing more answers. This strong narrative appeal will not only allow players to enjoy the gaming experience, but will also motivate them to look forward to our possible future sequels, laying a solid foundation for the development of the game brand.

(b) Why is your project **relevant**? How does it provide a **meaningful** / desirable experience to the users?

Cultural Appreciation: In a globalized world, there's a growing interest in experiencing and learning about different cultures. By immersing players in the world of old-school Japan, your game offers an opportunity for cultural appreciation and understanding. Players can explore the rich history, traditions, and aesthetics of Japan in an interactive and engaging way, fostering empathy and curiosity about other cultures.

(c) For your showcase, what would be your main “selling points”? Why should anyone care about it?

+ We have the full story regarding the story.
+ We have an even better scenario design that includes not only high-quality textures, but also rich models that fit the scenario, and a rendering setup that provides a high level of immersion.
+ A more engaging showcase setup, including a big-screen TV showing the game in action in real-time and a nice design game poster that meets industry design standards.

16. User Testing Goals and Outcomes

(a) Goals, Questions, and Hypotheses:

Is there any content in the game that hinders the player's progress?

Is the player getting enough guidance? Does the guidance system provide enough information for players?

Q: Do you know what’s going on in the game?
Q: Do you have a strong confidence to finish the game?
Q: Does the guide system make sense for you?

Hypotheses: The guide system is working for everyone.

(b) Methods:

Observational Usability Study - simple observation

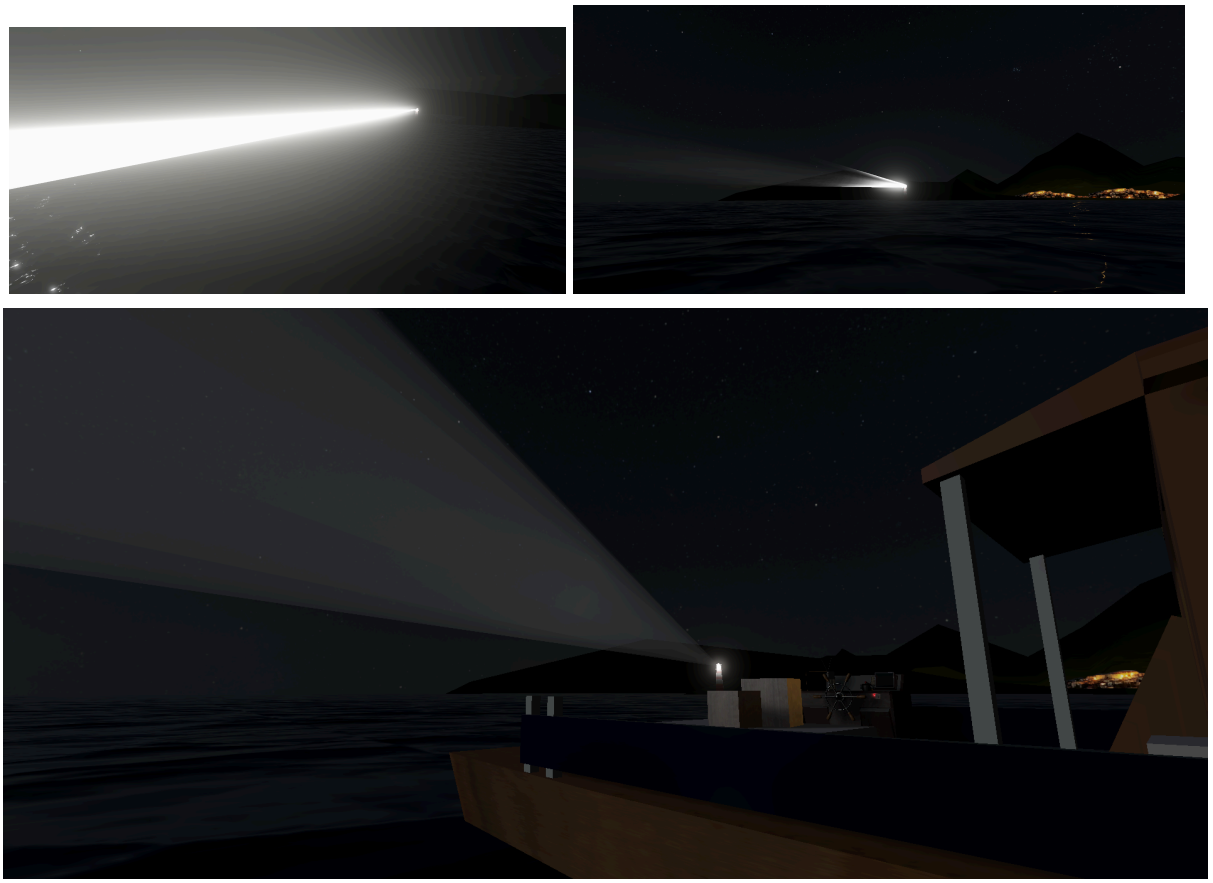
Task 1: Put on the headlight.
Task 2: Use the fishing rod to get two fish.
Task 3: Fix the leaking points.
Task 4: Collect all dolls.

