

# **ManHunt**

## **Defense 2**

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## 1 Introduction

### 1.1 Introduction

For this defense each one of us tried to improve their parts, and we started implementing new sections that we wanted. We worked on our website, animated our players, modeled an animal for the AI instead of a capsule, started working on the missions and so on... We are quite happy with what we have achieved so far, we feel like we have done a good work overall, however there are other parts that we need to work on and details that we need to add.

Even though that we are far from ending this project there are some parts that we managed to finish such as the Multiplayer.

For this second defense, we are saddened because we feel like we weren't able to manage our time and our work in a proper way, which makes us think that we could have done more than we did.

## 2 Map Design

### 2.1 Introduction

In order to make a fast recall, for the last defense, we chose the type of map we wanted to design, and how we will manage to accomplish this task. To do so, we mainly used Unity3D for the design of our city, and Blender for our supermarket which is the playable map. We have done these task until a specific step : for the city, we had designed several buildings and put them on a simple plan. Also, concerning our supermarket, we only made the skeleton of the building : the four main rooms and some furniture.

Therefore, we had a specific goal for this second defense : to design our whole city by adding new buildings, some roads and also random props in order to make it realistic. Our progress has been made in two major parts : the realization of the city in Unity3D, and the texturing of our supermarket in Blender.

### 2.2 Realization on Unity3D

The very step of our realisation was to fix the light bug we had during the first defense. Indeed, the sky light was too bright and created dark, even black spot on the floor (shadow). To do so, we downloaded sky materials on the Unity Assets Store.

To keep a coherence with our theme of man hunt, we wanted a dark atmosphere, and so we have chosen two sky materials that we are sure will match well with our theme (Figure 1 to 4).

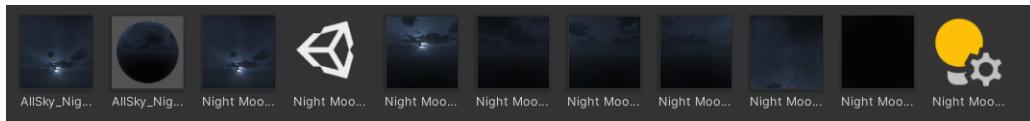


Figure 1: Night sky material

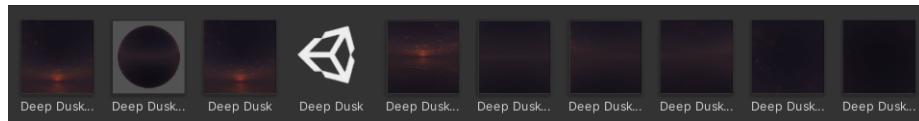


Figure 2: Red sunset sky material



Figure 3: Dark sky render in Unity



Figure 4: Red sky render in Unity

In order to simulate the appearance of a city, we started by building the roads and the sidewalk by using a prefab package (Figure 5). With this package, we had to build our entire road piece by piece. Therefore, the building was time consuming but we had the freedom to design our own road path (Figure 6).

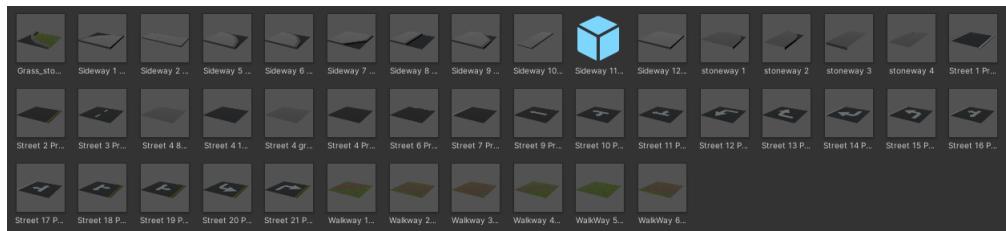


Figure 5: Floor prefab



Figure 6: Road Render and crosswalk

After this stage of the realization, all we had to do is adding buildings directly in the streets. Also, we put some city props such as traffic signs, benches, work barrier, garbage and a bus station we designed in blender. Due to a lack of time, some buildings and props come from another package. For the easiest objects, we decided to design them by ourselves. (Figure 7 to 9).

