

# The Heist

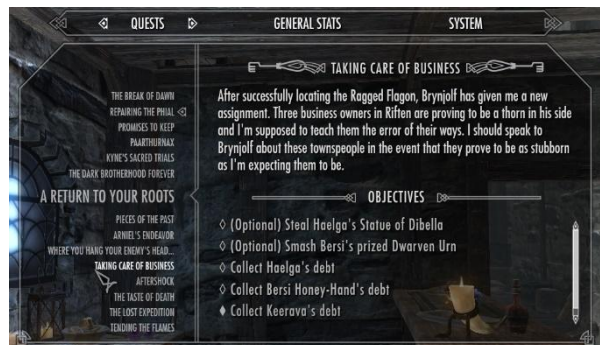
## Concept

You and your partner committing a Heist on a space station to steal a Valuable Artifact for the biggest payday of your lives, but things take a turn for the worse. How this goes down is You and your Partner fly to the Station and enter the Station at 2 separate points to converge at the center of Station where the Vault lies and fight your way through to earn your prize.

The gameplay aspects are a first-person shooter like Halo/Doom that involves the player going from room to room fight any opposition and using any weapons that they come across, as well as some puzzle aspects like Portal/ Doom Eternal where the player must interact with various switches to progress, to add variety to the pace of the game with fast paced shooter elements then a slower pace puzzle elements.



The Quest aspect is a combination of a simple check list on the side of the player screen and Codec Calls from Metal Gear Solid which would provide bulk of the exposition and guidance to the player.



## Theme

The theme for my game can be broken down into different segments, that being the Gameplay, Story and Design:

The Gameplay theme is taken from Halo and Doom Eternal with the faced pace, room to room action where you must take out rooms of enemies to progress through the level, but the puzzle elements are taken from Doom eternal with the interacting with different switches and shooting targets to progress.

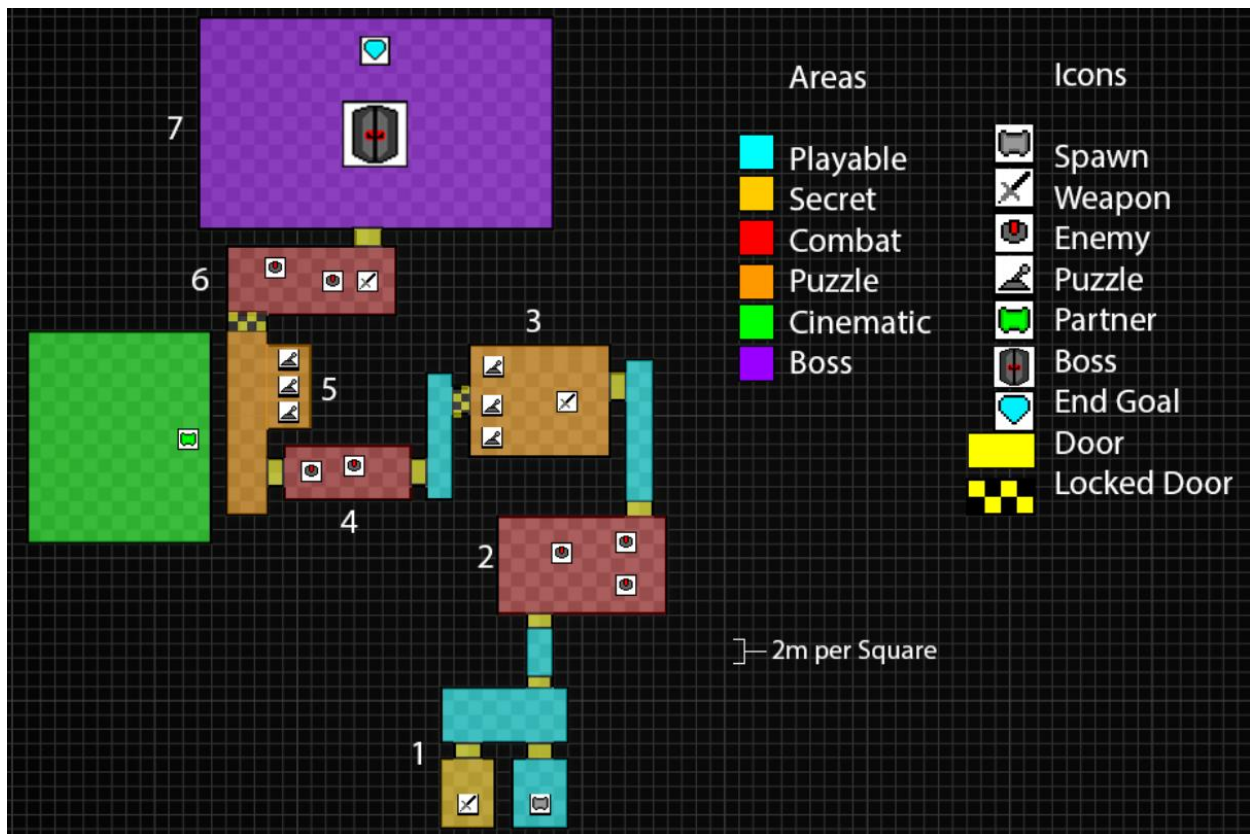
The Story is inspired from Payday and Cyberpunk from the heist elements seen in both games but primarily Cyberpunk as during that game a Heist goes wrong which causes the plot of the game to happen.

The Design aspects are taken from UNSC halo spaceships and station and from Alien isolation as both games involve space stations and what would be on them, especially Alien Isolation as that has lab segments in the level as well as mechanical maintenance areas which fit with the theme for a military station for my game.



## Maps

For my map as planned it consists of 3 Combat rooms in which the player would have to fight several enemies to progress and 2 Puzzle rooms where the player must complete a puzzle to progress before finally the Boss room in which the player must defeat a boss to get access to the Gem before escaping. The Map can be divided into 7 sections in which something different happens which the player has to progress through to beat the game these include:



### The 1st section:

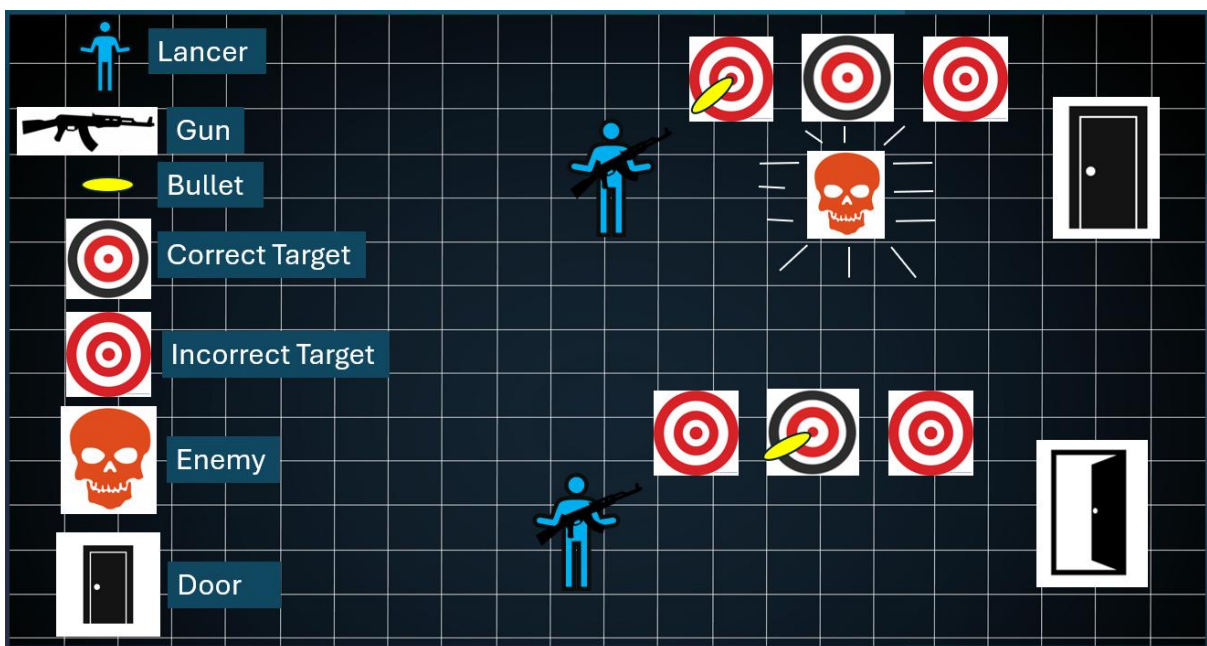
The first area consists of 3 rooms, the spawn room, secret room and the room that connects both and a hallway. These rooms in game are called the Airlocks as the player and Partner arrive at the space station in a spaceship so hence the player starts in the Airlock. The spawn room/Airlock is where the player starts the game and in front of them is their starter weapon, The Pistol, which they can pick up by walking over it. The room connecting the Airlocks is where the first quest markers are placed as well as the first phone call that the player will trigger by leaving the Airlock as well as the hallway entrance to the rest of the level in front of the player. If the player decides to look around, they will notice the secret room at the end of the connecting room which is like the spawn room but contains the Shotgun for the player to use.

### The 2<sup>nd</sup> section:

The second area consists of the first Combat room and the hallway after. The Combat room only contains 2 enemies since this is the first time the player will be fighting an enemy, so it only consists of 2 weak enemies, so the player has a chance to get the hang of things. After the player has defeated the enemies and continued through the level by the hallway after the Combat room, they will receive their next phone call informing them about the next room.

### The 3<sup>rd</sup> Section:

The third area consists of the first Puzzle room and the hallway after, the Puzzle room in game is called the Security checkpoint since after this room the game becomes more difficult as stronger enemies will appear. The Puzzle in the security checkpoint requires the player the correct panel on the wall to complete the puzzle and progress, the correct panel will be marked by damage surrounding the panel, and if the player shoots the incorrect panel an enemy will spawn in the room which the player will have to defeat as punishment. In the puzzle room will be the Rifle for the player to use as well as some health pickups and ammo in case the player fails the puzzle multiple times, and the 3<sup>rd</sup> phone call will trigger which informs the player about the puzzle and what to do to complete it. Once the player has completed the puzzle, they can progress through the hallway to continue with the level.

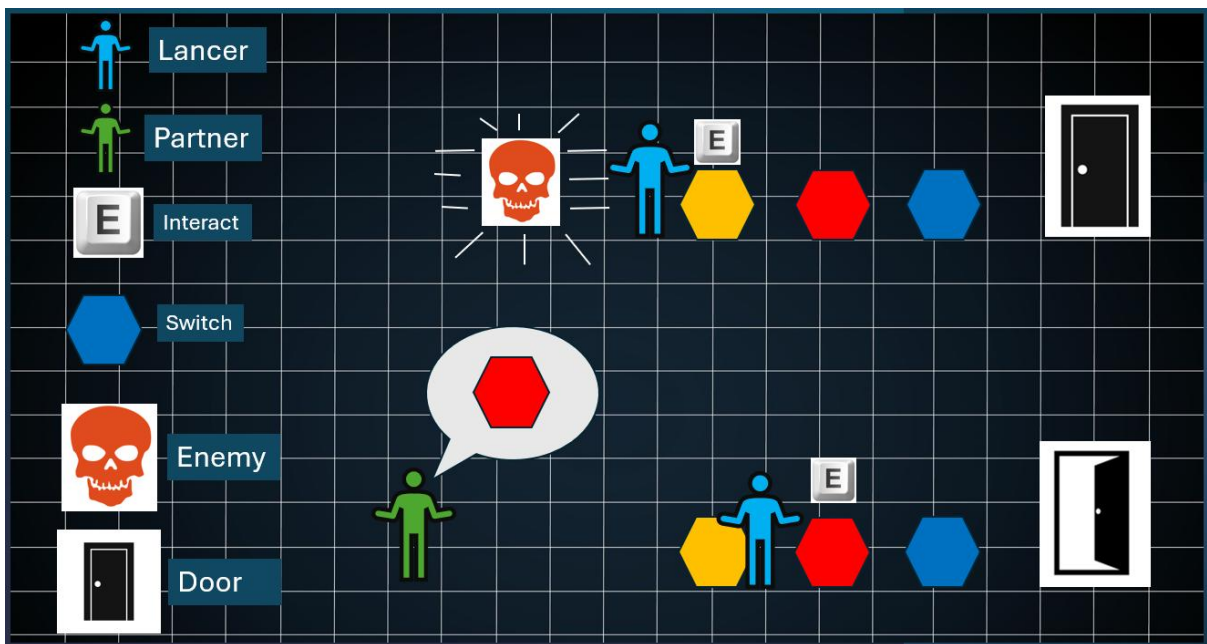


### The 4<sup>th</sup> Section:

The fourth area only consists of the second Combat room and it is essentially a slightly wide hallway with enemies in, and this is to restrict the player's movement and areas that they may take cover in to force them to go one to one with the enemy to progress to the next section.