(c) Results:

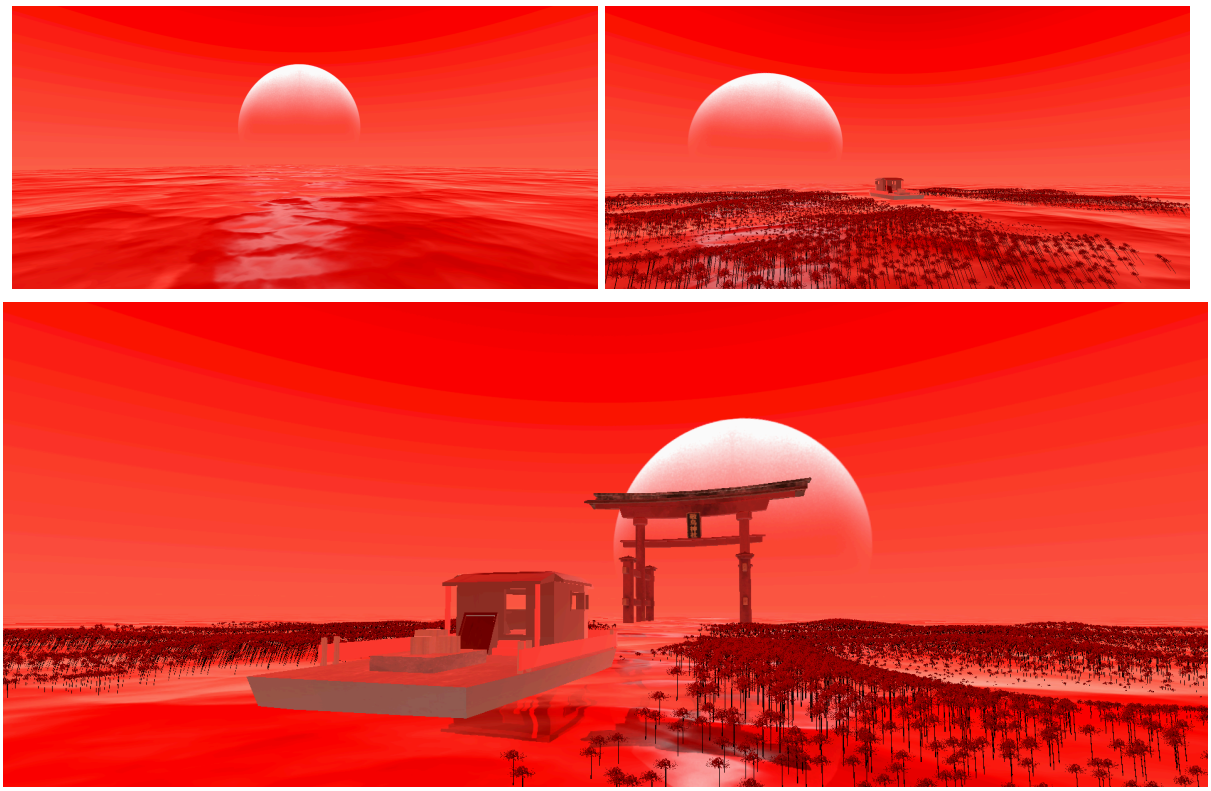
The study found that the guidance system is not enough if the game relies only on the voice of the main character to prompt the player's next step. In noisy environments and distracted situations, the player

may miss the voice messages and not know how to continue the game. The vast majority of players miss the voice hints thus not knowing what to do next.

