

# FPSheesh

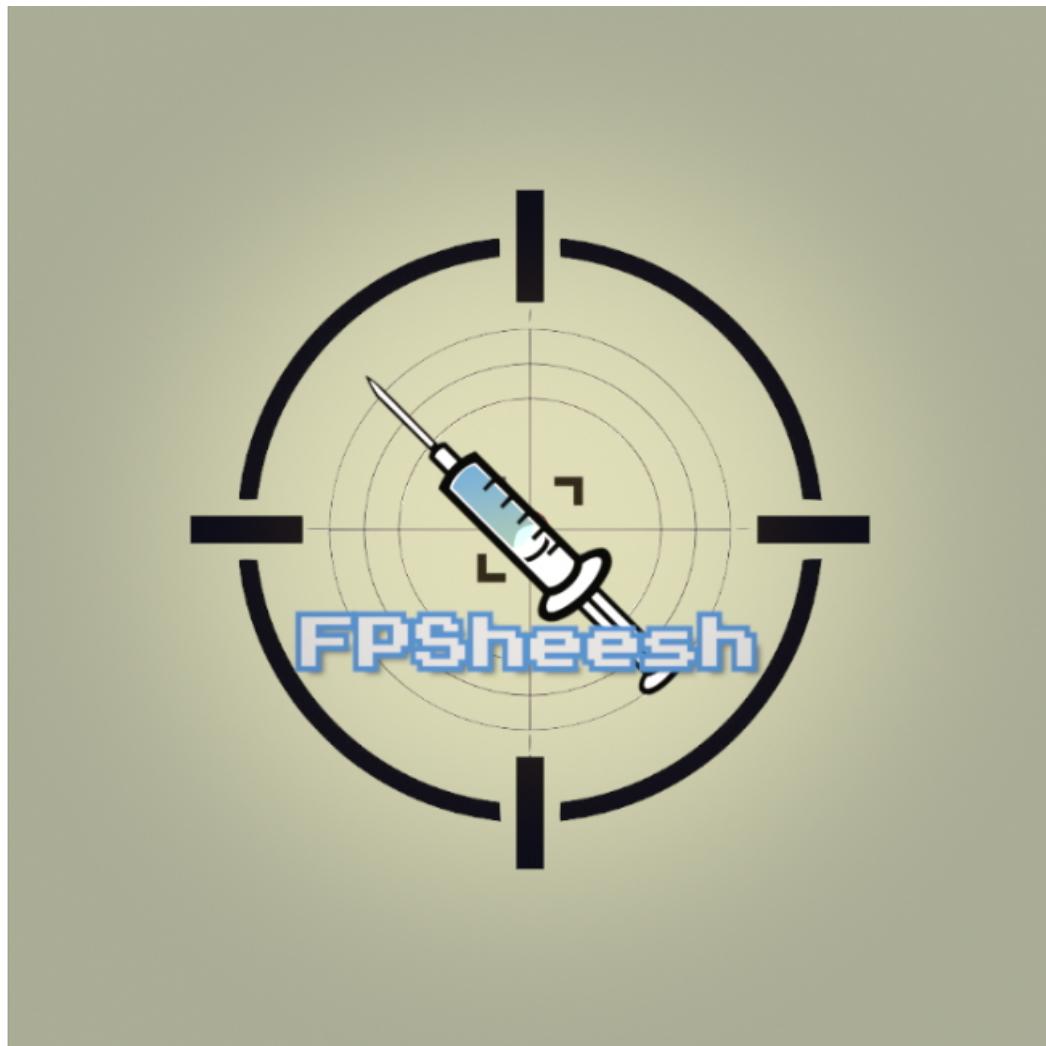
## *Second report*

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## Introduction

This second report will show the progress and improvements achieved by the SheeshTeam since the last defense. It will remind all the tasks needed and how we managed to realize them.

As a reminder, *FPSheesh* is a First Person Shooter game in which players will use weapons to fight other players in different environments.

Many steps are needed as the team will offer a multiplayer game which implies server management to allow multiple connections among other tasks that will be detailed in this book of specifications. Each of those tasks was assigned to two group members : the one in charge along with a substitute.

At this stage of the project, we achieved to have a working multiplayer FPS with players who can play in two different maps.