### The 5<sup>th</sup> section:

The fifth area consists of the final Puzzle room and the Cinematic room, the final Puzzle room in game is called the Armory Security Office as it is the room just before the Armory. The Puzzle in the Armory Security Office consists of 4 different colored switches and only one of them activated the door to the Armory and the rest spawn additional enemies to punish the player for failure, like the first room as well as having additional ammo and health for just in case the player needs it, and how the player completes this Puzzle is with the help of the Cinematic room. As soon as the player enters the 5<sup>th</sup> section it triggers a cutscene which is Partner entering the room across, which the player can see through a window, and Partner walking towards the Window, stopping, then calls the player to inform them about which switch they need to press to progress so the player is able to progress, and after the player has complete the puzzle Partner will leave the Cinematic room and continue on his way



### The 6<sup>th</sup> section:

The sixth area only consists of the Final Combat Room, and in game it is Called the Armory. The Armory contains 3 strong enemies to deal with as well the new Grenade Launcher for the player to test the weapon out on them , also since this is an Armory and the last room before the Boss fight it contains several ammo pickups for all ammo types as well as some health pickups so the player is well stocked for the boss fight, also Partner calls the player to warn them about the upcoming boss fight so that the players knows to stock up.

### The 7<sup>th</sup> section:

The seventh area consist of the Vault which is an open room with large door on one end and a Boss standing between the player and opening those doors, so the player must defeat the boss by shooting it until it dies and once the boss has died the Vault door will open and the player will have access to the Gem. Once the player acquires Gem all the enemies respawn, and the player needs to escape by reaching the Airlock where they started but they can use the Gem as a weapon to defeat all the new enemies as Gem quickly deals with anything in its path.

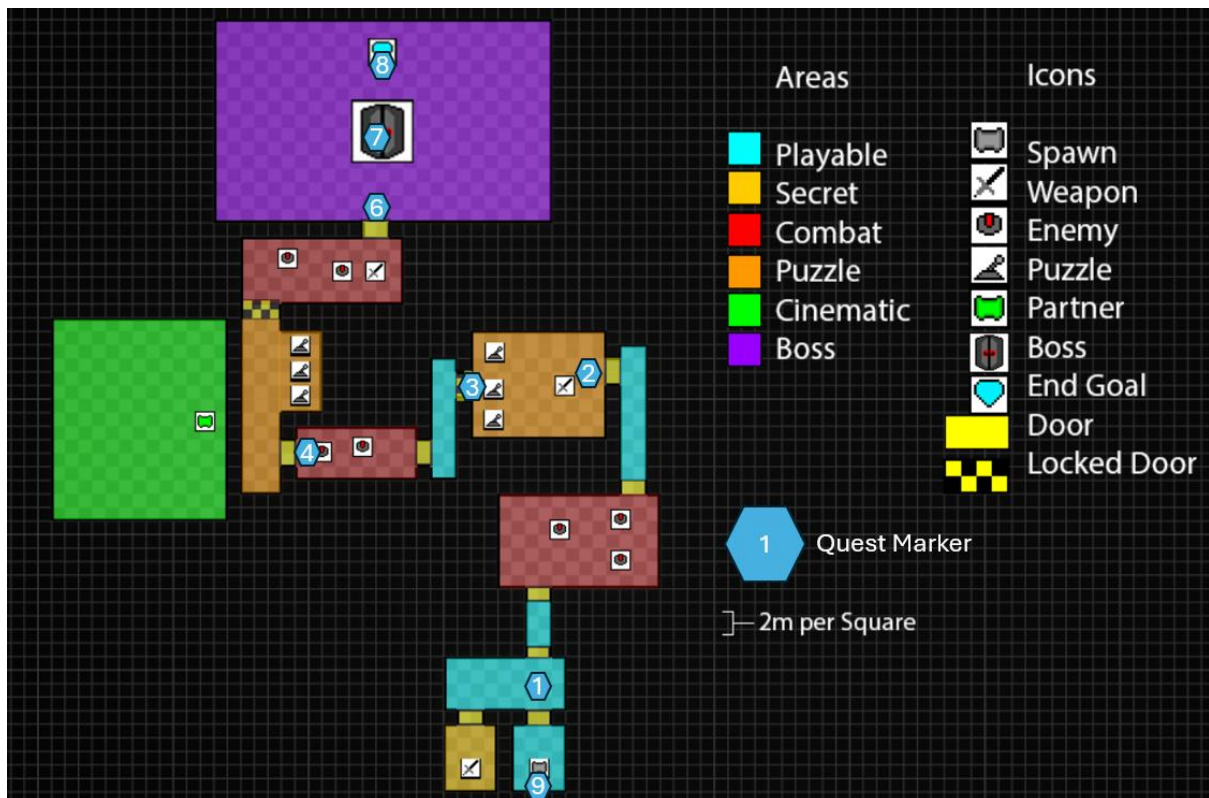
## Main Menu

For my main menu I wanted to have the 2 characters looking at the space station so that it seemed like they were scheming as they overlooked their target, as it looked ominous and interesting. The rest of the background for the main menu only consist of the 2 characters and a small table to display the Station hologram, which is the Station mesh with a hologram texture set to spin in circles, that also switches to the Gem hologram every 6 seconds to create an ominous effect and to show 2 important aspects of the game, and goal and location. The rest of the background is cast in total darkness, and the only light source is the emissive textures coming from each of the assets which highlights just enough to see and understand what is happening. For the UI since the background has lots of negative space surrounding the 2 characters, I can use this space for the UI to be so that UI doesn't awkwardly overlap anything and allows more focus the background without shunning the UI.



## Quests

The Quest of the game is to break through the Stations security and steal the valuable Gem and escape, and this overall goal is broken down into 9 different steps that the player needs to complete to finish the game that is tracked at the top right of the player's screen, so they know what they need to do next. There are 2 different types of Quest Marker which is distance based and task based, Distance based is an object in the level which the player needs to walk over to trigger the next step in the quest and the distance to the Quest Marker is shown on the top right of the player's screen, the other type is Task based which the player needs to complete a task to trigger the next step in the quest and the amount of tasks needed to progress is marked on the top right of the player's screen.



The First Goal of the Quest is to “Exit the Airlock” as this quest is completed by reaching the Quest Marker, by walking over the Quest Marker, which is placed right outside of the Airlock, which is where the player starts the game, as this marks the start of the Heist by successfully gaining access to the Station.

The Second Quest Marker is placed further in the Station, and the goal is to “Breach the Station” which is a distance-based Quest Marker which is placed at the entrance of the Security Checkpoint/Puzzle Room, so the player must fight through the first Combat room to reach it.

The Third Quest Marker is a Task Based marker and the task is to “Complete the Puzzle” in the Security room by shooting the correct panel on the wall to open the door and progress the Quest and Level.

The Forth Quest Marker is a Distance based marker placed at the end of the 2<sup>nd</sup> Combat room just before the entrance to the Armory Security Office and the goal is to “Continue through the Station” as the player has reached the halfway mark for the level.

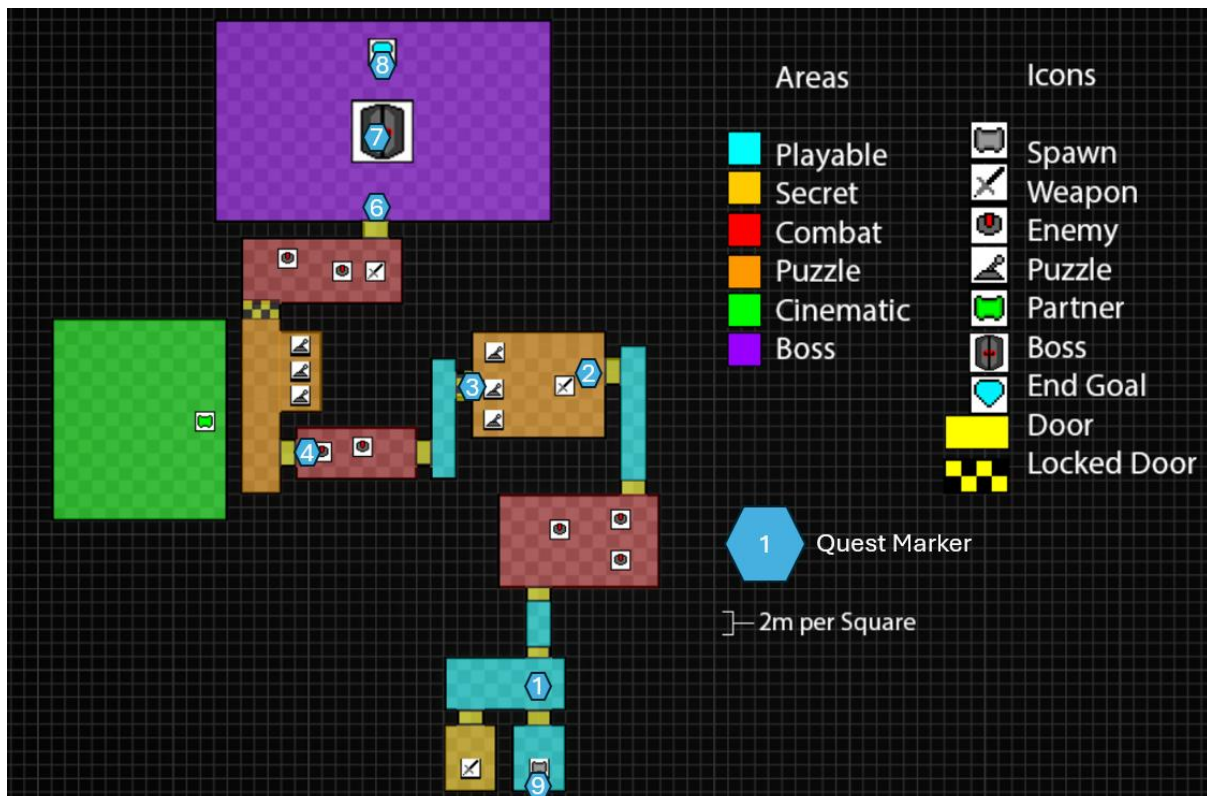
The Fifth Marker is a Task Based marker and the task is to “Complete the Puzzle” in the Armory Security Office in which the player has to interact with the correct switch to open a door to progress and Partner will tell the player through a call which is the correct switch, and once the player interacts with the correct switch it will open the door and progress the quest.

The Sixth Marker is a Distance based marker which is to “Rally at the Vault” as you and Partner are heading towards the Vault, the Quest Marker just in front of the entrance to the Vault so when the player walks into the Vault they will progress the Quest.

The Seventh Marker is a Task based marker and the task is to “Defeat the Vault Guardian” which is the boss the player needs to defeat to get access to the Vault, and once the Guardian is defeated the Quest will progress.

The Eighth Marker is a Distance based marker and it is simply “Get the Gem” as once the Boss is defeated the Vault doors will open and the player will have full access to the Gem so all they need to do is walk over to it and pick it.

The Ninth and Final Marker is a Distance based and the goal is to “Escape through the Airlock” has once the Gem is picked up it respawns all previous enemies and some additional ones, since the player has activated all security systems from physically stealing the Gem, and the only escape route is returning to the Airlock and escaping through there, and when the Quest Activated the Airlock doors leading to space that were previously closed is now open and the marker is just in front of the ship, so the player has to jump into space to complete the final Quest and finish the Game.



## Cinematics

For my game I created 3 different cinematics, an opening cutscene which plays when the player presses "Play" in the Main Menu, an ending cutscene that plays when the player finishes the game and a Real time cutscene which takes place in the cinematic room.

