

Game Design Document

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IP: Eve Online

Game: Wormhole

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Concept Overview

High Concept

Wormhole is a first-person, adventure game that incorporates stealth and strategy to create an experience where the end goal is to collect enemy intel and sabotage their space station systems.

Concept Explained

In Wormhole the player is constantly thinking about their next move while remaining hidden from everyone else, to avoid raising suspicion aboard the station. When completing a task in the game, the player for some of the tasks will have the option to either sabotage that particular section, or complete it normally. The end goal for the player is to collect intel that is placed around the game environment while also sabotaging systems without being detected by anyone on the station. [10] There are multiple endings of Wormhole, the first of which sees the player escape with their intel and head back to their faction's station. The second occurs if the player becomes detected by the end of the game, here the player will be captured by the enemy faction.

Aesthetics

Environment

The Intellectual Property of Wormhole is Eve Online (CCP Games, 2003 - Present), therefore design considerations have to be made to the game environment to ensure that when the player is navigating through the level, it feels like they are within the universe of Eve Online.



[Figure 1 - Wormhole Environment Prototype]

Figure 1 above depicts a prototype of the environment of Wormhole as it currently stands. The design inspiration of Eve Online springs from the outer ring of which the space station is attached to. This was inspired by the ships seen within Eve Online as some of them contain a 'ring' around them for structural support. The environment of Wormhole uses a similar concept, where the outer ring represents a support structure for the space station and ties into the IP of Eve Online.

The space station in which the player interactions occur by default is not damaged in appearance when the player first enters the ship, however

depending on the choices they make with regards to the different tasks, the ship's appearance will change and appear more damaged. A unique factor about Wormhole with regards to environmental aesthetics is how the ship will appear more or less damaged each time the player completes the game, since they have the choice of how they wish to complete the game.

A main consideration for the environment for Eve Online are the textures used and how those textures tie into the general theme of Eve Online. The textures implemented into Wormhole are of a darker nature to mimic those seen within Eve Online. When conducting image research seen below in Figure 2, we came to the conclusion to use textures which are darker in appearance to match the Eve Online IP. Seen in Figure 3 is an example of how these darker textures will look when placed into the game environment.



[Figure 2 - Eve Online Aesthetic Example (eveonline.com)]



[Figure 3 - Sample Textures in Wormhole]

Inspiration

Wormhole is mainly inspired by three games; Eve Online (CPP Games, 2003), Everspace (Rockfish Games, 2017) and Among Us (Innersloth LLC, 2018). As the game takes place in the Eve Online universe, it was a necessary choice to

include elements that resemble the game. As previously mentioned, one of the elements that is inspired from Eve Online are the support rings around the space station seen in Figures 1 and 3. These were inspired by the spaceship from Eve Online seen below in Figure 4. Everspace inspired the models for the spaceships seen below in Figures 5 and 6, as well as a similar theme / setting to Eve Online. Finally, Among Us served as inspiration for the gameplay mechanics and tasks seen in Figure 16 specifically the card swipe, electric circuit and suspicion meter.



[Figure 4 - Eve Online Spaceship]



[Figure 5 - 3D Modelled Spaceship used in Wormhole]

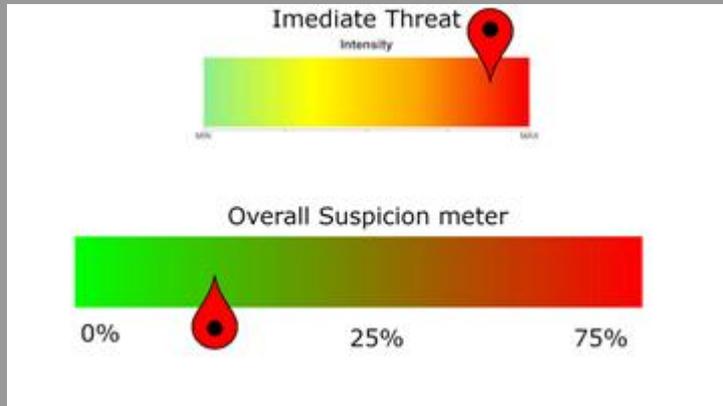


[Figure 6 - Everspace Spaceship Model]