All the steps used to get to that point will be detailed in this report.

## 1 Structure of the game

- When the player wants to play he chooses on what map he wants to fight and in what game-mode (Free-for-all, Team deathmatch, Capture the Flag).
- He loads into a game with x players. The player then plays differently according to the game mode. The player earns points by killing other players or fulfilling objectives.
- At the start of each round or when he dies, the player chooses a kit that comes with a weapon and an “abilisheesh”.
- FPSheesh’s own mechanic comes with the ability to use a special “abilisheesh” that gives many different bonuses such as movement speed, more control over guns etc. These stims can be obtained when the player earns x points.
- We started building as many kits, maps and game modes as possible to keep the gameplay fun and fresh.

## 2 Tasks

### 2.1 Task distribution

TASK	IN CHARGE	SUBSTITUTE
UI graphics / implementation	Charlotte	Valentin
Player behaviour	Valentin	Tom
Gunfire	Valentin	Bede
Gameplay / Abilities	Tom	Bede
Multiplayer	Charlotte	Tom
AI	Valentin	Bede
3D modeling	Tom	Valentin
3D animation	Tom	Bede
Map design	Bede	Charlotte
Tutorial	Bede	Tom
Music / SFX	Charlotte	Tom
Website	Valentin/Tom	Charlotte
LateX	Charlotte	Valentin

We kept basically the same layout for the tasks, each member continued what they had started for the first defense but everyone was here to help if one person needed some assistance as everyone was interested in most parts of the project.

Valentin kept on working on the Player movement and gunfire. He redid them for those to work in a new and improved way, and for it to function for several players. He also started working on the AI for the game.

Charlotte worked on the website because she is interested in web development and had worked on the report for the previous defense, hence she knew how to organize the different parts of the project to present them for the website.

She also started working on the SFX which we started integrating to the game.

Bede continued working on the maps for the game as the team was really happy with the first one he did and created a whole new one for this second defense.

Tom kept on working on the abilities, started the 3d modeling for the skins of the players and created the new look of the UI.

## 2.2 Task progression

<b>TASK</b>	<b>SECOND DEFENSE</b>	<b>PROGRESSION</b>
UI graphics / implementation	50%	50%
Player behaviour	90%	80%
Gunfire	90%	70%
Gameplay / Abilities	85%	85%
Multiplayer	90%	90%
AI	50%	60%
3D modeling	50%	50%
3D animation	50%	0%
Map design	75%	75%
Tutorial	70%	0%
Music / SFX	50%	50%
Website	100%	100%
LateX	100%	100%

## 2.3 Achievements

### 2.3.1 Multiplayer

For this second defense, we had planned to complete the multiplayer part up to 90%.

It was mostly completed by the first defense, all there was to do was solve a few issues with making the player see and interact with each other.

Now that this is resolved, we can launch the game on several computers. One creates a room and the others join it, then when the game starts, all the players in the map and can see and shoot each other. If one dies, this player respawns in the map and the game continues.

### 2.3.2 Tutorial

The tutorial is a part of the game which will explain to the player how the game works. A guide which will show them all they need to know.

This implies that the game is fully functioning and that is why we realized that the entirety of the tutorial will have to be made at the very end of the creation of the game. So we chose to focus on the other parts of the game instead and will create the tutorial for the very last defense.

### 2.3.3 Abilities

After having created several abilities such as speed, jump boost and strength for the first defense, we wanted to have around 75% of the abilities done for the second one, already having 50% of them done.

Tom decided to add two more abilities, a healing ability which gives 25hp to the player and an ability that gave you a mag with more bullets.

These two abilities work similarly to the ones made beforehand using the same principle, affecting the base stats of the characters when a button is pressed.

He has started to implement the class choosing system (healer,

fighter...) but has yet to finalise it as we wanted to meet every expectations we set ourselves for this 2nd defence.

For this system, Tom looked online for tutorials and created a panel where before loading you onto the game, you can choose which class you prefer. For now classes are only aesthetic and have no abilities attached, to resume this selection system is a skin selection menu.

Tom has yet to implement the class system so right now every ability is available to use but that will change and that is the last 15% left in the abilities category.