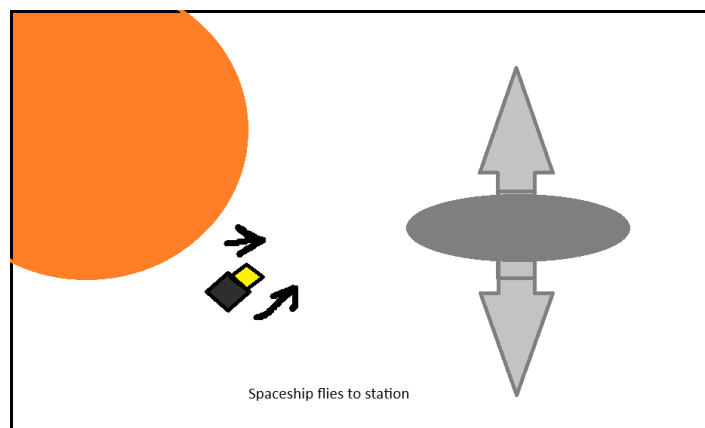
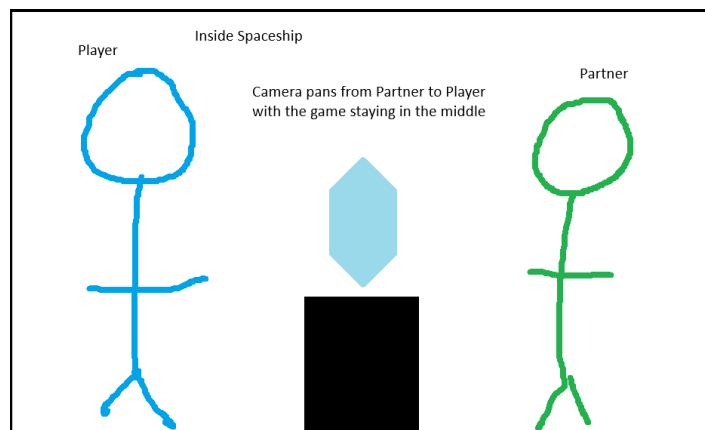
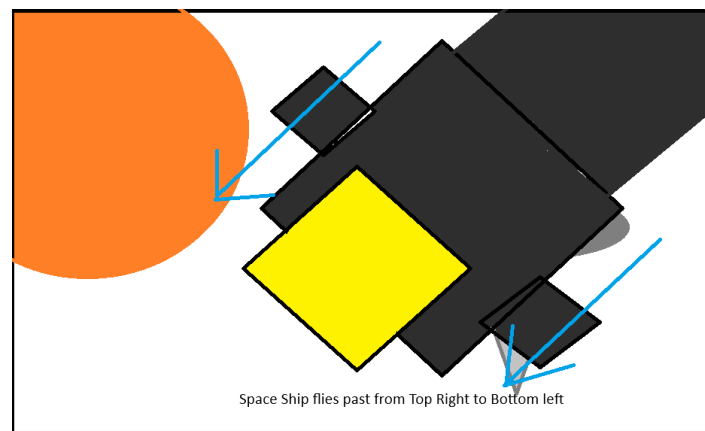
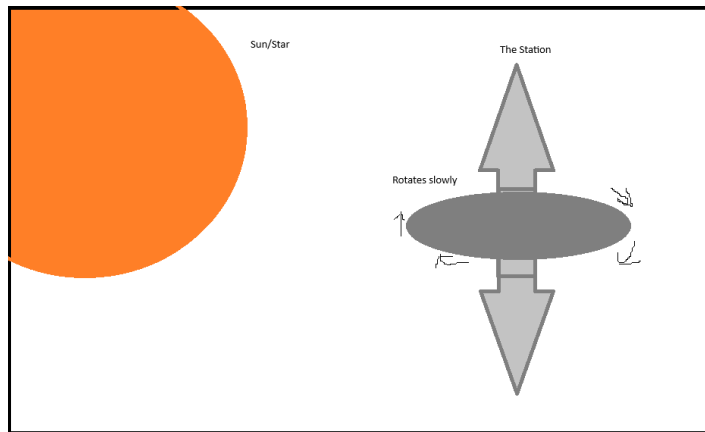
For the Opening Cutscene I first created a storyboard to help frame the scene and to see what the player needs to know at the start of the game, which is the location, cast and objective, so I started first with a wide shot of the space station where the game is going to take place next to a sun/star that will give the Station an ominous glow and a reference for scale so it looks even more imposing due to its size, another thing to add to its size is a slow spin to the Station as space stations are in constant movement and large objects move slower compared to small objects.

The next scene is a spaceship flying past the camera to help the transition to the cast of the game, as the player will have a good few seconds to observe the station and to transition the wide shot is something happening close to divert the players attention and to inform them something's happening. Which is the third shot, that is you the player with Partner staring at a console showing a holographic gem, which the camera will pan between the partner to the player with the gem being centre of the shot to emphasis it and to show each other's "reactions" and while this happens some text will appear inform the player of the "Plan" which is "Get in, Grab the Gem, Get out" which gives a short simple introduction to the player.

The final shot is the ship approaching the station to signal to the player that the cutscene is about to end as they are arriving at their destination. In engine the cutscene relatively remained the same to the storyboard with a few additions such as the Station put on a slight angle to show the more of the station and on the path of the spaceship in the final storyboard with the ship curving around before shrinking so it looks like its correcting course and accelerating and it help show the scale of the Station, another addition is a UI that shows all of the text that is animated to fit with the Cutscene, with the text smoothly fading in and out, as well as some additional flavour text at the start telling the player the name of the Station "The Station" as well as the location "Location: Classified" and at the final scene showing "Easy Peasy" which just adds to the cutscene by making it more ominous and humorous.

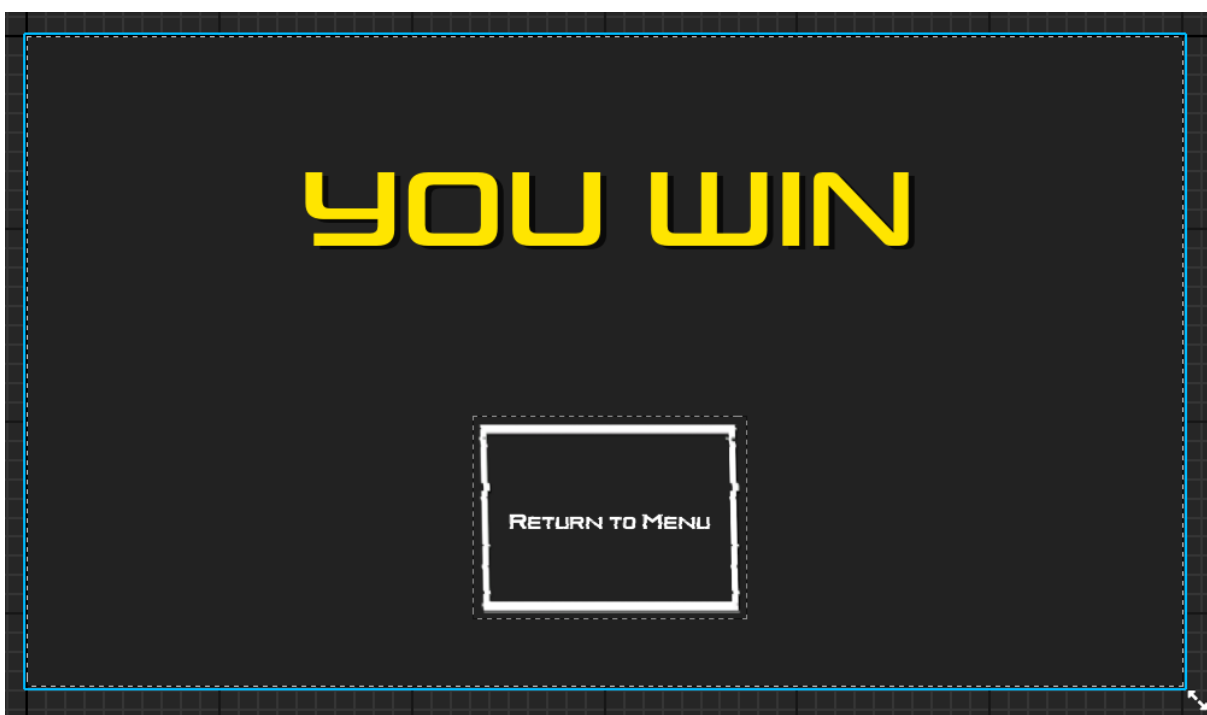
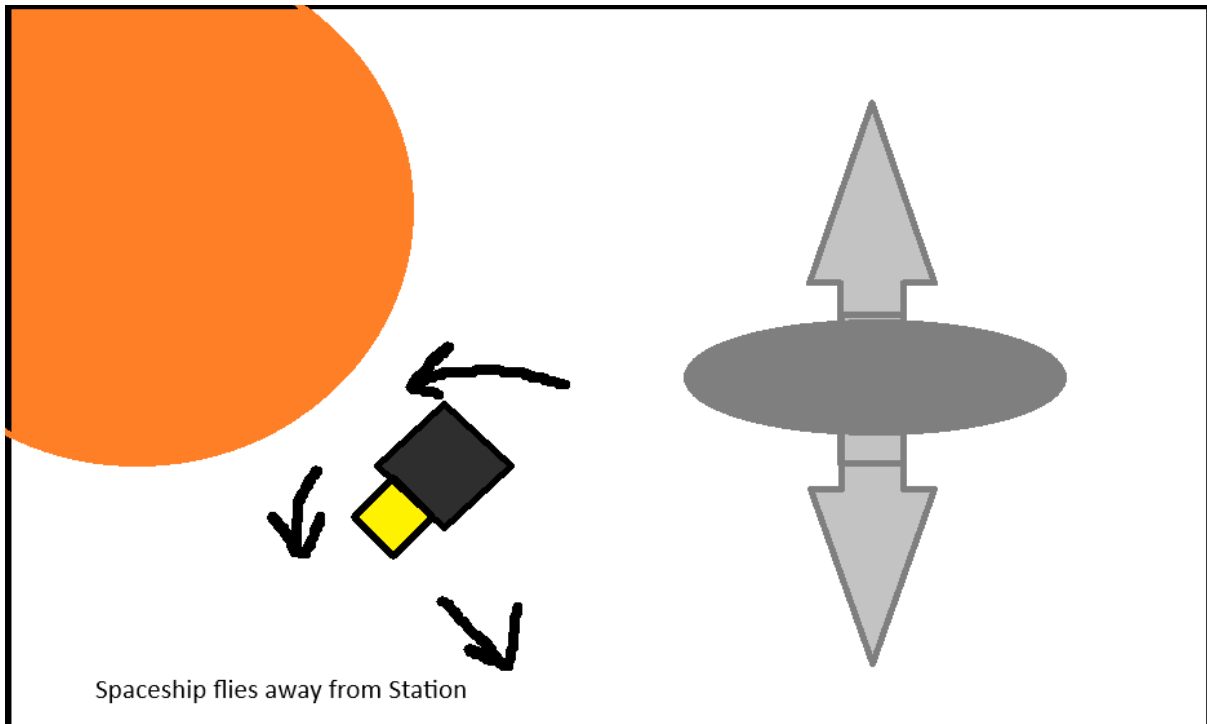


# Opening Cutscape Storyboard, Descending Order:



## Ending Cutscene:

For the Ending Cutscene, since the player escapes through the Airlock they arrived at, it should consist of the spaceship flying away from the Station after successfully escaping before showing the Win screen. In Engine no change was needed with the cutscene consisting of the spaceship flying away from the station before fading to black and showing the Win screen which is just a UI saying "YOU WIN" before showing Return to Menu button.



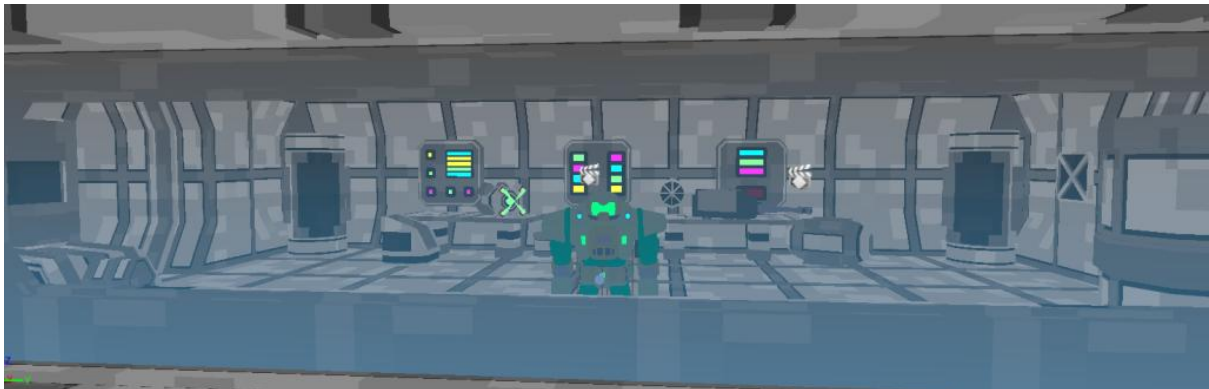
### Real Time Cutscene:

For the Real Time Cutscene, it was more difficult compared to the first 2 cutscenes as it required 2 Sequencers rather than 1. The reason is that the Realtime Cutscene takes place in 2 parts, Partner walking into the Room and Partner walking out of the Room, and these 2 parts take place at different times as soon as Partner walks into the centre of the room he calls the player, informing them how to complete the puzzle, then once the player has completed the puzzle Partner will walk out of the room and these parts will happen at completely different times as it relies on the player triggering the next part.

