

Quarrelsome Coral

A Cooperative Exploratory Adventure

By Plus 2 Studios



Design Document Version: 0.2.0

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Version History

Version 0.1.0

- First version of the document. Document template based on [Alec Markarian and Benjamin Stanley's Game Design Document template](#) and students from previous CSS 385 classes.



Version 0.2.0

- Added UI layout under User Interface & Art section (Play Screen, Menu Screens, Pause Screen).
- Updated Controls to match the buttons Player 1 actually uses
- Added Art Notes section to help communicate about how art can be created for our game

Version 0.3.0

- Updated Figure 2
- Updated Eel stats to better match gameplay
- Updated Generation/Spawning table

Overview

Theme

- Exploration Adventure

Genre

- Sci-fi

Objective

- You and your crew of three other contractors must explore and survive the coral reefs of Planet ZB332, while always keeping an eye out for any hidden points of interest.

Target Platform

- PC

Similar Games

- [Lovers in a Dangerous Spacetime](#)
 - **Similar:** 4-Player cooperative game that places players in a contained environment where they must work together to find their objectives and survive.
 - **Different:** Quarrelsome Corals will not set in space and will not have different levels
- [We Need To Go Deeper](#)
 - **Similar:** 4-Player cooperative underwater game that forces players to work together to find objectives and survive.



- **Different:** Players will not be able to leave their submarine and will be able to perform more than just four tasks inside their submarine, forcing players to prioritize tasks inside their submarine.

Audience

- Individuals who enjoy cooperative games that require communication.

Player Experience Goals

- Players will feel like they need to communicate and cooperative to survive
- Players will be encouraged to explore as much as they can
- Players will feel like any action they have will have an in-game consequence

Project Description

Quarrelsome Corals is a 4-Player cooperative exploratory adventure game where players are confined in a submarine. Inside the submarine players must cooperate and communicate with each other, ensuring that each station in the submarine is manned, prioritizing different stations depending on the crew's current needs.

Story

The story for this game is intended to give players a context to why they are where they are and what they are supposed to do there. Therefore, this story will be simply given to the players as a skippable scene upon starting the game.

Description

You and your crew have been tasked by Wazzasoft Enterprises to explore the QRS3 reef, nicknamed the Quarrelsome Reefs by fellow explorers, on Planet ZB332 in the Outer Colony zone of the WZ Empire. Your job is to map the underwater terrain, marking any points of interest Wazzasoft Enterprises deems important to their company. Each point of interest discovered and submitted to Wazzasoft will earn you bonus compensation. Can you earn enough money to pay off your submarine and get off world? Or will you and your crew join the countless other contractors at the bottom of the reef?



Gameplay

Description

You and up to three friends will join together in this 2D exploratory adventure game to pilot, manage weapon systems, control defensive barriers, and perform repairs on your submarine to ensure your successful exploration of the Quarrelsome Reefs!

Camera

There will be two cameras in this game. The main camera will show the entire submarine, encapsulating all players, as well as the surrounding environment, similar to the camera system Lovers in a Dangerous Spacetime utilizes.



Figure 1: An example of how the main camera will encapsulate the vehicle players control, the players themselves, and the surrounding environment.

The second camera will function as a minimap and will be located at the top right of the screen, containing a width and height of 20% of the total screen size. This minimap will show the players' zoomed out location and the surrounding environment, giving them an idea of where they are compared to where they've been. Though not located in the top-right corner of the screen, an example of this type of minimap, where it shows the players and the environment, can be seen in Figure 2.



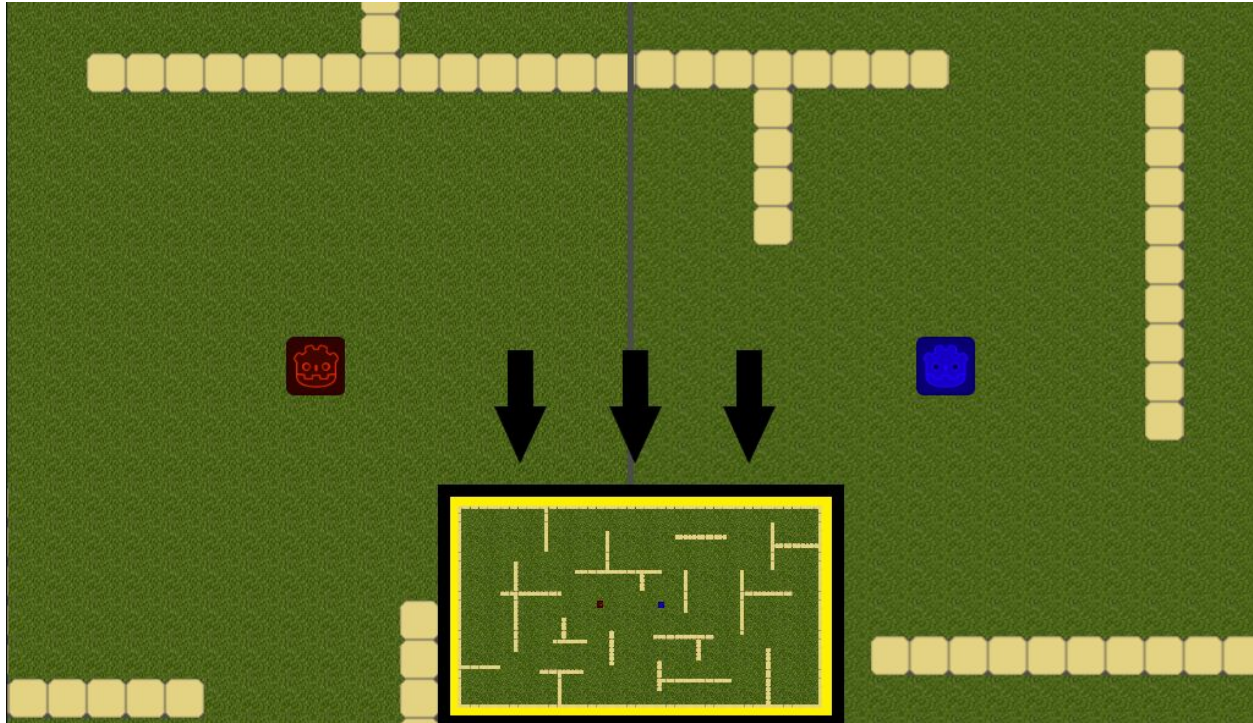


Figure 2: An example of the minimap style Quarrelsome Reefs will be implemented. The minimap is highlighted by a yellow and black boundary and is pointed to three arrows.