Gameplay

The player's main goal is to contribute as much damage as possible to the spaceport and surrounding ships. He is able to do this through sabotaging different systems whilst having to solve unconventional puzzles to succeed in his obstruction. But since the player is incognito, the player must therefore keep himself undercover by performing services for the ship. This is done through the repairing tasks which will have more typical solutions. Aside from the tasks the player will also need to collect Intel. The Intel will be guarded by more challenging puzzles such as finding a security card, or cracking a code to enter a room. All these tasks will be guided by a system to determine the level of suspicion that the Captain has on the player. The Captain is an AI agent who is the supervisor of the player's fake identity. He has a large team to manage and will therefore check up on the progress of the player from time to time, suggesting that he has imperfect information over the player's labour. This will be represented through two metres seen in Figure 7, the Immediate Threat Metre (ITM), and the Overall Threat Metre (OTM). The ITM will have 3 sections that judge the current concern that the Captain has over the player. These sections will be Green, Yellow and Red representing Low, Medium and High level of threat, respectively. The level will fluctuate based on the task the player has recently completed. Each task has a chance to cause a change in the ITM level, the chance percentage will increase on consecutive repairs/sabotages, and will then reset back to the minimum upon a change of level. The OTM will be increased based on the ITM. Sabotaging with a High ITM level will cause a greater increase in the OTM level whilst repairing will have a slight decrease, and vice versa with a Low ITM level. The figures will lean slightly towards the sabotage side of things to primarily increase the game's intensity but to also simulate a more realistic interpretation of the Captain.

The OTM represents the chances of getting caught and thus establishing the end of the player's run. The Yellow region for example will have a 25 percent chance to get caught with each concurrent sabotage, which will be related in a narrative perspective to the Captain possessing a chance to have been watching you during that task.



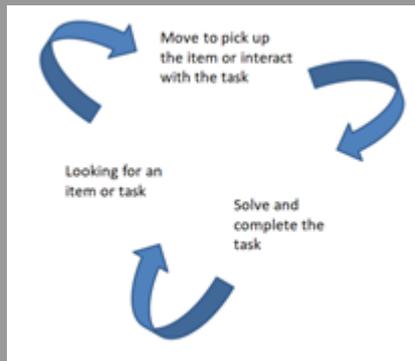
[Figure 7 - Suspicion Meter Demonstration]

Aside from the tasks, the game will also have a random event system which will give the player a certain amount of time to complete a direct command from the supervisor. Completing this task within half the allocated time will reward the player with a level reduction in the ITM and will reset the sabotage percentage chance back to the minimum. Failure to complete the task will cause a full increase in the ITM as well as reset the repair percentage chance back to the minimum. The player will be navigated to these areas through a radar system seen below in Figure 8 that will determine the location of the event and will show all the available tasks on the ship.



[Figure 8 - Radar System Inspiration - Alien Isolation]

Core Loop



[Figure 9 - Core Gameplay Loop]

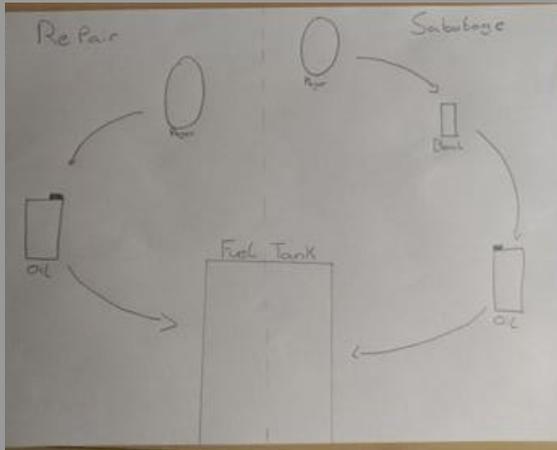
The core loop will circulate around the player completing tasks on the ship. The player will need to manage the ITM and OTM bars throughout to make sure he is successfully sabotaging the space port whilst keeping a low profile. He will also be partaking in more intense and timed situations generated by random events, they must be acknowledged as they have a big impact in the player's overall suspicion level. The player won't have any universal time limit; however, he will be penalized for not doing anything for 60 seconds, increasing the pace to balance out the simplistic puzzles.

"The guards and detector systems must be given a degree of artificial intelligence. This includes simulated human-like senses and a certain reasoning capacity about potential intruders" (Adams, 2014)

The purpose for these mechanics is to firmly situate the player into the undercover role. The AI possess features that are based from researched experience on multiplayer games such as Unspottable and Among Us where doing little to nothing will increase your suspicion and too much activity will do the same. Therefore the AI, in the commanding position, must have imperfect information because the player is hiding in plain sight.