The reason why this was so difficult is because initially I wanted the 2nd part to be triggered by the phone call ending but that did not work for some reason, so I changed the trigger to the Switch which is where the main issue comes in. The main issues are I am only semi familiar on how Sequencer works and the only way I can figure out how to trigger a Sequence is in the level blueprint, so I had to reference the level blueprint within the switch, but I was unable to do that, so I had to get creative.

My creative solution was to create a another blueprint that when activated by the switch, Destroys itself, and that this Sacrificial Trigger is refenced in the level blueprint so when it is destroyed it plays the 2<sup>nd</sup> part of the cutscene, which shows another issue that the Partner character returns to its starting position, in front of the window, so I created another trigger that when the Partner overlaps it, he is destroyed, as he is not supposed to be seen past that point so it works. Overall, I believe the Cutscene look nice and are paced well but I think that they could have been coded much better to be triggered, but it just works.

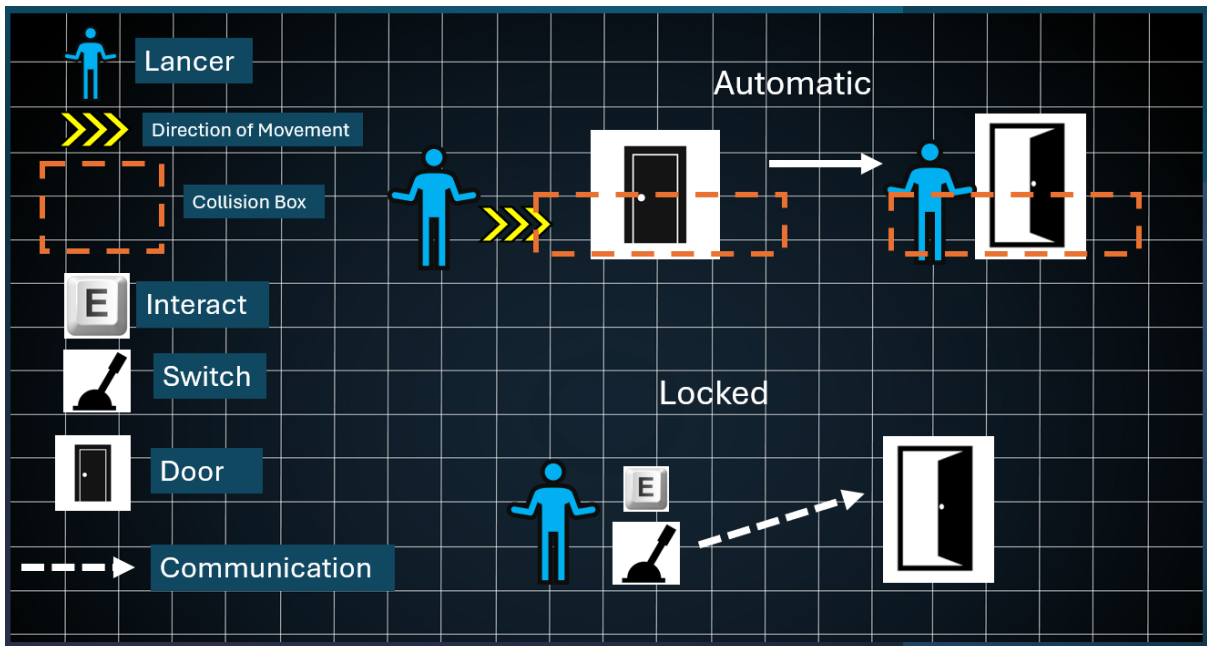
### Player's view on cutscene:



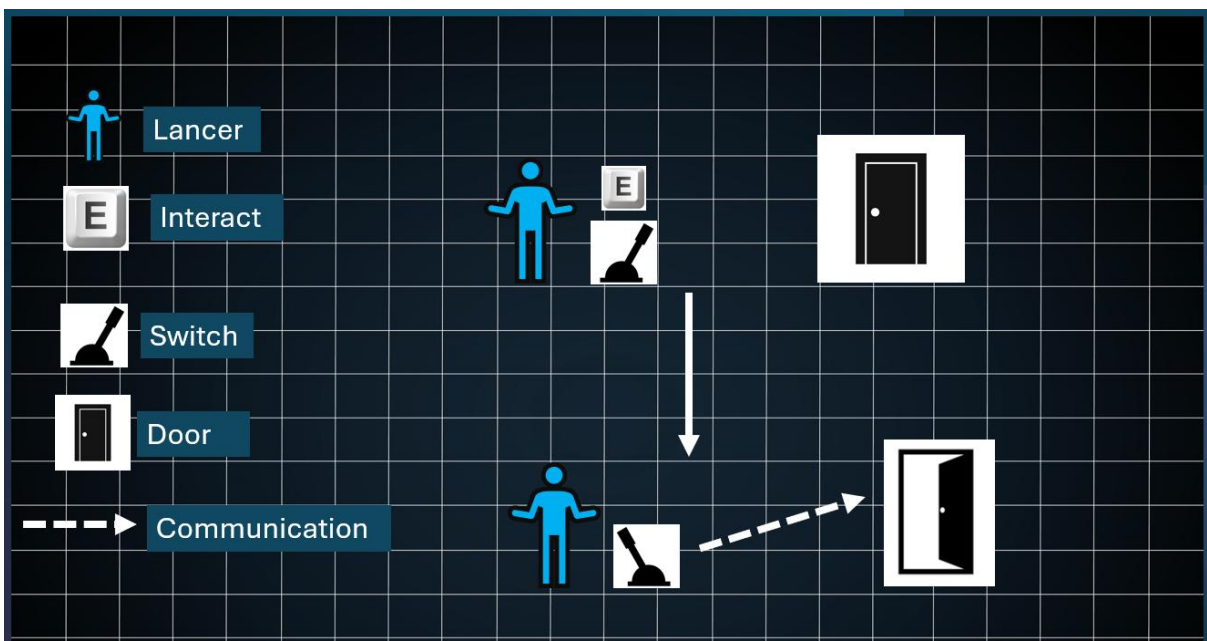
## World Mechanics

In the game there are several different mechanics the player will come across ranging from doors to End game triggers, which all are:

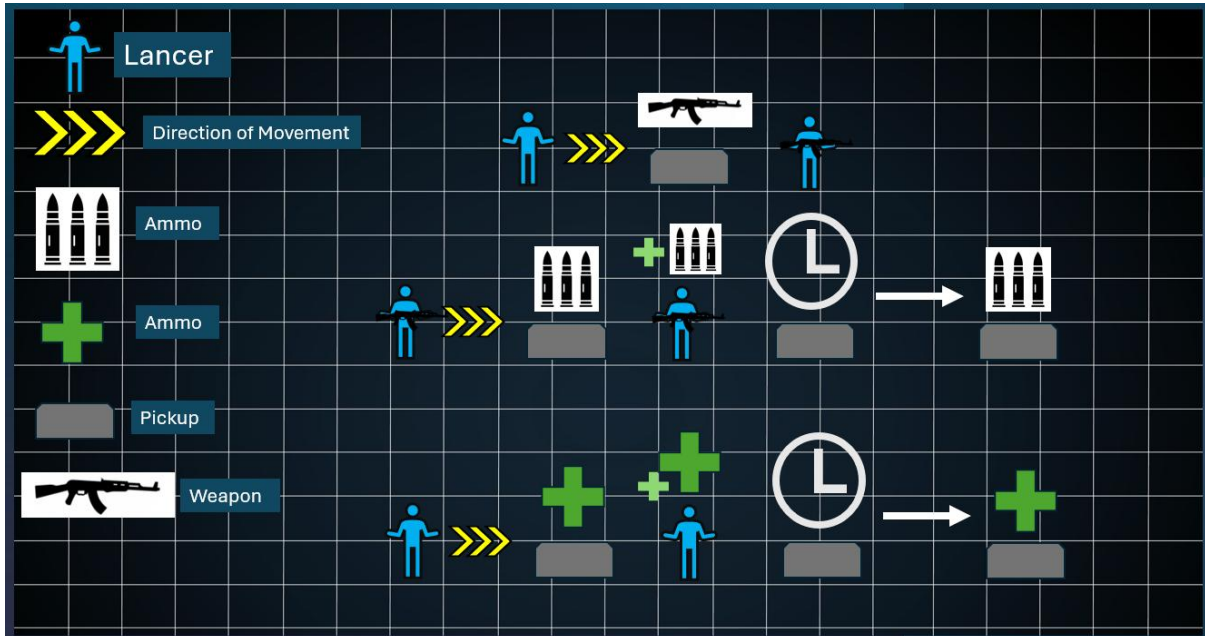
Doors: How doors function is they have a collision box that goes through the front and back of the door that when the player overlaps will trigger the door to open then once they leave the collision box the door will automatically close. For locked doors they require a switch that needs to be activated that will send a signal to the door which will trigger it to open.



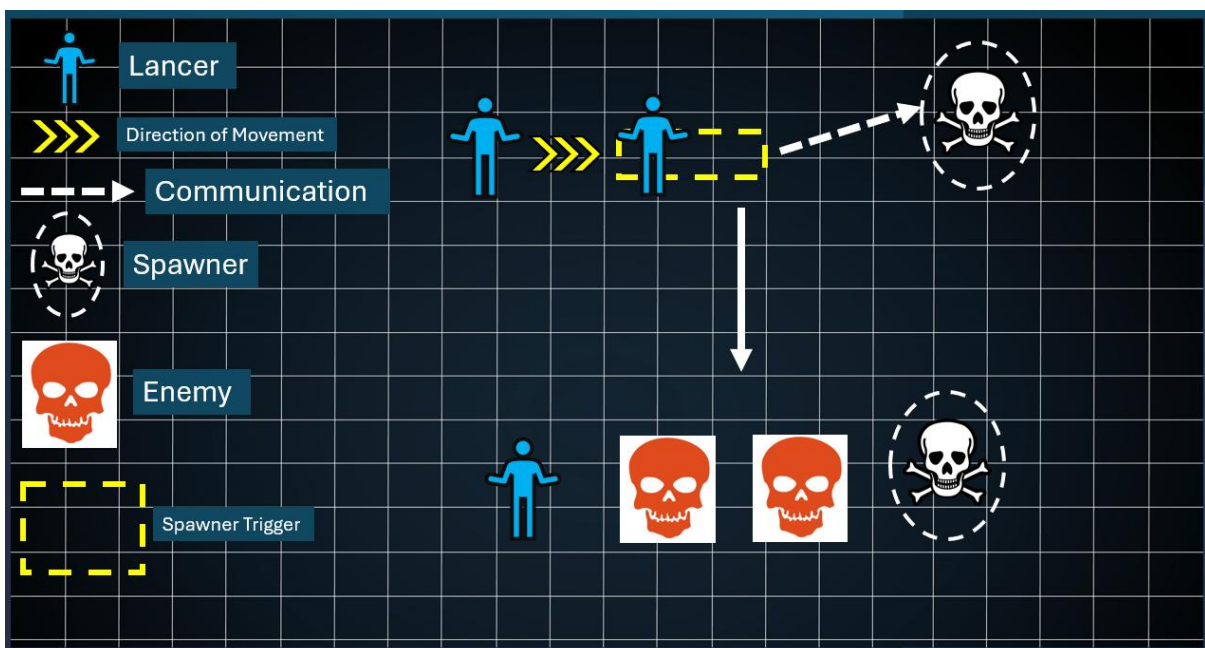
Switches: They work by sending a signal to the actor they are connected to once the player interacts with them, depending on the switch it will either be interacted with by the player manually interacting with it or it being a damage switch which is activated by causing damage to it.