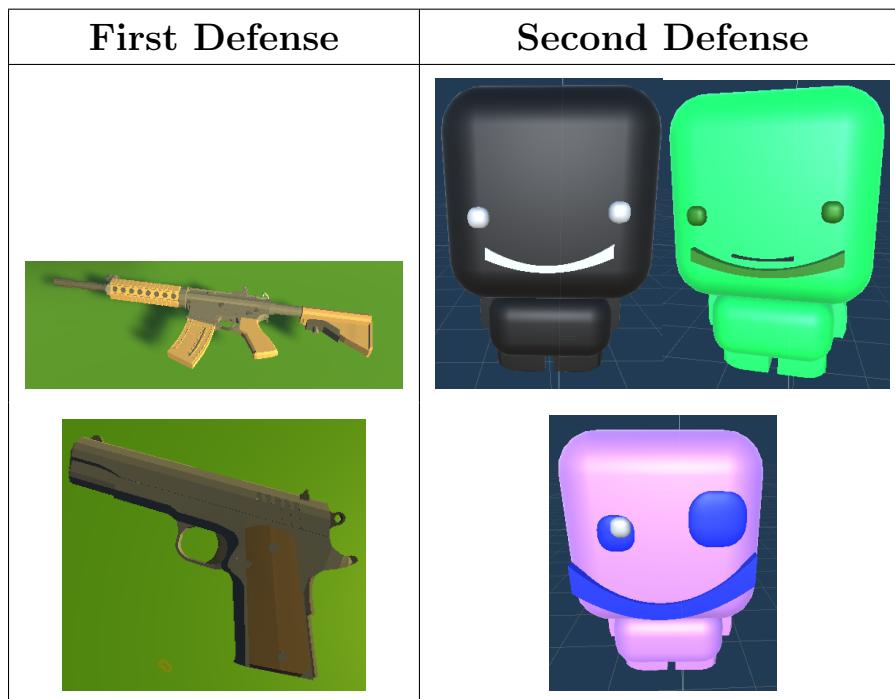
The abilities are available when clicking on certain keys assigned to specific abilities :

- "b" for dash
- "v" for jumpboost
- "c" for speedboost
- "a" for heal
- etc ...

### 2.3.4 3D Modeling

For the first defense, Tom created two guns and he had to model 50% for the 3D modeling of the game for the second defense.

This was done by making 3D models of different kinds of low-poly characters that will get randomly selected at the start of the game. This was achieved by watching tutorials online and using his imagination to come up with different color-patterns / features of these characters.



For the future, we would like to have more guns available and being specific to certain classes, with skins attributed to a specific class fitting its role (for example a clerk robe for the healer class). For the animation part, as we are not certain on what gun we will use, we decided to not animate until we are sure of our gun choices.

### 2.3.5 SFX

We hadn't used sound for the first defense but wanted to have 50% of it done for the second one. Firstly, Charlotte added a sound saying the name of the game at the beginning of each game as the player arrives on the map.

She also looked for gun sounds corresponding to the guns we created for the game. Now everytime a player shoots with a gun, the sound is heard for all the players.

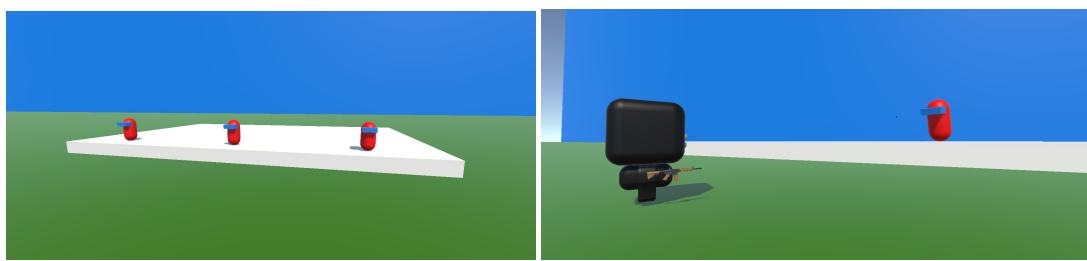
For the next defense, she plans to find a music to play while the

player is waiting for a game to start and to adds sound effects to go along the User Interface. Moreover, to go with the multiplayer aspects of the game, we plan to add footsteps for the "ennemis" to hear the player as he gets closer to them.

