

Game Documentation: Climate Game Concept for INFO 360

1. Basic Elements

1.1. Title

STILL WORKING ON IT I spent weeks trying to figure this out and I think I just have to spend more time conceptualizing the game. Some ideas: something related to echoes, resonance, and legacy. “Fragments of Tomorrow” sounds ridiculous but I am not ENTIRELY opposed.

2. Game Overview

2.1. Game Concept

This is a mixed narrative/open-world exploration game set in the future (probably between 300-500 years) where Earth has become uninhabitable due to the climate crisis. Players assume the role of young explorers who have traveled from another planet to study the remnants of Earth and its history. The game invites players to explore a post-climate crisis world, uncovering clues, artifacts, and stories about how the climate crisis escalated. The core objective of the game is to piece together the story of how Earth became inhabitable by exploring ruined cities and overgrown landscapes, solving puzzles about what happened in specific environments, potentially battling results of past human creations and mutations, and interacting with objects that reveal the truth about humanity's actions. The characters serve as a lens through which players can reflect on climate change in a detached perspective, offering an opportunity to process climate grief. The game is designed to be both educational and engaging, providing an emotional journey through the destroyed world. The non-Earth perspective of the player allows for an exploration of the topic without overwhelming users. Players will encounter various interactive environments, each revealing a different chapter of Earth's history, ranging from natural disasters to flooded coastlines and abandoned oil rigs. These spaces not only highlight the environmental consequences of the climate crisis but also present clues that players must piece together to uncover the full narrative. The game encourages critical thinking, reflection, and problem-solving. The game aims to inspire young players to think critically about their own impact on the environment while offering a space to process what the future might look like.

2.2. Target Audience

The primary target audience for this game is young adults and teens (ages 13-24 based on the serious nature of some themes). It could be for individuals who have a lot of knowledge about the climate crisis, or not so much.

2.3. Genre(s)

Open -World Adventure: The game allows players to freely explore the environment and take on different quests, giving them some flexibility.

Narrative - Driven: The game will have a strong narrative focus, with clues, artifacts, and in-game journal entries revealing what happened to the planet.

Puzzle/Investigation: Solving puzzles based on environmental clues will be an important gameplay mechanic. Players will need to gather evidence, analyze objects, and think about clues.

Educational: The game will incorporate educational elements, especially regarding the effects of climate change and how humanity's actions impacted Earth.

Survival (Somewhat): While the main goal is exploration and discovery, elements of survival will appear in the form of environmental hazards (e.g., toxic zones, weather patterns, loss of food/water) that challenge players to adapt to different situations.

2.4. Game Flow Summary – How does the player move through the game? Include both the interface and the game itself.

Main Menu: Minimalist design with a background of a crumbling city, featuring options for New Game, Save Progress, Continue, Settings, and Exit.

HUD: Simple and unobtrusive, with a small map, context-specific interaction prompts (i.e. "Inspect Artifact"), a journal to track clues, and a health indicator (depending on the situation)

Exploration: Starting in a safe zone, the player freely explores vast environments like abandoned cities, forests, and coastal ruins, uncovering clues, artifacts, and environmental hazards.

Narrative Progression: Clues and artifacts trigger flashbacks or journal entries, revealing Earth's history and the climate crisis. Players solve puzzles, understand technology, or interpret messages to unlock areas and insights.

Character Interaction: The player may interact with remnants of technology that still operate on the planet's surface. I have still not figured out how sentient these pieces of technology will be; but I am almost certain that it would be really cool to have a terrifying AI-powered robot.

Endgame/Conclusion: I have not figured this part out yet.

2.5. Look and Feel – What is the basic look and feel of the game? What is the visual style?

1. Visual Style

- Realistic but stylized/slightly cartoonish
- Scenes from the past are warm, earthy tones (browns, greens, blues), scenes from the present are mostly muted, cool tones (grays, washed-out greens, browns), specific weather zones have dramatic lighting with reds, oranges, and dark blues (i.e. floods, wildfires)

2. Environments

- Urban ruins, flooded coastlines, overgrown forests in some northern regions, desolate wastelands, toxic areas/leftover pollutants, leftover structures with debris and old buildings, old oil rigs etc

3. Mood and Atmosphere

The mood will be somber and mysterious using dynamic lighting and ambient sound (wind, rustling leaves, distant water). Some contemplative music will be optional for the background and accompany important/emotional moments.

3. Story and Narrative

3.1. Back story

Earth is no longer habitable due to a catastrophic climate crisis. The planet's ecosystems collapsed, cities were abandoned, and humanity's legacy was erased (at least for those who did not flee to other planets or were affluent enough to find a way out). Now, Earth stands as a ghostly reminder of a devastating history. Your mission as an explorer from a distant planet is to uncover Earth's history, with the hope of preventing the same fate from occurring on your own planet. Players take on the roles of two distinct protagonists, each with their own unique perspective and storyline.