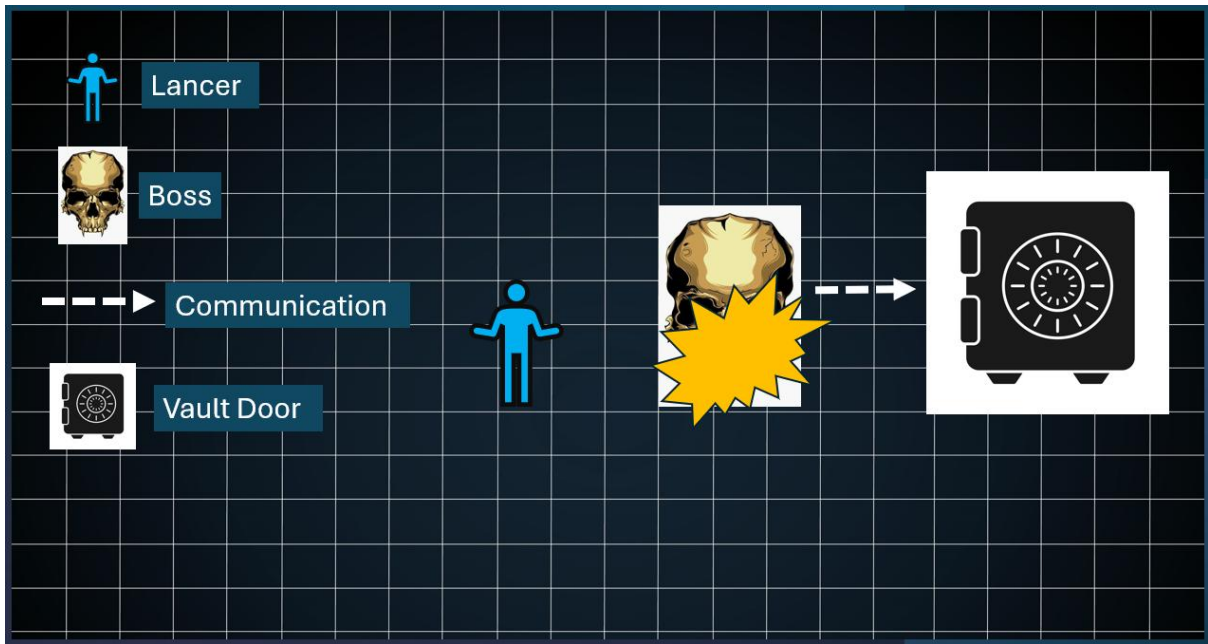
Pickups: they work by when the player walks over them, they provide whatever item they are showing, for example if it is showing a weapon, it will give the player a weapon, if it is showing a med kit it will give the player health if it is showing ammo, it will give the player ammo. The type of ammo and amount can be changed between each pickup and all but the weapon pickup will respawn after a selected amount of time so the player can get more of the item, so they never run out.



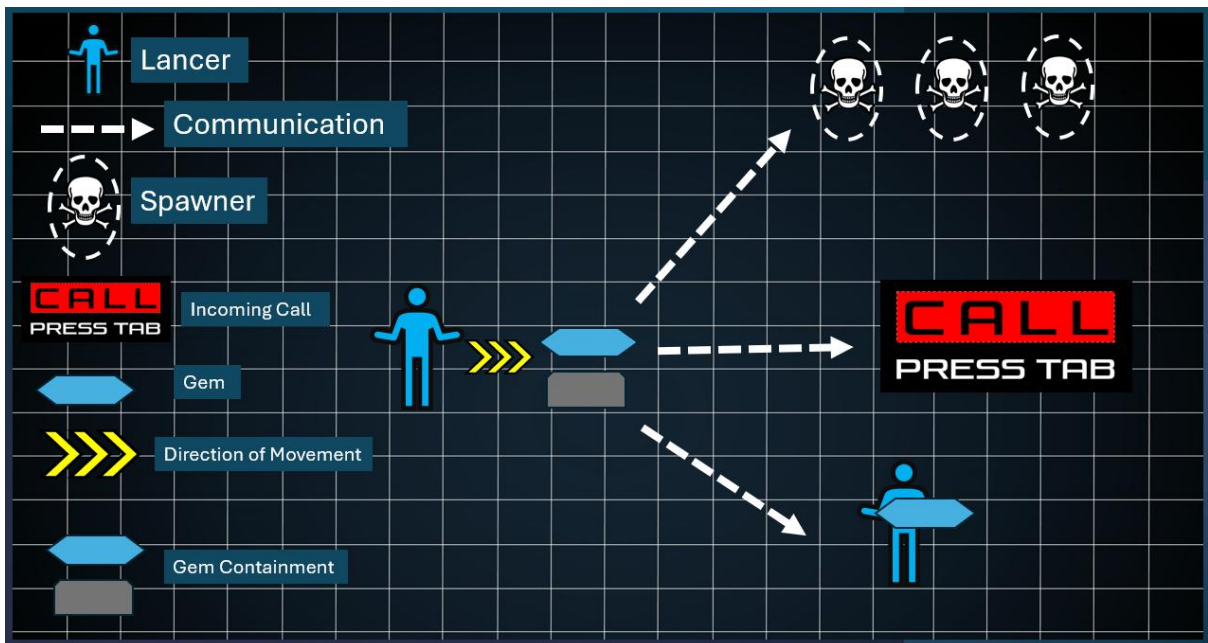
Spawners: Enemy spawners work by an invisible trigger box that once the player overlaps activate the Spawner to spawn the selected enemy type in the chosen location, and for my game each trigger is placed just before the door to a new room, so the enemies aren't roaming around before the player reaches that location.



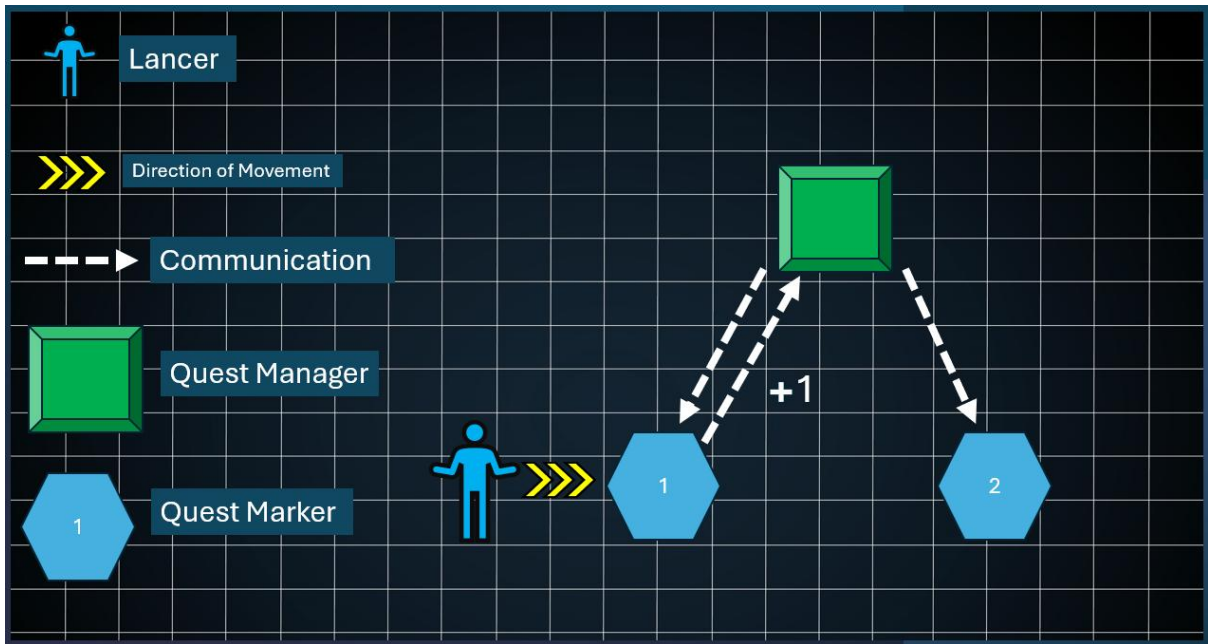
Vault Door: The Vault Door Opens when the Boss dies, and this is because there is a trigger on the boss when its health becomes 0 and initializes death it also triggers the Vault door to open, so the player has access to the vault and progress through the game.



Gem Artifact: This is the weapon pickup for the Gem, so it functions the same as the other pickups, but the Gem pickup does some additional things when the player picks up the gem, which is that it spawns the end game enemies around the map and activates the final call as well as giving the player the gem.



Quest Manager: the quest manager holds the data for all the Quest Markers and activates each one in the chosen sequence by the player heading over to the currently active quest marker and completing which updates the quest manager by 1 which plays the next in the sequence.