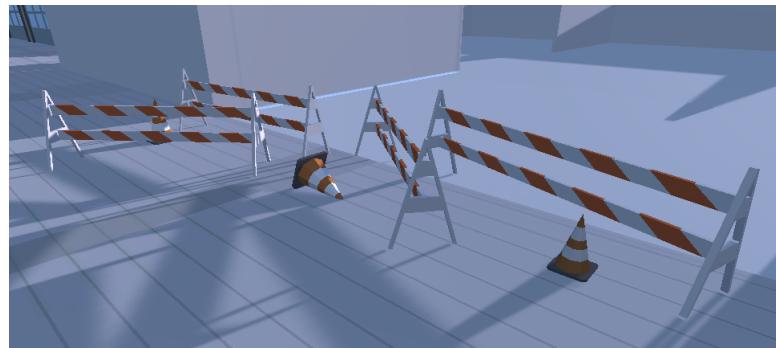


Figure 7: Work barrier

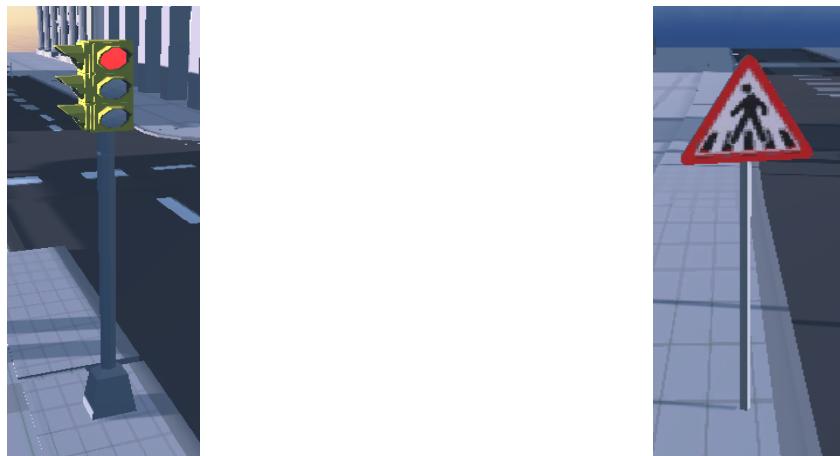


Figure 8: Traffic Sign

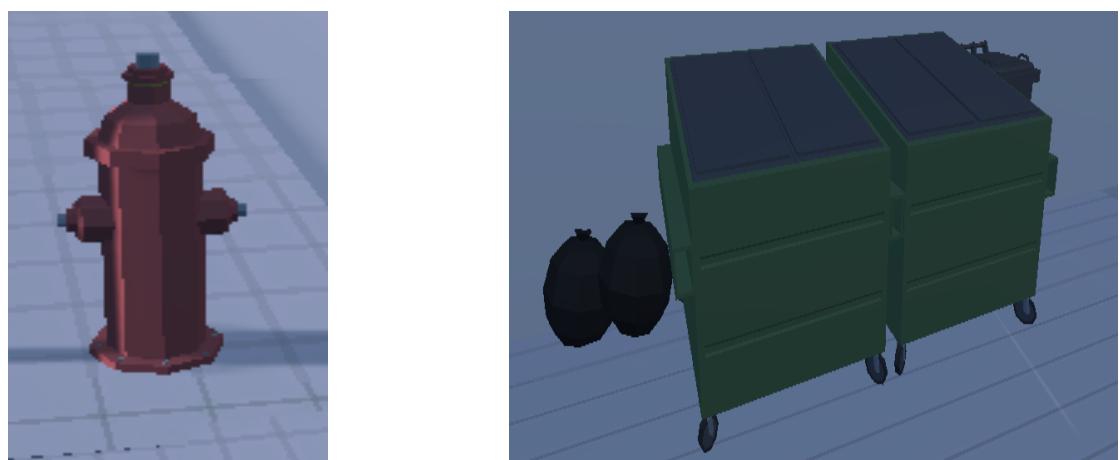


Figure 9: Fire hydrant and garbage

As we chose a dark material for the sky, we had to put some lights in our city. We built several lamps, on which we added a spot light, directed to the ground. To improve the gloomy atmosphere we were looking for, we added a flickering light script to one of them, associated with a electroshock sound effect (Figure 10).



Figure 10: Street lamp and its script

To finish with our city, we put new buildings to our empty town : bank, gas station, and shop (Figure 11 and 12). We finally get a whole street, with buildings, road, props and traffic signs.

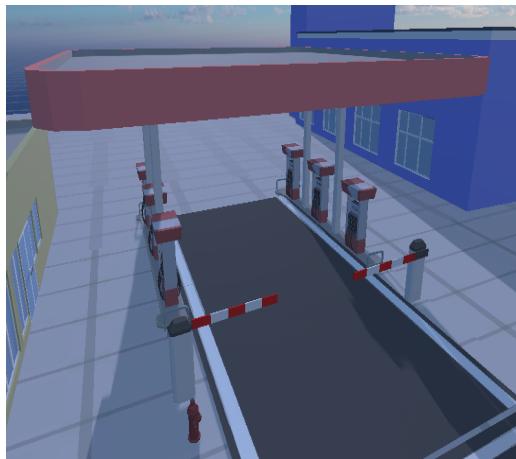


Figure 11: Gas station and store



Figure 12: Bank building

To illustrate our progression on Unity3D, here is a comparison between our old map (first defense) and the new one (Figure 13 and 14).