3.2. Plot elements

The two characters arrive at Earth, starting in a designated safe area. They explore the various environments with little to no context of where they are. Player 1 takes the lead in examining technology and environmental clues, while Player 2 provides context from the human perspective, helping to decode the emotional and historical significance of their findings. Players have the option to pursue distinct storylines with each character. As they travel through flooded coastlines, crumbling skyscrapers, and desolate wastelands, the players find personal items—letters, journals, and relics from Earth's history. These clues trigger flashbacks and conversations that reveal the emotional cost of the climate crisis. Player 2 becomes more invested in the emotional connection to Earth's past, while Player 1 focuses on the scientific analysis of what went wrong, discovering how human technology and decisions led to the collapse. This part of the game introduces a pivotal moment where the characters face moral

dilemmas about humanity's responsibility and the dangers of neglecting ecological balance. I have not quite figured out the end of the game yet but I plan to think about it a lot more.

4. Research

In addition to reading some articles about integrating gaming and social issues as well as the climate crisis, I used convenience sampling to survey 20 of my friends and family members and I conducted two interviews with willing participants. From this information, I generated two user personas.

4.1 Survey

Some of the questions:

The image shows a survey interface with two questions and their responses. The first question is "What types of environments or landmarks would you expect to see in a post-climate-crisis Earth setting?" with 20 responses. The second question is "How old do you think the main character of an open world climate game should be?" with 19 responses. The responses are listed in a scrollable area on the right side of the question box.

What types of environments or landmarks would you expect to see in a post-climate-crisis Earth setting?