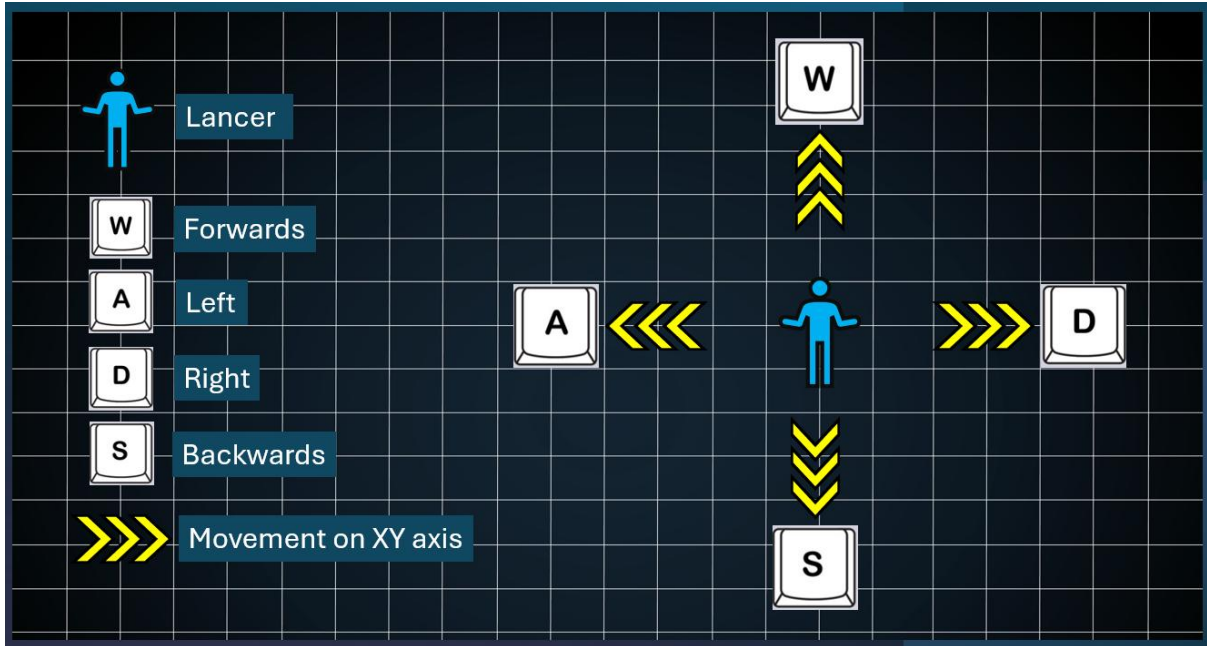


# Character

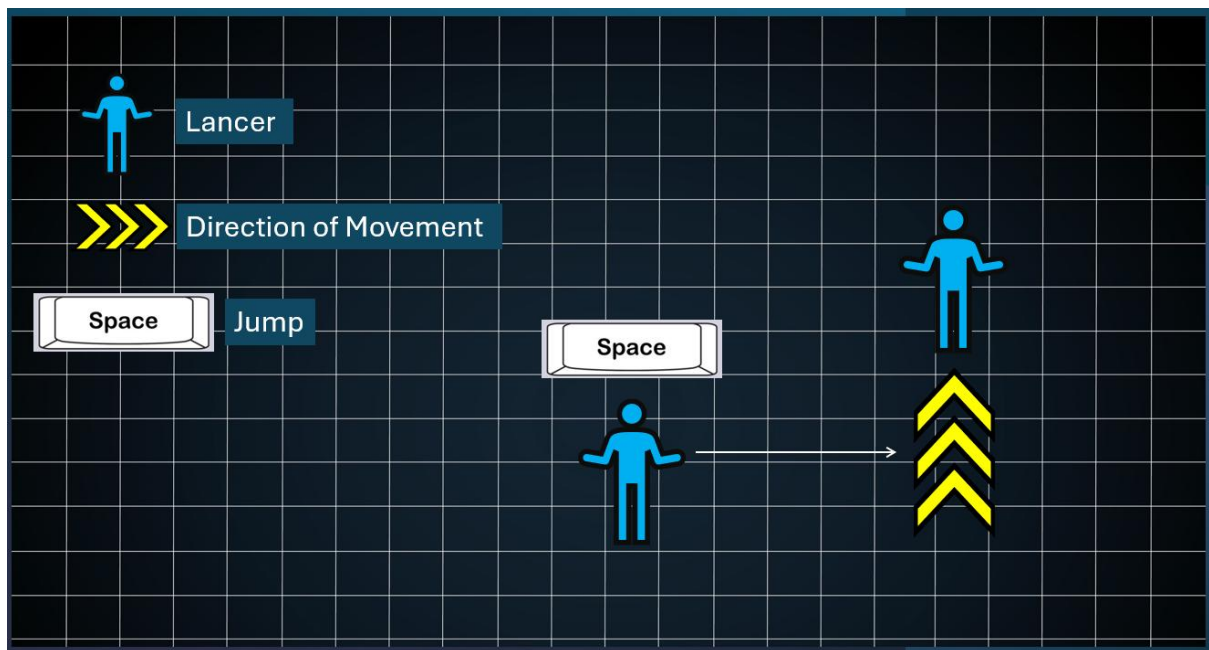
For my game you play as Lancer, a character provided by the Lancer Framework, that can perform basic movements such as, Walking, Jumping, Shooting and Interacting, and they can perform a Unique action for my game which is answering a Phone Call.

## Controls

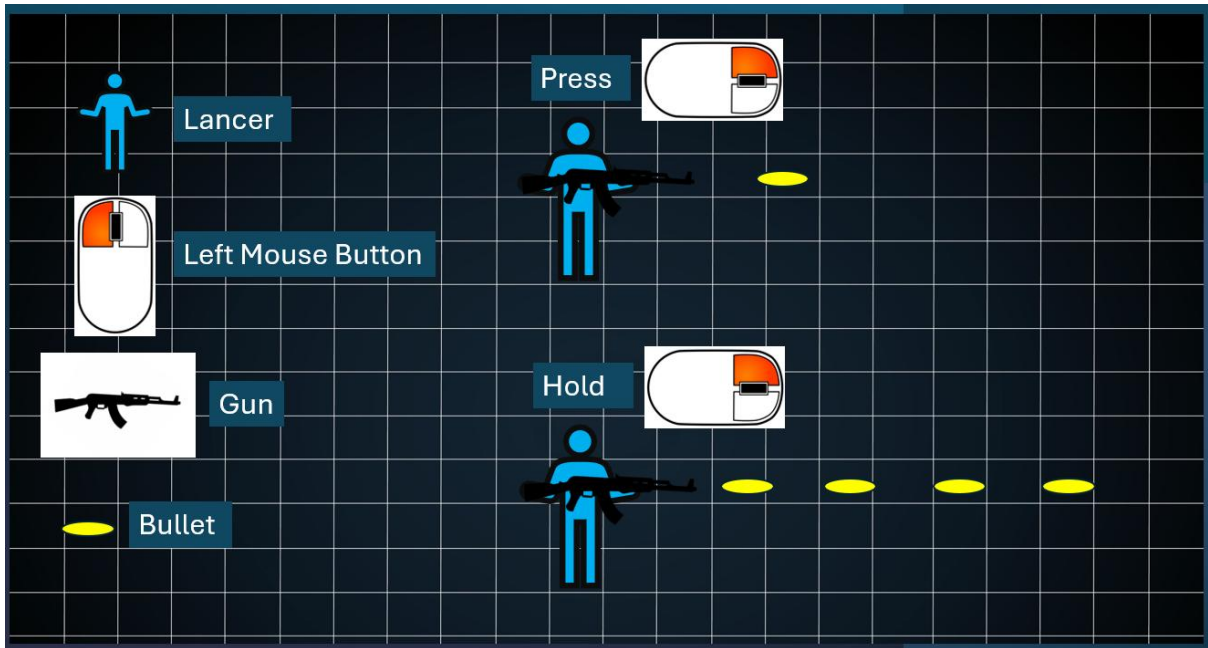
Movement:



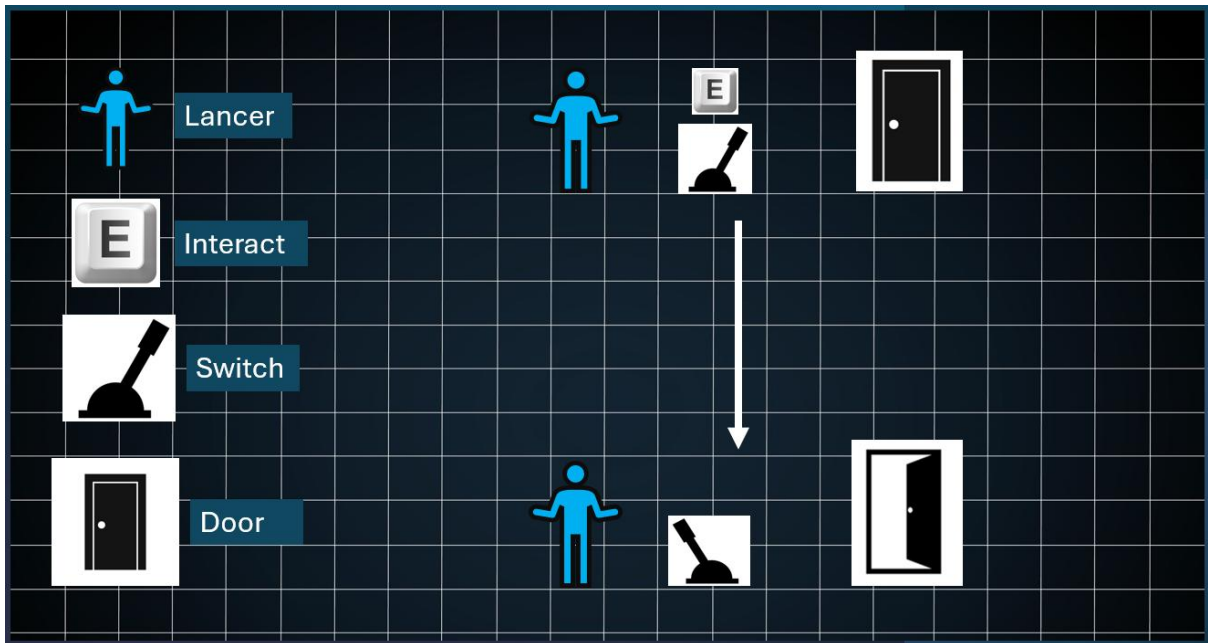
Jump:



Shooting:



Interacting:

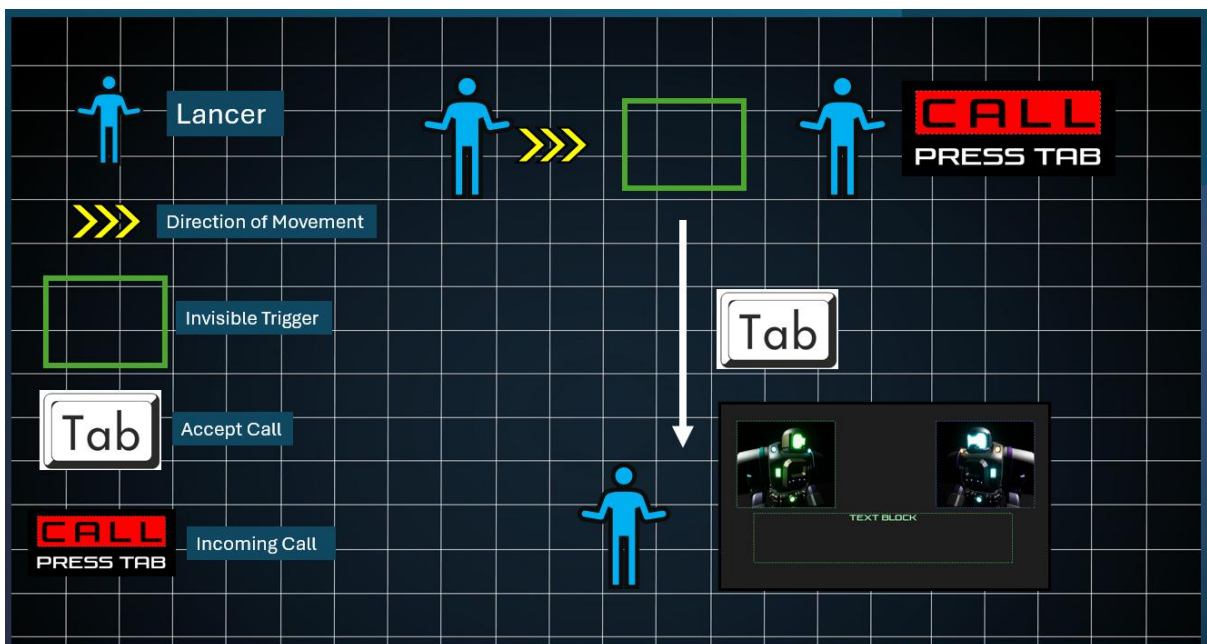


## Call system

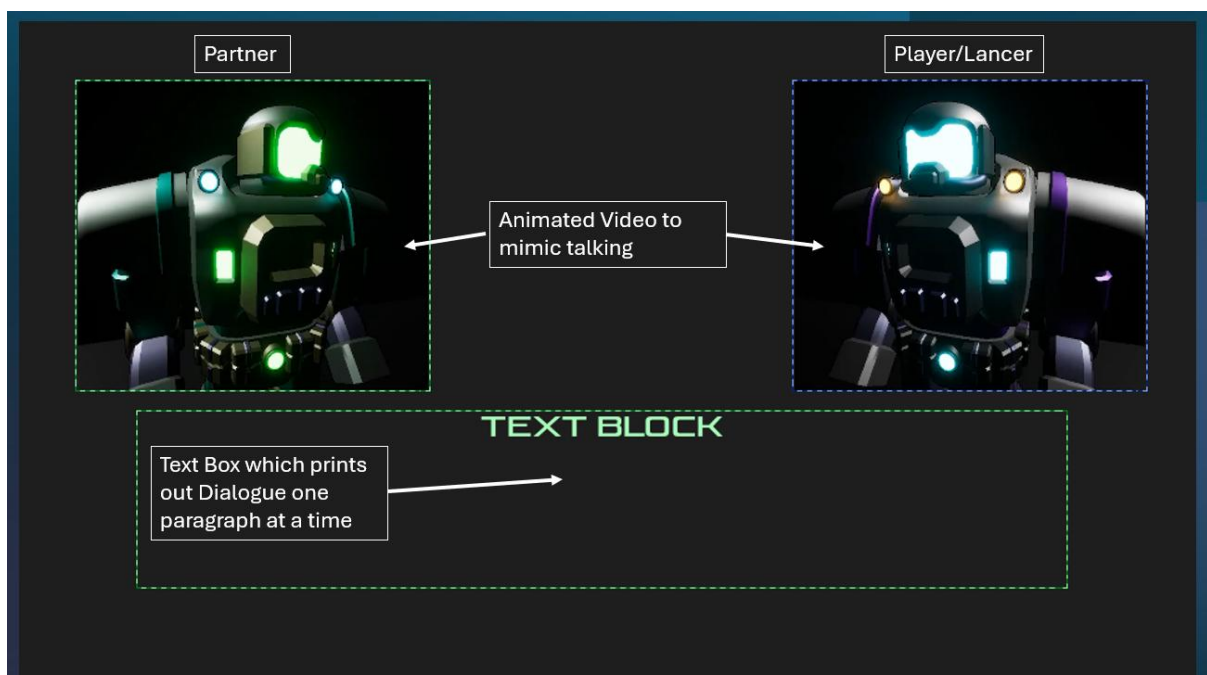
The basic actions such as walking, jumping, shooting and interacting are relatively self-explanatory but the Unique call mechanic requires more explanation. How the Call works is the player walks through an invisible trigger which activates the incoming call icon, which notify the player that they have a phone call, and which button to answer the call, after answering the call a UI like Metal Gear Solid Codec calls will appear and cover the players screen before playing out the call.