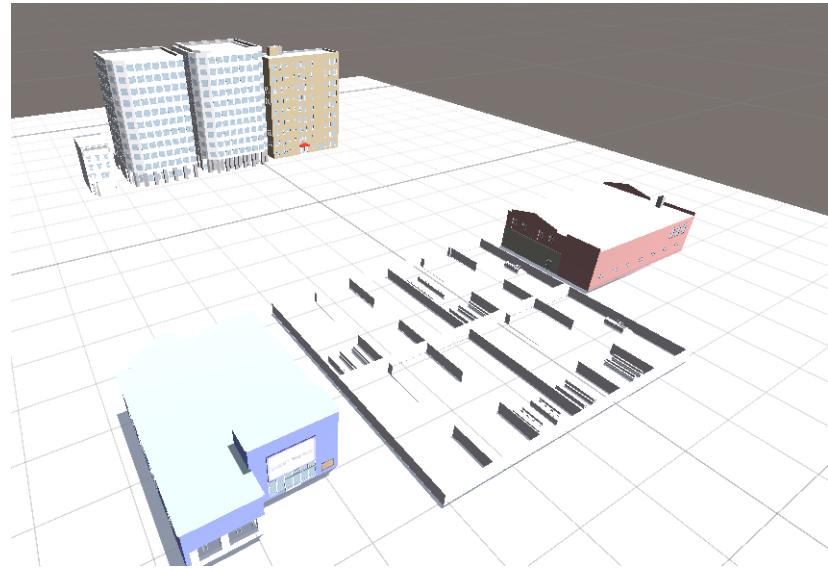


Figure 13: Old map

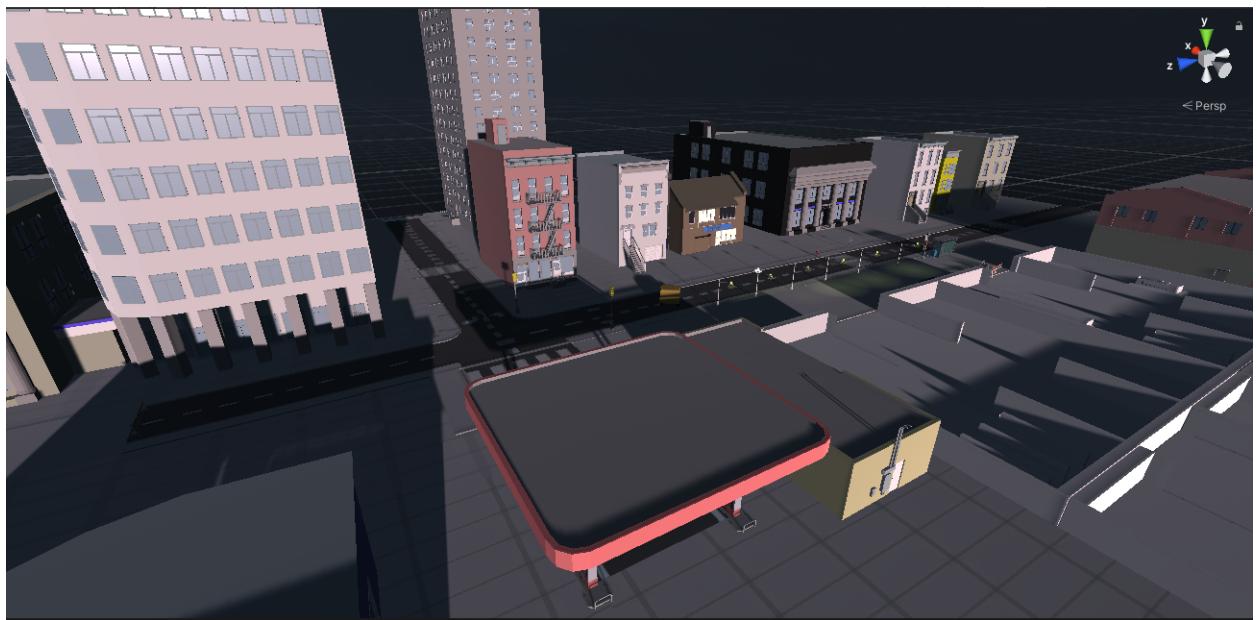


Figure 14: New map

### 2.3 Modeling in blender

This task started by fixing some bugs we had on our supermarket by modelling it again for some part. To link the rooms between them, which was not the case for the first defense, we simply decided to make a space between each linked room. The design of doors and their script are planned for the third defense. For this defense, we focused ourselves on the Unity map, including all buildings and props we put on it. Therefore, there is no great changes to our blender model, only the general color of the building that we made darker. We want to design the whole supermarket for the next defense, which means including texture, materials, and extra scenes where the missions will occur.

### 2.4 Difficulties encountered

For this defense, we encountered several issues especially concerning the blender part. Indeed, the realization on Unity was time consuming due to all details we put on it, but quite simple when we get used to the software. However, the texture part was messy since we've spent a lot of time to look for a design we were happy with while we couldn't import them on Unity3D. For this defense, we didn't manage to add texture to our supermarket so we decided to complete our city.

### 3 Hunter And Players

#### 3.1 Modeling

For this defense, if we speak about the modeling part of the Players and the Hunter, we continued our work on Blender with the animations. Therefore, we now have animated Players as well as an animated Hunter. Thanks to a tutorial video, we could learn how to manipulate the animation section in Blender. Our characters can run, walk and breath for the time being, and the Hunter now has a stick with which it is supposed to hit the other players. To do so, we modeled a basic stick on Blender and associated it with our Hunter, after that we animated it in such a way that it seems to hit the others.

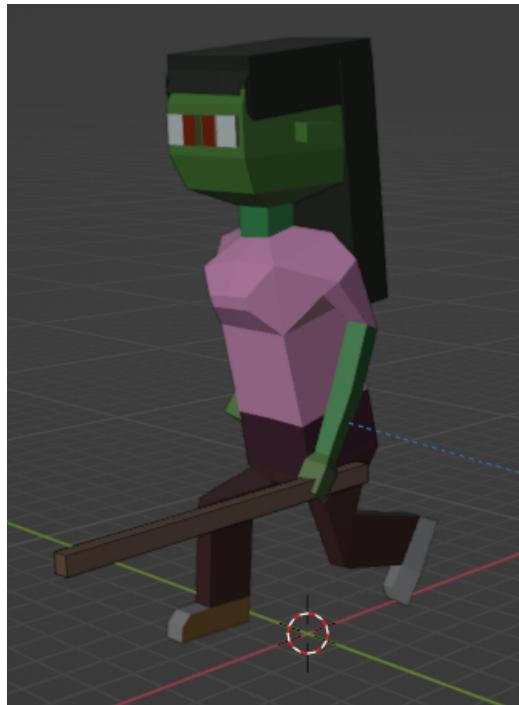


Figure 15: New zombie

#### 3.2 Code

For this defense, we continued to code on Visual Studio. We first thought that coding the weapon for the hunter was important, that it was the main aspect to deal with concerning the hunter. We made sure that the hunter had a weapon with blender, then we allowed the hunter to attack the players. After doing this, we had to put a health bar for the players: as long as the player has life points (his life points isn't 0), he still alive and can still play in the game. Concerning the player, we had to make a code to allow players to morph/transform themselves into an object of the map. We didn't know at all how to do it. For the weapon and the points of life , it was rather simple code. Whether the code to transform players was very difficult.