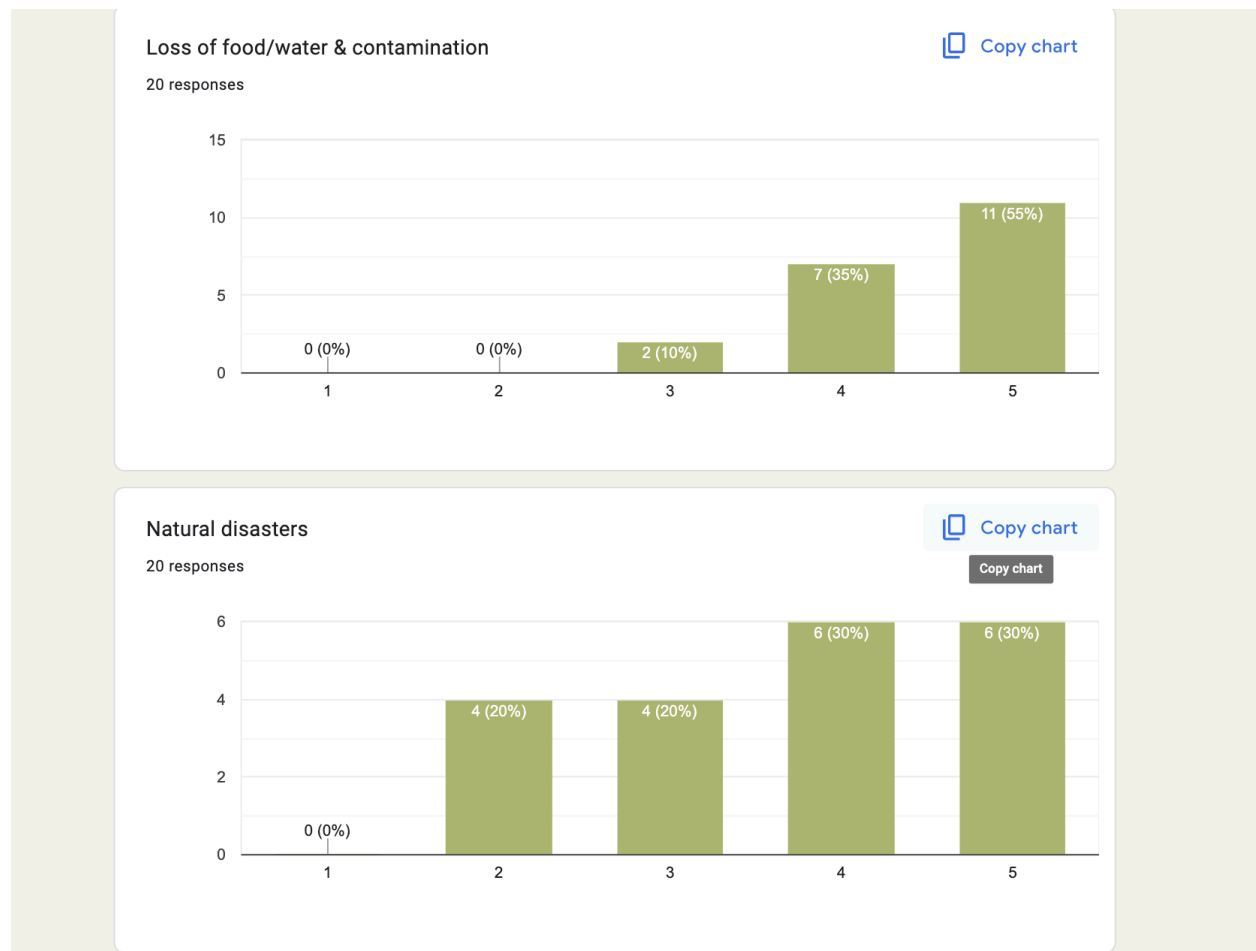
20 responses

- Ruined cities and a really high sea level and a bunch of trash
- Deserts and places that have flooded or forests that have been burned down
- Broken down buildings, nuclear fallout sites
- Probably forests without trees or barren areas
- Anything from complete desolation, to flooding, to leaving room for the unknown (think greenhouses on stilts)
- It would be cool to see what the ocean looked like or major cities being completely ruined
- maybe rising sea levels, old cities
- a city or a desert where the temperature is hot
- nuclear waste or an old oil rig would be pretty interesting

How old do you think the main character of an open world climate game should be?

19 responses

- Like 12-13 to make it more interesting for kids
- I think 20 would be cool, but also 18



Link:

<https://docs.google.com/forms/d/e/1FAIpOLScLK197VYM4pN1z45KYK76uwK6G9iQoffV64SVjg34juODIVg/viewform>

Findings:

1. Most users are age 20-21 (based on my convenience sample as a college student)
2. 50% had received a lot of education about climate change, and 40% had received some education about climate change.
3. Most people learned about it in class, through documentaries, and online sources.
4. 15% played video games very often, 30% played video games often, and 20% played video games sometimes.
5. For people who do play video games, they play a range of games. A lot of people play Minecraft and Valorant, a mix of RPG and FPS games.
6. For environments in this game, people would expect to see: ruined cities, deserts, forests without trees, old abandoned factories/fracking sites, underwater places, melted ice caps, surviving plants taking over areas, lots of flooding
7. There was a range of ages, but most people said teen to mid 20s.

8. People felt it was important to learn about how things got worse, what could have been done to prevent it, corporate and political dynamics and influence, the importance of working together, missed opportunities and specific efforts that could (or could have) stopped it.
9. Most people wanted a bit of both storyline and open world feeling for the game.
10. Out of all of the topics (questions with different options), people felt that loss of food/water/habitat and weather impact was the most important area to cover related to the topic.
11. Everyone thought that it was important to include political context but some said as long as it does not muddle the message.

4.2 Interviews

I conducted interviews with two friends that play a lot of video games.

Questions (after providing a brief description of the game):

1. Would learning about the climate crisis through a game appeal to you? Why or why not?
2. Does the idea of exploring a post-climate crisis Earth as a character from a different planet interest you?
3. What aspects of this concept appeal to you most? (i.e., storytelling, exploration, education, visuals)?
4. What types of mechanics would keep you engaged? (i.e., puzzles, resource collection & journaling, narrative choices, exploration, potential engagement with adversaries)?
5. How do you think would be the best way to go about balancing entertainment with educational elements in games?
6. Do you think playing as a character disconnected from Earth's experience would help players process or explore climate grief?
7. How do you think a game like this could address difficult topics like climate grief without being overwhelming?
8. What would you expect a post-inhabitable Earth to look like in the game?
9. What would make you want to replay a game like this, or would this game even be replayable?
10. How long do you think this game should be in order to adequately engage users?
11. What type of educational content about the climate crisis would you find most impactful to include?
12. What sort of UI that you see in other video games you enjoy should I potentially incorporate into this one?
13. Would you want to be involved in testing or providing feedback for future updates?

Interviewee 1 answers (paraphrased):

1. Yeah, games are a fun way to learn and make serious topics feel more personal.
2. Definitely! It'd be cool to see Earth from an outsider's perspective because it would probably make it easier to process what is happening.
3. I really like solving puzzles because I play a lot of games like It Takes Two and Outer Wilds, so that would be super interesting.
4. Like I said, puzzles, exploration, and making choices that affect the story. Resource collecting and learning about them in a journal could be cool, too.
5. Mix learning into the gameplay so it feels natural, not forced.
6. Yeah, I think I mentioned this but playing as an outsider could help players understand it differently.
7. I think mixing in moments of hope or having a few beautiful scenes could help them see that there is still an opportunity for change in some areas or how we live our individual lives.
8. Nature taking over cities, abandoned buildings, flooding and high sea levels, desolate deserts, old technology, maybe a nuclear waste site or an old oil fracking site.
9. Different story paths and easter eggs or alternate outcomes.
10. Around 20-25 hours would be cool.
11. Causes/key moments in history and resulting environmental impacts.
12. Simple UI like Breath of the Wild, I liked how the UX looked too.
13. Totally! I'd love to give feedback and see the game evolve.