17. Prototyping process



Figures: The Development of Light Volume of Light House



Figures: The Environment Set Up of the Final (Torii) Sense Process

Figures: The Boat Set-Up Process

19. Critique

We have received many requests and suggestions for a guidance system. Because we designed our fishing mini-game to be physics-driven, it is difficult for players to intuitively understand the logic of how this system works. Therefore many of the suggestions were to add a guidance system to help players.

We introduced a text and picture guidance system in the final version, which is more intuitive than the sound guidance in the previous version, and most of the guidance only appears when the player has not been able to complete the next objective for a long time to ensure immersion.

20. Equipment needs

From School:

Table, 2 chairs, TV, power bar, walls.

Provided by us:

Quest 2 VR headset and controllers, laptop

21. Technical Documentation

Scripts:

Casting script - the script controls a spring join that connects the fishing rod and the lure. Then the controller trigger is pulled, the distance limit of the spring joint is set to a very far distance, and when released it resets the max distance to the current distance of the lure to stop its momentum. It also has a method for slowly reducing the maximum distance when the player's hand collides with the reel to allow the player to reel it in.

Lock scripts - the locked chest uses two scripts. one for the individual numbers, which is triggered when the player presses the button, to rotate the number and change its value. The other script checks all the numbers any time one of them is changed to check if the code matches the lock combination. If it matches, the script will change the max movement range of the hinge joint holding the chest lid down to allow it to be opened.

22. Appendix A: Documentation of Ideation Process

Everyone on our team devised an idea for a game and wrote a detailed script.

