

Computer Games Development CW208

GDD

Year IV

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# **Acknowledgements**

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# **Game Overview**

Summarize your game (including screen-shots, where appropriate).

Common Questions:

What is the game? Why create this game? Where does the game take place? What do I control? How many characters do I control? What is the main focus? What’s different?

I wanted to create a game that focused on improving immersion and I decided that a game in the horror genre would be the perfect fit. The game is a 3D horror game where a random map with randomly decorated rooms are key features as well as eye tracking.

The premise of my game is that you play as a man trapped in a house with a deadly and mysterious killer. There are no exits and the only way you can survive is to open up a safe which contains a gun. You arrive with nothing except a small flashlight which you must use to navigate the dark building and find the keys to open the safe and acquire the gun. The flashlight is pointed towards wherever your eyes are on the screen. The house and room layout are completely random each time and the location of the keys are different as well. The flashlight will shine on the screen wherever the player is looking and is the main source of light. The killer is in the house as well and will wander the halls in search of you. Wardrobes are scattered around the house that you can use to hide in. If the killer sees you, he will sprint at you and if he reaches you he will kill you. It is up to you to safely wander these halls in the hope of survival.

# **Feature Set**

## ***General Features***

Random grid-based map generation

tile-based room decorating

eye tracking

Killer AI, States, and animation

focus on immersive audio

## ***Gameplay***

List stuff here that is key to the gameplay experience

List a lot of stuff here

Hey, if you got nothing here, is this game worth doing?

in the game, you spawn in a very dark house with a maze-like pattern. the overall goal is to traverse the map in search of special rooms that have a chance to contain a key. 3 keys allows you to open up a safe with a gun inside that you need to reach the overall goal of the game. The goal is to kill the killer in the house with you. at the start the killer spawns away from the player and starts walking towards the player’s starting position. This encourages the player to quickly move from the starting area. When the player spawns in the world around them is almost completely dark. There would be no way to traverse the map safely without the flashlight that you spawn with

// todo

# **The Game World**

## ***Overview***

Procedural generation:

The best part of the game world by far is that it is procedurally generated every time. Each playthrough will be completely random. The map layout and even the obstacles and decorations inside of the room will be different for each playthrough.

Abandoned Hospital:

The game world is set in an abandoned hospital so all textures, assets, and decorations will reflect this such as wheelchairs in the halls or dismembered bodies leaning against the wall.

Absolute darkness:

The abandoned hospital has no windows or light source. All source of light comes from the player’s flashlight. This makes the world itself look much more eerie and different.

## ***The Physical World***

### ***Overview***

Describe an overview of the physical world. Then start talking about the components of the physical world below in each paragraph.

The following describes the key components of the physical world.

The physical world of the game is set entirely inside an abandoned rundown hospital with no electricity. As a result the building is completely dark. The building is occupied by the killer who brings people here to kill them. As a result the hospital is dirty looking, covered in blood and dead bodies, and has old hospital equipment such as wheelchairs.

### ***Key Locations***

The key location is the dark and sinister hospital that the player wakes up in. The corridors are filled with old hospital equipment and dead bodies. There are rooms around the map that are filled with hanging meat carcasses

### ***Travel***

The hospital is fully traversable by the player. The player can walk there. The killer can also navigate through the halls.

### ***Scale***

the map can have a random scale as it is procedurally generated. The map is also a set of long winding corridors that have a random length. the grid that the map is made on is 50 x 50 so in theory a lot of rooms can be placed to fill up the grid, but in practice the resulting building is usually smaller. The player itself is smaller than an average man as the killer towers over him.

### ***Objects***

Keys: Keys can be randomly placed in the special rooms. There are always 3 keys per game. As there are always 10 rooms it means that 3/10 rooms will have a key in it. 3 keys are used to open the safe to get the gun.

Gun: The gun is a key feature in beating the killer. The game only ends when the player is dead or the killer has been shot with the gun. The gun is found in the safe which is placed in the players spawn room. Closing 1 eye with the eye tracker will trigger aiming the gun which will move the gun until the iron sights are in the middle for a more accurate reading of where the shot will go.

### ***Time***

Describe the way time will work in your game or whatever will be used. Focus game timeline with three engaging minutes of gameplay. Create a timeline bubble and narrative for this. Each minute builds to an event and within each minute a series of engaging events occur. The tree minutes should where crescendo to a large event.

There are no specific time limits to this game, however the longer you stay in the building the more likely it is that the killer will find and kill you. Time has to be carefully managed between carefully traversing the halls, looking out for the killer, and exploring special rooms.

***Obstacles***

General obstacles: There are many obstacles on the map that can hinder the player. These can include obstructions such as a wheelchair in the direction you were going causing you to change how the room would be traversed. These obstacles cannot stop you from moving from one room to another as there are preventions in place that stop it would from blocking all possible paths

Traps: There are bear traps occasionally on the floor around the map. If you get close enough to it it will trap you and you will have to wait a few seconds to get released. During this time the killer is notified to your position and will walk quickly towards it. Beartraps also will not block your path to another room but will act as another obstacle to look out for.

# **Rendering System**

## ***Overview***

Give an overview of how your game will be rendered and then go into detail in the following paragraphs.

## ***2D/3D Rendering***

Describe what sort of 2D/3D rendering engine will be used.

This project will use the Unity Game engines built in renderer.

## ***Camera***

### ***Overview***

Describe the way the camera will work and then go into details if the camera is very complicated in sub sections.

The game is in a first-person view so the camera will almost always be attached to the player. Other cameras are placed around the map that this main one will swap between. These will be for when you enter a wardrobe and when the killer catches you.

The game is first-person and so the camera will move with the player. camera will be controlled by mouse movement.

### ***Camera Detail #1***

When you enter a wardrobe the player’s camera gets deactivated and a camera inside of the wardrobe gets turned on. This allows you to see out of a very small gap in the door of the wardrobe.

### ***Camera Detail #2***

The killer also has a camera attached to him. When he catches the player, the killer will do an attack animation and a camera will activate pointed towards him. This is to help simulate a scare with a jumpscare

# **Game Engine**

## ***Overview***

Unity is the Game Engine that I will use for this project. It has many helpful tools to make 3D games and makes it easy to publish to multiple devices. Unity also has an asset store which makes it easier to find all the assets and packages that will be used

### ***Game Engine Detail #1***

The game engine will keep track of everything in the world like such and such.

This game will feature a very large grid based map generation algorithm as rooms can be placed in a potential 2500 different places. Unity is very reliable and is able to support the use of large numbers of objects.

Unity supports using Tobii Pro eye trackers which is needed for multiple features of the game.

Unity provides the use of prefabs which will be used to easily populate the world with all necessary assets

**Lighting**

Unity is great for handling lighting which will be an important part of my game. Unity contains a type of built in light source called a point light which shoots light out like a spotlight. This can be modified into a flashlight that the player can use to shine wherever is needed

**Eye Tracking Support**

Unity supports the Tobii Pro Nano eye tracker which will be used in the project for several core game features such as providing the only source of light and also aiming the gun.

### ***Collision Detection***

Unity also has built in collision detection for many different types of shapes which will be needed for this game. I can also detect collisions with meshes which will be helpful with the more complicated object models. It can also have 2 types of collisions, Trigger collisions and non trigger collisions. Trigger collisions are used when you want to check if objects have collided, but not have them be impassable whic non trigger collisions provide. These varying options provides more flexibility.

# **The World Layout**

## ***Overview***

Provide an overview here.

### ***World Layout Detail #1***

World Layout Detail #2

### ***World Layout Detail #2***

World Layout Detail #2

# **Game Characters**

## ***Overview***

**Player:** The game is played from a first-person perspective so information on what the player looks like are completely hidden. Doing this also hides what gender they are. This makes the main character more relatable to everyone regardless of gender or race. The player is noticably smaller than the killer and obstacles around them. This might make the player think they are younger than an adult but nothing is revealed for definite.

**Killer:** The killer is a doctor who lives in this abandoned hospital. He has a sick and twisted mind. He enjoys slowly dissecting his unfortunate victims and leaving their bodies anywhere throughout the halls of the hospital. He prefers to stay in the dark and has grown used to living without light. He can see exceptionally well in dark areas where others cannot. He wields a rusty bonesaw caked in old blood, and carries viles of his victims blood around with him as a trophy.



## ***Creating a Character***

## ***Enemies and Monsters***

The killer character and animations are premade on the unity asset store

# **User Interface**

## ***Overview***

The game will feature only 1 source of UI which is a timer for the flashlight.

### ***User Interface Detail #1***

The flashlight timer will start as a white circle and as the flashlight is used, portions of the circle will be removed and It’s colour will slowly change from white to red.

### ***User Interface Detail #2***

User Interface Detail #2

# **Weapons**

## ***Overview***

Both the player and the killer have 1 weapon each

### ***Weapons Details #1***

The player can wield a revolver which is his only defence against the killer. It has 6 bullets and after using all of them you must reload. Shooting the killer with even 1 bullet instantly kills him

### ***Weapons Details #2***

The Killer wields a rusty bonesaw that is caked in previous victims blood. it is his favourite tool that is used for everything. If the player is in range of the killer, the killer will use it instantly kill the player

# **Musical Scores and Sound Effects**

## ***Overview***

This should probably be broken down into two sections but I think you get the point.

### ***Red Book Audio***

If you are using Red Book then describe what your plan is here. If not, what are you using?

### ***3D Sound***

Talk about what sort of sound APIs you are going to use or not use as the case may be.

### ***Sound Design***

Take a shot at what you are going to do for sound design at this early stage. Hey, good to let your reader know what you are thinking.

# **Single-Player Game**

## ***Overview***

Describe the single-player game experience in a few sentences.

Here is a breakdown of the key components of the single player game.

### ***Single Player Game Detail #1***

### ***Single Player Game Detail #2***

### ***Story***

Describe your story idea here and then refer them to an appendix or separate document which provides all the details on the story if it is really big.

### ***Hours of Gameplay***

Talk about how long the single-player game experience is supposed to last or what your thoughts are at this point.

### ***Victory Conditions***

How does the player win the single-player game?

# **Multiplayer Game**

## ***Overview***

Describe how the multiplayer game will work in a few sentences and then go into details below.

### ***Max Players***

Describe how many players can play at once or whatever.

### ***Servers***

Is your game client-server or peer-to-peer or whatever.

### ***Customization***

Describe how the players can customize the multiplayer experience.

### ***Internet***

Describe how your game will work over the internet.

### ***Game Sites***

Describe what gaming sites you want to support and what technology you intend to use to achieve this. Perhaps Dplay or TCP/IP or whatever. It is probably a good idea to break the tech stuff out into a separate area, you decide.

### ***Persistence***

Describe if your world is persistent or not.

### ***Saving and Loading***

Explain how you can save a multiplayer game and then reload it. If you can or why this is not possible.

# **Character Rendering**

## ***Overview***

Provide an overview as to how your characters will be rendered. You may have decided to include this elsewhere or break it out to provide more detail to a specific reader.

### ***Character Rendering Detail #1***

### ***Character Rendering Detail #2***

# **World Editing**

## ***Overview***

Provide an overview about the world editor.

### ***World Editing Detail #1***

World Editing Detail #1

### ***World Editing Detail #2***

World Editing Detail #1

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