Interviewee 2 answers (paraphrased):

1. Yeah, I think it could be a unique way to dive into a serious topic like climate change while still finding it interesting.
2. Yeah, it would remind me of one of those futuristic games like the Last of Us.
3. I like the idea of combining education with storytelling, but I also really like detailed game environments.
4. I think exploring new areas and environments sounds awesome, but it would be great if there was some sort of combat element.
5. I think you should make education part of the story, not just dumps of information.
6. It might help by showing a new perspective, but it'd be important not to make it feel too distant from what reality might look like.
7. The game should highlight both the consequences and the potential for change in a way that doesn't make it feel hopeless.
8. Ruined tech, storms and fires, and empty streets. Kind of like an eerie version of the world we know.
9. A good mix of different paths and challenges (and combat once again).
10. Maybe around 10 or 12 hours? Long enough to explore but not drag on.

11. I think focusing on how the environment, wildlife, and humans were affected would have the biggest impact.
12. Something intuitive and easy to navigate. I like games like RDR and Minecraft.
13. I'd love to get involved in testing!

4.3 User personas



Jamie (they/them)

Jamie is a 23-year-old university student studying Environmental Science. They have decent technological proficiency but mostly play calmer games like Animal Crossing and Minecraft. They prefer games that encourage exploration and critical thinking. They play casually, often in the evenings after school or work. Jamie is interested in exploring how games can teach real-world issues, and they are hoping to process some of their climate grief. They can get frustrated with overly complicated controls and mechanics that detract from the narrative or educational aspects. They dislike when games overly simplify serious topics.



Conner (he/him)

Conner is a 14-year-old high school student. He has an advanced understanding of technology, especially around gaming. He plays a lot of OW2, Valorant, and RDR 2. In general, he plays a lot of action and adventure games, often during weekends or after school. Enjoys both solo and multiplayer experiences and combat, exploration, and story-driven elements. Conner loves games that are exciting and have cool environments, and he likes to play to relax and escape. His parents wanted him to try a more educational game, and he is learning about climate change at school. He's

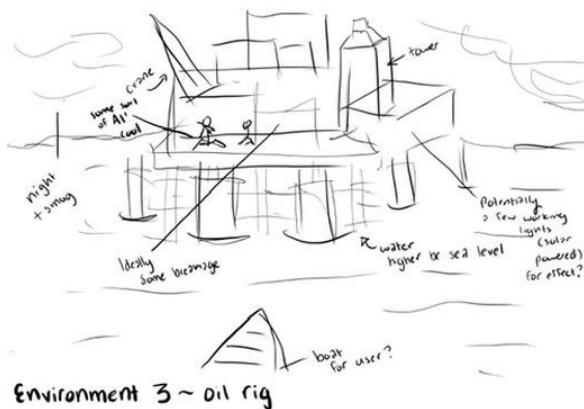
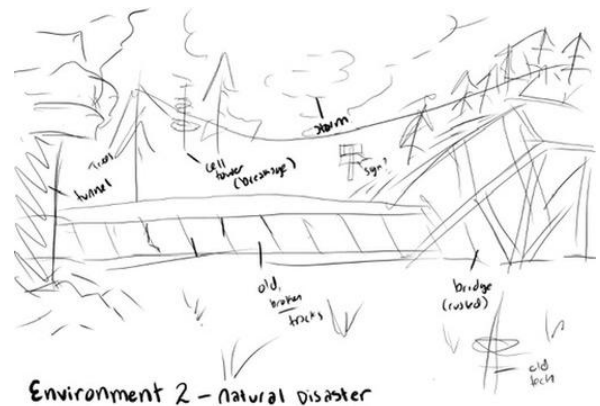
open to learning about climate change through games, as long as it doesn't feel too much like

“school.” He’d prefer if the game had fun mechanics and exciting exploration while also being educational without feeling preachy.