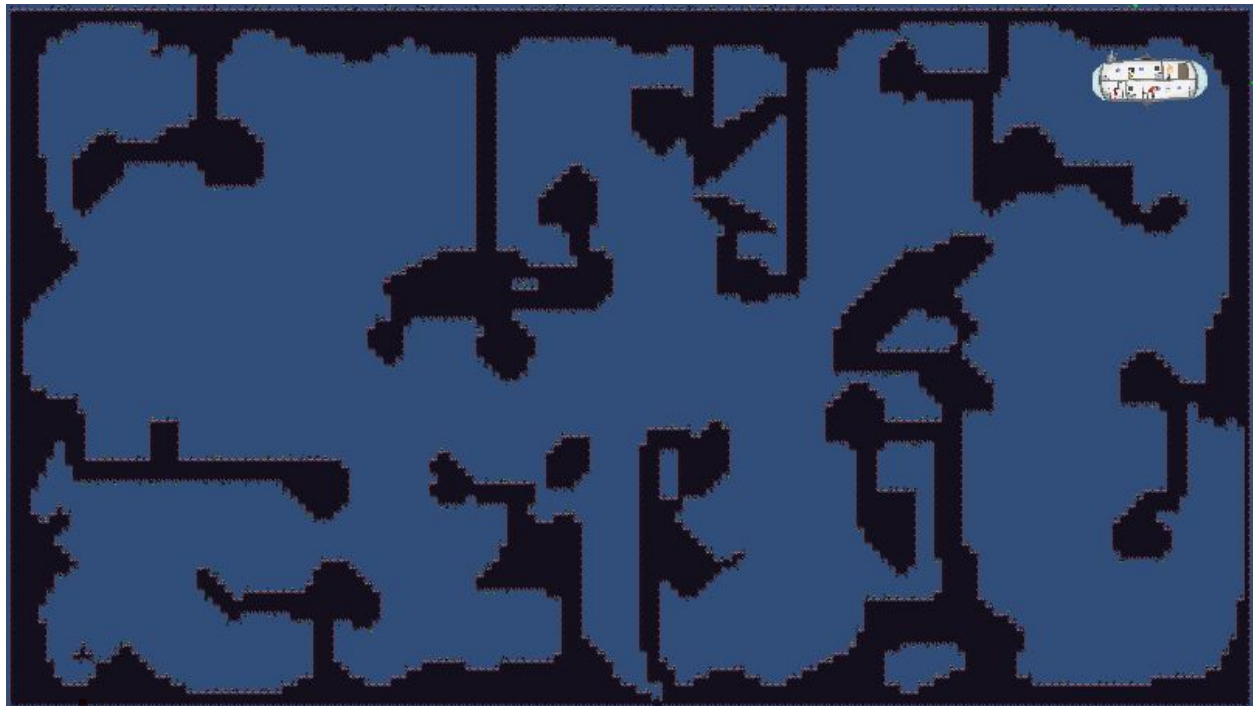


Figure 2: This is the view the player will see in their minimap. The minimap will be located in the top right corner of their screen when the map station is active

Controls

Each player will control an avatar using their assigned keys or controller and will be able to walk through each other (no player on player collision). Each player will be able to move horizontally and vertically (when a ladder is present) around the submarine. Upon coming to a control station, the player will then be able to activate that station, losing control of their avatar and instead controlling that station and its functionalities. Stations and their specific functionalities will be discussed in the Mechanics section. An example of a control scheme is as follows:

- Player 1
 - 'W' 'Up Arrow' = Up
 - 'S' 'Down Arrow' = Down
 - 'A' 'Left Arrow' = Left
 - 'D' 'Right Arrow' = Right
 - 'E' 'Right Alt' = Enter Station/Deliver Ammo
 - 'R' 'Right Control' = Repair
- Weapon Station
 - 'A' 'Left Arrow' = Rotate Left
 - 'D' 'Right Arrow' = Rotate Right
 - 'F' 'Right Control' = Fire
 - 'E' 'Right Alt' = Exit Station
 - 'R' = Reload
- Shield Station
 - 'A' 'Left Arrow' = Rotate Left
 - 'D' 'Right Arrow' = Rotate Right
 - 'E' 'Right Alt' = Exit Station
- Map Station
 - 'F' 'Right Control' = Bring up full screen map
 - 'E' 'Right Alt' = Exit Station
- Repair Station
 - 'E' 'Right Alt' = Exit Station
- Pilot Station
 - 'W' 'Up Arrow' = Up
 - 'S' 'Down Arrow' = Down
 - 'A' 'Left Arrow' = Left
 - 'D' 'Right Arrow' = Right
 - 'R' 'Right Control' = Fire
 - 'E' 'Right Alt' = Enter/Exit Station



Mechanics

Map Generation

The main mechanic of this game is random world generation. This is the backbone of Quarrelsome Reefs and is what allows it to be an exploratory game as each play session will be unique from previous playthroughs. The random world generation algorithm will produce underwater caves and other deadend landmarks while constantly generating more terrain the further the user travels. An example of the type of terrain it may produce from a minimap perspective can be seen in Figure 3.