#### 3.3 Difficulties encountered

The main problem encountered in the modeling/ conception part was the animation. The fact that we did not know how to use Blender and therefore its animation section was felt the most during the making of it. It is a very hard process because there are a lot of details that

we need to pay attention to. The slightest movement can be hard to make because it should look as real as possible

## 4 Missions

At the beginning of the first defence, we wanted to do several mini games. So We had an idea to do a mini game, a jumper, where the level of difficulty increases each time that the players complete a mission. The game looks like Mario Bros, a 2D game where a player jumps over obstacles until he reaches the final point. Each time a player finishes the mission, the game difficulty increases for the next one. The game will have 4 levels of difficulty. During the game, the player is just going to jump over cubes and try not to fall or dodge obstacles.

The white capsule will be the player and the blocks will be customized on blender.

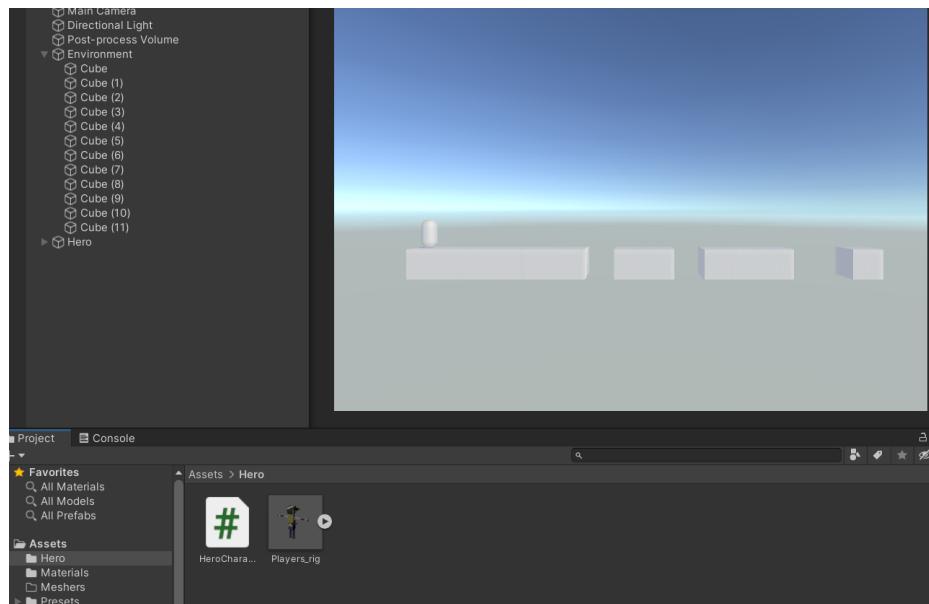


Figure 16: Beginning of the mission

## 5 Menus

### 5.1 Global

For the first defense, we had a draft for our menus, it was was pretty simple, and wasn't at our taste at all. We decide to go for a menu with our map in background, and stay in the theme horror, glummy. The site color set and the font will be reused for the game, to keep the same atmosphere. We have for a total of 5 "scenes" : those we called "entryMenu" which gives us access to the login menu, the credit and the possibility to quit the game.

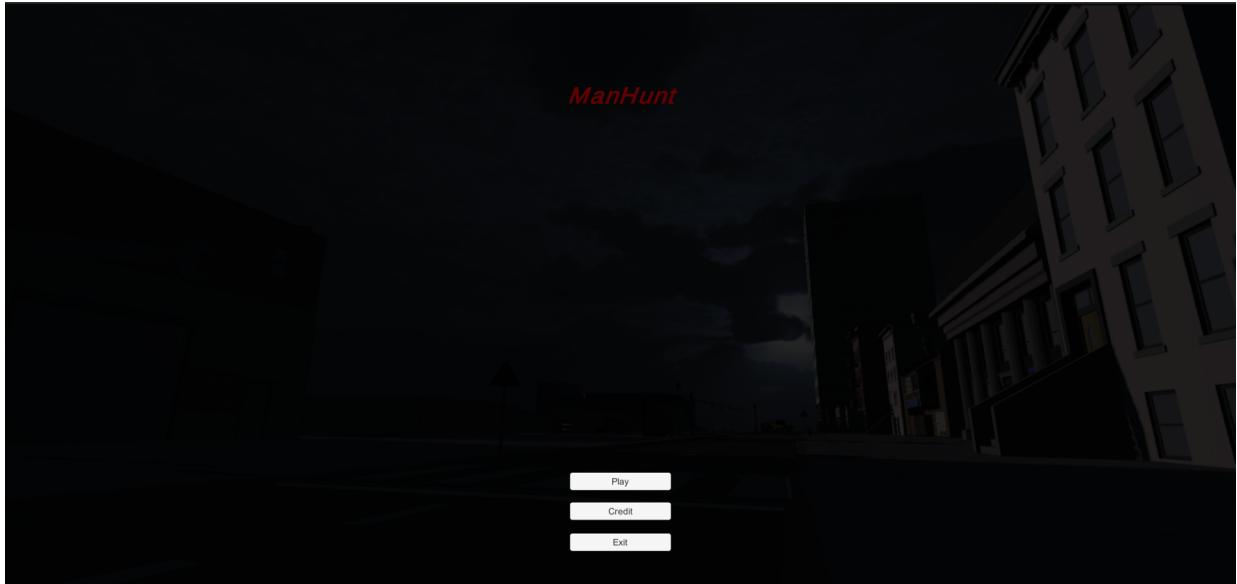


Figure 17: Entry Menu

When an user we click on "Play", the menu will be updated and look like that : Nothing