Puzzles

The sabotage tasks in this game have a common theme where the solutions deter from traditional puzzles. For example, a code puzzle shown in Figure 10 will require the player to search for a code to complete the task. However, acquiring the code consists primarily of opening the chrome application within the on screen canvas and then searching via google through keywords such as "Code" or "Hack". The game may also include other numbers scattered in the scene to mislead the player but because he should find that other puzzles tend to be simpler and require more out of the box thinking, he can apply the same logic to solve this one as well. This design was formatted as such to add to the game's unique selling points by changing the player's perspective of how to solve puzzles. This particular puzzle was also placed as



an Easter egg to the idea that some gamers as well as I will generally search online when coming across difficult puzzles.



[Figure 10 - Code Puzzle]

The Sabotage and Repair tasks mainly come in two formats.

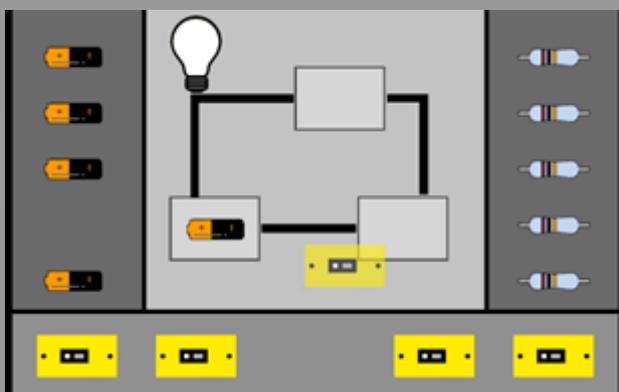
- 1) Physical use of held items on components
- 2) 2D simple tasks that share similarities with Among Us.

An example of a physical puzzle would be the oil sabotage seen in Figure 11. This task will be able to contribute to both sabotaging and repairing depending on how the puzzle is completed. To complete the repair aspect, the player will simply need to pick up the fuel canister and use it on the fuel tank. To sabotage, the player will first need to use bleach on to the fuel canister, then fill up the tank.

This was based on a google search that suggests bleach is harmful for petrol fuel tanks but isn't apparent immediately, ascertaining to the undercover theme of the game.

[Figure 11 - Oil Sabotage Sketch]

An example of a canvas based puzzle would be the electrical sabotage seen in Figure 12. Interacting with a specific object will open up this task. The task can thus be repaired by placing one of each moveable object into the designated spaces, or sabotaged by applying 3 battery cells instead. Inspiration of this task came from the electrical tasks in Among Us but differs by being done through circuitry. The purpose of these varied tasks is to submerge the player with entertainment from different sources. This is based on Breed and Spittle's (2020) concept of Repetition without repetition, a method that ensures that learners practice skills frequently but they do not repeat skills in exactly the same way. Whilst it is agreed that frequent repetition of mechanics will enhance the player's skill in that area, for a small scale puzzle game, it may instead become a short and tedious experience. Instead we wanted to create a variety of different puzzles to keep the player interested but to still establish a common theme taking into account Breed and Spittle's statement which will thus help players learn the game with a lot more ease.



[Figure 12 - Electrical Sabotage Task]

Link to IP

The key connection that the gameplay has to the Eve IP relates to one of the biggest scandals in the Eve Universe. The day was remembered as Judgement

Day, 'when a head diplomat from the Circle of Two alliance named Judge stole all the holdings of a 4000 person alliance for himself'. (*How EVE Players Pulled Off The Biggest Betrayal In Its History, 2021*) That event, along with many similar others, led to the inspiration of the gameplay. In Wormhole we tried to recreate a similar feel by having the concept of a newly recruited engineer, who has a predetermined goal of ruining or stealing from the space port of his true enemy without getting caught. Because of the time and resource limitations, we opted to compact this idea into a small scale single player experience with some alterations to help benefit exciting gameplay.

Narrative

Script

Making the script was more challenging than in the previous project. In this task there had to be more dialogue happening during the game itself during tasks that depended on the suspicion meter and the explanation on the mission given to the players, which followed up to when approaching the task on what they had to do. The script had to also include dialogue during critical situations if the player would be caught and how they would have to slip through by answering the right question to lower suspicions and buy some time to complete the job. The script was split between two characters; the captain speaking to you at both the start and at the end of the game, depending on which ending the players finished with, and the assistant who guides the player through the mission and alerts them if they make a mistake or are close to being detected. The assistant's task is to explain and tell the players the task that they need to complete on board the station.

-Low SUS-

Good job amigo, keep it up.

-Med SUS-

Hey easy there, ya gotta focus or ya gonna get busted.