### 2.3.6 AI

Valentin had been looking for a long time to implement a bot with a field of vision, able to hunt and shoot the player once in the field but without success because the hunting part was too much trouble.

So he settled on an intermediate compromise by implementing in the training area a space where the player can fight "turret bots" that automatically shoot him when he enters their field of vision. The player can improve his aim while waiting for friends to join him in a game.



### 2.3.7 Character movements and Gunfire

For the character Valentin reorganized all the code to make it more readable and conducive to group work.

He also added a life bar and the possibility to kill other players in the room.

Similarly, he reorganized the gunfire to make it more efficient and accurate. So we now have a 90% ready character able to move smoothly and shoot accurately.

The management of equipped items has also been revised in order to simplify the management of classes in the future. So Valentin has mainly worked on optimizing the features that we had already developed.

### 2.3.8 Website

We had planned to finish the website for this defense so Charlotte created it with all the information needed to understand the game.

Firstly, there is a page which explains what FPSheesh is, what type of game it is, how the team got the idea and the inspiration and a presentation of the SheeshTeam and its member.



Then there are different tabs which allow to visit a page concerning any element of the game. For all these pages, there is an explanation of the basic idea we had for that part of the game and how we made it real and evolve between each defense. Those explanations are sometimes shown with photos which show the evolution of the game.

It is organized in a way that you discover what the project is, who did it and then how it is going.

There is also a page which recaps the softwares and languages used to create the game.

The book of specification and the different reports are available to download as well as a way to test the game.

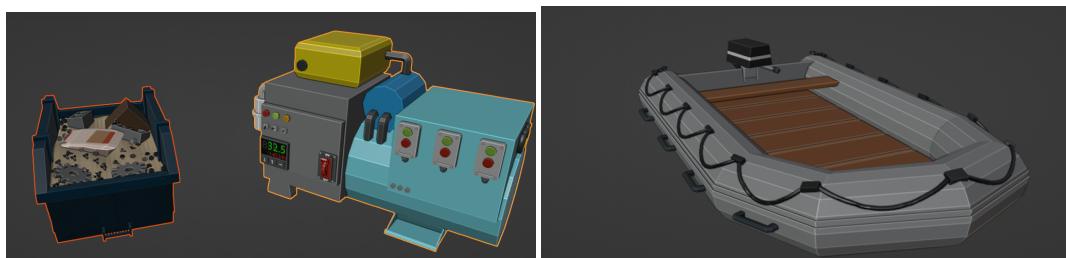
### 2.3.9 Maps

Similarly to the first defence Bede was in charge of the graphic design of a map for our video game. He had planned to be at about 75% done with the overall map design and that is about where he stands today as he has added a fully new map to our game.

The first step to create this map was to think about it and have a rough sketch mapped out for it. He decided that due to the fact he had already worked on blender now and was quite aware of how this tool worked he decided to create a map with more detail, specifically in the objects that would be scattered around the map. Focusing this time on the details he went for a smaller-scale map that could be played 1 against one or 2 against 2.



He chose for this map a rather industrial/workplace theme and after having sketched out a draft for the map he got to work on creating objects to put around the map taking time to add small details to give a true personality to the game.



After having his objects created he got to work on the main terrain and two buildings he planned to add.

The issues Bede very quickly encountered and slowed him down were the overlapping of surfaces causing him to not be able to move every element as he wanted to. This was due to the fact that he was still rather inexperienced with the creation of a house, for example, he hadn't taken into account the thickness of his walls and this led to a very strange-looking house, so he started over and over each time learning from my mistakes until he was happy with what he had created.

Once he was done with this he got to scaling his objects to place around the terrain and in the buildings, it all came together very nicely and after changing up some colours and shading he was finally happy with the result and exported it to unity where he simply added a hitbox and imported the textures he had used and the job was done.



## Conclusion

Thanks to the foundations we built for the first defense, we managed to keep creating over it and we slowly but surely (not without a couple bumps on the road) are working our way towards the game we imagined.

To summarize: We have a local host website, we can also host local multiplayer lobbies on a pc, an operational player able to use different guns and abilities on two different maps.

We started working on new ways to improve the experience for the player such as SFX, UI and the multiplayer allowing several people to play together.

We still have a lot of work to do to finish the game exactly the way we want it but everyone is very happy with the project and everything we are learning along the way.