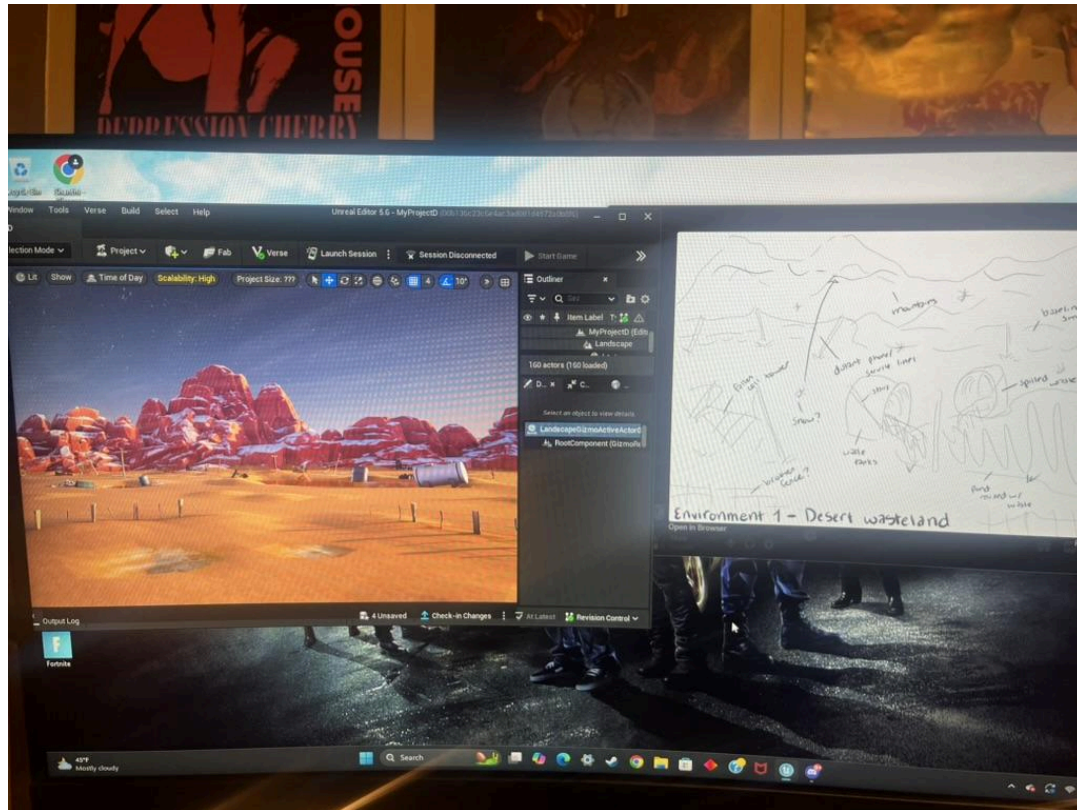
5. Game Environments

5.1. My process with designing environments

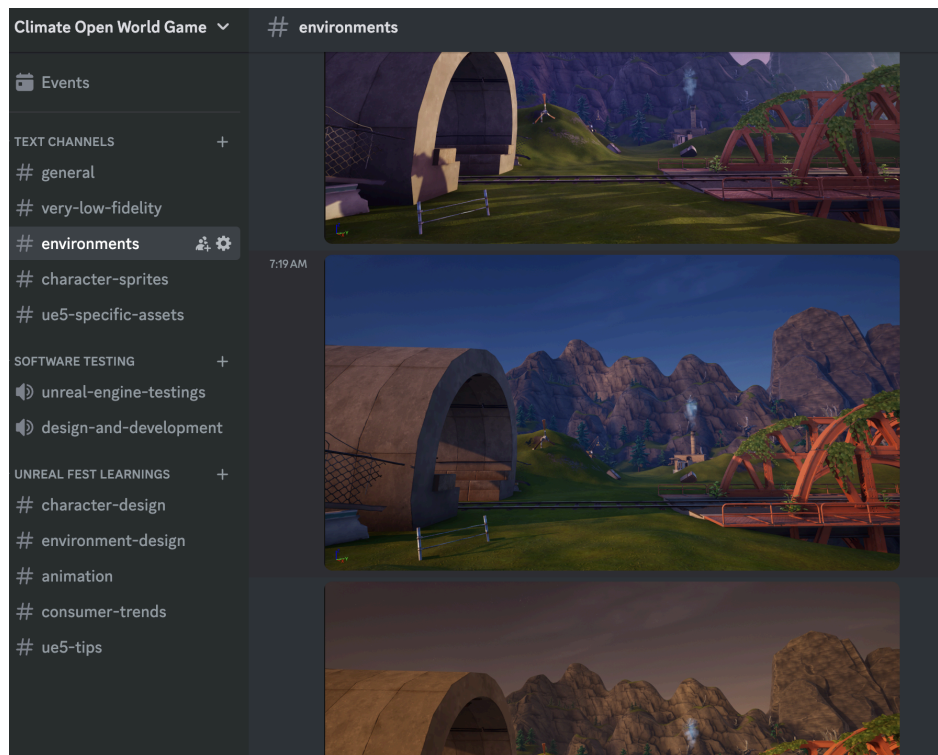
Primarily, I sketched out my environment ideas in Procreate. I decided on four environments: (1) Desert Wasteland, (2) Natural Disaster (I later just turned this into ruins because the tornado function was not working in UE), (3) Oil Rig, and (4) Abandoned Crossroads.



Here is me translating an environment over into Unreal Engine Fortnite:

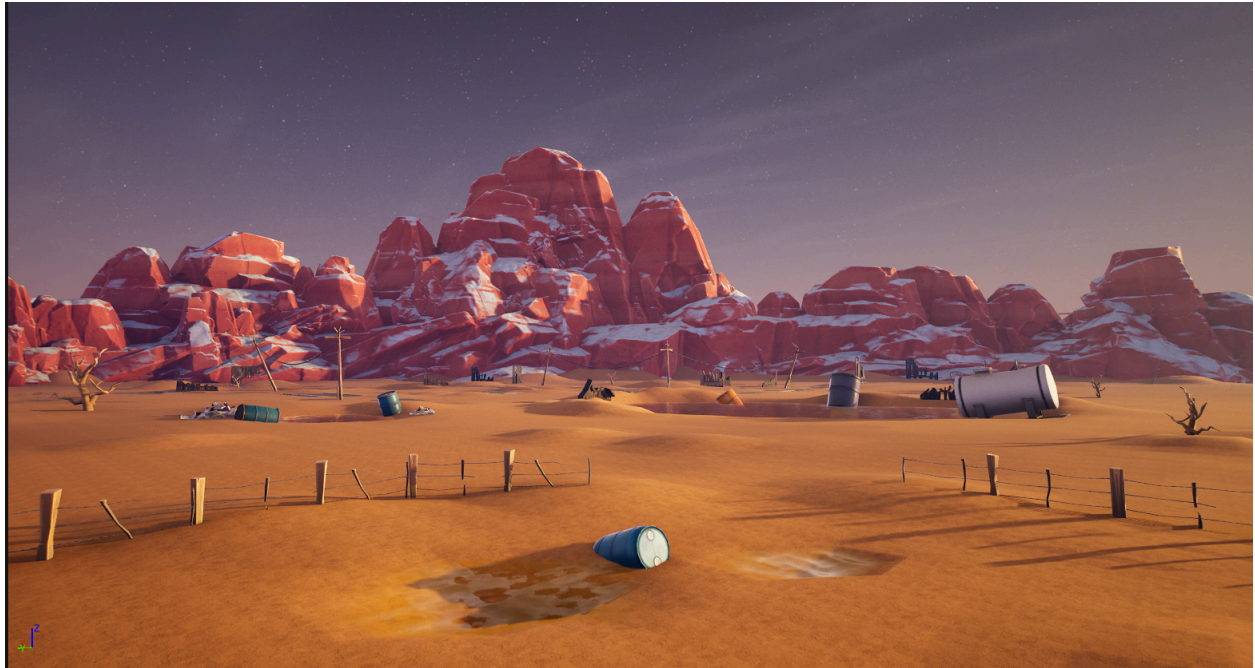


I also tested different light settings and amounts of fog, which I documented in a Discord server I made to keep track of my work on the game.



5.2. Updated environments and tools used

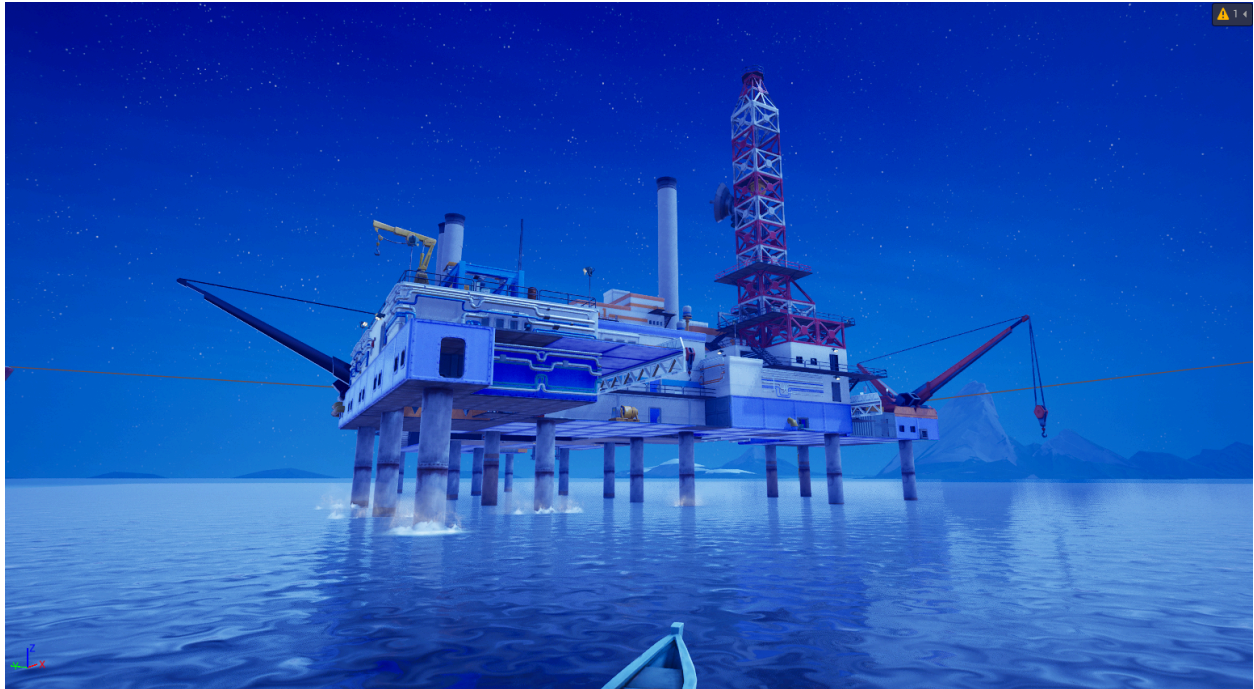
1. Desert Wasteland



2. Semi-working Structures



3. Oil Rig



4. Abandoned Crossroads



5.3 Ideas for future environments

While these environments are more general, I would like to make environments related to specific places on the planet. Here are some ideas:

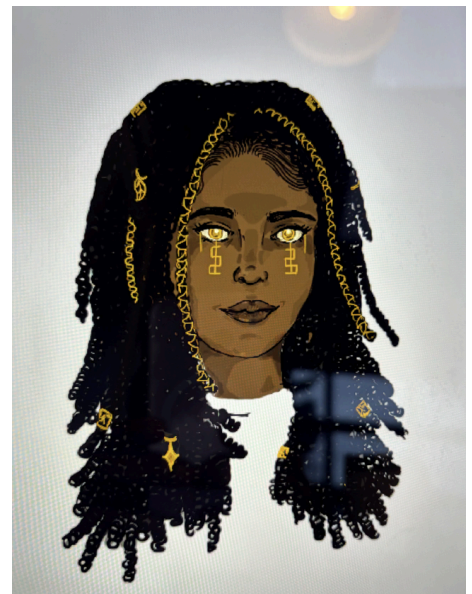
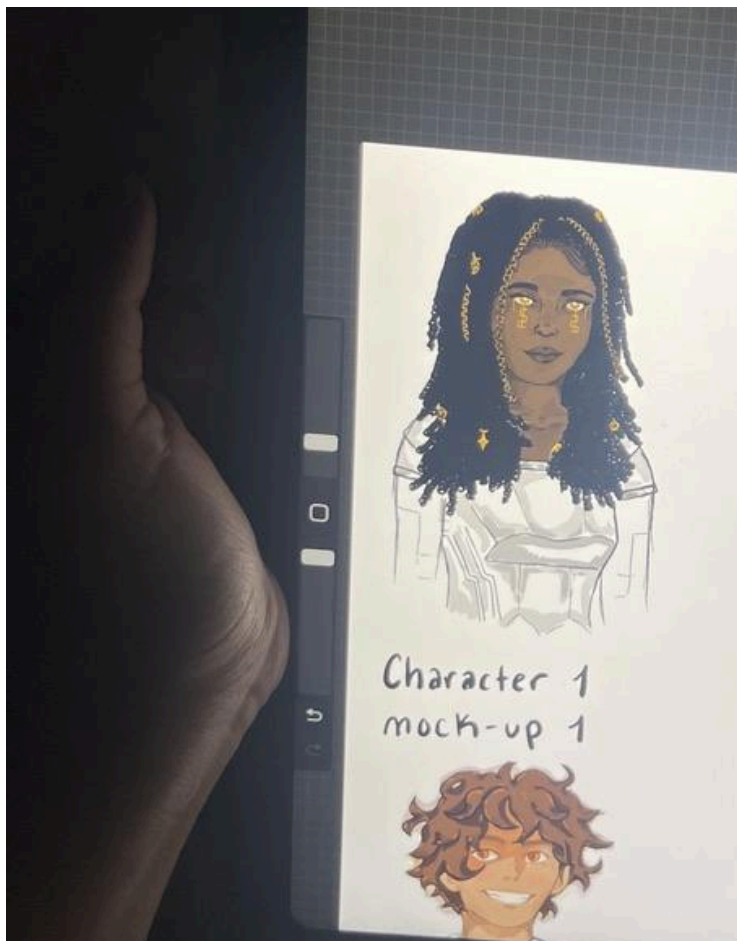
1. The Amazon rainforest - Most is deforested and ruined with development, remaining areas are dry with charred remnants of trees in some areas and much less greenery.
2. The Gulf of Florida - submerged as a result of sea levels and tornadoes, erosion etc. with some remnants of coastal cities and dead coral reefs.
3. The Canadian Rockies - melted glaciers visible upon examining rock, minimally lush valleys.

6. Characters

6.1. Drafts for characters:

I wanted there to be two characters that the player could use to explore Earth. I drew basic mock-ups on Procreate (ignore the clothes) of the two characters I wanted to explore.

Unfortunately, my iPad straight up BROKE while I was trying to retrieve screenshots, so here is a poor quality photo I took of my first draft.



6.2 Basic story & Motivations

Character 1: Zora

Pronouns: she/they

Age relative to Earth time: 19

Zora is a bright, determined, and curious young woman sent to Earth to gather knowledge for the survival of her home planet. They are from a relatively affluent family that funded her journey to learn about what happened to Earth. Their motivations going into it are more scientific.

While initially detached from Earth's tragic past, their journey becomes deeply personal as they learn the true cost of environmental neglect. Zora's storyline is one of growth—discovering not only the causes of Earth's downfall but also their place in the universe and what it means to be part of a generation facing the effects of climate change. Their skills in the game/mechanics are much more analytical, as they focus on solving complex problems and deciphering technology.

Character 2: Kian

Pronouns: He/him

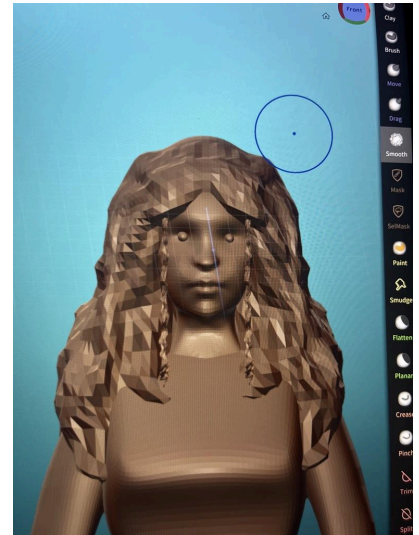
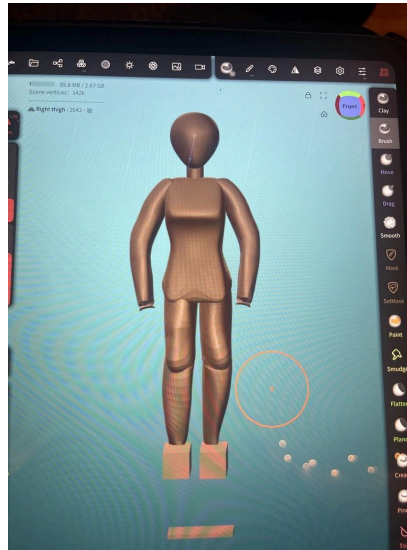
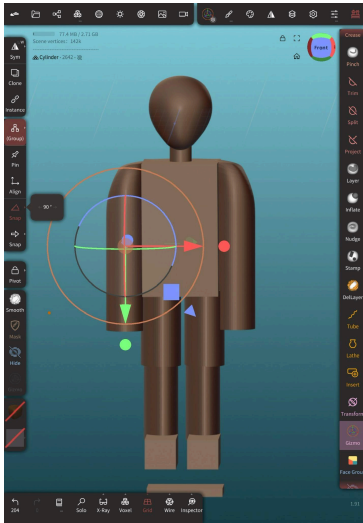
Age relative to Earth time: 22

Kian is fascinated with what happened to Earth and attended this exploration mission for entirely personal reasons, as he feels responsible for the impending climate crisis happening on his planet. In a remote, self-sustaining enclave, Kian has spent their life grappling with Earth's destruction. Now, he's decided to leave his life behind and venture out into the desolate wasteland, seeking answers to why humanity failed and trying to preserve what little knowledge remains. Kian's storyline is deeply rooted in loss, redemption, and responsibility. Their journey is driven by the need to understand what went wrong and how humanity can learn from its mistakes, but also related to coping with the experience of being a young person navigating climate change. Their role in the game is more contemplative, making observations and adding an emotional component to understanding what the player encounters.

6.3 Appearance of Modeled Character

I used Nomad to model Zora because Blender refused to open on my PC after I had modeled the basic shapes of the bodies. I was only able to model Zora, and I haven't decided if I like her basic clothing or not, so I will probably make changes to that. I would make her entire body much larger in the future (this is my first time ever making a 3D model outside of using pre-existing assets) because I was not able to add little details without it looking sloppy. The process (which was really funny and also really irritating) is shown below. Also, Nomad broke my iPad. It will not open now. Nomad is so fun to use, and it has WRECKED me.

6.4 3D Process (help)



For this being my first time 3D modeling, I was pretty proud. I spent WAY too long on the face, clothing, and hands, but it was a pretty tough learning curve because Nomad was NOT intuitive.



On my fifth day of spending 30 minutes modeling her, I had a mental breakdown because look at this hand. What is happening there? I thought about just quitting.

My friend who 3D models told me to not give up because “it’s funny”. However, I made some major improvements.

Updated images (The turntable should be shown in the actual recap video).



(necessary inclusion)



6.5 Artificial Intelligence Use in Opponent

The mechanics for opponents will be designed to challenge the player. Opponents will range from environmental hazards (like dangerous wildlife or unstable structures) to more human-like enemies, such as robotic/AI/technology-driven opponents left behind by the last remnants of human civilization. These enemies will use adaptive AI, reacting to the player's actions and providing varying levels of difficulty based on the player's progress, with some enemies being stealthy and others aggressively pursuing the player.

6.6 Non-combat and Friendly Characters

Some friendly NPCs could be AI-driven robots that don't quite interact in depth with the players, remnants of human life in the form of archived messages or records, or other extraterrestrial explorers with their own goals. The friendly NPCs will not offer direct combat help but will enhance the narrative by offering emotional support, guidance, or context about the world, helping the player process the themes of climate change.

7. Moving Forward

I would like to model the second character once my ipad is fixed and I have more of an idea of what I want them to wear - I would also like to develop character backstories further. I want to do more research than the survey and interview more people. I think I actually have to develop a lot more of the storyline and do a lot more research before I can start actively pursuing this project, but it was a really cool learning experience and I would like to do more with it.