-High SUS-

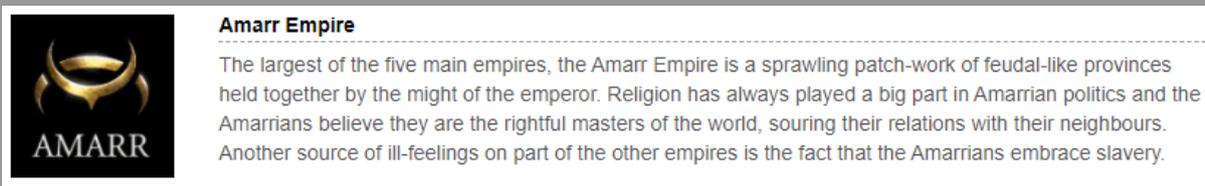
Woah Woah WDAH! Ya drunk or sumthin'?! Jesus man!

[Figure 13 - Suspicion Levels with Narration Examples]

The tasks within Wormhole are either simple or challenging so the explanations from the assistant will be either short or long; for example with the card swipe which the player completes by simply throwing their card in anger at the machine because of failed attempts. Once the task is done the assistant will inform the player of their job being complete and inform them to keep continuing forward. If the player encounters intel, the assistant will explain to them what it is and that they need to collect it. After the player finishes all their tasks, the assistant gives the player one last speech of victory and lets the captain finish it off with his last words before the game grants the player the good ending. If the player gets caught then the assistant can only alert them that they have screwed up and cannot be saved, which follows up to the captain telling them that they have tried their best and gives the player their regards. The player gets executed on spot because having him ejected from the ship into space or have him crash into the earth sounds much darker than a death by a gun.

Factions

As Wormhole incorporates assets from the EVE Online (CCP Games, 2003) IP, it contains many factions that are divided into groups called 'BLOCKS'. Each block has a number of factions that are either empires or smaller groups that rival the others in the game. As an example, the player can originate from the 'Amarr Empire' that is from the 'Amarr Block'. The reason for this is because as described in Figure 9, the 'Amarr Empire' is a religious faction that believe they are the masters of the world and have a god complex. They also embrace slavery, therefore, they have a dark side as well. In other words they are highly determined to stay on top and win any battle they participate in.



[Figure 14 - Amarr Empire Explanation]

An example of the enemy faction could be the 'Guristas Pirates' from the 'Caldari Block' shown in Figure 14. As it states in the lore of this faction, they are dangerous and greedy people who are not to be messed with and raid other opposing factions. Enemies such as pirates are common protagonists which give the immediate idea to a player that they are the bad guys they

need to deal with, and looking at the lore and how their colony expresses it's colours and actions they are a perfect pick to put into the game.



Guristas Pirates

Formed by two former members of the Caldari Navy, the pair go by the names Fatal and the Rabbit, the Guristas are a constant thorn in the side of the Caldari State. The Guristas are traditional pirates in the sense that their operation is not based around some creed or ideology, but rather a plain and simple greed. The Guristas have bases close to Caldari space and from them they embark on daring raids, often into the State itself. Though the Guristas are considered more honorable than many of their counterparts, they are still extremely dangerous and not to be tampered with.

[Figure 15 - Guristas Pirates Explanation]

Narrative Explanation

The reason why I chose these factions is because of the theme of the game and the atmosphere it gives out if they were put into the game, meaning that since the game is about stealth and what each faction represents, The Guristas Pirates are the bad guys and the Amarr Empire spy is meant to be the good guy saving the day; like a knight in shining armour. Since it is a stealth/strategy game the player is infiltrating an enemy base which is meant to be seen as scary and dangerous, hence the Guristas Pirates are a perfect example since pirates in general are seen as a common threat. And choosing the player to be a part of the Amarr faction is because they are a society of determined people who think of themselves as the rightful rulers which is almost closely related to how in every game the hero always wins and saves the day so I believed this faction would be a perfect pick. However, an epiphany struck me when I closely read about the factions. I was thinking of adding a twist to the game where it turns out that the player is also a villain trying to stop the pirates from reclaiming their rightful property since the Amarr people embrace slavery and the pirates are trying to retrieve their fellow comrades that were taken.