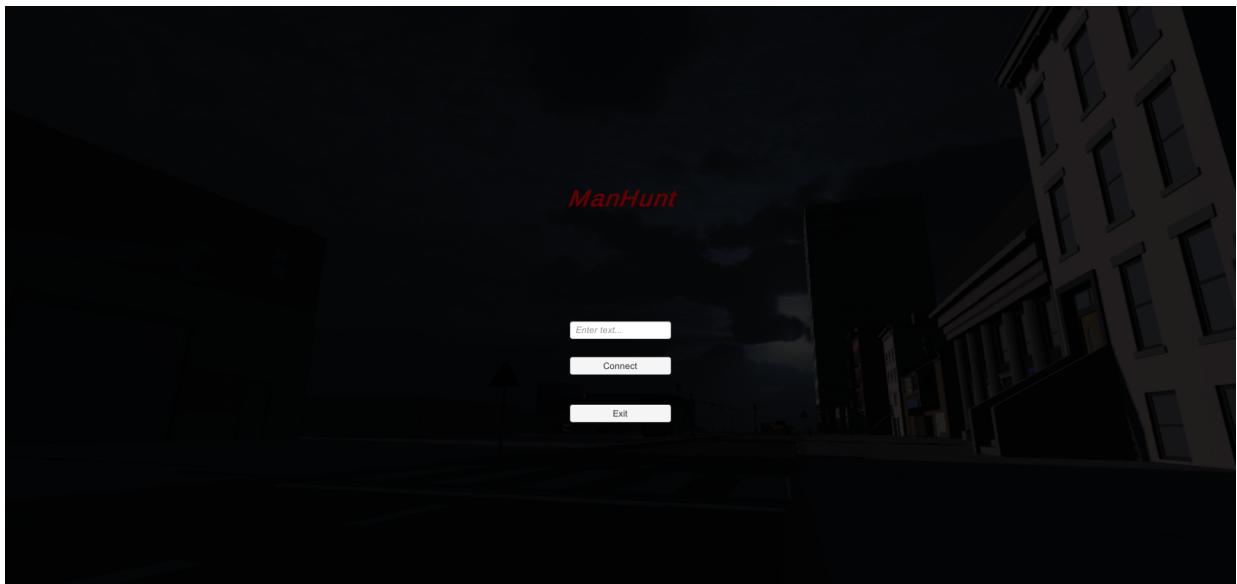


Figure 18: Play Menu

change compare to the first defense except for the graphics, as we said before, the background change and the font.

Go back on the first menu, the credit button will give you access to the credit (tadaaa). Here will be displayed what each member of the team has done on the project.

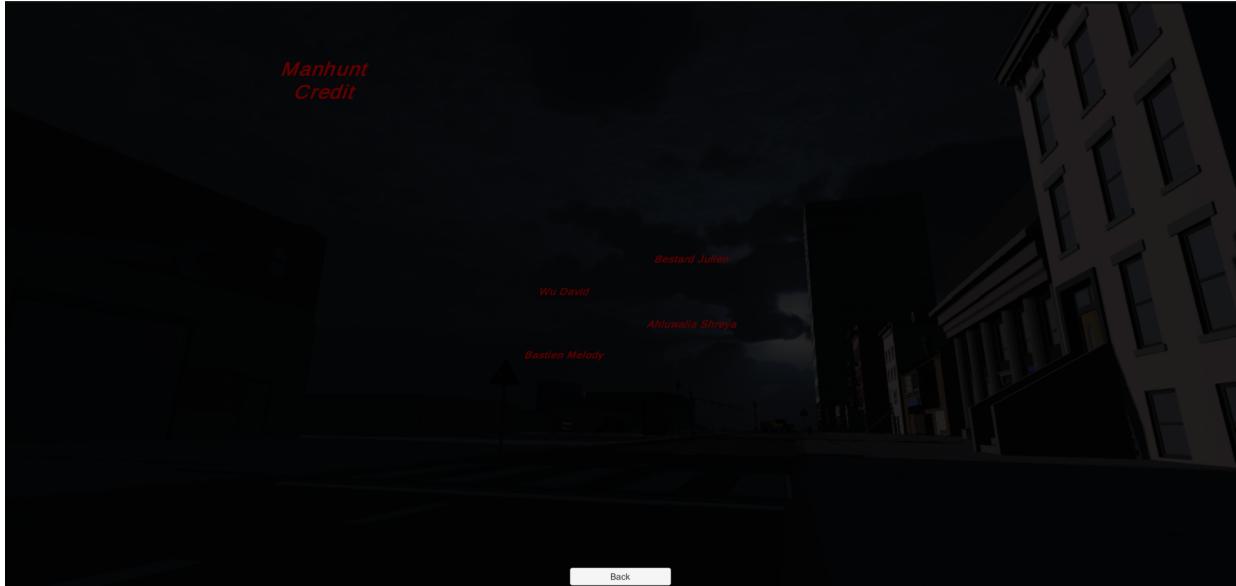


Figure 19: Credit Menu

Finally for the first menu the last button, the "Exit" one, will give you a way to quit the game, simply.