The Call itself once Triggered will play animation of each part fading in separately, starting with the Background, the character icons then the Text box fades before the dialogue starts writing, the reason why each element is animated at different intervals is because it looks smoother and polished that all the Call elements appearing at once.

Incoming Call:



Call:



Dialogue:

The use of each call is to provide necessary expositions to the player such as **Controls**, **tips** and **story elements** so the player knows what to do, where to go, and why they are here. In total there are 6 calls, and each contains important information in each one that the player needs either to progress or helpful tips within the game.

Call 1's Dialogue:

“Are you Reading me? Good, I managed to make it to my section of the station, the plan of action is to do a pincer movement on the Vault and we'll meet in the middle, That's why I dropped you off first, My task is to make it all the way to the Vault security system and disable any systems on the way, Your task is to make it to the Vault and Grab the Gem, **I should be able to stop any security from swarming you**, but just in case I provided you a gun to defend yourself, Press LMB to fire at any guards that stands between you and that Gem, And you should be just fine.”

**Story Element:** Since this is the first call the player will see it contains large amount of story to introduce the player to the Goal of the game as well as the position that the Partner is in, as you are working together to get the Gem, and he has taken the tech/support approach when you have taken the direct approach.

**Tips:** this foreshadows the upcoming puzzle rooms that if the player makes a mistake in their more enemies will spawn.

**Controls:** This warns the player of upcoming enemies and how to deal with them by pressing left mouse button to fire the pistol the player starts with.

Call 2's Dialogue:

“I've managed to pass through relatively unnoticed, just a few strange looks from some guys in lab coats, I didn't expect scientists to be in a place like this, **I've also managed to disable some of the security in the next room, but you'll have to unlock the door manually, don't worry I'll walk you through it, it should be easy, hopefully.**”

**Story Element:** The First foreshadow to the Heist going wrong by hinting that the station that they are attempting to rob is not a valuable filled station but a secret laboratory testing on top secret artifacts such as the Gem.

**Tips:** This informs the player that the next room is the first puzzle room that the player will encounter, and that Partner will help the player through it with a slight bit of humor at the end.

Call 3's Dialogue:

“This is a security checkpoint, I passed through one early, there for security personal only, But I know the trick on going through it, The trick is to shoot the correct coil panel on the wall next to the door, And that should open the Door, but be warned, I disabled the security to the room but if you shoot the wrong panel it will reactivate, You can use that new fancy Rifle to shoot the panels, but the Pistol will work on the panels as well, Press LMB to fire with the Rifle and you can also Hold LMB for continuous fire, To Switch Weapons use the Scroll wheel to change between weapons, And we'll be one step closer to being Richer.”

**Story Element:** There aren't much story elements within this call as it mainly focuses on the puzzle and the Rifle, but the 2 elements hit to Partner continuing to pass through the station closer to the end goal, and the reminder that their end goal is to steal a valuable Gem.

**Tips:** This explains that the puzzle is a checkpoint that the player must shoot and that they can use the new weapon, the Rifle, that is found within the puzzle room but also that the pistol will function with the puzzle as well so the player doesn't get confused on that only the Rifle can be used to progress the Puzzle.

**Controls:** This explains what the player must do to progress the puzzle by shooting the correct wall panel to open the door so that they can progress, but it also starts the consequences for shooting the wrong wall panel which spawns in enemy at punish the player for failing the puzzle. Also how to use the new Rifle and that it can be fired continuously when the pistol can only be fired one at a time.

Call 4's Dialogue:

“Fancy seeing you here, All I've seen are labs and something to do with limitless power, as well as the odd guard that I easily delt with. Anyway, it looks like you're in the Armory security office, it leads to the Armory that connects to the Vault, should be something fancy in there, All you got to do is press the Red Switch and you'll be on your way, I should be able to access the Vault security office from my side, it should make things easier inside the Vault, But remember, Press E to interact with the Switch, it's the Red Switch, you don't want to reactivate security by pressing the wrong switch.”

**Story Elements:** This call takes place after the Partner and the player see each other face to face through a window which explains the starting comment, as for the rest It further suggests that the station is not what they thought and now that the Gem isn't a jewel but a powerful artifact hinting at it has limitless power, and that Partner is heading to the Vault security system to help the player in the Vault by disabling the security in there.

**Tips:** This tells the player where they are and how close they are to their end goal of reaching the vault as well as foreshadowing the Grenade launcher that is found in the Armory by saying “should be something fancy in there” in the Armory, also the consequences of activating the wrong switch which is the same for the previous puzzle of spawning in an enemy.

**Controls:** This tells the player how to interact by pressing E and which is the correct switch to press as there ae several different switches in the room and the red one are the correct one.

Call 5's Dialogue:

"Looks like you found a Grenade Launcher, a bit excessive for this place, Press LMB to shoot Grenades that explode after a few seconds but be careful not to blow yourself up. Also, I have some good news and bad news, good news is that the vault lies just beyond that door, and I managed to disable a majority of the security, Bad news is that there is one guard I wasn't able to disable, and you'll have to deal with him yourself, Goodluck and use everything you've found so far."

**Story Element:** another hit to that the station is not what they thought it was by that they have a grenade launcher, and that Partner was able to disable the security, but the player would have to deal with the remaining security to gain access to the Vault.

**Tips:** This informs the player that they can accidentally blow themselves up with the grenade launcher so that they need to be careful and that there is a boss hoarding the Vault and recommends the player to use everything so that they have the best chance to winning.

**Controls:** This tells the player how to use the grenade launcher by pressing left mouse button to launch grenades and that the grenades blow up after several seconds after being launched.

Call 6's Dialogue:

"Oh no, The Gem's not a jewel, it's a power core, Everything's going haywire on my end, The emergency security protocol has been activated, All the security system are back online, we need to leave, Now, I'll take the ship and pick you up at the Airlock I dropped you at, it'll be swarming with guards but it's the only way out, We cannot leave without that Gem, this won't be all for nothing, See what that Gem can do."

**Story Element:** This is the big reveal that the valuable Gem is not a Jewel but a powerful Artifact that the station was conducting experiments on to use its power and that grabbing it activated the all the security systems so they must leave immediately before they are killed.

**Tips:** All previous hints to the security systems being disabled are now reactivated so more enemies have spawned throughout the station, and the player must fight through them since their only escape is the place at which they started at.

**Controls:** when the player picks up the Gem it is held like a weapon and the call suggest to the player to use the Gem to escape as the Gem can be used as a weapon, so the player has a chance to fight all the newly spawned enemies by unleashing the power of the Gem onto the security.

## Weapons

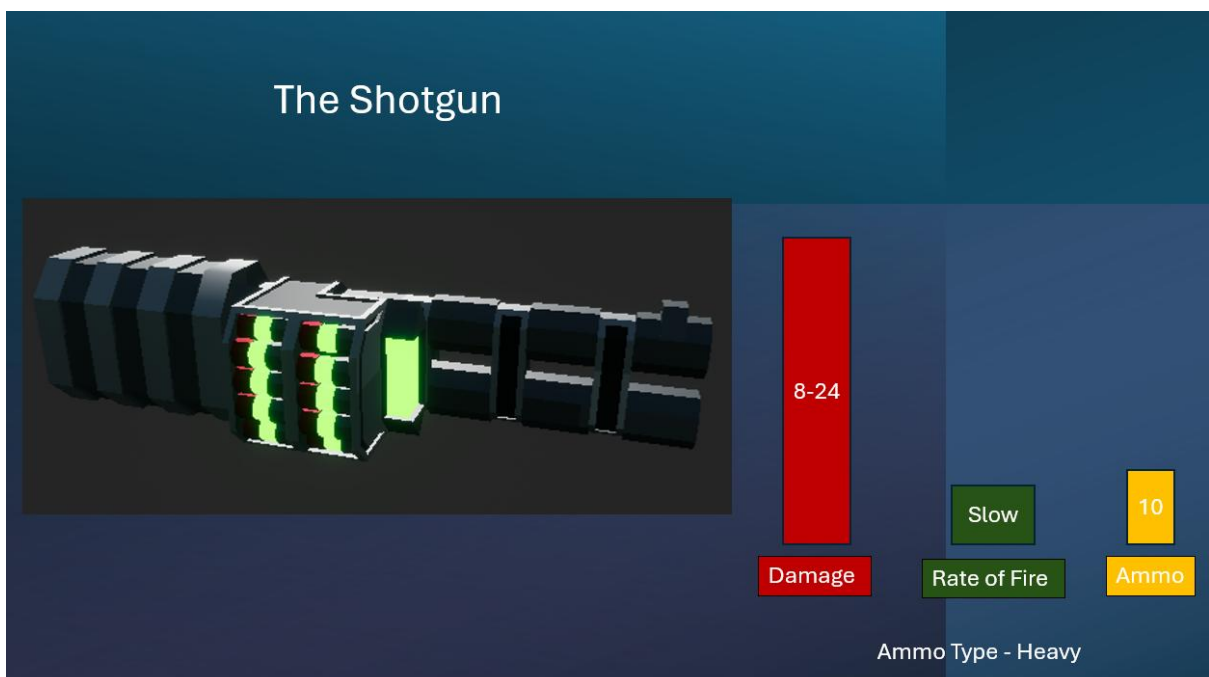
### The Pistol:

The Pistol is the weapon that the player starts with that they can acquire by leaving the starter room that is a well-rounded semi-automatic weapon for the beginning and midsection of the game that can be fired fairly with a good trigger finger and it starts with 50 ammo but only deals 5 damage per bullet which is able to take out weak early game enemies with ease but struggles with the late game enemies seen further in the game.



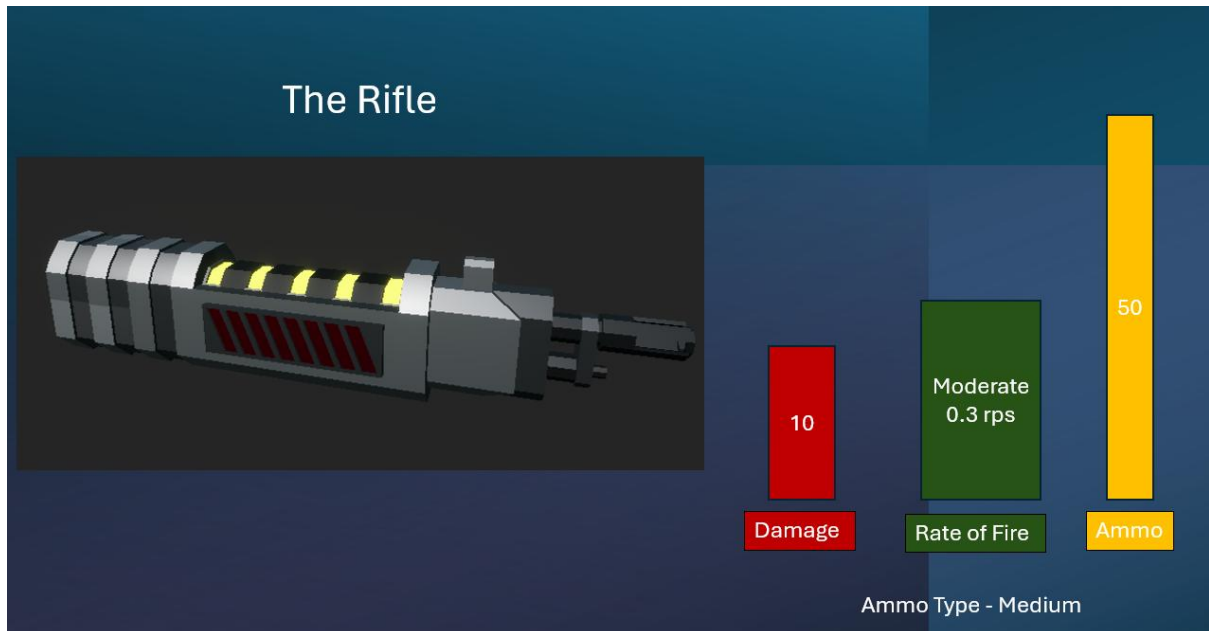
### The Shotgun:

The Shotgun is the secret weapon found in the secret area found next to the spawn point and it is a high damage semi-automatic weapon that can deal between 8 and 24 damage a shot depending on how many bullets are spawned which can deal with late game easily but since this is found at the start it can deal with any enemy it passes by but only has 10 starting ammo, so the player may often waste the damage optional on this gun on early game enemies.