Feature Specification

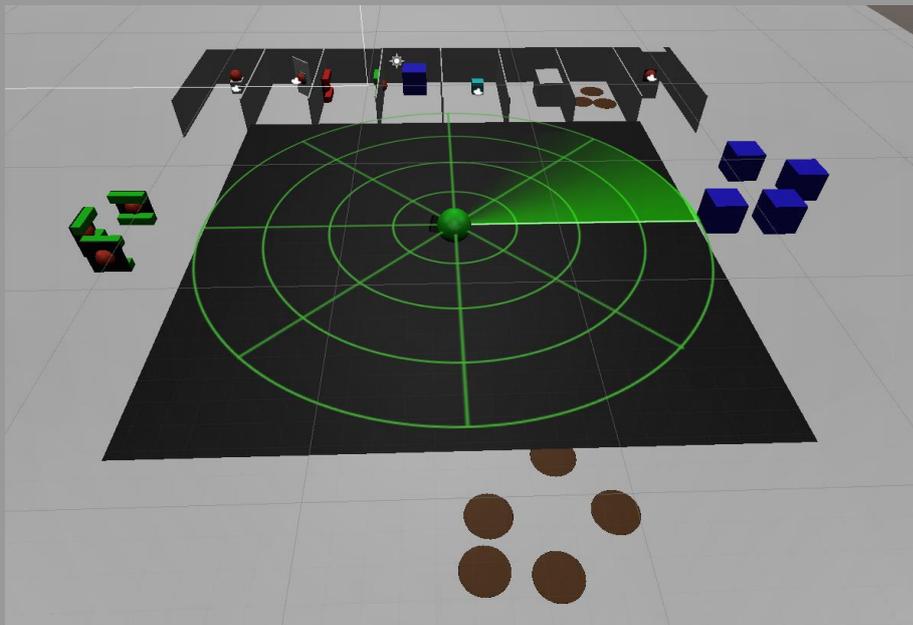
Technical Considerations

There are many technical considerations when developing a game like Wormhole. One of the main considerations is the target platform and how the controls integrate into the game particularly when there are multiple tasks to complete, each with a large degree of variation. As a result of the tasks and how the controls will be integrated into the game, PC is the desired target platform for this game as it ensures that the controls are easier to implement and also it opens up the game to potentially more people. This also ties into the next technical consideration, which is how demanding the game will be to run on PC hardware once it has been fully developed. The reason that this is a

concern is due to the fact that if Wormhole is demanding enough, it will limit the hardware that it can be effectively played on which will also potentially limit the amount of people that can experience the game if they are running older hardware.

When developing Wormhole many rendering techniques will be used to ensure the best performance for our chosen platform. One of these techniques is called 'Occlusion Culling' and stems from the idea that anything which is not visible from the player's perspective is not physically rendered within the game world (unity3d.com). This technique ensures that the game does not have to waste system resources to render everything when it is not required and, often, has a positive impact on performance. Performance is one of the main considerations with Wormhole, especially when textures and particle effects are added to the game which will all have an impact on the performance and, optimising the game from an earlier stage will ensure that players using older hardware will have a more enjoyable experience when playing Wormhole.

Another technical consideration within Wormhole is how the different tasks will be integrated and tested within the game itself. It is critical that the different tasks are placed correctly so that the flow of the game works with the intended outcome. Relating to this is also the UI elements of the game such as the on-screen dialogue which will be used for the communication between the player and the commander of the space station, as well as any narrative elements. The on-screen dialogue is controlled by a programmed text-to-speech script which also needs to be optimised to ensure that it is not consuming a lot of the system.



[Figure 16 - Task Demonstration Scene]

Platform

As previously mentioned, Wormhole will be targeted for the PC platform and, while this the target platform for the game, it will be kept in mind that if the project is successful enough, that other platforms such as consoles will also be potentially developed for.

Audience

Our game will be rated PEGI 16 due to the lack of violence and puzzle complexity. The target audience will be casual gamera that aim to have a laid-back experience whilst also having fun. This is due to the relaxed and fun nature of the game as well as the easy learning curve. Our target audience will also be teens and young adults that enjoy puzzle-solving games. The choice of making the game aimed at a PEGI rating of 16 has both advantages and disadvantages. On one hand, we consider that the game can be interesting for people that are in the range of 16 to 25 years of age.

On top of this, making a game for young adults allows us to use more mature visuals and resources within the game itself. One disadvantage of Wormhole being targeted at PEGI 16 is the fact that there are people that we believe would find the game interesting that are outside of our target audience, such as teenagers and children under the age of 16, meaning they will not be able to access it and this overall limits the amount of players that can experience Wormhole.

"The total share of the European video games audience made up of 6-10 year olds is 10%, 11-14 year olds represent 9%, 15-24 represent 23%, 25-34 represent 20%, 35-44 represent 16% and 45-64 year olds represent the remaining 22%"
(Player Diversity & Demographics - Ukie, 2020)

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