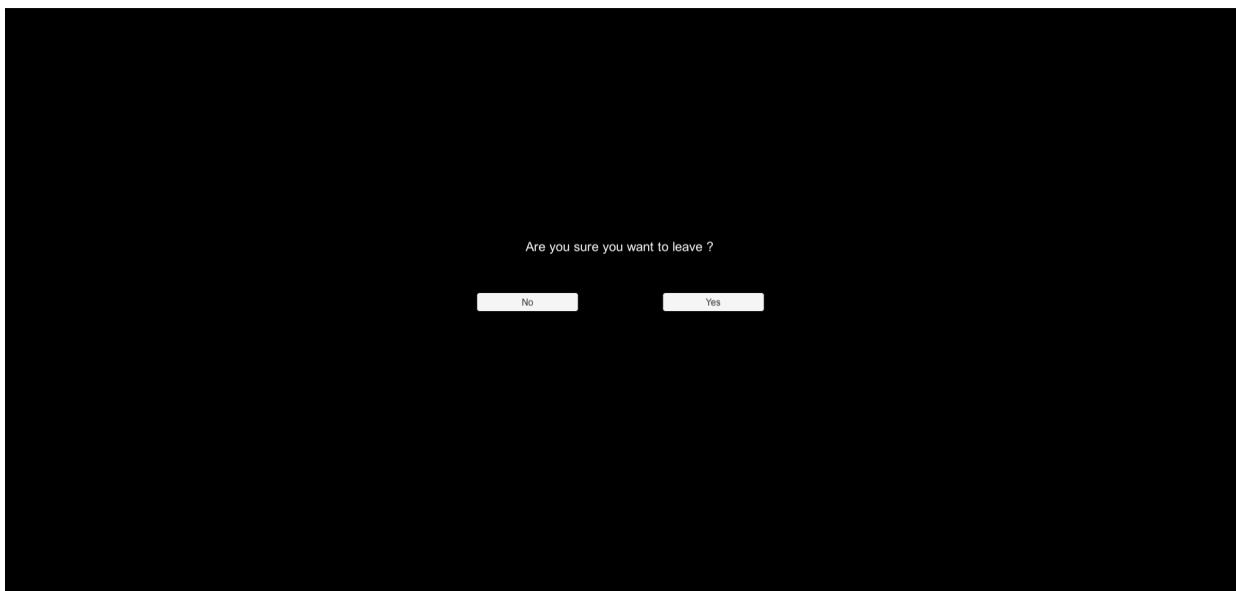


Figure 20: Leave Menu

Return to the play menu, when you are connected, you will arrived on the lobby panel, as the first defense, here you can create a room on the left or on the right, join an existing room.

And here we are on the last menu, the room one where you can see all the players in the room and wait for the game to start.



Figure 21: Lobby Menu

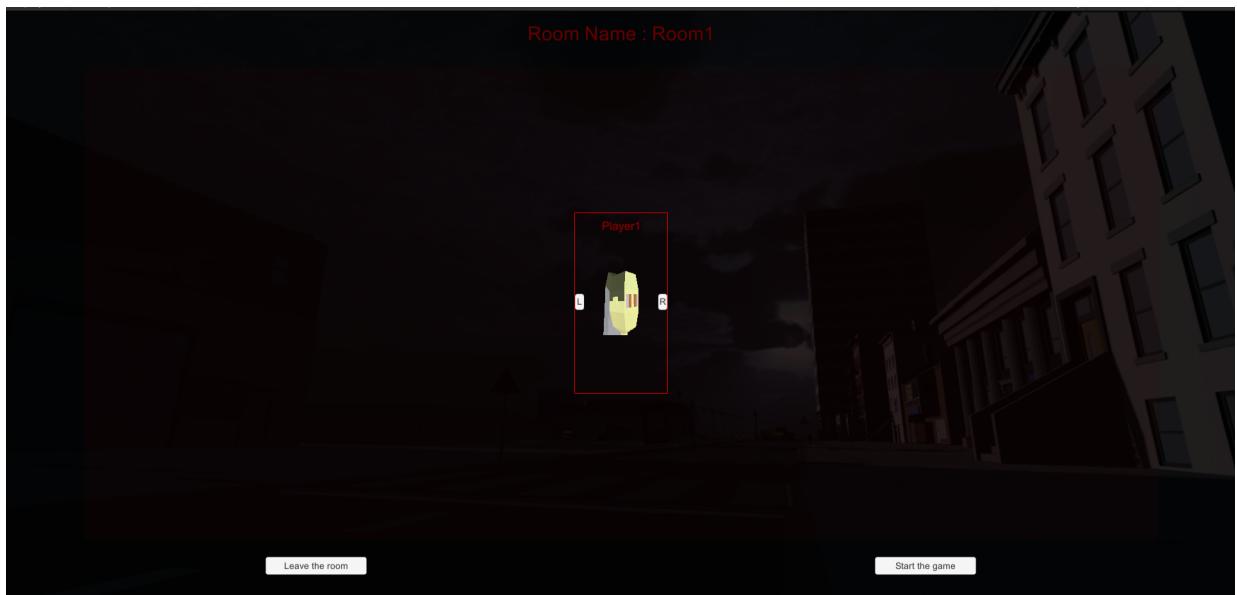


Figure 22: Room Menu

## 5.2 Difficulties

As surprising as it may be, the design of the menus was quite long to find to stay in the same theme as the site, and the atmosphere of the game

## 6 Multiplayer

Small update on the multiplayer, now users can only start a game with at least one hunter in. We also add the animation through the network so that everyone is able to see it.