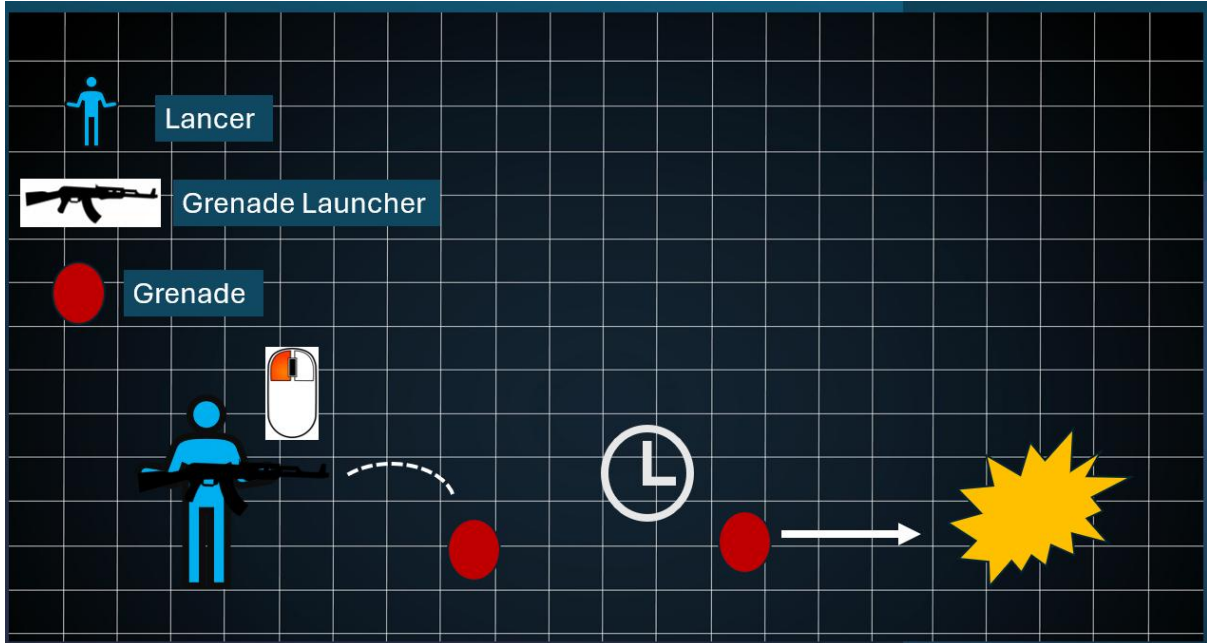
## The Rifle:

The Rifle is found in the first puzzle room and is to help deal with the mid to late game enemies and it is a fully automatic weapon that deals 10 damage per bullet and fires and starts with 50 ammo and is generally the upgrade to the starting pistol as it is a viable weapon throughout the game, start till finish.



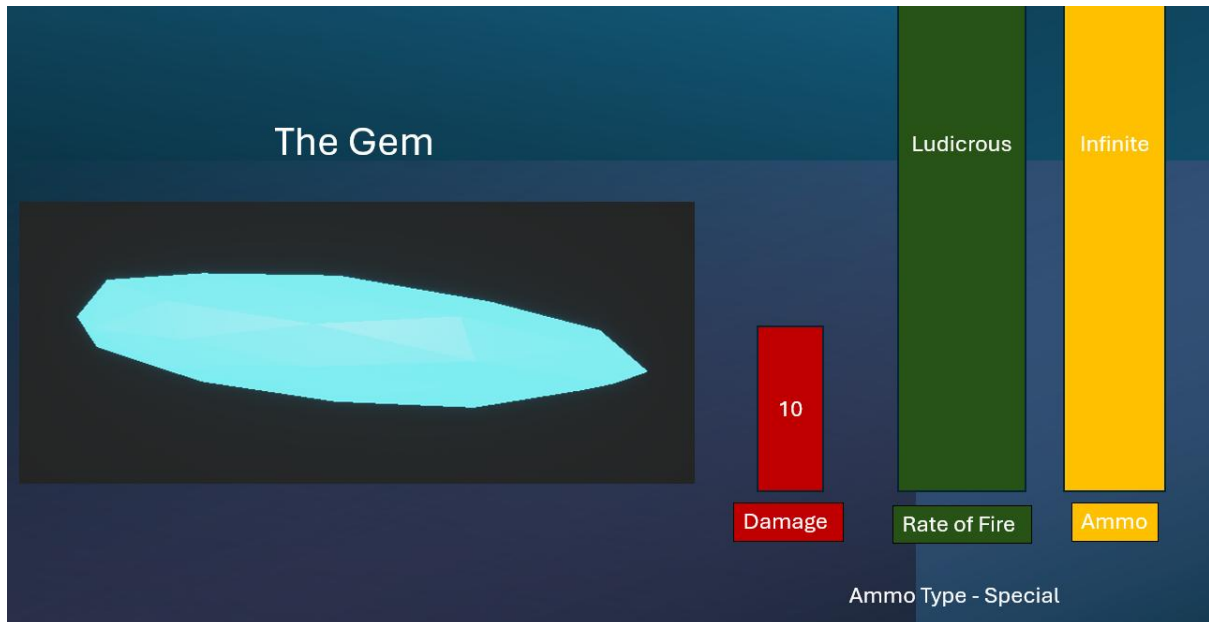
## The Grenade Launcher:

The Grenade Launcher is found in the Armory just before the Vault and it helps deal with large groups of enemies or/and late game enemies with deal 20 damage per explosion and deals area effect but it only has 10 starting ammo and it can damage the player so the weapon is a high risk high reward, and it also shares the same ammo type to the Shotgun so the player has the choice to use 1 or the other so they aren't able to do extreme amount of damage.



## The Gem:

The Gem is found at the very end of the game and is a gimmick weapon for the player to have fun with by vaporizing the large number of enemies that spawn after acquiring this weapon. The weapon only does 10 damages, but it fires 1 bullet every 0.01 seconds and has infinite ammo so anything that stands between the player using this weapon will not be standing for long.



## Enemy

A first-person shot requires something to shoot so for my game it includes 6 different types of enemies for the player to fight which include:

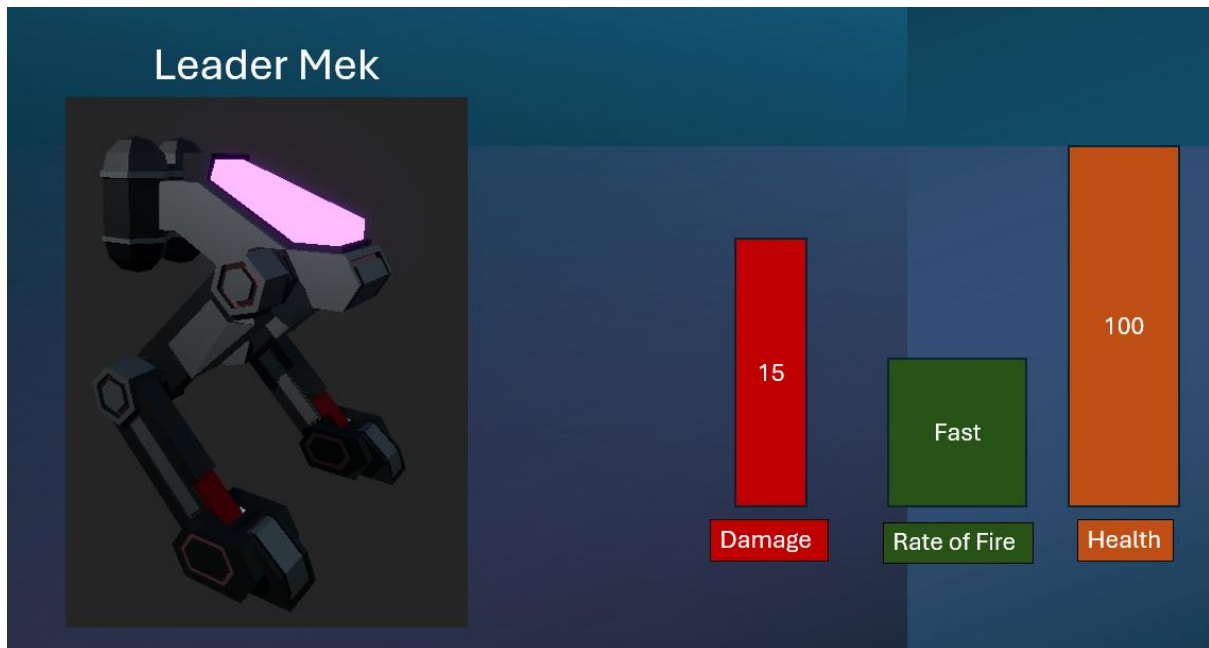
Melee Mek: which is the weakest enemy in the game which it is dealing damage at a slow rate and that it requires it to be up close with the player to do any damage so it can easily be taken out, this enemy can be found at the very start of the game and is the first enemy that the player will see.



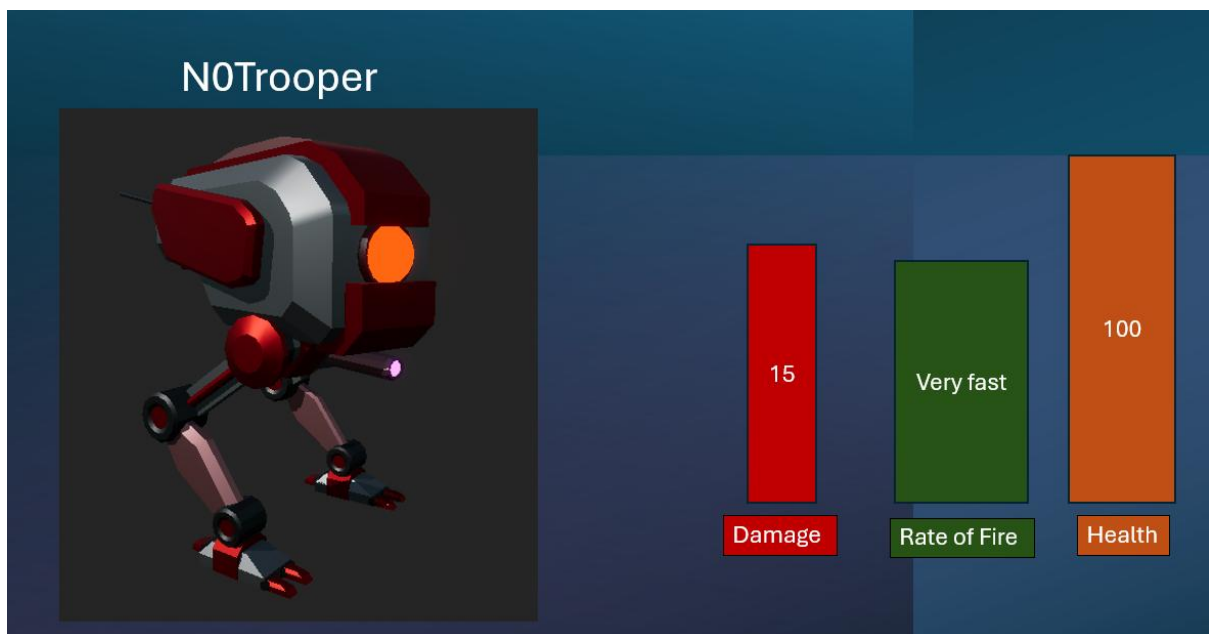
Machine Gun Mek: is the upgrade variant of the Melee Mek as it now has a gun and can attack from range which makes it slightly more dangerous than the melee mek, this enemy can be found in the first half of the game.



Leader Mek: is a much taller and stronger variant of the Mek with it having 2 machine guns making it more dangerous for the player to deal with, this variant can only be found in the late half of the game.



N0Trooper: is a unique enemy found at the very end of the level with it being even more dangerous than the leader with it being able to take down the player after 1 decent burst of its weapon, but it is well telegraphed by a bright flashed and can be dodged.



Boss Mek: serves as the Vault Guardian and stands between the Vault and the player, the Boss deals heavy damage and has lots of health but fires slowly and is telegraphed when it plans to fire so the player can dodge:

