

# S.O.D.A. - Game Design Document

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# 1. Introduction

This document serves as a detailed overview of the creative and design process and Game-Design centric aspects of Final-Game-Group-2.

## The Team - Final-Game-Group-2

**Mikhail Govind**  
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- Lead Sound Design
- Lead Art
- Lead Lighting
- UI

**Jean-Francois Retief**  
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- ❖ Lead Programmer for Enemy AI & Resource Management System
- ❖ Lead Programmer
- ❖ UI

**Malakai Braam**  
**2457821**

- ★ Lead Level Designer
- ★ Lead Art Asset Aggregator
- ★ Lead Sound Asset Aggregator

## 3. Game Overview

*S.O.D.A. - School Of Digital Arts*

Our game is a horror game set inside a University Digital Arts Building, and you play as a Game Design student that gets trapped in the building and has to escape. The main obstacle that the player faces is the video-game enemies that are coming to life and are attacking the player as they are trying to get out of the building.

The main focus of the team as Game Designers, during the creation of this game, is our game's enemy variety, how the enemies react to different stimuli (namely sound and sight), how to manage resources to minimise risk of the different enemies and the horror elements of the game, as well as a general goal to invoke fear within the player.

For this project, the brief stipulated that the team needed to take inspiration from two separate games by taking sub-systems from each game and combining them into something somewhat new. The two games (and systems) chosen by our group will be discussed below:

## 3.1 Game 1: Five Nights At Freddy's

### 3.1.1. Why FNAF and Interrogation of genres

Since our group has already cloned Five Nights at Freddy's, and we're aiming to make a horror game again, it was an easy choice to take inspiration from this game again.

The game can be described as a horror-themed resource management game where keeping the enemy's out of the player's office is the goal of the game.

### 3.1.2. System taken: Resource (Power) Management



Figure 1: FNAF power usage bar and powerleft indicator [2]

One of the main features in the first FNAF game was the limited power that the player had to manage throughout each night in order to survive each night. This *constant* drainage of a resource provides (like power) an effective way to induce more stress in the player, more so than running out of consumables (like bullets). The team wanted to expand on this idea, with different resources to manage: namely: power, stamina, visibility, and noise levels.

## 3.2 Game 2: The Last Of Us

### 3.2.1. Why TLOU and Interrogation of genres

The game is a narrative-focussed action-adventure game, but can also be described as a horror-themed resource management game, where the resources are health and bullets.

Both games the team has selected have enemy variety and resource management aspects, so it can be extrapolated that these systems mix well, especially within horror themed games.

### 3.2.2. System taken: Different enemies reacting to different stimuli



Figure 2: Clicker from TLOU part 2 [3]

Even in FNAF, different enemy types serve to make the game more interesting, however the enemies in The Last of Us have an interesting twist, they react to different stimuli. The enemy type known as a “Clicker” is blind and will only react to the NOISE the player makes, while other enemy types will LOOK for the player and will detect the player similar to many other games’ enemies.

## 4. Our Plan / Hypothesis / Design Goals

Our main design goal was to combine the resource management system (inspired by Five Nights At Freddy’s) and the enemy-stimuli-reaction system (inspired by The Last of Us) by making the resource-levels have a direct and tangible effect on the enemies detection.

We also planned to incorporate other horror elements into our game, such as scary sound design, lighting (or lack thereof) and environmental design. The narrative planned can be summarised as follows: you play as a Game Design student that is trapped in a University’s Digital Arts building. The player’s main goal is to escape the building, however there is one problem - the video game enemies are coming to life. The player must avoid these enemies until they can get out of the building.

## 5. Design Notes and Processes

- *For more information on the technical aspects of our game, please refer to the Technical Document [\[1\]](#)*
- We started on the AI, UI and resource management systems to get moment to moment gameplay features to work early on during development.

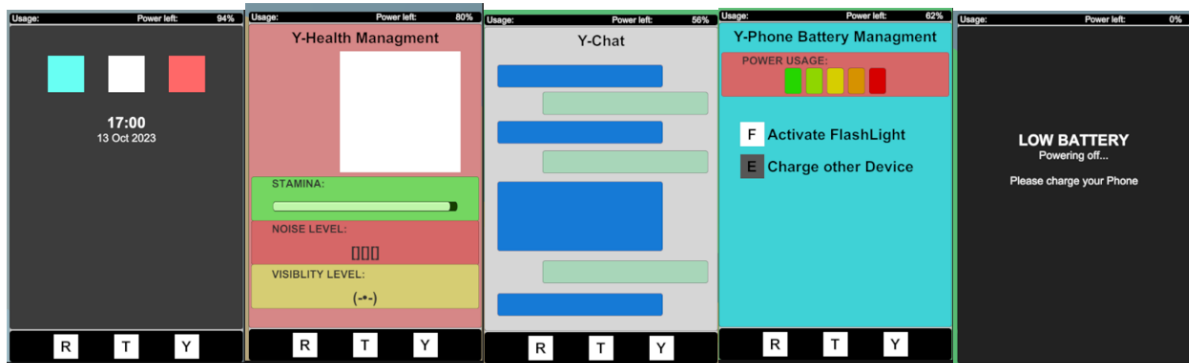


Figure 3: UI First Draft



Figure 4: UI Version 2

- We had multiple “Dev-sessions” where we all hopped into a discord call and worked on certain features together, to get real-time feedback from other team-members and make sure important aspects of the game fall inline with our shared vision.
- The first “Dev-session” was spent working on the level of the game, and discussing the enemy visuals and flashlight mechanic.
- There was a joint work session working on the overall game logic and enemy spawning system.
- There was a very productive session where we discussed the flow of the entire game and broke down the player’s actions into a sort-of storyboard

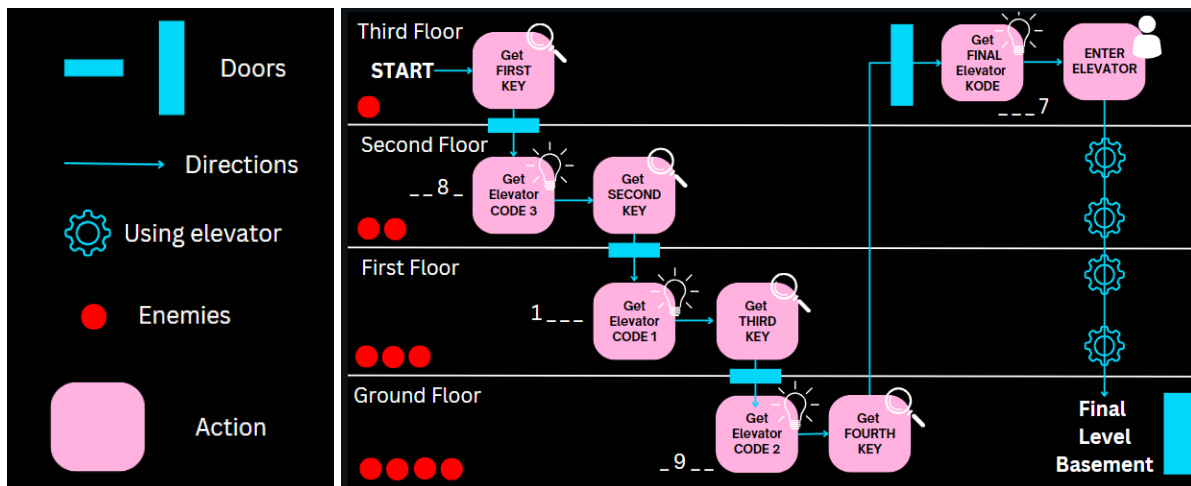


Figure 5: Player objective flow and legend

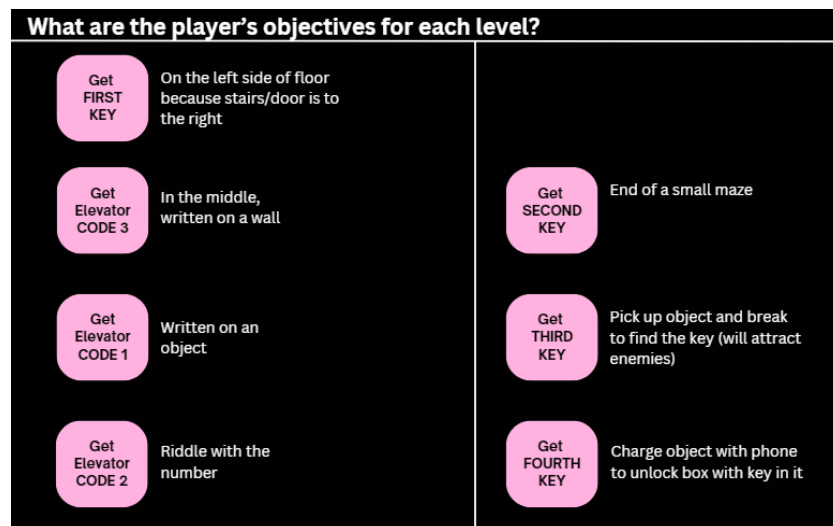


Figure 6: Player objective detailed

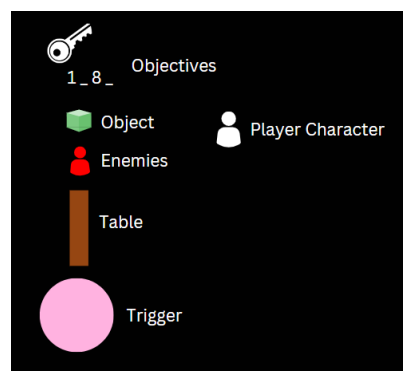


Figure 7: Legend for room layouts



Figure 8: Third Floor Layout

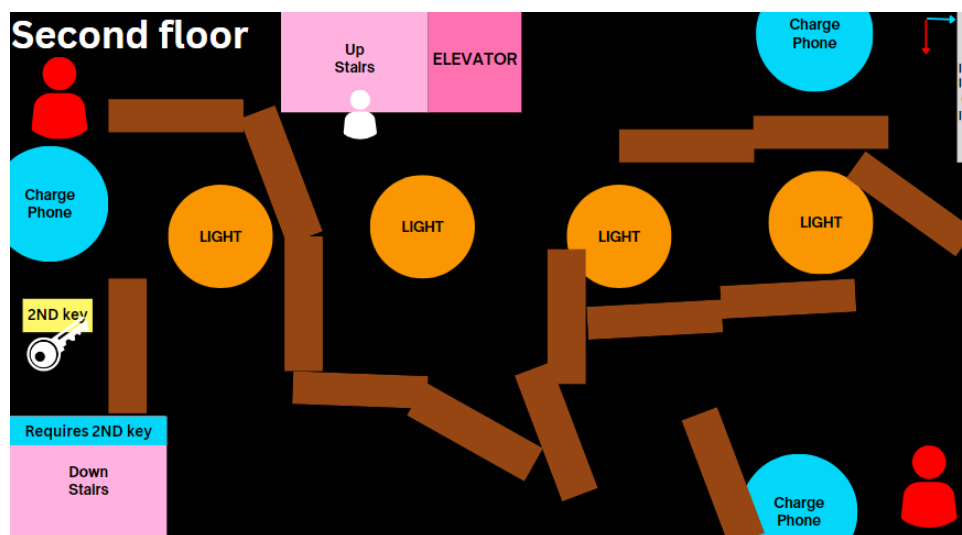


Figure 9: Second Floor Layout

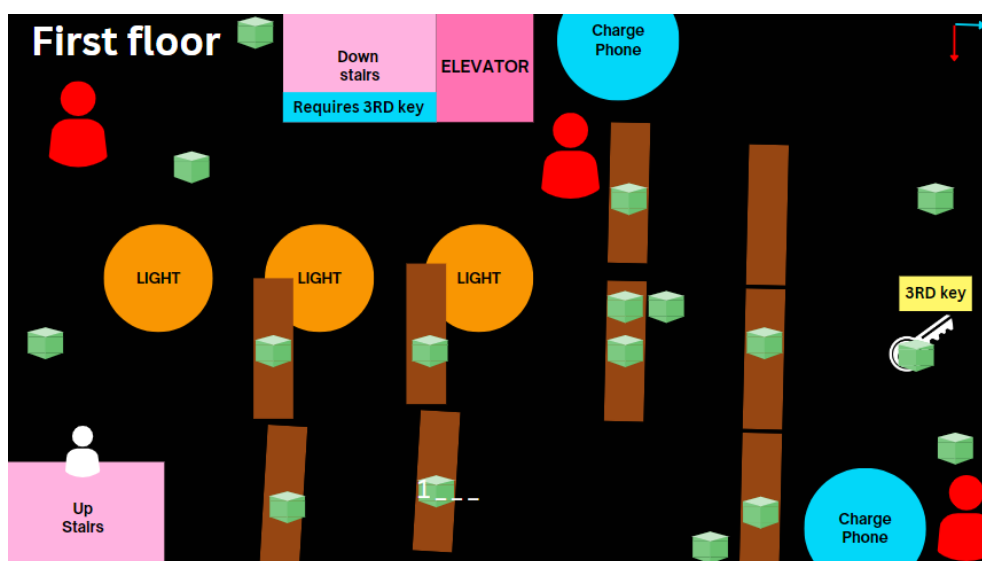


Figure 10: First Floor Layout

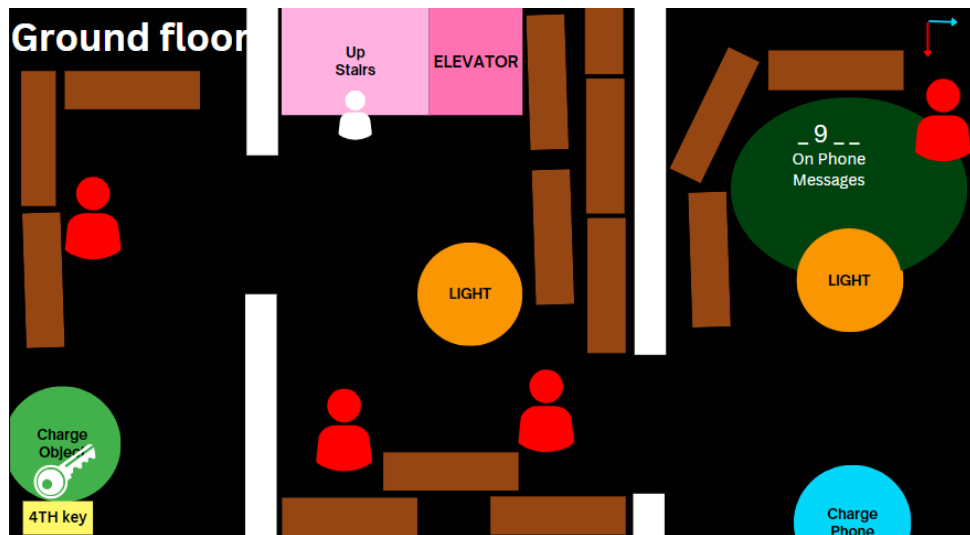


Figure 11: Ground Floor Layout

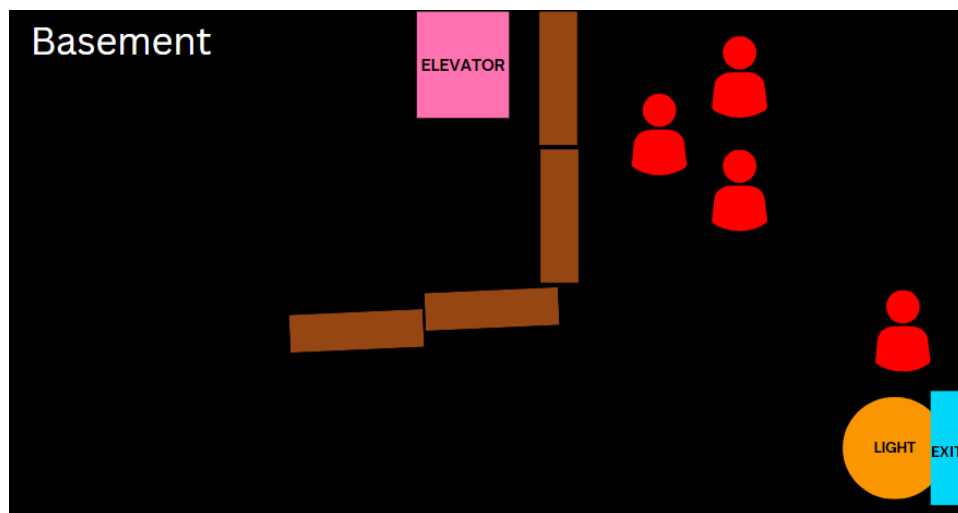


Figure 12: Basement Layout

- In the second dev session we worked on the player health system, implementing the level logic and collecting assets.
- In the third dev session we worked on the death-conditions, UI and implementing the above plan for the levels



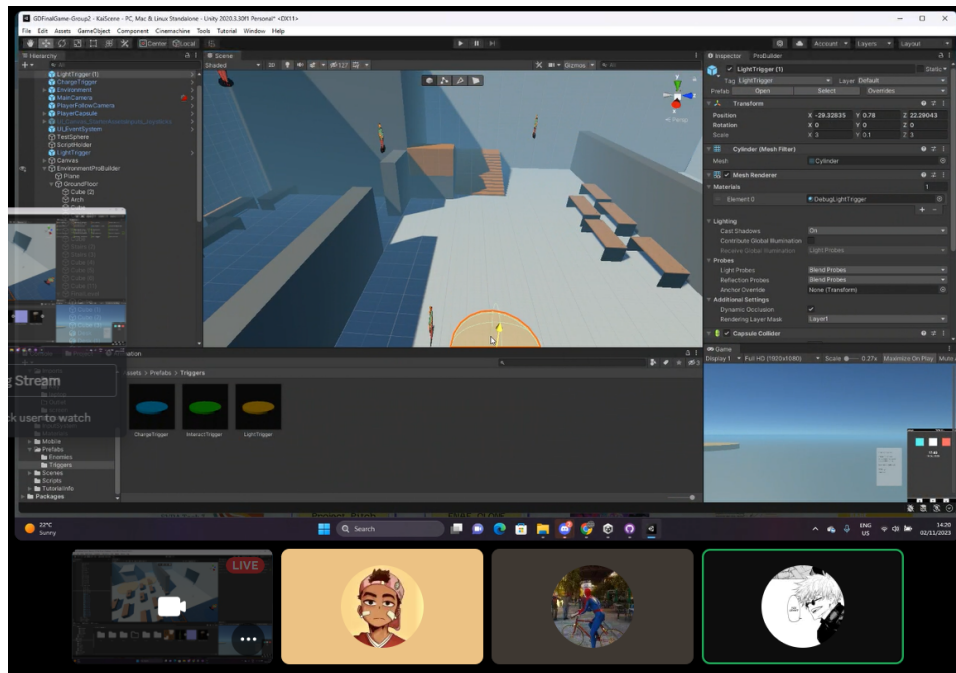


Figure 13: Screenshot taken during DevSession 3

- In the fourth dev session we coded the various triggers (for objects and the elevator) and added trigger prefabs. We also looked at some bugs in our previous code.
- In the fifth dev session we worked on the texting app.
- In the sixth session we worked on finalising the moment to moment gameplay, going through each floor and fixing any problems we encountered.
- In the seventh session we fixed as many bugs and issues we could find. We also implemented the lighting in the scene to properly capture a scary atmosphere. We also added sound effects to the game.
- In the final session, we added the final touches :)

## 6. Reflections

### 6.1. Mikhail Govind's Reflection

This was our second attempt at horror but as opposed to the previous game we built which was a clone of FNAF (Five Nights at Freddy's) [2], this was an original game from our group. Which presented its own setting of challenges, questions and opportunities

Firstly, I was not really a person interested in horror or thriller anything really until cloning FNAF. Cloning that game allowed me to dive into the draw of horror games and why people would play them. Of course, also, by exploring these genres it revealed their unique parts and affordances that may not occur within other genres or rather take their own nuanced form in these genres.

After discussion and planning with the group, we all had a similar feeling towards horror/thriller games and decided to carry on along this path with these genres. We found it

logical to take what we learnt from the previous assignment and put that to use for our next project. This is also partly why we decided to work within the same group for this project too.

One of things I found interesting within FNAF was how it removes your ability to physically move your character but you could control other aspects like cameras and so on which served as the player's view and sources of information. This removal of one sense would cause the player to rely more on their other senses while also removing control by having the character physically stuck in place.

In this game, we decided to allow the player to move the playable character but build other mechanics and systems on top of this. For example, the game is dark so sight is limited. By allowing the player to move the character but reducing sight adds a layer of uncertainty of what is around them which we used as one of our main concepts for inducing fear into the player and implementing those horror/thriller aspects.

To explore those concepts further, we had two things in mind: removal of control and fear of the unknown.

For the former, it was not about just not letting the player do things but rather allowing them to do actions within a certain range. For example, the player would learn the speed the character walks or runs at and learn when to use each speed but built on top of that is the faster and how often the character moves the character's stamina metre will reduce and when it reaches zero, the character will stop in place until some stamina is refilled. This was our approach to this concept and implementing: allow the player to do an action but learn how to effectively use said action. In this example, the player needs to understand and learn when to walk, run, stay in place, let stamina refill and this would mean the player will also need to learn other mechanics like enemy types and how they act.

The latter concept is the player does not know what to expect. They will slowly be introduced to the different enemies or mechanics of the game like the stamina and movement system mentioned above or how charge triggers/outlets work. They will not know if a new enemy is going to be introduced, where the enemies might be placed or how may be on a level, what the object of each floor is or even what the main objective is, how to collect keys or elevator codes. This would insight uncertainty and cause the player to always be on edge which is something I learnt. Horror/thriller is not only about being scared but feeling anxious, nervous, immersed, etc. On top of this, the player will eventually know how the mechanics and systems of the game operate and feel a sense of accomplishment by doing that as it allows them to progress the game further or more effectively.

Also carrying over from the previous game, my role in this game was sound design along with lead art design, UI and lighting.

I wanted to carry over what I learnt about sound from the previous game, especially as they fit into the same genre and put it to use while also learning more as the previous game was my first time giving sound design a proper shot in so I wanted to further that understanding. Similarly, the approach on the sound in this game was to immerse the player more into the game while also creating an accurate atmosphere in context of the game we made. This is why there are numerous diegetic sounds like flashlight button sounds or the generator noise which aim to make the player feel as if they are controlling the character within this virtual world. There were also non-diegetic sounds like eerie sounds that will randomly play to increase the creepy atmosphere and ambience.

The lighting follows a similar idea of immersing the player while also incorporating the mechanical plans of the game mentioned above. This is why lighting is why actual lights in the game are limited and why the game is quite dark. There is also an incentive to use the flashlight causing the player to engage with the power management system and other systems. There were other lighting choices like placing blue lights upon the charge trigger which are more used to visually indicate what they are distinctively. The overhead lights also have an in-game mechanic where they would increase the player's visibility level. Lastly, the UI and art. The game is based on our digital arts building and course, thus most art was created to fill in with this aesthetic of meshing the digital world with the real world which is why we have our enemies or many UI elements in pixel art style. For example, our enemies are evil versions of our lecturers turned into digital pixel art characters but in this 3D space and even further playing on this, the fourth enemy is designed after bLAMBO, the 3D model we all worked on in second year flipping the concept of people from the real world becoming digitised and rather taking a digital character and shifting them into a more 3D space.

All in all, it was really exciting working on this game and furthering the learning process from the previous project/assignment. Also, working with this group is a delight and really allows for me to be in a space to do the best work I can while also giving me a better grasp of group work and effective communication. Carrying on the ideology of learning new things from the previous game, I also got the opportunity to fiddle with lighting for the first time while continuing my exploration into other aspects like sound design. If anything, I would just like to explore these avenues more and place more time into them.

## 6.2. Malakai Braam's Reflection

The creation of "S.O.D.A" was one of the best collaborative team efforts in game design I have ever been a part of. As this is the group that I was a part of that created a complete clone of FNAF for our previous assignment, we grew quite comfortable with one another in our work ethics and styles.

We started with a set of ideas ranging from card-like battle games to games measured by insanity. Through all of our ideas, we decided to compromise and create a game that plays on the player's senses and pay homage to our successful creation of FNAF. The system we decided to implement in the game from our other clones was the Power Usage System from FNAF [2] as it is a system that allows the player to be mindful of their resources and use them respectively. We also stuck with the horror theme as we were all fascinated by the intricacy of visual, audio and mechanical aspects that spark fear in the player. But the question we all had was - "How do we make the player scared?".

It was a lot easier cloning a horror game concept than creating one as to understand and create a fearful environment or concept that could be considered scary for most players is quite difficult because what defines fear in game development. We discovered that the removal of control contributes a significant amount of fear to the player as well as the fear of the unknown. This sparked the entire game concept.

A game based around the cold and empty ambiance of the digital arts building, combined with the fear of not having specific level layouts and varying enemy behaviour that is not specified and very brief information about the controls which sends the player into the deep end by learning more about the controls, the more they play. Along with the power usage system indicating that the player's every single decision has an effect on the environment and the enemies. We agreed that this concept will invoke fear and contribute to the overall narrative element we created.

We all delegated ourselves into our respective roles. As much as we worked together on the development of the game through "DevSessions" on discord, my role for the development of this game was Lead Level Creator and Lead Asset, Texture, Material and Sound Aggregator. My process for creating the levels involved creating the environment first simply and using the specific assets and enemies to form the layout of the level instead of varying rules or structures for each. The first level is almost like a tutorial level meaning that I have made it emptier in order for the player to move around and explore their environment more. The text on the walls is used to give information about the charging outlets and the direction the player needs to go as well as the key and door number. The environment lighting is quite dark so we collectively decided to use text cues to aid the player in directions and information. The second level is structured like a maze which forces the player to learn how to manoeuvre themselves around the environment and also the player is introduced to two new enemies. The third level is put in place in order for the player to learn how to interact with their environment. There are decoy interactables that are put in place in order for the player to stall and use more time in order for the enemies to come into contact with them before they find the interactable key. The fourth level has all the enemies and plays more on the understanding of the players and the enemy characteristics, hence the interactables like the lighting and charging ports are less however the player needs to start the generator in order to get the last key, this is because the generator creates noise and will firstly test the player's understanding of noise in their environment as well as attract the specific enemies to the player.

The last level involves the player running all the way back up to the first level or Third Floor in order to put the code in the elevator. This creates a sense of pace and progression in the game as the player now knows the entire layout of the environment and is able to weave through the levels in order to get them to the top. It sparks a sense of fear of the fact that they are entering the levels again and have to come in contact with enemies after all their progress and creates a fast pace aiding the story. The basement level, or final level, is chaos. It is darker, enemies are swarming left right and centre and the player is extremely close to the end. The vision for this level was to just make the player feel cool but also as though the threat is not eliminated. The focus is just running and dodging the enemies in order to get to the exit.