## 7 Artificial Intelligence

### 7.1 Coding

For the first defense, our IA was able to follow our prefab, quite simple. Our AI didn't really have a purpose, we weren't sure yet what we wanted for it. Now we know. Its purpose will be to guide the survivors to our final key when they have completed all the missions. To do so we had to recover the advancement of our players and compare it ! Also quite simple.

### 7.2 Modeling of the AI

This time our Artificial Intelligence is not a capsule anymore. We were able to model a basic low-poly animal that is going to roam around on the map following the path that was defined in the first defense. Our poor little animal has yet to be rigged and animated, but thanks to a tutorial video it is a very sweet little puppy for now.

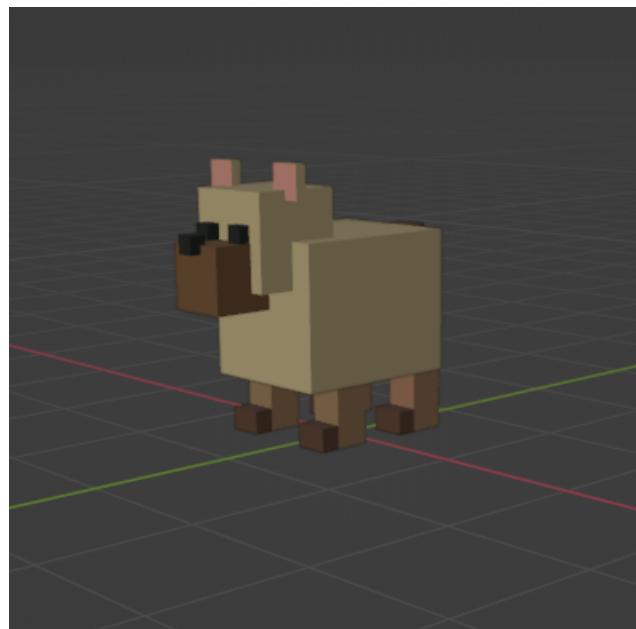


Figure 23: Dog on Blender

## 8 Traps

### 8.1 Global

For the second defense, we had to advance our traps to 40%. What we have accomplished for now ?

With a small designed, like a pressure plate, survivors can be stuck for 3 seconds, basically he can not move.

After 3 seconds, we decided to destroy the trap.

For the final defense, we need to apply the damage of the trap on the player and find a way to warn the hunter that this particular trap have been activated

For the design we thought of a trap bear, like this one, but in low poly



Figure 24: Trap bear

## 8.2 Difficulties

What was hardest here, was to immobilize the player on the trap, and again, there is some desynchronization with the server. It was complicated because we had to find out which players were trapped and then destroy the trap after 3 seconds

## 9 Website

### 9.1 Problems

We had to first readjust our website. Indeed, the website didn't match with all computers. We realized that it wasn't compatible with all computers and tried to remedy to that by calibrating the website while comparing two computer screens.

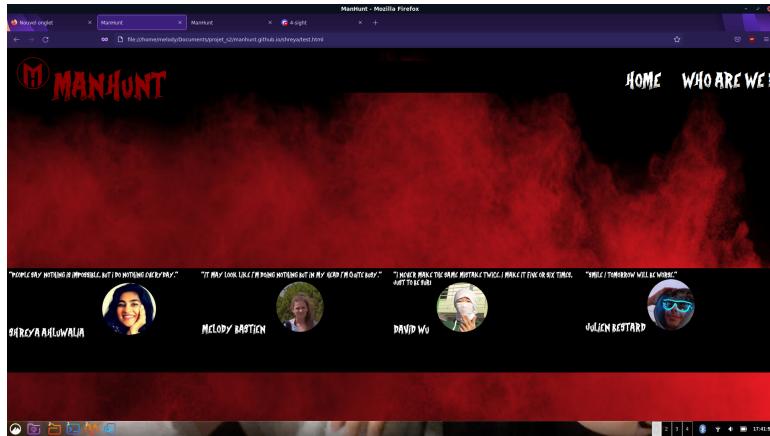


Figure 25: Shreya's computer

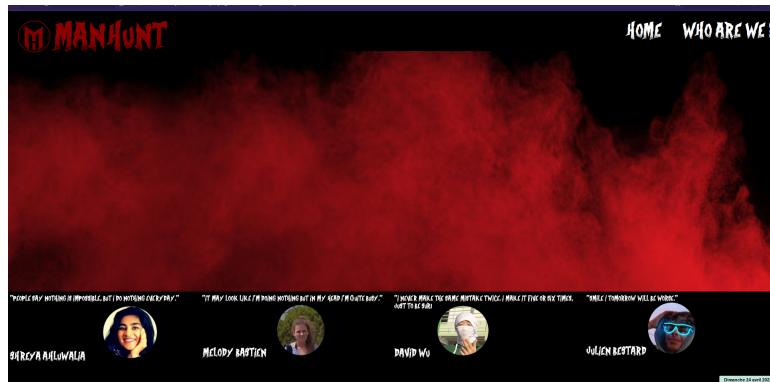


Figure 26: Melody's computer

We also realized that depending on the computer screen size, the text on the website would overlap. We are still trying to figure out how to correct this mistake, but it is hard as we are still learning to use HTML and CSS.