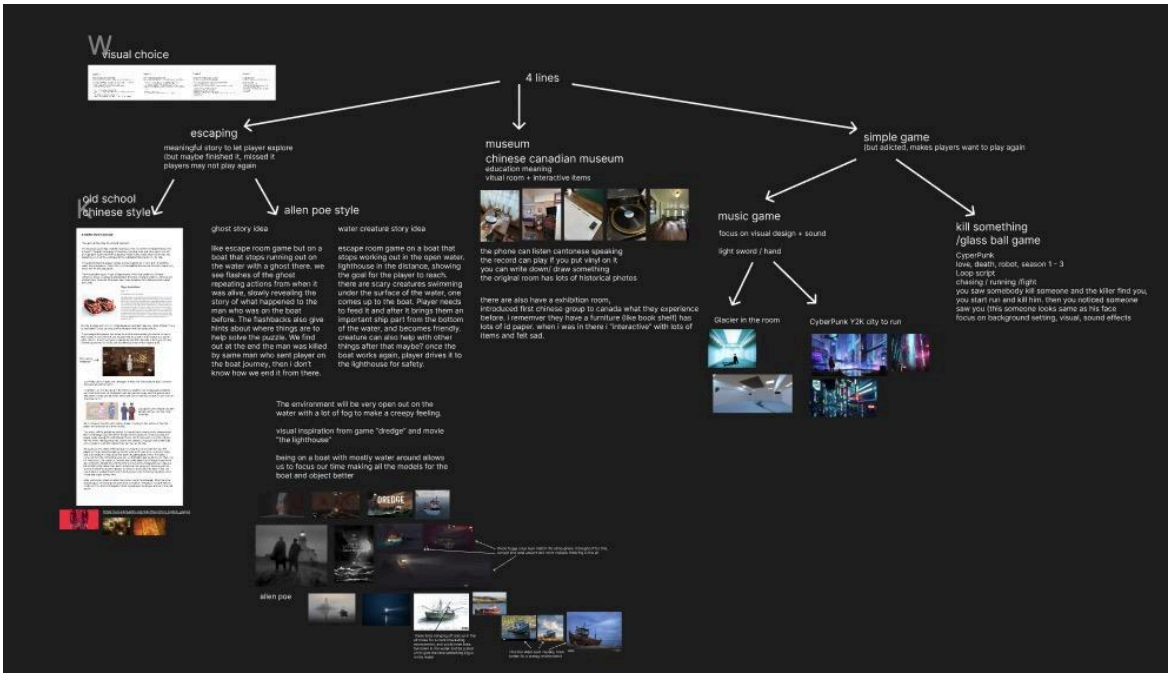


Figure Screenshot of our brainstorming

Initial environment

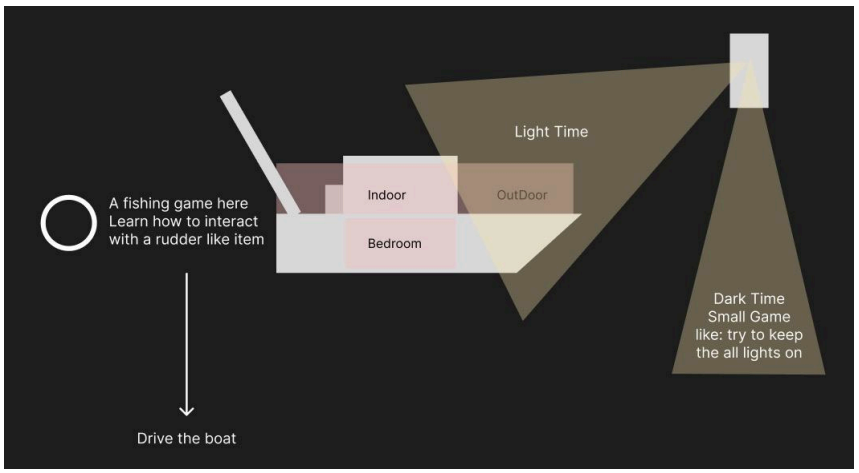


Figure Screenshot of our initial boat design

Final game script

We wrote the full game script, including audio specific to each doll being discovered, scenes, timing, and triggered animation scenes.

