

GADS POE PART 2

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GADS7322

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RESEARCH AND SCENARIOS:

The topic that we chose is “The Effects of Climate Change and War on Environment Systems”. We are showing how ongoing environmental changes and the effects of warfare in the environment can lead to changes, destruction and alteration of geographical objects as well as the effects and consequences to human society (UN, 2022; IPCC, 1988).

MEGA, MACRO AND MICRO TRENDS:

MEGA TRENDS:

Continuing changes in climate are one of the major trends threatening the environment of the Earth and human life. The increase in temperature triggers climate change which contributes to the amount of heat waves, hurricanes, floods and other natural disasters. This in turn contributes to the destruction of structures, residential buildings, forests and other natural resources. These changes force people to leave their homes and they then become climate refugees (IPCC, 2021).

Another important trend is the intensifying amounts of wars and conflicts, which is often due to the scarcity of natural resources, like water and fertile land. As the conflict intensifies, it leads to more destruction of environments resources like the burning of forests, erosion of soil and the pollution of oceans through military pollution (COUNCIL OF EUROPE, 2019).

Climate change and warfare, on the other hand, is also making the Earth’s environment uninhabitable by gradually making societies shift to new forms of adaptation, migration and resilient-building strategies because of the current warfare and climate-related disasters (World Bank, 2022). These trends can culminate into a sad picture of tomorrow’s world where resources are hard to come by while the environment is extremely polluted.

MACRO TRENDS:

A macro trend, which has an impact on climate change as well as warfare is the great expansion of mega-cities. Half of the world’s population is now Urban since statistics show that the number of people living in urban areas in 2008 was 3.33 billion, which is significantly more than half of the world’s population. This puts a lot of pressure on the available natural resources such as water, energy and land. This leads to competition for the available resources therefor sparking conflicts as well as causing pollution to the environment and the unnecessary waste of resources (UN-Habitat, 2020).

Technical factors are also very critical in these processes due to the emerging and dynamic technologies. Advancements in energy, transport systems and farming may be used to moderate the effects of climate change however, they can also be used to enhance the strength of warfare. The use of drones and cyber technologies may lead to huge loss of environments and infrastructure (WEF, 2022).

Another trend is in trade and markets. They have become globalized which has its own advantages and disadvantages. It increases the consumption and emissions of resources but also encourages international coordination in dealing with world problems (OECD, 2019).

MICRO TRENDS:

With micro trends which are affecting climate change and warfare, there are increased environmental activism groups among citizens. Local communities and activists are pushing for more sustainable methods and lower carbon emissions in the hope to preserve the environment through initiatives such as low carbon policies which on its own lowers resource-based conflicts (Greenpeace, 2021).

The other trend that has also gained attention, especially at the local level, relates to the use of renewable energy sources. Small scale solar and wind systems are being implemented in several locations in the world since they are more effective than using fossil fuel-based energy sources and they also reduce the effects of climate change (IRENA, 2020).

Finally, there are emerging local innovations in cultivating food, including organic farming and urban farming, which have made a positive impact towards the local food availability as well as minimized the effects of environmental degradation on food production. These practices lower the chances of war over water and fertile land as these valuable resources get used more efficiently across the globe (Science Direct, 2019).

SCENARIOS:

POSSIBLE SCENARIO:

In this case, extreme climate and warfare result in degradation of global environments. Global warming causes the polar coasts to melt, resulting in a major, worldwide flood. This is caused due to the rising temperatures caused by the use of nuclear power and the excessive use of destructive technologies. Parts of coastal regions get flooded and even interior areas are affected by heavy flooding due to violent storms and rising water levels (IPCC, 2022). It is a scenario where accessibility to needed infrastructure, economic and social structures has been largely compromised, forcing people to have to move to higher ground or even on water. This leads to increased threats of violence due to minimal access to water, food, fertile land and other limited resources, causing a cycle of violence and destruction of the natural environment (Herring et al., 2018).

Survivors live in small groups in on small land masses like mountains or artificial floating platforms created after the world has come to be controlled by climate change and military conflicts. The emergence of this new world order is characterized by the ever-present danger of war, unpredictable climate, and diseases (COUNCIL OF EUROPE, 2019). The scenario shows that if climate change continues and is worsened by conflict, humans will live in a world that will not accommodate long-term planning for the future but rather a survivalist lifestyle (World Bank, 2022).

PLAUSIBLE SCENARIO:

This scenario predicts a post-apocalyptic future where the world wars have caused global warming and as a result, the polar ice caps have melted, and the earth is one giant ocean. This scenario could happen if nuclear or intensive warfare leads to emission of greenhouse gases, enhancing the rate of ice melting and the increase of sea level (COUNCIL OF EUROPE, 2019).

Thus, the survivors are forced to live in underwater cities, shipwrecks or mines which will be temporary shelter to them.

Survivors who managed to survive now must navigate in this underwater environment by using submarines and their major threats are shifting terrains, resource deficiencies and mutated beings due to radiation and pollution (IPCC, 2022). The post-apocalyptic survivors are not innocent as before the apocalypse their mistakes contributed to this scenario and now, they feel the need to atone for those mistakes while they are not only fighting other survivors but also monsters and other paranormal creatures, which makes them value their lives more. This world puts such moral questions as saving one's lives or saving others, and questions morality and redemption (Greenpeace, 2021).

This scenario is metaphoric as it shows the bitter reality of human greed, negligence and war's devastating effects. Survivors will self-actualize as they will contemplate on their decisions while in a world where resources are scarce, and survivability is low (World Bank 2022). To avoid such a potential future, people's consciousness about these factors need to be improved and they need to be taught about the necessity of performing responsible actions in the present.

PROBABLE SCENARIO:

In this case, the governments and international organizations help to reduce the negative impacts of climate change as well as warfare. However, they can calculate the damage and try to reverse it, even though it usually has a negative outcome. Existing infrastructure is raised to prevent floods and new solutions are invented to decrease greenhouse gas emissions and repair landscapes (OECD, 2019). Some nations will fail to catch up with the rest because of political turbulence, economic difficulties or on-going wars.

Nations begin to form strategic alliances for purposes like resource sharing, knowledge and technology, but global tensions remain high. Water resources and fertile lands become an important resource, leading to conflicts and struggles for power. Migration to stable causes competition between nations and sometimes social tension in the scramble for the limited resources (UN-Habitat, 2020). Societies can overcome such changes through practicing robust post-disaster urban design, food production and resource system management.

While the world doesn't fully recover back to its prior state, societies must find ways to coexist with the "new norm", constantly embracing it while also trying to move forward. This scenario shows a world in which people survive, but at the cost of significant sacrifices and reduced quality of life. they should act now, or the world as they know it is doomed and a fast action and cooperation between all countries is needed (WEF, 2022).

PREFERRED SCENARIO:

In this case, nations of the world unite to address the dual threats of climatic change and warfare. They come together to tackle the emission of greenhouse gasses, improve on the conservation of habitats and promote the use of technology to ease the impacts to the environment (WEF, 2022). Installed electricity generating structures based on renewable energy

resources, mainly solar and wind, have become the main form of generated power and nations can work together for a fair distribution of resources.

There is a change where people embrace sustainable lifestyles like getting involved in practices such as organic farming, reforestation and eco-friendly construction (Greenpeace, 2021). Cities are reshaped for climate change adaptation that adds green spaces and renewable assets into the urban structure (UN-Habitat, 2020). Military spending is greatly minimized, and the money is channelled towards the protection of the environment, building of peace and of education.

This scenario shows that mankind can grow along the path of development but not repeat the mistakes of the previous years and simultaneously build a better world – safe, environmentally friendly, and fair. It is based upon unity, cooperation and common goals about creating a more effective and efficient world, to tackle problems that the world is facing and to improve the quality of the environment for all living beings (OECD, 2019). It shows the potential of a society where a world shall prioritize peace and harmony and creation of better environments for the next generations.

IDEATION:

The scenario that we chose to base our ideas from is the plausible scenario.

GAME 1:

TITLE:

Abyssal survival

PREMISE:

After war and climate change has brought the world to its knees there are only submarines left to use and fight against underwater threats and gathering resources. Survivors use abandoned mines and underwater caves to seek refuge in. They must fight for survival against mutated sea creatures, hunger, starvation and moral dilemmas while trying to regain their humanity in this new life, where each decision may result in death of the character.

PLANNING:

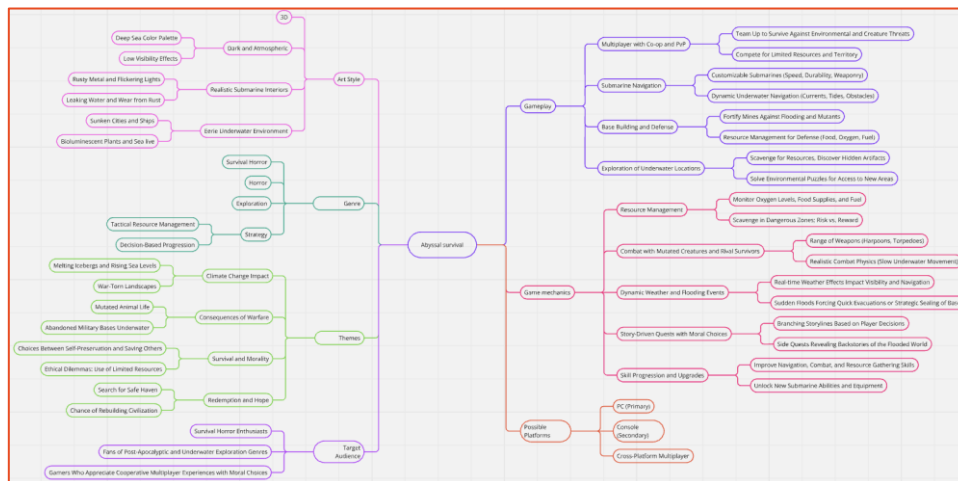


Figure 1: van Niekerk, S. Doman, W. 2024. Abyssal survival planning.

GAME 2:

TITLE:

Land grabbers

PREMISE:

You as the player are in a post-apocalyptic world where the sea levels have risen to a point where almost all land is covered by water. You need to use the little land you have left and fortify it against enemy islands who want to steal it from you while also stealing land from them to grow your island size. Your goal is to be the last island standing and become the new safe haven for your people.

PLANNING:

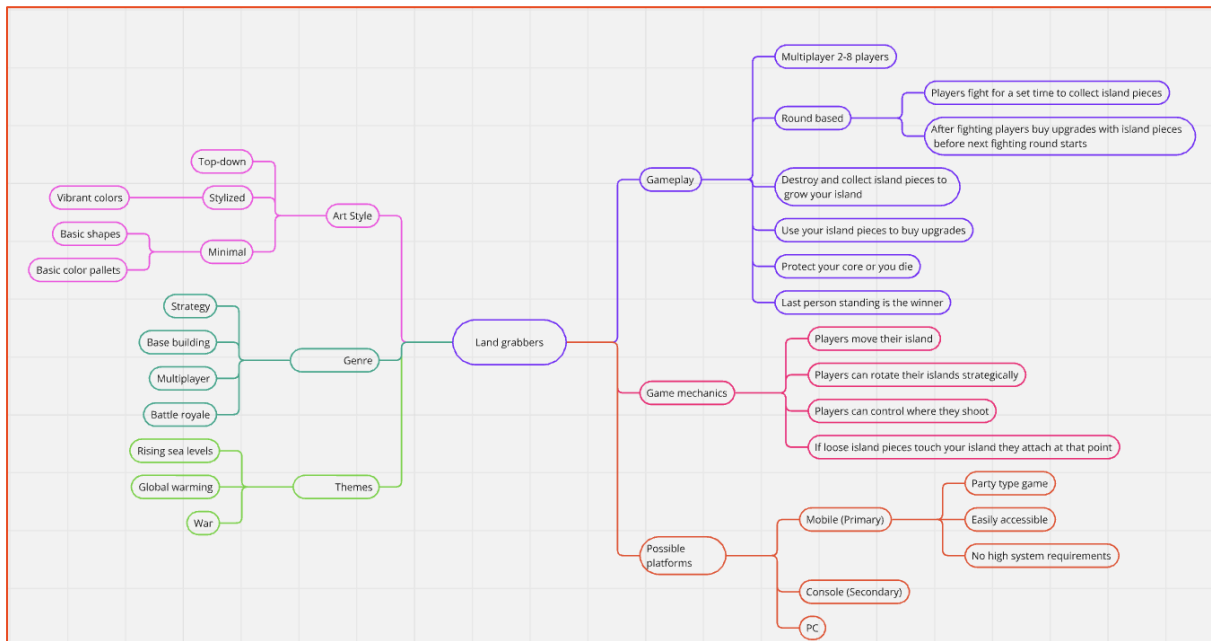


Figure 2: van Niekerk, S. Doman, W. 2024. Land grabbers planning.

GAME 3:

TITLE:

Silent ocean

PREMISE:

You as the player along with a partner will solve various puzzles together while you go through the game world. As you progress you will also progress the story and discover what happened in the past and how the world ended up in this post-apocalyptic state. Your goal is to find the utopia that you have heard of while growing up.

PLANNING:

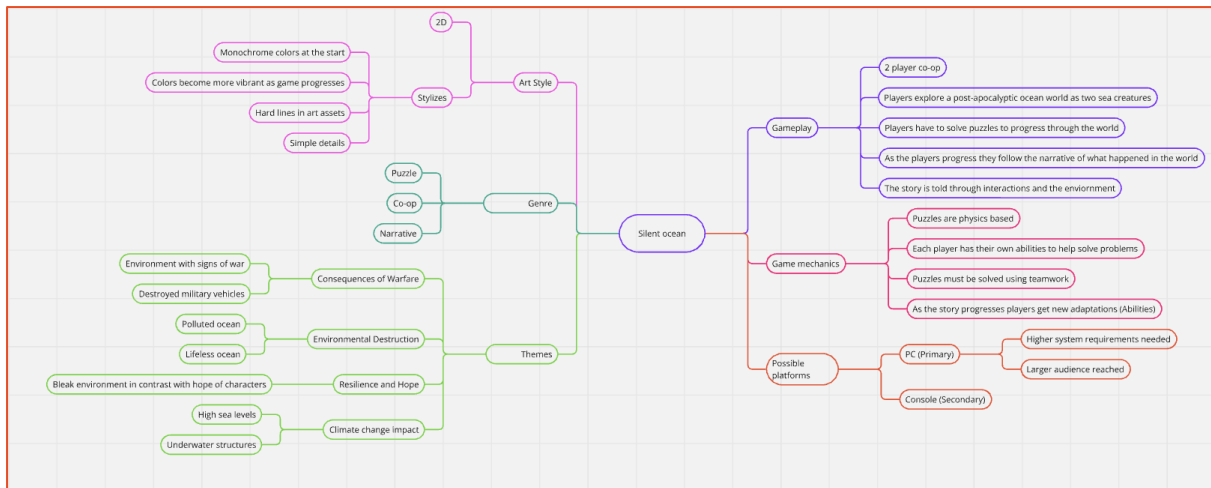


Figure 3: van Niekerk, S. Doman, W. 2024. *Silent ocean* planning.

CRITICAL EVALUATION OF SELECTED GAME IDEA:

After critically evaluating a few game concepts, we felt that the concept of “Abyssal Survival” was the most powerful and convincing among the ideas. This game is a multiplayer survival horror in the linear, post-climate change and nuclear war world where the poles have melted, and the earth is flooded. The game mainly focuses on players having to move around in this hostile underwater world, using submarines for transport from one underwater location to the other. They are tasked with surviving in this world of mutants, scarce resources while making highly questionable ethical decisions.

GAMEPLAY OPTIONS AND MECHANICS CONSIDERED:

When it came down to the core gameplay options for “Abyssal Survival,” the four options that were initially entertained were resource acquisition, combat, navigation and base construction. Each of these elements contributes to achieving the game's main objectives: elements such as how can the player survive, how to make ethical decisions, and set up an experience that feels intense to the player.

Resource management was selected as the core mechanic by the end of this design decision phase because it would promote strategic thinking. The player must manage oxygen to avoid running out of breath, food to avoid starving to death and fuel to avoid running out of energy. This mechanic was chosen as this is a nice addition to the overall gameplay as players must think and plan what they will do first.

Fighting with mutated creatures and other survivors was also selected to add the element of fear along with other thrilling aspects that are unique to these types of games. This opened up possibilities for us to use a number of weapons such as harpoons and torpedoes for self-defence and offense while fighting for resources. This mechanic was kept because it was fun and lively and gave the player a chance engage with the skill aspect of the game through PvE (Player vs. Environment).

Player exploration another essential factor. Players can fully move around submerged cities, ruins, ships, and underwater caves – to scavenge for supplies, treasures and learn about the history of the game’s world. This option was chosen because it gives players a thrill of exploring and discovering something which makes them get fully involved in the game. It also serves to create a good narrative experience since it aligns well with the theme of searching for lost history in the flooded world of the game.

The base-building and defence mechanics were deemed to be crucial to give players the feeling of advancement and possession. In order to defend themselves from floods as well as mutated animals and creatures’ people can build and strengthen positions in abandoned mines. It will be implemented to provide the player a haven and a home, thus giving the player an important place that they themselves can improve on.

OPTIONS DISCARDED:

Some features were excluded to emphasize on the key aspect of the overall concept. For example, the crafting systems which are highly complex were considered but not included since it could distract the players focus away from the game’s themes such as survival and moral choices. Also, a detailed economic system was avoided having in mind its potential as a hinderance to the game layout and thereby making it less interesting to most of the audience.

CONCLUSION:

“Abyssal Survival” stands for survival, exploration, and moral dilemmas which makes the players think about the consequences of their actions. The chosen gameplay mechanics help to push the game’s aims, to raise tension and make people think about real-life actual issues, such as climate change and warfare.

VISUAL EXPLORATION:

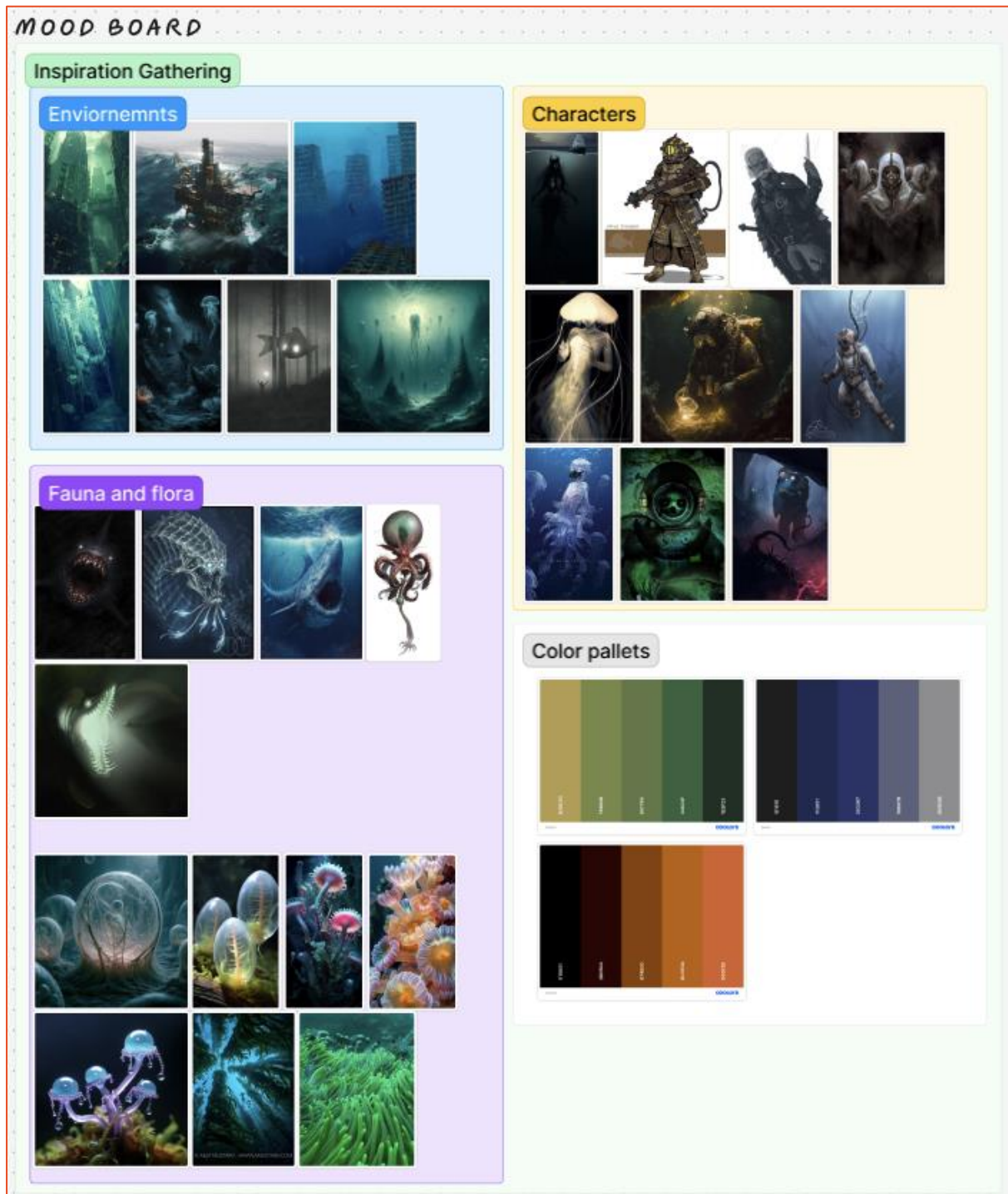


Figure 4: van Niekerk, S. Doman, W. 2024. Mood board for game concept.

CONCEPT ART:

ENVIRONMENTS:

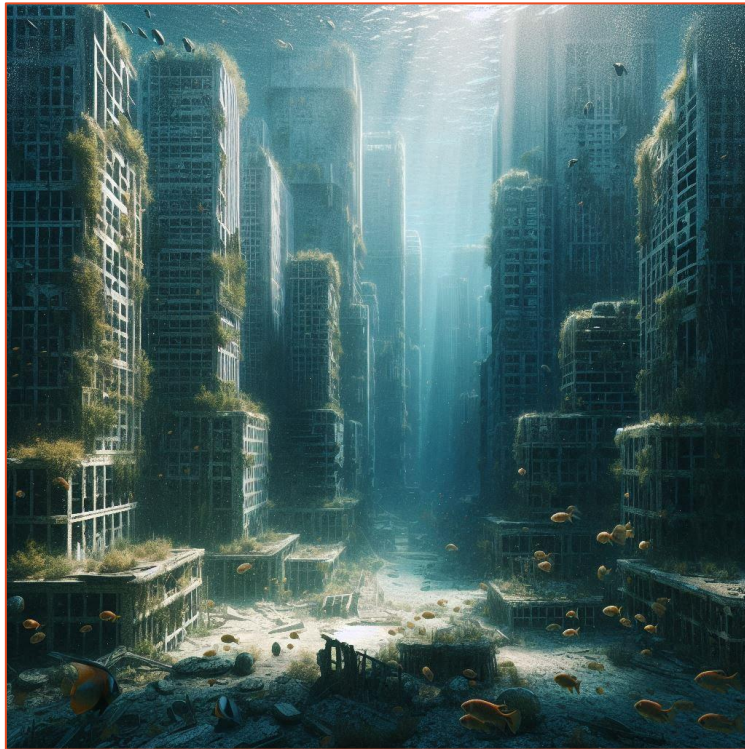


Figure 5: Bing image generator. 2024. *Apocalyptic underwater city with moss.*

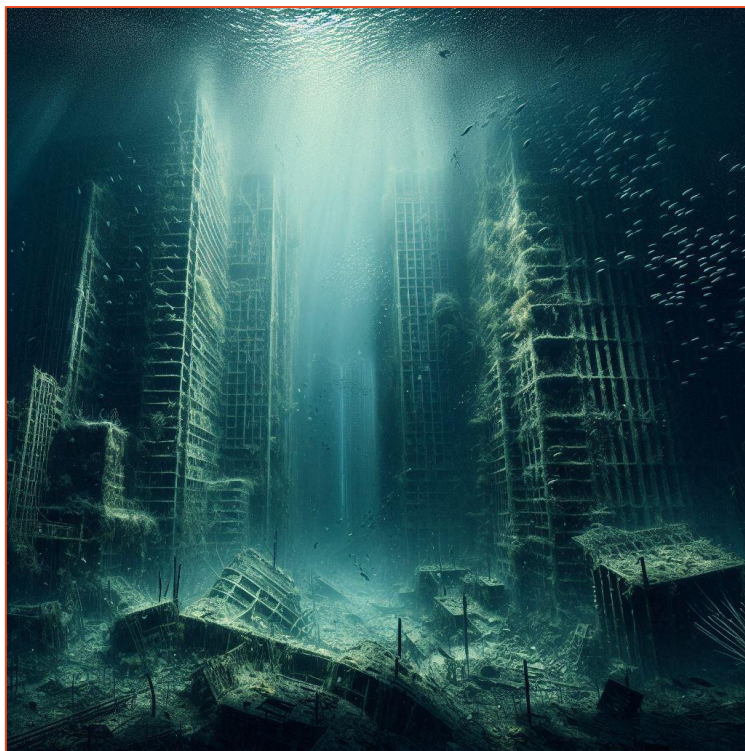


Figure 6: Bing image generator. 2024. *Apocalyptic underwater city with eerie lighting.*



Figure 7: Bing image generator. 2024. *A panoramic view of a large flooded post-apocalyptic city.*



Figure 8: Bing image generator. 2024. *A panoramic view of a small flooded post-apocalyptic city.*

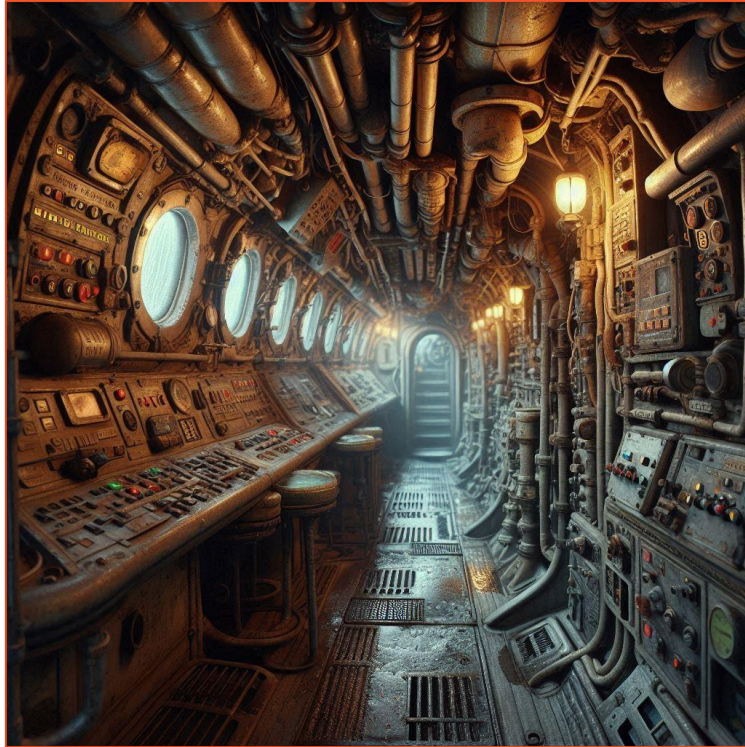


Figure 9: Bing image generator. 2024. *A detailed interior of an old, rusty submarine with windows in the corridor.*

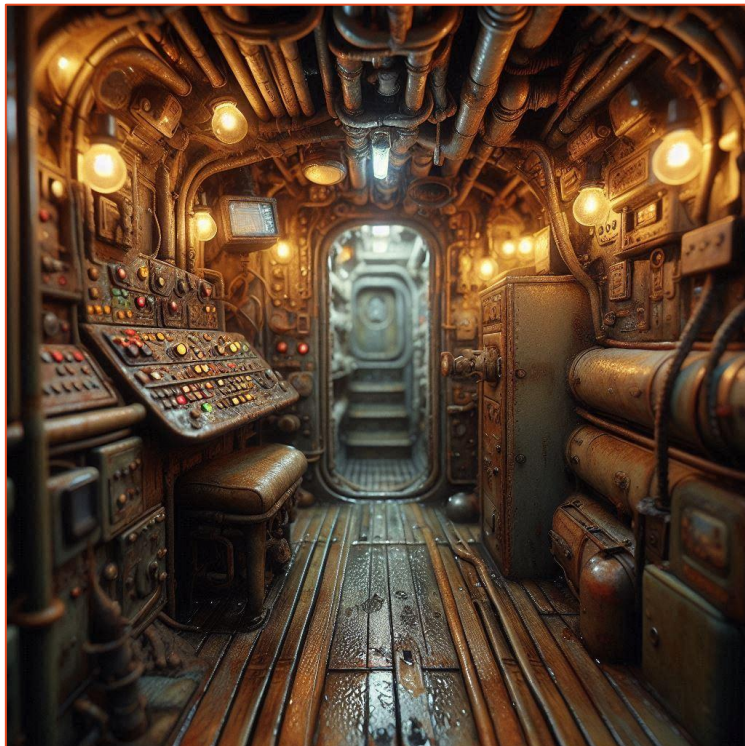


Figure 10: Bing image generator. 2024. *A detailed interior of an old, rusty submarine with control panels in the corridor.*



Figure 11: Bing image generator. 2024. A detailed interior of an old, rusty submarine with seats in the corridor.

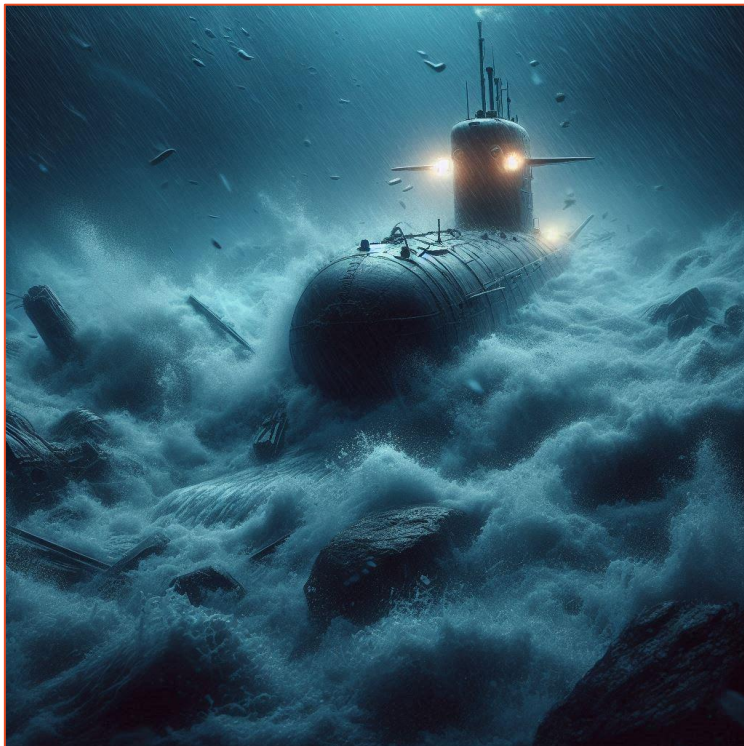


Figure 12: Bing image generator. 2024. A small, battered submarine trying to navigate through an underwater storm.

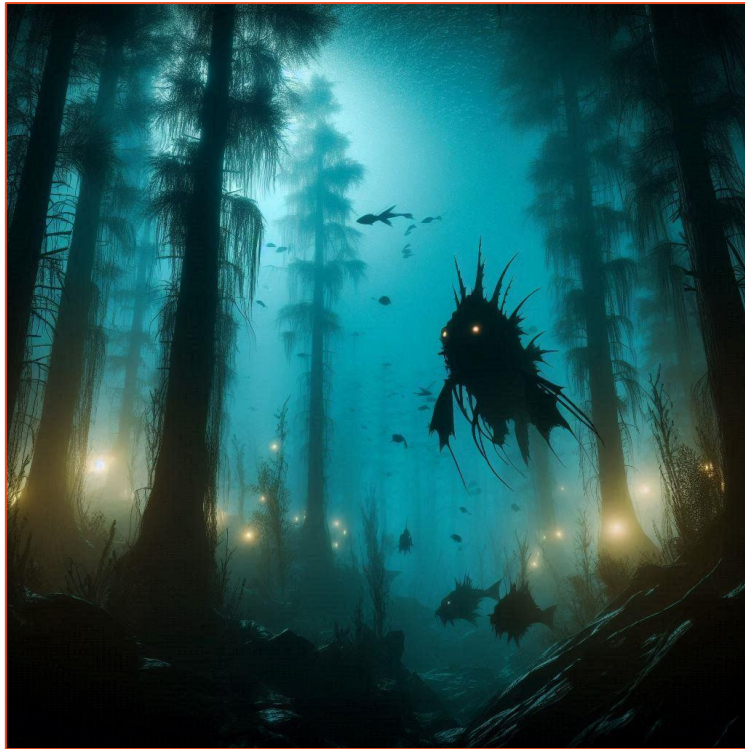


Figure 13: Bing image generator. 2024. *An underwater forest with eerie lighting and mutated predator fish.*

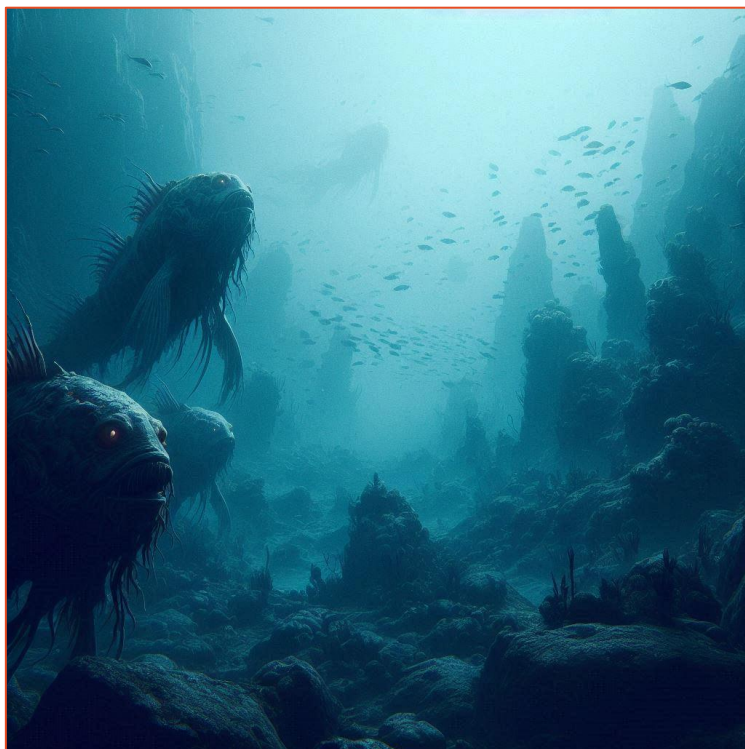


Figure 14: Bing image generator. 2024. *An environment called the abyssal plains.*

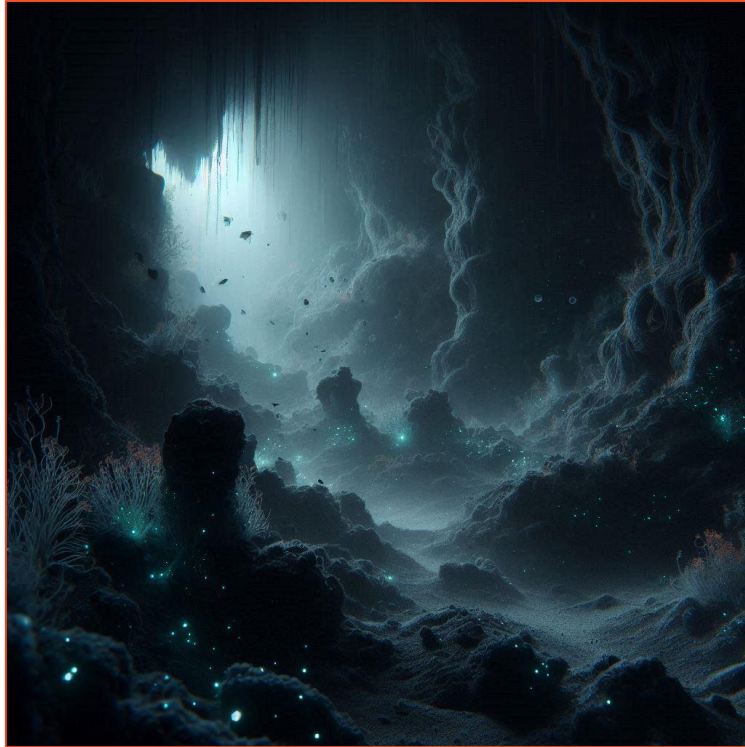


Figure 15: Bing image generator. 2024. *A dark, atmospheric underwater cave filled with bioluminescent flora and twisted rock formations.*

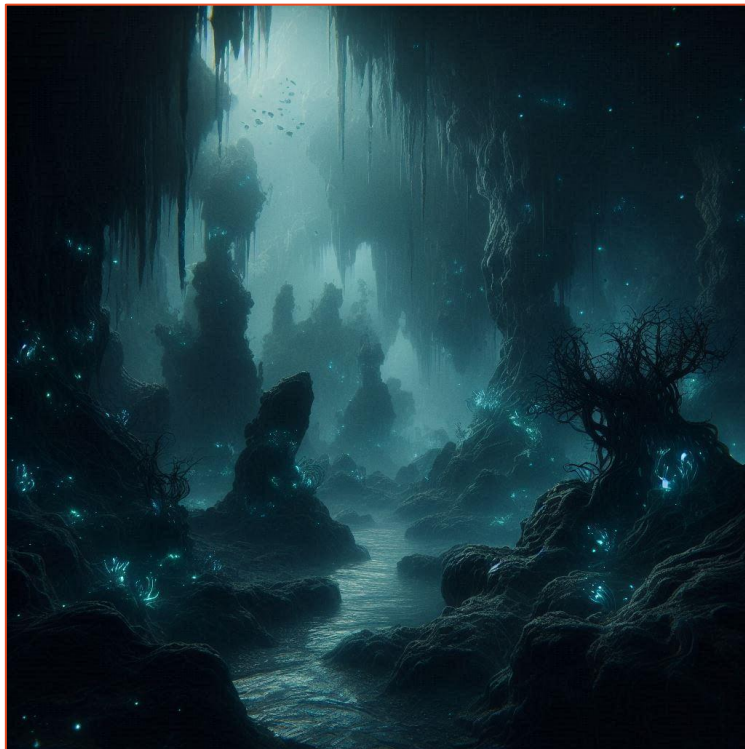


Figure 16: Bing image generator. 2024. *A dim, atmospheric underwater cave filled with bioluminescent flora and twisted rock formations.*

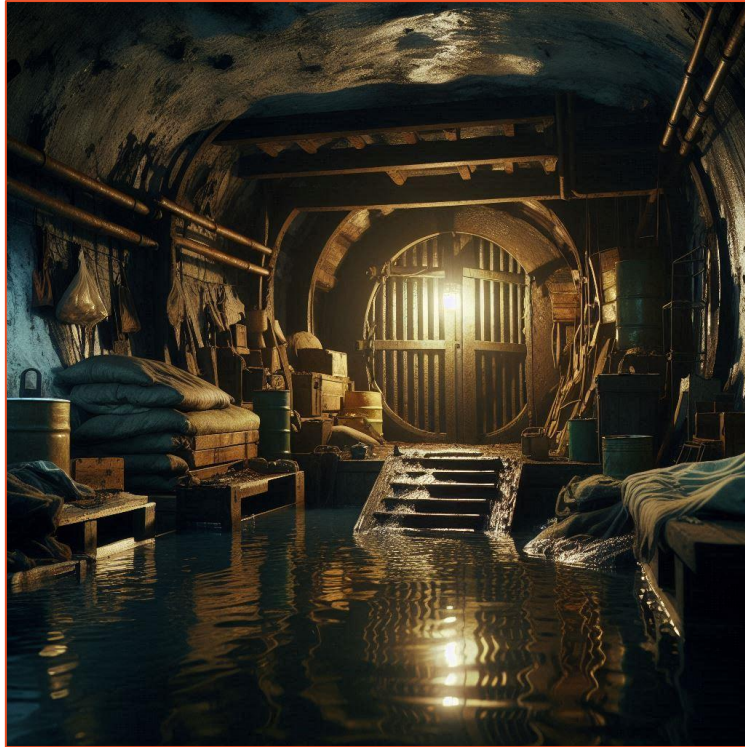


Figure 17: Bing image generator. 2024. *Entrance to a mine converted into a survivor shelter.*



Figure 18: Bing image generator. 2024. *Interior of a mine converted in a survivor shelter.*



Figure 19: Bing image generator. 2024. *Flooded entrance to a mine converted in a survivor shelter.*

CHARACTERS:



Figure 20: Bing image generator. 2024. A rugged survivor wearing a worn-out wetsuit.



Figure 21: Bing image generator. 2024. A rugged survivor wearing a worn-out wetsuit with diving helmet.

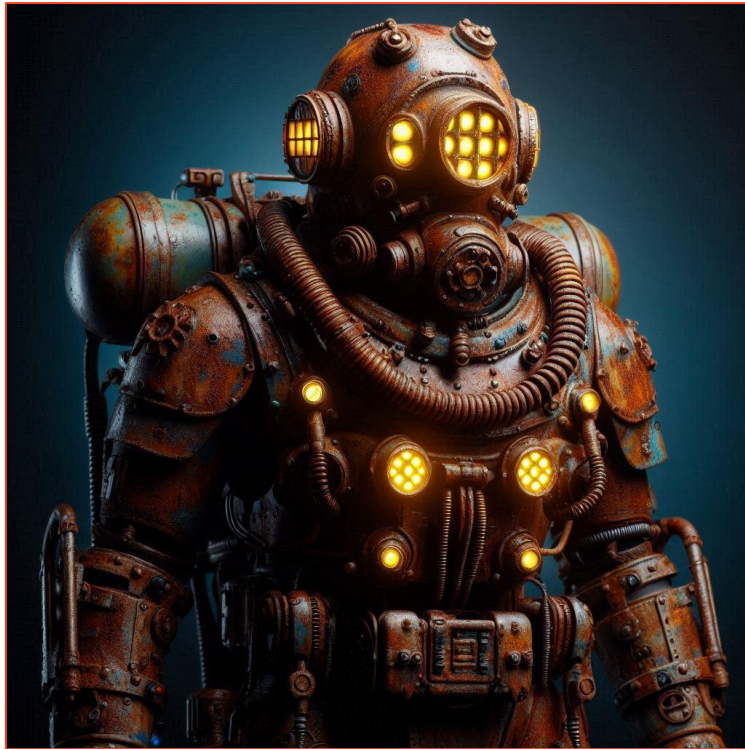


Figure 22: Bing image generator. 2024. A rusted diving suit, designed for underwater exploration and combat.

CREATURES:



Figure 23: Bing image generator. 2024. A large, mutated sea creature.



Figure 24: Bing image generator. 2024. *A large, mutated sea creature with crab features.*



Figure 25: Bing image generator. 2024. *A mutated barracuda with black skin and glowing eyes.*



Figure 26: Bing image generator. 2024. *A mutated shark attacking survivors.*

BASIC MODELS:



Figure 27: van Niekerk, S. Doman, W. 2024. *Basic character model.*



Figure 28: van Niekerk, S. Doman, W. 2024. *Basic submarine design.*

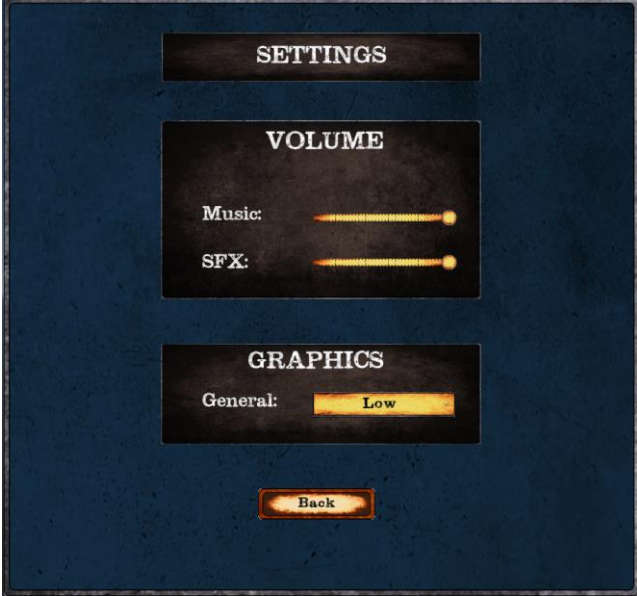

GAME PLATFORM AND TECHNOLOGIES:


“Abyssal Survival” the game is going to be on PC and consoles like PlayStation and Xbox. Primarily it will be PC because it provides flexibility in settings such as picture quality, controls and modding which are essential to this kind of survival game. High-processing graphics, physics based detailed environments of an underwater world and accurate control over a submarine which is not easily or effectively possible with consoles but can be efficiently done with the help of a PC (Newzoo, 2023). Also, gamers on PCs are quite active in survival horror-related subreddits hence making it easy to access the target market.



Consoles will be used as secondary platform because they are widely used and easily accessible. Play stations and Xboxes provide a standard platform to facilitate these features, thereby guaranteeing similar gameplay and results across the platform. This consistency is important in ensuring that the flow of the game is not disrupted, especially in the multiplayer modes as pointed out by Statista in 2023. Consoles also allow cross play that enables players to interact with other players regardless of which device they use, thus it will make the reach and popularity of the game greater.


To improve the experience of gameplay in “Abyssal Survival,” virtual reality and 3D spatial audio is going to be integrated to make the game a VR game. VR makes the environment in the game feel more immersive and by doing so it becomes possible for players to feel as if they are in the underwater world and this makes the horror and survival aspects even scarier (AIXR, 2019). 3D audio enhances the realism by emulating how sound is transmitted in water thereby enabling the player to sense the location of threats like mutated creatures or environmental hazards (HeadStuff, 2018).

For available platforms, we opted for PC and consoles and will be incorporating features like VR and 3D audio later as a possibility to ensure the players would be genuinely captivated. This choice will enable us to have an extensive reach of a wide audience while keeping the gameplay as effective as possible.

UI element	Image	Description
Settings menu	 <p>Figure 29: van Niekerk, S. Doman, W. 2024. Settings menu design.</p>	<p>The design of the settings menu supports ease of orientation as well as accessibility as it allows users to customise their experience with sound and visuals while clearly guiding them through the menu.</p> <p>By categorizing each option on its own panel allows the user to easily navigate the menu and find the setting they are looking for.</p> <p>According to Flux Academy(2024) an essential when it comes to creating UI in a website is to create separation between navigation elements and the rest of the website. By using white space in between navigation elements, you make it easier for the user to know what is interactable and what is not.</p> <p>Using this method of categorizing different interactable elements will make it easier for users to orient themselves and fine what they are looking for.</p>
Label	 <p>Figure 30: van Niekerk, S. Doman, W. 2024. Example of menu label.</p>	<p>The contrasting design of the labels with the background supports ease of</p>

		<p>orientation and efficiency.</p> <p>By using contrasting colours, the label becomes more readable to users allowing it to communicate more efficiently what it is representing as well as making it visible to the user to help them orient themselves in the UI.</p> <p>According to Flux Academy(2024), the use of descriptive labels will allow a user clarity as to what to expect when they click in a page's navigation menu.</p> <p>Using these easy to spot labels will thus ensure that the user can clarify what each component will do when using them.</p>
Slider	 <p>Figure 31: van Niekerk, S. Doman, W. 2024. Slider design.</p>	<p>The slider component supports efficiency as it allows the user to get immediate feedback from the changes they make.</p> <p>By using a slider to adjust options like sound, the player can quickly and easily get feedback from their changes, allowing them to quickly find the correct audio level of their liking.</p> <p>According to Smashing magazine(2024), a slider allows a user to quickly explore a large range of</p>

		<p>options and get immediate feedback.</p> <p>Using this slider the user will be able to explore a large field of numerical options for settings, thus allowing them to quickly find their desired value.</p>
Dropdown	 <p>Figure 32: van Niekerk, S. Doman, W. 2024. Dropdown design.</p>	<p>The dropdown component supports efficiency as it shows the user exactly what options they can choose from.</p> <p>By using the dropdown, users can easily and quickly decide what level of graphics they want as they can immediately see what option they have.</p> <p>According to Webflow(2024), a benefit of using a dropdown is that it creates streamlined navigation as it presents options clearly and allows users to navigate through them and select appropriate values.</p> <p>Using this dropdown will help users to better decide what options they can choose from as well as inputting the correct values for their choice all at one place.</p>
Button	 <p>Figure 33: van Niekerk, S. Doman, W. 2024. Button design.</p>	<p>The design of the button component supports ease of orientation.</p> <p>By using this</p>

		<p>component the user can easily understand what it will do or where it will take them due to its label. They can also be found easily as their design is universal across the game.</p> <p>According to Medium(2024) buttons are used to indicate to a user what actions they can take, effectively guiding them throughout UI</p> <p>Using buttons with the correct labelling we can improve the users orientation in menus by guiding them on what actions they can take.</p>
Interaction prompt	 <p>Figure 34: van Niekerk, S. Doman, W. 2024. Interaction prompt design.</p>	<p>The use of an interaction prompt supports memorability, learnability and efficiency.</p> <p>By using an interaction prompt, the user can easily learn and remember what key they need to use for interaction. It also allows the user to get feedback on what items are interactable.</p> <p>According to Creator hub(2024) a proximity prompt encourages a player to interact with objects as well as shows them what objects are interactable.</p>

		<p>Using interaction prompts will encourage players to interact with their surroundings as well as show them what types of objects are interactable.</p>
<p>Information popup</p>	<div> </div> <p>Figure 35: van Niekerk, S. Doman, W. 2024. Information popup design.</p>	<p>The use of information popups supports efficiency.</p> <p>By using this type of popup, the user can quickly receive feedback of information after completing an action, to notify them of the results of this action.</p> <p>According to Red blink(2024) a pro of using popups is that it can be used to grab the attention of the user as well as convince them to take certain actions.</p> <p>Using this popup will allow us to draw the users attention to new information, allowing us to guide them and relay important information more efficiently.</p>

Inventory menu




Figure 36: van Niekerk, S. Doman, W. 2024. Inventory menu design.

The design of the inventory menu supports memorability, learnability as well as efficiency.

By giving the user, the action bar at the bottom when selecting items in the inventory, they can learn what type of interactions they can have with these items and when coming back to the game they can easily view what items they have in their inventory.

According to Maysunshines(2017), our inventory system is based on the rule of 99 which gives you a list of items in your inventory with a count of how much you own. A pro of this design is that the player does not need to micromanage their resources and can quickly see what they have.

The use of this design can efficiently communicate to the user how much of each resource they have and what interactions they can have with each resource.

<p>Image</p>	 <p>Figure 37: van Niekerk, S. Doman, W. 2024. Example of item image.</p>	<p>The use of images for items in the user's inventory supports learnability and memorability.</p> <p>By adding an image to the items in the users inventory it allows them to learn and remember information about the item while visually telling them what the item looks like when they are searching for it.</p> <p>According to Smashing magazine(2024), humans are visual creatures who can process visual information almost instantly, thus making the use of images more effective than words.</p> <p>Using these images to show the user what certain objects look like is a very efficient way to teach them what they are looking for as well as remind them what an object looks like.</p>
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Description panel



Figure 38: van Niekerk, S. Doman, W. 2024. Description panel design.

The design of the description panel supports ease of orientation and learnability.

By showing the user information about the selected item they can easily learn the general use of the item as well as other information like what it is called and what it looks like. This panel can also orient them in the game world by giving the knowledge of the world around them.

According to ProtoPie(2024), giving items descriptions can help give the player feedback as well as help them to understand the game world around them.

Using this panel will allow us to ground the player better in the game world while also teaching them about what each item is generally used for in this world.

Health bar & oxygen bar

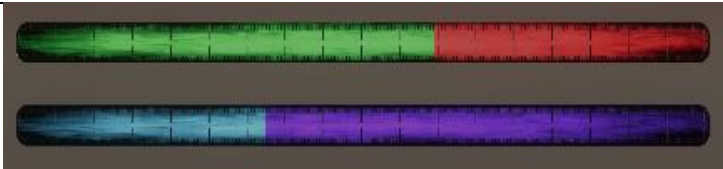


Figure 39: van Niekerk, S. Doman, W. 2024. Health and oxygen bar design.

The design of the health and oxygen bar supports efficiency.

By making the empty part of the bar darker or a contrasting colour, users can easily get the necessary information about their character and distinguish whether they are in trouble or not.

		<p>According to UXmatters(2024), the human brain is very sensitive to colour and the colour red causes an increase in blood pressure, heart rate and respiration while blue has the opposite effect.</p> <p>By making the good part of the bars lean more towards blue hues and the bad parts towards red, we can cause the player to subconsciously respond faster to these visual cues.</p>
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CREATIVE RATIONALE:

INTRODUCTION

The game “Abyssal Survival” is based on a post-apocalyptic world flooded by climate change and warfare. In this game, players become a survivor in an abandoned mine, collecting resources in a dangerous underwater environment.

CRITICAL ENGAGEMENT WITH THE FUTURE SCENARIO

The future scenario “Abyssal Survival” is designed to get players engaging in the climate change and warfare environments by placing them into harsh, submerged environment. The underwater world gameplay loop highlights the consequences of human behaviour, being unrestrained warfare and environmental neglect. By making the players deal with limited resources like oxygen, food and fuel, the game shows survival as a direct consequence of human impact on the environment (UNEP, 2019). This shortage of resources also encourages players to think importantly on sustainability and the management of rare resources.

It is hard to explore this world, but it is still possible. It shows what could happen if people continue to ignore the effects of climate change and warfare. This game is about the future the world faces, a failed future where it’s dark and foggy and full of all kinds of dangers. It successfully shows that unrestricted warfare and environmental destruction lead to irreversible damage, creating a setting where survival is hard (World Bank, 2022). By confronting these scenarios with this setting, players are forced to reflect and think ahead of time

GAME DESIGN PRINCIPLES AND ENGAGEMENT

In "Abyssal Survival" the gameplay elements are used with elements that uses game design principles and, in this game, it is the resource management, crafting and the survival mechanics. Explore the underwater world scavenging resources, defend against sea creatures, return to your base for upgrades for the submarine, character and mine, this is the gameplay loop. This game loop is the perfect loop reinforcing the survival genre principle of limited resources, constant danger, and adaptability (Hunicke, LeBlanc, & Zubek, 2004).

The game mechanics are Inventory system, crafting and upgrade system, resource management of oxygen, food and fuel. The gameplay is much more immersive because these mechanics are based on real life survival challenges. Like the saying of dependence on finite resources (Greenpeace, 2021), the submarine is limited in fuel, thereby limiting exploration. In order to explore the players must manage oxygen, as they can't take far swims without putting their lives at risk. The environmental themes are strength by these elements and make the challenge that much more difficult and engaging.

By making harsh underwater world its focus, the level design mimics the underwater world. There is a safe zone that can be upgraded that is the mine. Outside is a place to face an unpredictable environment of sharks and barracudas. With the longer the player stays the game difficulty gets somewhat more difficult as players are expected to create better equipment and tactics for the enemies and exploration. This encourages adaptation and innovation, which is crucial for engaging with themes of survival and resource scarcity.

VISUAL AESTHETICS AND PLAYER IMMERSION

The visual aesthetic of "Abyssal Survival" plays a important role in selling the immersion and engagement to the player. The game world is made up by dark, murky waters and limited visibility, conveying a sense of isolation and uncertainty. The underwater environment full of fog, ruins and lurking dangers, it all really comes together to make up fear and tension to pull the player into the atmosphere of a grim and unforgiving post-apocalyptic world. This fits with the emotional goals of a survival horror games, where unease and being able to be unaware of one's surroundings doesn't ever allow players to relax (Greenpeace, 2021).

Environmental storytelling, as opposed to dialogue or even direct narrative sequence is the method of how the game conveys the narrative of the game. Filled among the modern rubbish of the coasts are remnants of submerged cities, wrecked ships, and scattered artifacts, and there is a story to be told of a world, a world gone, killed by man. The narrative also waits to be pieced together through exploration, as depth is added on the extent of turning climate change and warfare. It creates a personal connection between players and the game world.

Character design is simple, the protagonist a nameless survivor. The result is that players can immerse themselves into the character. Submarine upgrades and gear upgrades give players a personal touch to it, a feeling of ownership, making the time of playing feel like you're the character itself.

GAME ENJOYMENT AND PLAYER ENGAGEMENT

“Abyssal Survival” is an enjoyable and fun game because of its challenges, mechanics, atmospheric setting and rewarding progression, it is a game where your work is never done. The game loop of exploring, scavenging and upgrading provides a sense of achievement. There is sense of progress and each decision a player makes is taken with the consideration that resources must be managed carefully, risks taken and exploring must be played carefully. The thrill of surviving encounters with sea creatures and returning to the mine creates a rewarding experience that keeps players engaged.

The game also has a loot system which will allow players to collect resources needed for crafting item in the game or its upgrading. It adds some unpredictability, players don't know what they're going to find. The mine being a small community feeling like a family, because the NPCs who offer upgrades or assistance are you friend and companions. The social aspect's ability helps to break tension from exploration and provide players with a sense of purpose.

CONTRIBUTION TO AWARENESS AND CONSIDERATION OF THE TOPIC

The ultimate goal of "Abyssal Survival" is to remind people that climate change and warfare are real threats and show them what our world would look like if they don't change their ways. Like environmental degradation and conflict, resource scarcity is often a direct outcome of the mechanics of the game, limited oxygen, fuel and food. The game requires players to solve these challenges to maximize sustainability of resource management (UNEP, 2019).

The setting of the game, with its eerie atmosphere and constant danger, the sense that the world is hovering on the edge of disaster, this will remind humanity of what could be if they don't do anything. The water world is a mixture of old buildings a long-lost civilization, the past of what humans was and the effects of unchecked warfare and climate change. "Abyssal Survival" presents this scenario with the hope of prompting consideration and commentary on environmental responsibility and the relative importance of peace.

Using game design theories like MDA (Mechanics, Dynamics, Aesthetics) is used to make sure that all the aspects within the game all work together to convey a core message. The experience is driven by mechanics (resource management), dynamics (risk and reward) and aesthetics (dark, underwater visuals) and results in engaging with the themes of climate change and warfare (Hunicke, LeBlanc, & Zubek, 2004).

CONCLUSION

“Abyssal Survival” is certainly more than a fun game. By using its survival mechanics, atmosphere and storytelling, it urges players to question the two topics it's showing, climate change and warfare. The game does this by immersing the player in a world that is shaped by these issues and does that in a way that forces awareness and reflection in the player about what happens when we do what we do. The challenge, progression and atmosphere of the balance all successfully form an engaging experience that sets players thinking of sustainability and peace.

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Microsoft Bing. 2024. *Interior of a mine converted in a survivor shelter*. (Prompt: A detailed interior of an old, rusty submarine, with flickering lights, leaking pipes, a control panel filled with buttons and switches, and a narrow corridor leading to a small bunk area. There are signs of wear and tear, water dripping from the ceiling, and a sense of claustrophobic tension). [Online]. Available at: https://www.bing.com/images/create/an-abandoned2c-partially-submerged-mine-converted-i/1-66e5d18917cb44e391202066a007fe9e?id=CP%2FCrW1F9Vssl8b2MQVJFw%3D%3D&view=detailv2&idpp=genimg&thid=OIG3.ptyeju.H.FW_E5M02q9e&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCsv2tLY3b1jHywtlVeg&form=GCRIDP&ajaxhist=0&ajaxserp=0 [Accessed 15 September 2024]

Microsoft Bing. 2024. *Flooded entrance to a mine converted in a survivor shelter*. (Prompt: A detailed interior of an old, rusty submarine, with flickering lights, leaking pipes, a control panel filled with buttons and switches, and a narrow corridor leading to a small bunk area. There are signs of wear and tear, water dripping from the ceiling, and a sense of claustrophobic tension). [Online]. Available at: https://www.bing.com/images/create/an-abandoned2c-partially-submerged-mine-converted-i/1-66e5d18917cb44e391202066a007fe9e?id=CP%2FCrW1F9Vssl8b2MQVJFw%3D%3D&view=detailv2&idpp=genimg&thid=OIG3.ptyeju.H.FW_E5M02q9e&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCsv2tLY3b1jHywtlVeg&form=GCRIDP&ajaxhist=0&ajaxserp=0 [Accessed 15 September 2024]