Asset aggregating was extremely fun as well as challenging. The more assets we implemented the more sensitive we realised the game was becoming to triggers and code. However, the aspect of this I enjoyed the most was creating and finding the sounds as well as finding textures for the environment. Visual and Audio elements contribute a massive amount to the ambiance and general feeling that the game will invoke, and due to the initial fear that I had about creating 3D games, this process allowed me to understand that it is not as scary as I believed.

Overall, this group and the projects we have done have taught me a lot. I have learned so much about the implementation of assets, materials and textures within a 3D working space along with what creates and how to create a fearful environment. The sound adds so much to further enforcing the feeling within the game and creating the sounds like enemy growls, player getting hit and player out of breath made me realise how much goes into the creation of completely independent and original games since we referenced and used external assets as well. Everytime I work with this group as well, I learn more about the way to structure my coding, create scenes and mechanics in various different ways such as the movement and view radius of the player and the importance of ambiance overall.

### 6.3. Jean-Francois Retief's Reflection

This was my second ever group project where we created a new game (not simply cloning a pre-existing game). It was a fun experience working with this group again since our work styles meshed well.

In terms of the game itself, it was a fun challenge to create a horror game, trying to think what aspects would contribute to the horror and what could scare potential players. It was interesting to see at what point during development the game got scary for different people. For example, for one of my team members, early on when the enemies were only capsules, one of the enemies managed to jumpscare him. But for me, I only started to get creeped out when the sounds and moody lighting were added.

I also enjoyed working on the various enemies' AI, focussing on what makes them different, and how they react differently to the player's actions, location or current resources. We took inspiration from The Last of Us [3] for our enemies, where some enemies are blind and only react to noise. We took inspiration from FNAF [2] for the resource management system and the display thereof. The power display is almost exactly the same as FNAF, but for the rest (namely the visibility, noise and stamina levels) I came up with the idea to contain all of that UI inside of an in-game, diegetic, phone screen. Having all the information spread out on different apps on the phone, adds to the stress levels of the player, since there is always a chance that the player is missing some important information at any point in the game. This also allows us to have a power system that makes sense from a narrative perspective.

It was also quite novel to work on a system that makes movement, the noise made during movement and visibility of the player (due to flashlight use or walking into light sources in the level) resources in-of-themselves which the player has to manage. Many of these systems are in most games, but usually not as limited resources or a value that should be managed. It was an interesting exercise looking at these features in a completely different lens than "the player needs to be able to move to go from A to B". Now it's "while the player is moving from A to B, they are making noise, walking into lights and running out of stamina - even when not sprinting".

I've learned alot from this final project and the course as a whole. Not only do I have way more experience with working harmoniously in a group, I also gained invaluable knowledge on aspects of Game Design and Game Development that I've previously not interacted with a whole lot. Some of these aspects include: lighting (especially in horror themed games),

sound design, and narrative structuring of mechanics and the actual story/lore within the game.

All-in-all, I really enjoyed working on this game, and I can't wait to work on many more games in the future. I've learned a lot and I enjoy working with this team immensely. We were able to agree on a vision early on and execute it to the best of our ability. Although I still have a long way to go as a game developer, I feel that I've really "LEVELLED UP" my skills as a game designer during this course.

## References

- [1] M. Govind, J-F. Retief, M. Braam, 14 Nov 2023, "S.O.D.A. - Technical Document", Unpublished Internal Development Document
- [2] Fandom - Five Nights at Freddy's Wiki, "Power Indicator", (Image reference), Available Online at: [https://freddy-fazbears-pizza.fandom.com/wiki/Power\\_Indicator](https://freddy-fazbears-pizza.fandom.com/wiki/Power_Indicator) (last accessed: 27/10/2023)
- [3] Fandom - THE LAST OF US WIKI, "Clicker", (Image reference), Available Online at: <https://thelastofus.fandom.com/wiki/Clicker> (last accessed: 27/10/2023)