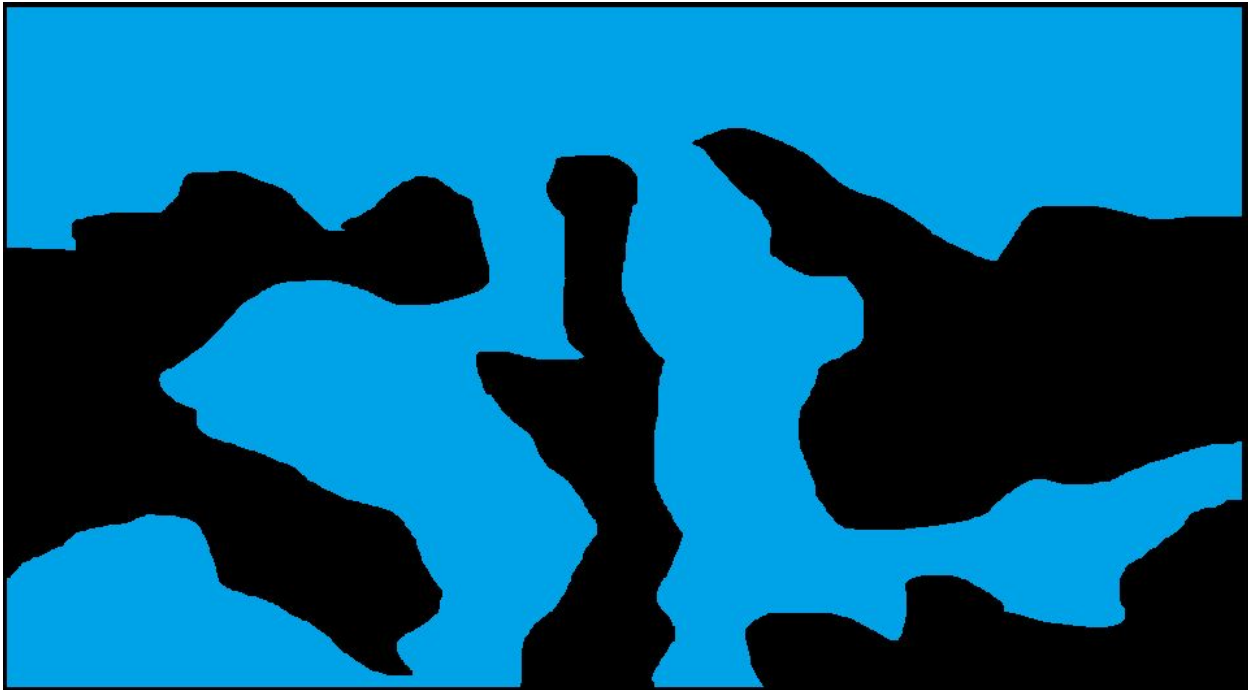


Figure 3: An example of how the random world generator may generate terrain, where black is the environment and blue is the water the player can traverse through. Kinetic.

Submarine Stations

There will be a total of 7 stations a player can interact with on the submarine. Each station can only have 1 player on it at a time, players cannot kick another player off of a station, thus forcing them to communicate if they want to control that station themselves.

Pilot Station

This station allows the user to control the submarine. The submarine can travel forwards, backwards, up, and down. When moving backwards, the submarine's sprite will flip horizontally with a slight animation, giving the illusion that the sub rotated 180 degrees on the Y-axis, and thus explaining how it turned around. This station will also allow the Pilot to fire a forward facing



torpedo that will search out and deal damage to the nearest enemy. This weapon, unlike other weapons, requires reloading after every shot, which any player may do after traveling to the Armory Station.

Weapon Station

There will be two Weapon Stations on the Submarine. These stations are exact duplicates of each other, except for their location. The Top Weapon Station will be located on the top of the submarine, and the Bottom Weapon Station will be located on the bottom of the submarine. Each weapon station will have 10 bullets to its magazine and can have unlimited magazines, just like discussed under the Armory Station (see Wish List). The damage of each weapon station will be displayed in the Statistics section. The weapons can rotate a total of 180 degrees, allowing the player in that station to shoot at everything in their hemisphere. See Figure 6 for an example of how the weapons will be placed on the submarine and their rotation capabilities.