Microsoft Bing. 2024. *A rugged survivor wearing a worn-out wetsuit*. (Prompt: A rugged survivor in their late 30s, wearing a torn wetsuit and carrying a makeshift harpoon. They have a determined expression, scars on their face, and their hair is wet and tangled. Their gear includes a waterproof backpack and a utility belt with various tools. A Rusted diving suit designed for underwater exploration and combat. The suit is rusted, with reinforced armour plates, glowing LED strips, oxygen tanks on the back, and a helmet that looks like the first diving). [Online]. Available at: https://www.bing.com/images/create/a-rugged-survivor-in-their-late-30s2c-wearing-a-tor/1-66e5d3cf06c8440090c4a8b9f05ae06d?id=DJm3nx6Tr%2fGbjE%2flnptk1Q%3d%3d&view=detailv2&idpp=genimg&thid=OIG4.v_r4VSz2blvMgt_pchC&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCSv2tLY3b1jHywtlVeg&FORM=GCRIDP&ajaxhist=0&ajaxserp=0 [Accessed 15 September 2024]

Microsoft Bing. 2024. *A rugged survivor wearing a worn-out wetsuit with diving helmet*. (Prompt: A rugged survivor in their late 30s, wearing a torn wetsuit and carrying a makeshift harpoon. They have a determined expression, scars on their face, and their hair is wet and tangled. Their gear includes a waterproof backpack and a utility belt with various tools. A Rusted diving suit designed for underwater exploration and combat. The suit is rusted, with reinforced armour plates, glowing LED strips, oxygen tanks on the back, and a helmet that looks like the first diving). [Online]. Available at: https://www.bing.com/images/create/a-rugged-survivor-in-their-late-30s2c-wearing-a-tor/1-66e5d3ef764943f6b8266c5f5ed79e31?id=aCPmlsPubsJx45S3f7GAlw%3d%3d&view=detailv2&idpp=genimg&thid=OIG3.R9dyBcjH9BqDmj4kcjJz&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCSv2tLY3b1jHywtlVeg&FORM=GCRIDP&ajaxhist=0&ajaxserp=0 [Accessed 15 September 2024]

Microsoft Bing. 2024. *A rusted diving suit, designed for underwater exploration and combat*. (Prompt: A Rusted diving suit designed for underwater exploration and combat. The suit is

rusted, with reinforced armour plates, glowing LED strips, oxygen tanks on the back, and a helmet that looks like the first diving helmets. But is old now and rusted and work just just). [Online]. Available at: [https://www.bing.com/images/create/a--rusted--diving-suit-designed-for-underwater-exp/1-](https://www.bing.com/images/create/a--rusted--diving-suit-designed-for-underwater-exp/1-66e5d29131664fe494006eb7d6f11c73?id=LYBcy5x8Nm1i41vgCHZegg%3d%3d&view=detailv2&idpp=genimg&thld=OIG1.nMNoTUBKzw_D9Ehkbvec&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCSv2tLY3b1jHywtlVeg&FORM=GCRIDP&ajaxhist=0&ajaxserp=0)

[66e5d29131664fe494006eb7d6f11c73?id=LYBcy5x8Nm1i41vgCHZegg%3d%3d&view=detailv2&idpp=genimg&thld=OIG1.nMNoTUBKzw_D9Ehkbvec&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCSv2tLY3b1jHywtlVeg&FORM=GCRIDP&ajaxhist=0&ajaxserp=0](https://www.bing.com/images/create/a--rusted--diving-suit-designed-for-underwater-exp/1-66e5d29131664fe494006eb7d6f11c73?id=LYBcy5x8Nm1i41vgCHZegg%3d%3d&view=detailv2&idpp=genimg&thld=OIG1.nMNoTUBKzw_D9Ehkbvec&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCSv2tLY3b1jHywtlVeg&FORM=GCRIDP&ajaxhist=0&ajaxserp=0) [Accessed 15 September 2024]

Microsoft Bing. 2024. *A large, mutated sea creature.* (Prompt: A large, mutated sea creature with extra fins, glowing eyes, and jagged teeth. Its skin is covered in scars and barnacles, and its body is a fusion of different sea species. The creature swims menacingly through a field of underwater debris. Make it a crab creature). [Online]. Available at:

[https://www.bing.com/images/create/a-large2c-mutated-sea-creature-with-extra-fins2c-glo/1-](https://www.bing.com/images/create/a-large2c-mutated-sea-creature-with-extra-fins2c-glo/1-66e9a474e9dd495ea74d7450e136a22e?id=xLEktyj4cbHQzf7I77HWSQ%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.wARqvcb19F6GS4OVyJT4&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0)
[66e9a474e9dd495ea74d7450e136a22e?id=xLEktyj4cbHQzf7I77HWSQ%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.wARqvcb19F6GS4OVyJT4&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0](https://www.bing.com/images/create/a-large2c-mutated-sea-creature-with-extra-fins2c-glo/1-66e9a474e9dd495ea74d7450e136a22e?id=xLEktyj4cbHQzf7I77HWSQ%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.wARqvcb19F6GS4OVyJT4&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0) [Accessed 15 September 2024]

Microsoft Bing. 2024. *A large, mutated sea creature with crab features.* (Prompt: A large, mutated sea creature with extra fins, glowing eyes, and jagged teeth. Its skin is covered in scars and barnacles, and its body is a fusion of different sea species. The creature swims menacingly through a field of underwater debris. Make it a crab creature). [Online]. Available at:

[https://www.bing.com/images/create/a-large2c-mutated-sea-creature-with-extra-fins2c-glo/1-](https://www.bing.com/images/create/a-large2c-mutated-sea-creature-with-extra-fins2c-glo/1-66e9a474e9dd495ea74d7450e136a22e?id=DAi%2bQHjQfUBnxPa1W5SwXA%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.G4loPR2P1QcYLtotdiuz&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0)
[66e9a474e9dd495ea74d7450e136a22e?id=DAi%2bQHjQfUBnxPa1W5SwXA%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.G4loPR2P1QcYLtotdiuz&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0](https://www.bing.com/images/create/a-large2c-mutated-sea-creature-with-extra-fins2c-glo/1-66e9a474e9dd495ea74d7450e136a22e?id=DAi%2bQHjQfUBnxPa1W5SwXA%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.G4loPR2P1QcYLtotdiuz&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0) [Accessed 15 September 2024]

Microsoft Bing. 2024. *A mutated barracuda with black skin and glowing eyes.* (Prompt: A mutated barracuda with black skin and glowing eyes, stalking deep dark waters for pray).

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[66e88b1e575045aba32c33ffe3a1f3f2?id=dE0umrpPvtDvfMSPuX7qw%3d%3d&view=detailv2&idpp=genimg&thld=OIG1.FzOlu8K75c.MdvBQsXzo&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0](https://www.bing.com/i1images/create/a-mutated-barracuda-with-black-skin-and-glowing-ey/1-66e88b1e575045aba32c33ffe3a1f3f2?id=dE0umrpPvtDvfMSPuX7qw%3d%3d&view=detailv2&idpp=genimg&thld=OIG1.FzOlu8K75c.MdvBQsXzo&skey=GNsprcxbClrXWeDitkfnIDVyMbaiXE_06aKCj67kIZU&FORM=GCRIDP&ajaxhist=0&ajaxserp=0) [Accessed 15 September 2024]

Microsoft Bing. 2024. *A mutated shark attacking survivors.* (Prompt: A tense scene of a mutated shark-like creature storms a small group of survivors. The creature's body is grotesquely twisted, with extra rows of teeth and glowing red eyes. The survivors are fighting back with harpoons and makeshift weapons, as bubbles and debris float around them). [Online].

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[66e5d4a7b3ca46f987bcdccb1029c8b1?id=sHtXTcdWlHoayLIWn7PyTQ%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.W_0nulKHUndHOsYFDrOs&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCSv2tLY3b1jHywtlVeg&FORM=GCRIDP&ajaxhist=0&ajaxserp=0](https://www.bing.com/images/create/a-tense-scene-of-a-mutated-shark-like-creature-sto/1-66e5d4a7b3ca46f987bcdccb1029c8b1?id=sHtXTcdWlHoayLIWn7PyTQ%3d%3d&view=detailv2&idpp=genimg&thld=OIG2.W_0nulKHUndHOsYFDrOs&skey=lQxkS_tQ0u1SFpDcJUuqTiLVCSv2tLY3b1jHywtlVeg&FORM=GCRIDP&ajaxhist=0&ajaxserp=0) [Accessed 15 September 2024].

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DISCLOSURE OF AI USAGE IN OUR ASSESSMENT:

Within the “**Concept art**” section of this project, we made use of **Bing image generator** to generate inspirational concept art for our game idea on 15 September 2024.