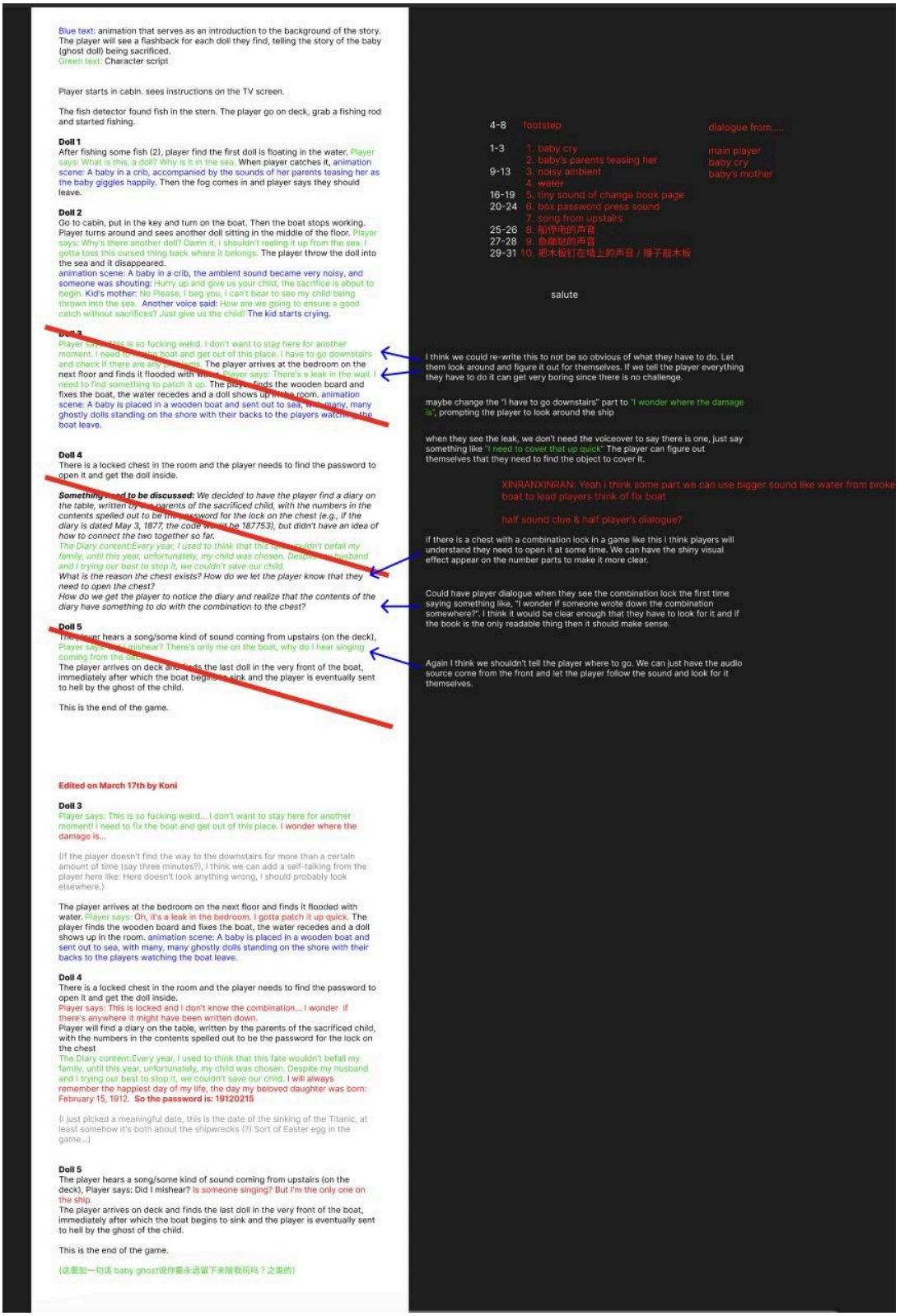


Figure Screenshot of our final script and everyone's annotation

23. Appendix B: Sketches & Misc

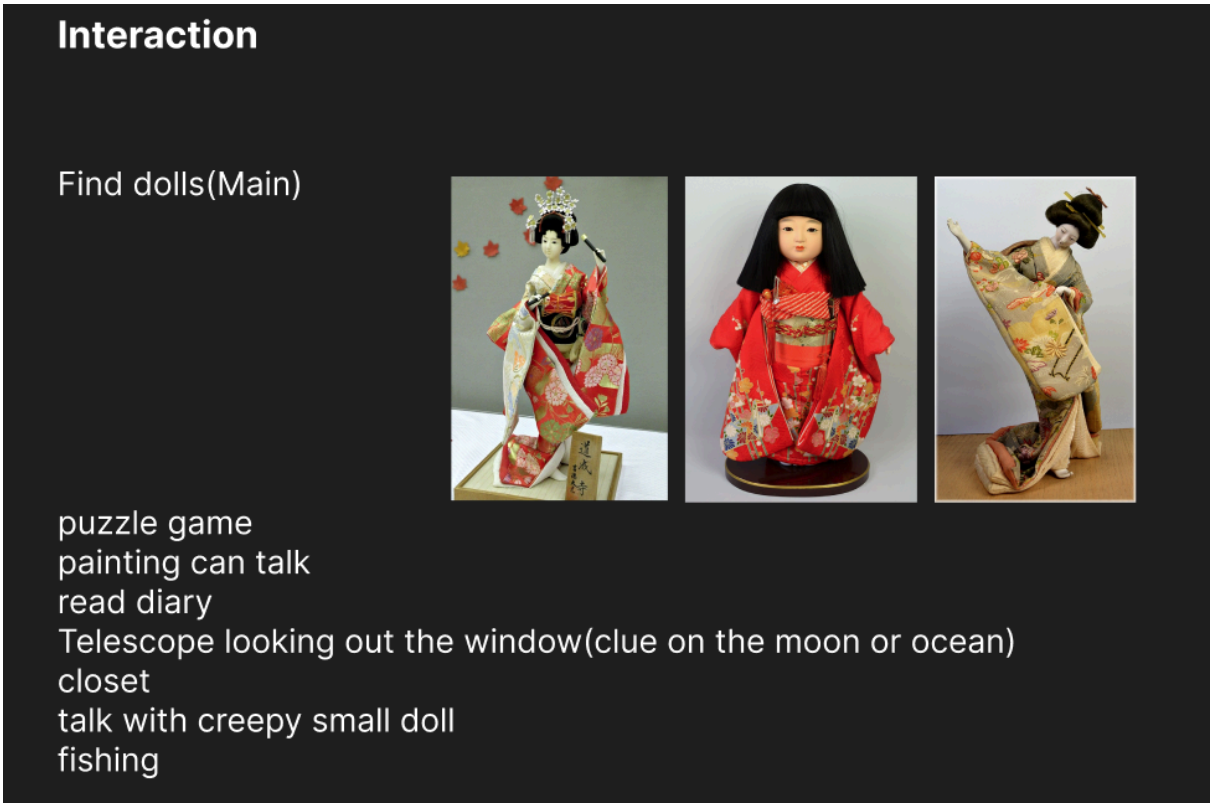


Figure: Inspiration from old school Japanese style dolls.