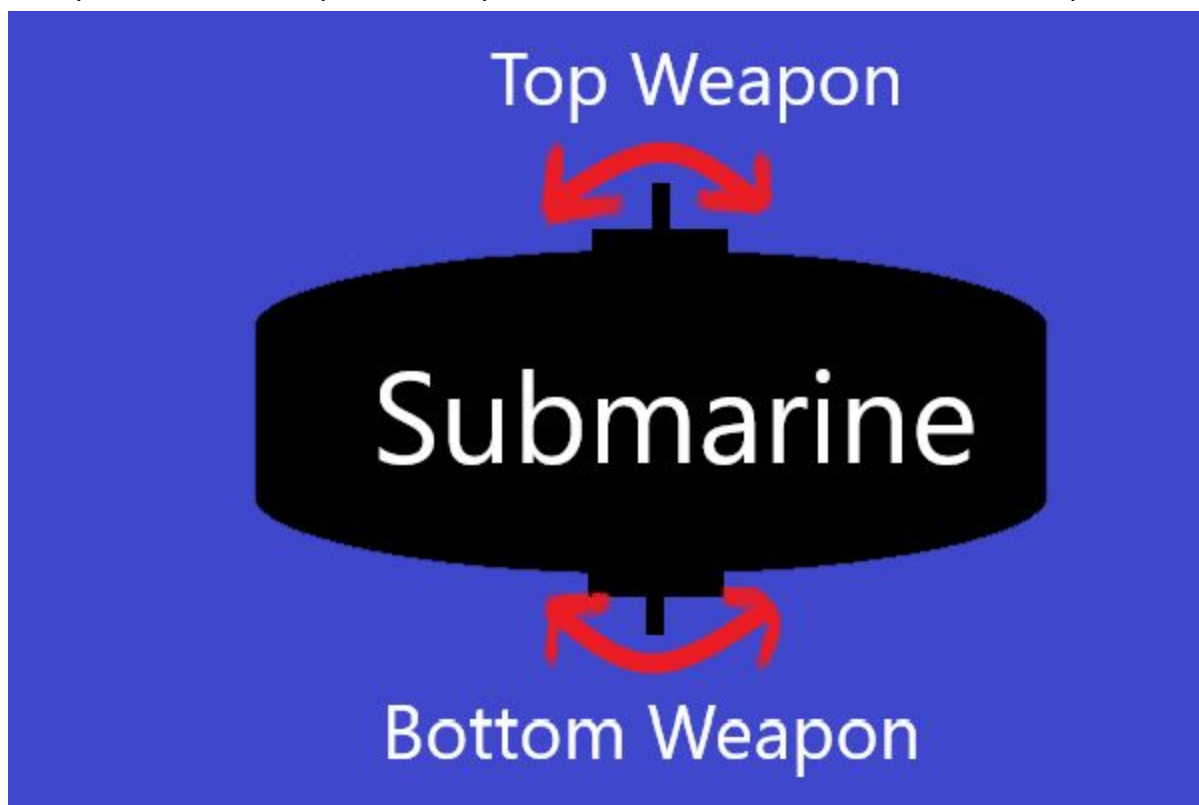


Figure 6: An example of how the weapons will be placed on the submarine and their rotation capabilities.

Map Station

The Map Station allows the minimap to be displayed in the top-right corner of the screen and allows users the option to expand the minimap into a full map, covering the entire screen, granting the Map Station player the ability to pan the map around as well as zoom in and out on



chosen areas, examining everything they have explored thus far. While this large map is open, the game is not paused, therefore the submarine can be attacked and damaged while the map is open and other players will still be able to perform their tasks, but they will not be able to see what they are doing, thus encouraging players to communicate when and for how long they will have the map open. Figure 3 shows an example of what the full screen map can look like and Figure 2 shows an example of what the minimap can look like, though its placement would be in the top-right corner and not the bottom-center as Figure 2 displays.

Shield Station

The Shield Station allows the user to control a shield around the submarine that only protects $\frac{1}{6}$ of the submarine's total perimeter, forcing the Shield Station operator to move the shield around the submarine, clockwise or counterclockwise, to protect against incoming enemy attacks. When a user is not operating the Shield Station, the shield is still active, but its location does not change relative to the submarine. See Figure 7 for an example of what the shield will look like on the submarine.



Figure 7: How the Shield will appear in regards to Submarine.

Enemies

The enemies in Quarrelsome Corals can be broken down into two categories, minions (often just called enemy or enemies) and bosses. A boss, to keep things simple, is simply a minion that has been enlarged, has increased speed, health, and damage output. The type of enemies in this game are listed as follows. All enemies will spawn off screen and if capable, move towards the submarine until they are within range.

Octopus



The octopus is a melee enemy who will try to attach itself to the submarine, dealing damage as long as it's attached. If the top gun or the bottom gun cannot reach the octopus after it has attached itself, then the pilot weapon will need to be used as its weapon is homing, or the shield will need to be used to bounce the octopus off the submarine.

Sea Anemone

Sea anemones will be attached to the sides of the terrain, unable to move towards the submarine. However, their tentacles (appendages) will be able to move and will attempt to strike out at the submarine if the submarine gets too close.

Eel

The eel will swim towards the submarine and attempt to strike it, bouncing back slightly afterwards, dealing damage to the submarine, but also temporarily stunning itself from the impact, preventing it from constantly striking the submarine and giving the players the opportunity to kill it.

Cone Snail

The cone snail will be attached to the terrain, but unlike the sea anemone, will have the capability to move on this terrain. Once it moves itself within range, it will shoot spikes at the submarine that will damage the submarine. If the cone snail retreats into its shell, then it will take become immune to any damage until it exits once more. The shooting pattern will be as follows: Move into range, shoot, pause, shoot, pause, retreat, emerge, repeat. If at any point the cone snail gets out of range, its current state will be interpreted and it will enter the move state once more. The shoot stages only fire 1 shot, the pause state lasts for 2 seconds, and the retreat stage lasts for 4 seconds. The emerge state is the same as the pause state except the snail's animation shows them leaving their shell. During this stage they are no longer protected by their shell, even if not fully emerged.

Spitter Fish

This fish is loosely based off the real life Archerfish. It will swim around the submarine and shoot jets of high pressure water at the submarine, dealing damage. After shooting, it will retreat slightly, reorient itself, and then get back within range (if needed) and fire another shot.

Objectives

The main objective of Quarrelsome Coral to explore as much as possible before you die. To encourage this exploration, users are given the task of locating and marking points of interest of their map (as explained in the Story section). Upon marking one of these points, their score will increase, encouraging them to find as many points of interest (and thus explore as much as possible) before they die. Key points of interest will be randomly selected from the list of points of interest to be generated when the map is generated, ensuring that no two points of interest



will be located within 100 units of each other. The following is a list of key points a player might find while exploring.

- Oil Rocks (rocks that leak oil, as shown in Figure 17)
- Kelp Fields (Figure 18)
- Shipwrecks (Figure 19, though instead of wooden ships, it would be a submarine similar to the player's, suggesting that a previous crew died there)

For each point of interest, when the user is within 5 units of it, will spawn a boss monster just off screen that will come and attack the player, bringing a random selection of minions with it as well. Upon getting within 5 units of the point of interest, the user will then have the option to begin marking that location on their map. This process will take 2 seconds, during which a cooldown bar will be shown indicating the players' progress. If interrupted, the process will have to be restarted. This ensures that players will most likely have to beat the boss they are fighting before marking the point of interest. Once marked, the point of interest will disappear and the player will be awarded 1000 points.

Difficulty Settings

There will be 2 difficulty settings for this game. The first is the normal setting. While playing in this setting, enemies will have their base stats as discussed in the Statistics section. However, for every minute that passes in the game, these stats will be increased by 5%. By increasing the difficulty as the players advance through the game, it will ensure that they will eventually die. The other difficulty setting will be known as Kelvin Mode. In this setting, the normal settings will still be utilized, however, the submarine will instead start with 1000 health instead of 100.

Statistics

This section breaks down the math involved for everything in our game. If a cell does not have a value, see the cell above it for its value. All spawning will be done off screen.

Generation/Spawning

Map	No closed loops (Player cannot get trapped)-Player can destroy terrain to get to any previously inaccessible areas except the ocean floor.	At the start of the game and then whenever the player researches the end of that current boundary
Points of Interest	Cannot be within 100 units of another point of interest, discovered or not.	75% chance every minute of game time
Oil Rocks	Any surface	
Kelp Field	Any surface	
Shipwrecks	Only ground surfaces	



Enemies	Within 500 units of the players but offscreen. Max 50 enemies at anytime.	Every 30 seconds
Octopus	Water	
Eel	Water	
Spitterfish	Water	
Sea Anemone	Terrain	
Cone Snail	Terrain	
Bosses	Just off screen	When within 5 units of a point of interest

If the players' get 1000 units from an enemy then it will despawn.

Enemies

Type	Health	Attack Strength	Attack Speed (per second)	Speed (units/sec)	Projectile Speed (units/sec)	Range (units)	Quirks
Octopus	100	10	0.5	3	NA	Contact	Latches unto the submarine, can be knocked up with the shield.
Eel	75	5	.25 1	6	NA	Contact	Bounces off submarine after attack and is stunned - starts charge 20 units away
Spitterfish	50	7.5	.75	4	7	20	Circles the submarine once in range.
Sea Anemone	100	20	1	0	NA	Contact	Stationary obstacle
Cone Snail	25	10	.5	1	10	40	Invincible when inside shell
Bosses	x5	x2	Same	x2	Same	Same	Bosses have boosted stats of



								whatever enemy they encapsulate and are also 3x as large
--	--	--	--	--	--	--	--	--

Upon missing a ranged attack, the projectile will fizzle away into nothing once at max range.
Upon hitting anything, the projectile will pop.

Submarine

Type	Health	Attack Strength	Attack Speed (per second)	Speed (units/sec)	Reload Speed (units/sec)	Projectile Speed (units/sec)	Range (units)	Quirks
General	100	NA	NA	4	NA	NA	NA	Gameover once health hits 0
Weapon Stations	NA	25	1	NA	1	10	100	Holds 10 shots before it needs to be reloaded, can rotate 180 degrees to cover everything in its associated hemisphere (top or bottom). Can block enemy projectiles.
Pilot Station	NA	50	NA	NA	2	8	100	Holds 1 shot before it needs to be reloaded, homes towards the nearest enemy. Can block enemy projectiles.

Upon missing a shot, the projectile will fizzle away once at its max range. Upon hitting something, the projectile will explode, dealing damage only to what was hit (if it can take damage).

User Interface & Art



Since we're aiming to make players excited about exploring the environment, the look and feel of the game must be mysterious, foreign, and exotic. One of the best ways to accomplish this goal is through the art our game showcases. Therefore, we will be using colorful art, both for the background environment and for creatures and plants.

Background

We will need underwater assets that can be put together in different configurations, which will allow for the randomization of the world. We will be using colorful underwater plants, since the exploration takes place in a reef. The general look and feel of the environment must be magical and mysterious.



Figure 10: Example of a colorful underwater cave.

Play Screen

Figure 11 shows an example of what the player(s) will see when they are playing the game. The important things to note here are the submarine, terrain, health bar, and score indicator.





Figure 11: An example of the in-game look for players with health bar and score.

Menu Screens

There will be three sets of menu screens. The first set, demonstrated in Figure 12, is the first one the player will see on game loading. The Single Player button will launch the game with only 1 character, the Multiplayer Button will launch the Multiplayer screen (Figure 13) where the amount of users will be chosen. Here, the back button goes back to the main screen (Figure 12), and the Play button starts the game, loading the amount of players selected into the game. The third screen (Figure 14) will allow the user to change in-game settings, such as music and sound volume.





Figure 12: Main menu screen users will see upon game launch

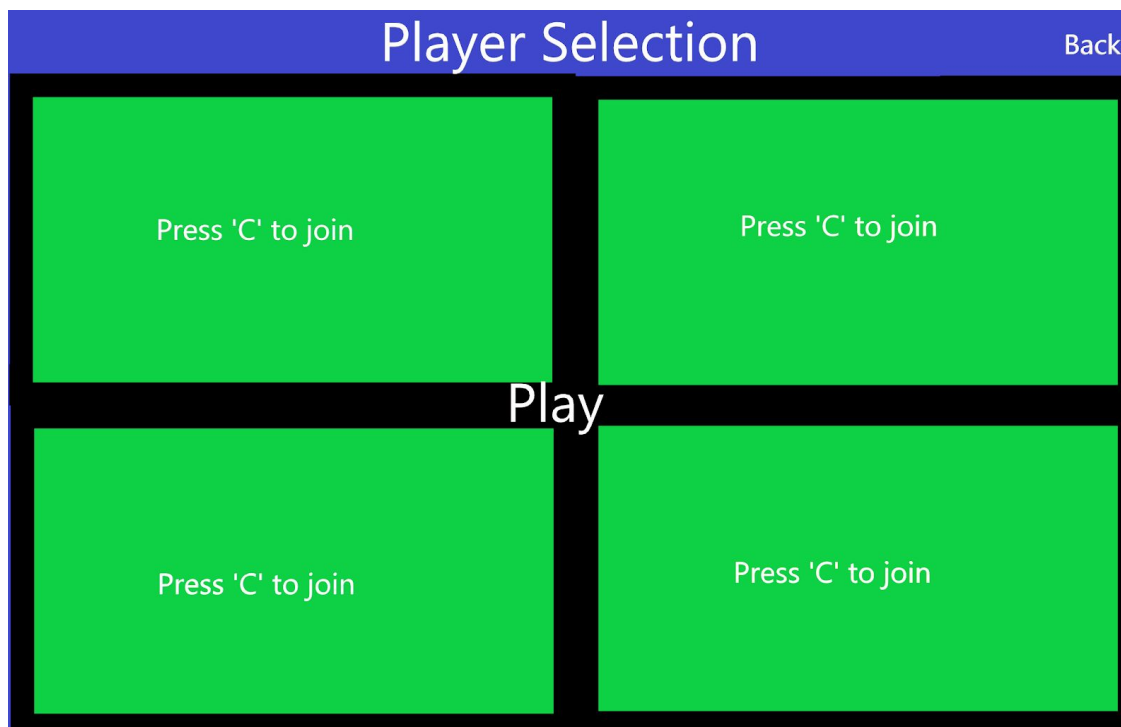


Figure 13. An example of the player selection screen.



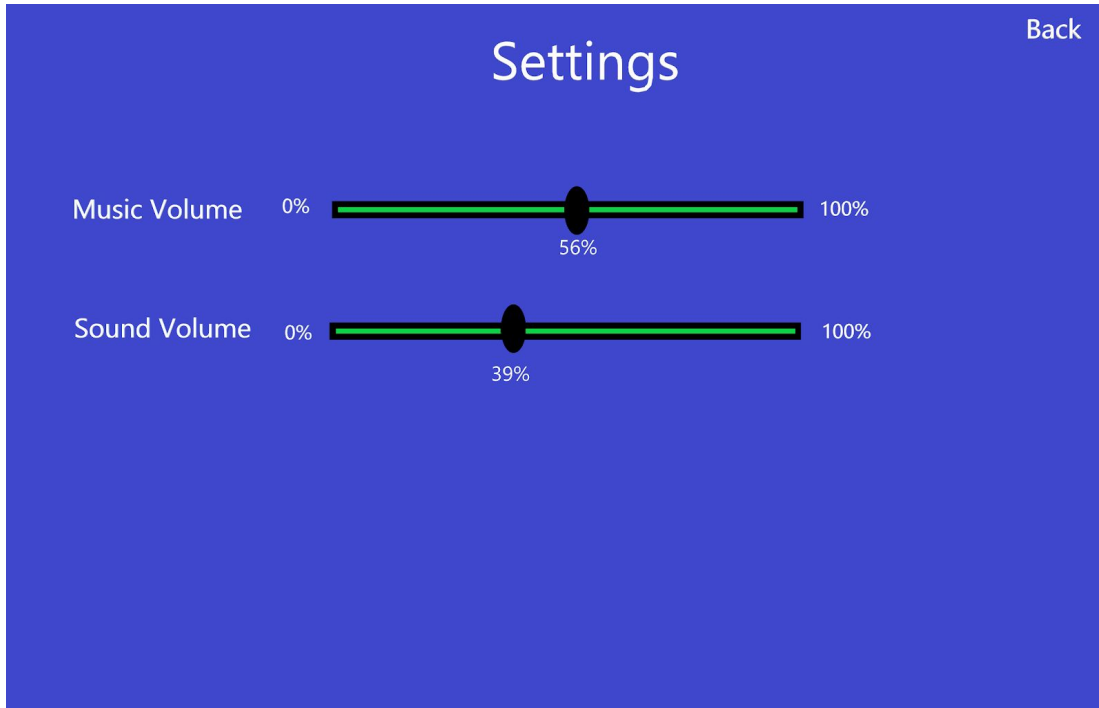


Figure 14. Example of the settings menu.

Pause Screen

During the game, users will be allowed to pause the game, which will simply place a grey transparent sprite over the entire screen with the word "Paused" in the middle.

Submarine

The submarine must look modern and high tech, since the story occurs during a future exploration mission. The submarine asset should show the interior, which will allow players to see the area and move around to different stations. Stations should be placed in different rooms and spread out evenly, to create some level of difficulty for players when going from one post to another. The submarine must have at least: 2 weapons, 1 shield, 1 control system.



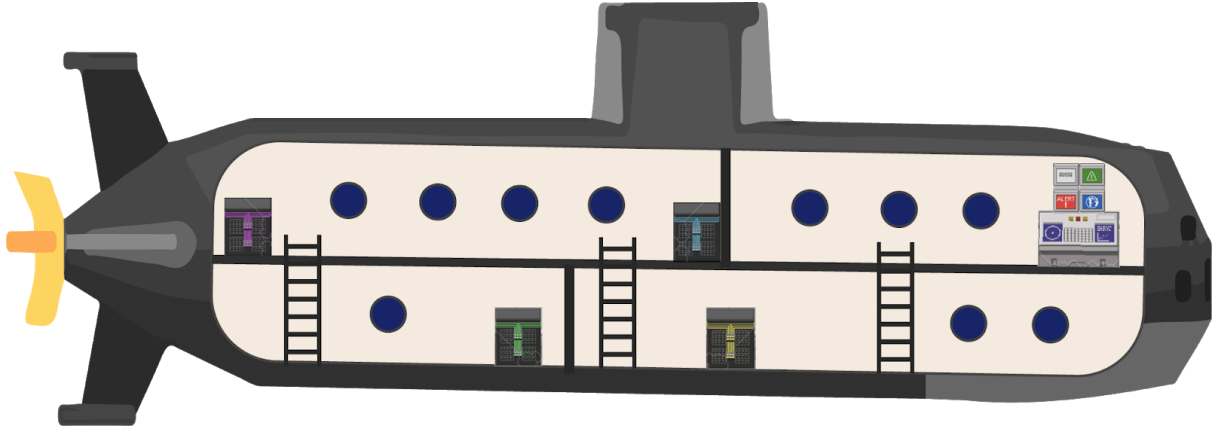


Figure 11. Example of an underwater submarine with open interior and multiple stations for users to play different roles.

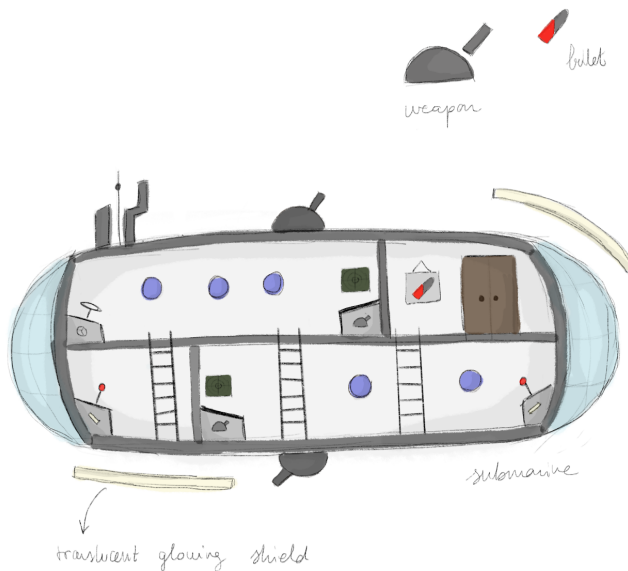


Figure 15. Example of an underwater submarine with open interior and multiple stations for users to play different roles.

Weapons

The submarine will have 2 weapons on the top and bottom, both of them identical. They will shoot military looking torpedos, since this is what makes the most sense for a submarine.



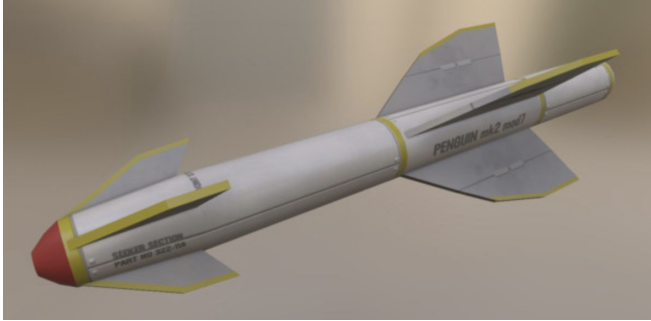


Figure 16. Example of a military torpedo

Hero characters

There will be 4 characters, that must all be different from each other to avoid confusion. The preferable look will be that of either scientists or explorers. We will have 2 female and 2 male characters.



Figure 17. Example of scientist sprite

Enemies

As mentioned in previous sections, we will have 5 enemy species. These enemies can be in either of two categories: minions and bosses. Since boss enemies must be intimidating, they will be larger in size. The five main enemies we have chosen are: octopus, Sea anemone, eel, cone snail and spitter fish. Here are some example assets:



Figure 18. Example of an octopus enemy





Figure 19. Example of an eel enemy

Flora & Fauna

Other than the heroes and enemies, there will be other colorful & exotic looking fish present in the water. We will also use colorful coral to make the location more interesting to the player, and therefore encourage exploration.



Figure 20. Example of different minion enemy fish



Figure 21. Example of colorful enemy plants



Points of Interest

These will include any element that can be collected or marked on the map, such as resources, ancient artifacts, or shipwrecks. The artifacts and shipwreck objects must look old and be covered in seaweed. Resources and energy should look foreign, since this is not planet Earth.



Figure 22: Example of an oil rock



Figure 23: Example of a kelp field





Figure 24: Example of an underwater shipwreck that players may come across

Art Notes

This is a general section that discusses how some of the art for this game can be made.

Submarine Layout

The submarine can contain everything it needs in a single sprite sheet - ladders, stations, walls, floors, and the hull. However, if stations should show some sort of life to them - such as blinking lights, then they should have their own sprite sheet that can then be randomized during play so the blinking pattern is not always the same. Empty game objects can be used to overlay collisions on the different stations and ladders throughout the submarine so they don't need to be their own separate sprite, though they can be if desired to show more custom animation on them.

Weapon Layout

Due to the weapon functionality, there are two options for designing the top, bottom, and pilot weapon. The first is to design the turret (or barrel) separately from the hull so it can be rotated properly during the aiming process and not rotate the base of the station as well. The second option is to create a sprite sheet for each weapon that will allow the programmer to select the correct sprite to display depending on the angle that the turret (barrel) should be at. I believe it would be easier to design to separate pieces - for example, the prototype demo weapon station is created with two different sprites, a base and a turret, only the turret rotates and is placed deep enough into the base that the rotation on the other end is hidden from the user.

Character Layout

The character should have animations for walking and climbing a ladder (or at least facing the ladder). If possible, an animation should be included for when the player leaves the ladder early. For an example of this mechanic, see the Character Movement prototype demo, notice how the player just glides down. Ideally, they'd fall the direction they want to with a little dust impact when they finally hit the next floor.

Shield Layout

Currently, the only way to get the shield working as intended is to have tiny, 10x10 pixel square sprites that are offset from each other following an orbital pattern. Therefore, when creating the shield from an art perspective, the shield should be a small, oval shaped object. This object will then be repeated multiple times to create the shield that you can see in the Shield Station Prototype demo.



Music & Sound Effects

Music

There will be one theme song playing throughout the game. This song should be upbeat and happy, since the game's theme is exploration and adventure. However, when an enemy boss is about to approach or is in the visible screen area, the happy theme will be dimmed and a theme that conveys danger will be used. This is to help warn the user of the larger danger, as well as make the battle with the boss more exciting.

Sound Effects

Multiple sounds effects will be needed in order to give players a more realistic experience, and help them with immersion. Some key sound effects are the following:

- Weapon shooting
- Enemy dying
- Enemy attack
- Ship damage
- Ship hit but protected by shield
- Game end
- Water bubbles

Animation

Character

Because hero characters will remain inside the submarine, necessary movement includes only walking, ladder climbing, and short falling (see Art Notes). The most important is walking. We will be using sprites that have walking animation.

Enemies

Ideally we would have sprite animation for the fish and other enemies as well, to make their movement more realistic. We will be using a swimming sprite animation. We will also have small bubbles come from some of the fish and other enemies.

Water

To make the water look like it has movement, we will add light effects (sun rays coming from the ocean surface) and random bubbles coming up from the seaweed and coral. Additionally, some plants will have light movement animations, to create an effect of underwater currents.



Schedule

The following is a breakdown of the schedule for this project and who will work on what.

Deadline	What	Who
Oct. 28, 2019	Digital Prototypes	
	Random World Generation	Adriana
	Multiple Players/External Input	Greg
	Submarine/Player Movement	Greg
	Station Entering/Exiting	Greg
	Submarine Art	Adriana
	Station Art	Adriana
	Weapon Art	Adriana
Nov. 4, 2019	Rough Demo	
	Key Point Behavior and Spawning	Greg
	Weapon Behavior	Greg
	Shield Behavior	Greg
	Enemy Behavior	Adriana
	Boss Behavior	Adriana
Nov. 18, 2019	Alpha Playtest	
	Refine rough demo components	Both
	Main Menu Screen (Play, Settings, Quit)	Adriana
	Music	Adriana
	Sound effects	Greg
	UI	Adriana



Nov. 25, 2019	Beta Playtest	
	Refine Alpha components	Both
	Armory Behavior	Greg
	Repair Behavior	Greg
Dec. 2, 2019	Retro Talk	
	Refine Beta components	Both
	Presentation	Both
Dec. 9, 2019	Final Game Test	
	Perform final touches	
Dec. 12, 2019	Final Video + Final Submission	
	Create video and HTML Entry	Both

Wish List

Description

The following is a list of all the mechanics or other features that we hope to have the time to add to our game. This list is in no particular order, and thus will be prioritized (if we get far enough to get to this list) in whatever order will add the most to the game and can be accomplished with whatever amount of time is left.

Additional Stations

Armory Station

This station allows the user to gather ammunition for the 2 weapon stations and 1 pilot station on board the submarine. Upon “entering” this station, the user will automatically be given ammunition that they can then take to any of the three stations that take ammo, however, they do not have to enter these stations to deliver the ammo, meaning a player could be manning a weapon station and another user could provide it ammo at the same time. Since a player does not actually enter this station, there will be no need for them to exit this station as the ammo is gathered automatically and instantly. If the station is empty and a user delivers ammo, then they will automatically enter the station as well as deliver the ammo. The following breaks down different scenarios a player may experience while carrying ammo.



- If the station already has ammo, then the ammo will be added to the station as an extra magazine, increasing the total amount of ammo that weapon can use post reload.
- If the station is completely out of ammo, but a user is at that station, then a cooldown bar will appear above that station, indicating the reloading process.
- If the station is completely out of ammo and a user is not present, then when ammo is delivered, the ammo deliver will enter that station to deliver the ammo and then trigger the reload process. If a user leaves the reload process while it is still occurring, then the process stops where it is currently located, to be continued from that position once another player enters that reloading station.
- A player cannot go to the Armory Station if they are already carrying ammo.
- The amount of ammo carried by a user is 1 magazine. The 2 weapon stations have 10 bullets per magazine, while the Pilot Station only has 1 bullet per magazine due to its homing nature.
- There is no limit on how many magazines a weapon can have

A player will know they are carrying ammo due to them physically carrying ammo as shown in Figure 4.



Figure 4: An example of how the player will know they are currently carrying ammo (The player carrying ammo in this screenshot from We Need To Go Deeper is named Star).

How much ammo a station has will be displayed in the HUD at the top of the screen, see Figure 5 for an example of how this will look.

Pilot: 1/8 Top: 10/26 Botom: 10/32





Figure 5: An example of how the ammo of each gun will be displayed at the top of the screen.

The first number in Figure 5 is the amount currently in the weapon and the second amount is how many bullets there are total at that station, not including the first number in its count. So, for example, Top has a total of 36 bullets before it needs ammo, but will need to reload after shooting 10 bullets, which once started, will then make 26, 16 (26 - 10).

Repair Station

The Repair Station will work similar to the Armor Station but is a lot simpler. When a player enters the Repair Station they automatically begin repairing the submarine's health. This repair action is indicated via a cooldown bar above the Repair Station while a user is within it. Similar to that of the reloading process, if a user leaves the Repair Station prior to the cooldown bar being completed, the progress is halted and will resume from where it was stopped once a player enters it again. Each iteration of the repair process (one complete cooldown bar) will return 5 health points back to the submarine.

Additional Submarines

This idea is still in development and will be fleshed out further if there is time to implement it at all. To further encourage replayability, we would like users to be able to keep a part, or all of their score as credits towards purchasing different submarine varieties. These varieties will utilize different play styles, such as a faster, but less powerful submarine, or a slower, but more 'tankier' submarine. To implement this idea, multiple submarines would need to be created as well as an interface to purchase and select a submarine before game play.

In-Game Upgrades

This idea is still in development and will be fleshed out further if there is time to implement it at all. To encourage risk taking while exploring, ideally enemies, especially bosses, would drop experience or something else, that would allow players to upgrade certain aspects of their submarine, such as its speed or attack strength, allowing them to play for longer and longer, and to add more variety between playthroughs as these upgrades could be randomized as well.

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