Furthermore, this problem also appears when the window of the website is not full screen. When it is in full screen the text appears correctly. We tried to make a fun little section on our website, as you can see, on our footer we tried putting funny quotes that represent each one of us a little.

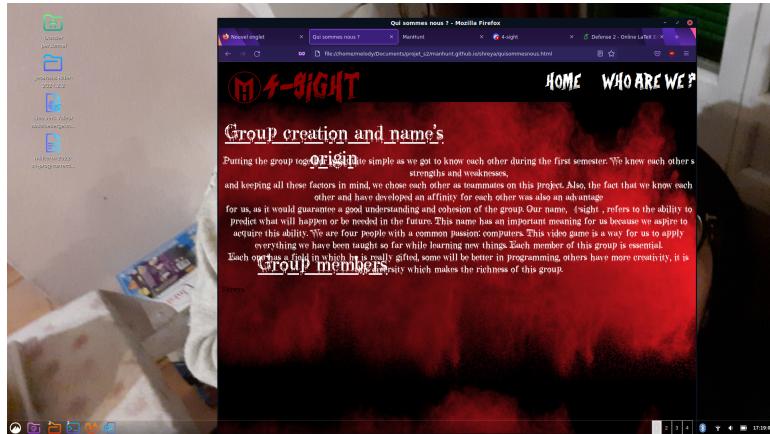


Figure 27: Small Screen

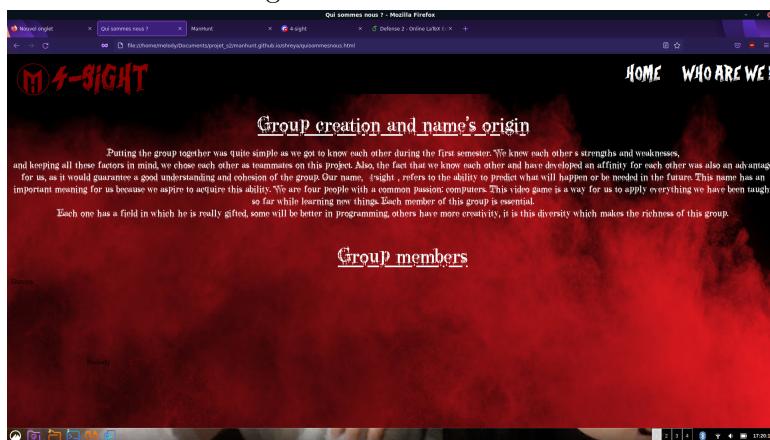


Figure 28: Full Screen

## 9.2 What's new on our website ?

For this defense we added some new features on our website. First : our "Who are we ?" page on which we have added our beautiful faces to the page and little descriptions of ourselves for our future players to know us a little better.

Second : We created a third page, it will be the space on which our users will be able to download our lovely ManHunt.

## 10 Sounds and Music

For the sounds and music, we sought help from our beloved friend : YouTube. We were mainly searching for music that we would be able to fit our "horror" theme. Therefore Julien and Shreya consulted each other and agreed on four extracts from these audios :

- <https://www.youtube.com/watch?v=D3IOBHMj94E>
- <https://www.youtube.com/watch?v=3hXUsaVBkbM>
- <https://www.youtube.com/watch?v=m3wH9K9cDcI>
- <https://www.youtube.com/watch?v=1ar7fqJXD50>

We have already managed to separate the extracts that we wanted from the videos.

For the next defense we plan on adding several sounds such as screams and groaning sounds for our players, for that we thought that it would be fun to record people from school doing these sounds for us and then add all of it to the game.

There weren't any difficulties encountered in the process of finding our sounds nor our ideas.

## 11 Conclusion

### 11.1 Map design

For the map, we have done more than expected on Unity : the whole street is already built. For the next defense, we plan to finish the building and texturing of the supermarket. Moreover, at the beginning we decided that the supermarket was the only place where player were able to play on. For now we are thinking of extending the playing area to the whole city, since it would be a better game experience for the user : several props are placed within the city. We don't want the players to have access to the buildings so they won't be able to enter in it. The only accessible building will be the supermarket, and it will play a major role in the winning game condition for the players.

### 11.2 Players and Hunter

For the next defense, ideally there should be no need to model any further on the players maybe just add a jump animation to them. Concerning the code, for the players, we must fix the morph code, where the player must change into objects of the maps. Indeed, for this defense, my code isn't functioning like the way we wanted. Furthermore, we must also add the life points for the players and do a code that will permit the players to return to the menu when they die.

### 11.3 Missions

We wanted to put the player instead of the capsule but we had a problem with the size of our player. The player was much bigger than the blocks. So we will fix it for the next defense. For the final defense, we will have to add texture and mesh to our mission. We will put the player instead of the capsule and change the map depending on the level of difficulty.

### 11.4 Artificial Intelligence

The only thing left for our AI is to rig and animate our dear little puppy.

### 11.5 Sounds and Music

For the last defense we will add the sounds to the game and record our batch mates doing crazy sounds for us to add in our game !

### 11.6 Website

The final touch, the cherry on top for our website will be for us in the first place to find a solution to our screen adjustment problem. Furthermore, we want to add a small demo video of our game on the main page along with our games' rules. At last we will add the "download our game" feature to the download page.