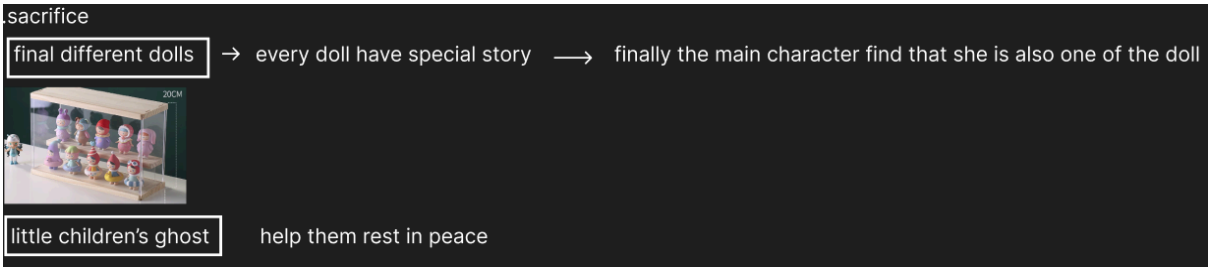


Figure: Inspiration from the idea of collecting dolls.

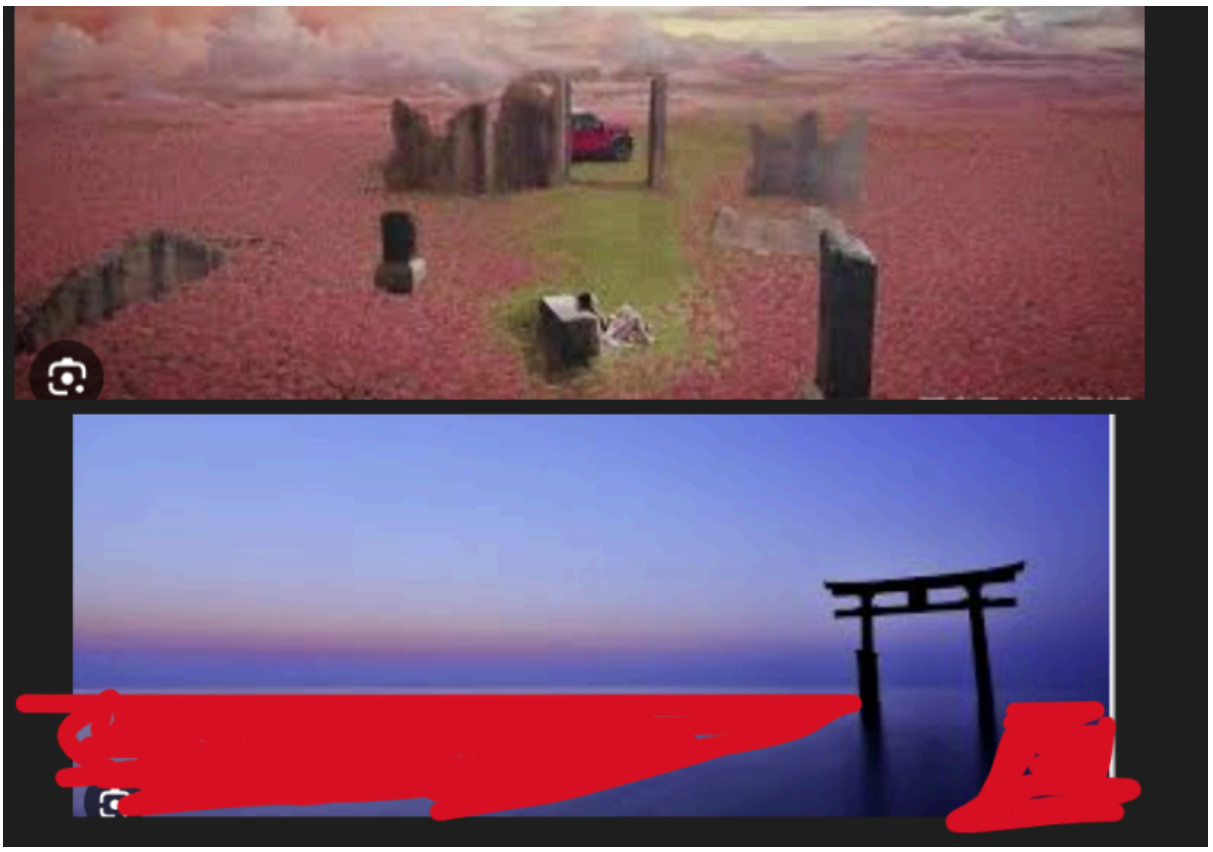
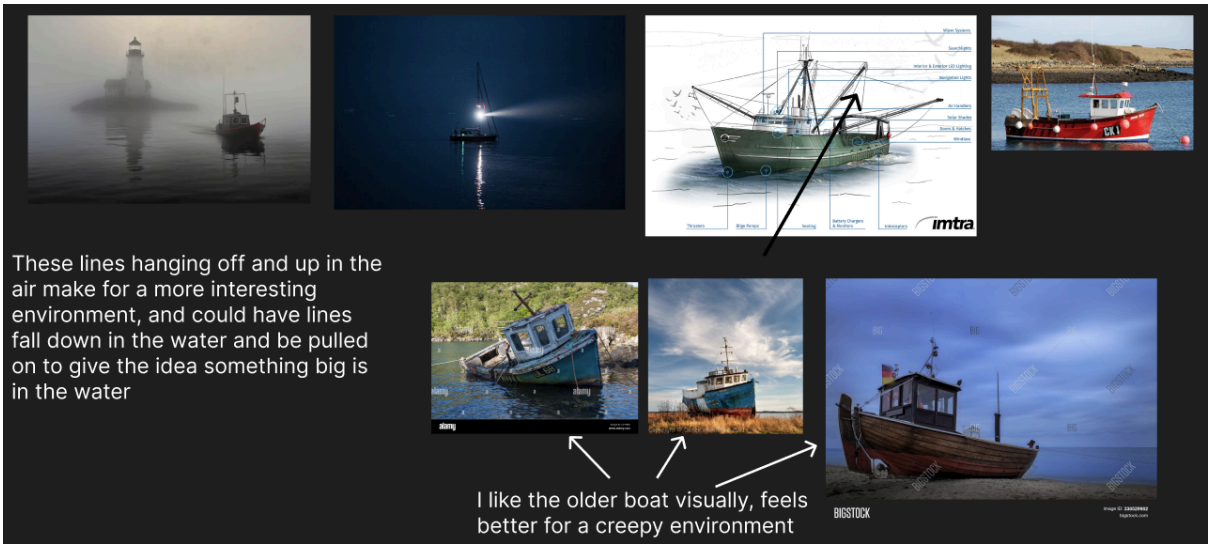


Figure: Inspiration for the final environment.



.Figure: Inspiration for the boat environment.

Figure: Inspiration for the foggy environment.

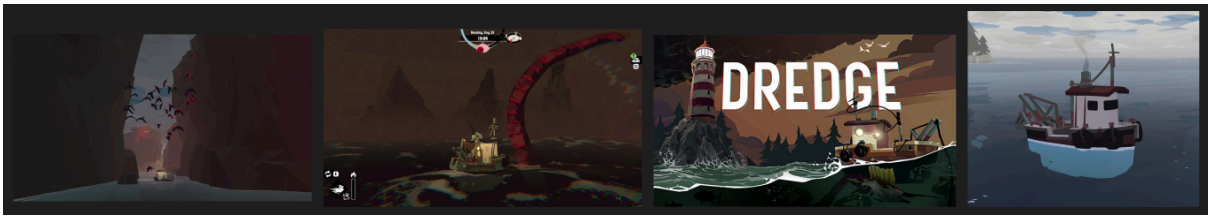


Figure: Inspiration for the environment.

Figure: Photoshot from the Chinese Canadian Museum, which is our inspiration for the interactive ways.