

Assignment 2b - Game Analysis: Prototype Game

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Overview:

In this game analysis I will analyze our Assignment 1a project which is a 2D single player PVE game called Dungeon Ghost Hunter. We polished the content of Assignment 1a submission and added a few more functions. Our Assignment 1c will be based on our Assignment 1a, I hope to find anything I can apply to the Assignment 1c by this analysis.

General Gameplay

For the game play, the player will explore the map which contains the rogue-like elements and fight with enemies by the gun in our project. Players will find the enemies during the game play and kill them with guns, otherwise the player will be easily killed if they always run away. Players can find the reward on map or the tools to the next area during the exploration to continue the current level.

Narrative

In a world shrouded in enigmatic shadows and ethereal mysteries, our journey unfolds. Amidst the eerie whispers of the past, a lone alchemist, armed with a potent invention, steps into the heart of darkness – the ominous dungeon. This is the genesis of an extraordinary adventure where alchemical sorcery and firepower merge, where one brave soul embarks on a perilous quest through the labyrinthine depths of the dungeon to confront the restless spirits that haunt it. Uncover the secrets of the spectral realm, as the alchemist's gun becomes his tool of salvation in a world where the living and the dead coexist in an eternal dance of haunting intrigue.

The art style of our project is pixel graph. We chose this at the beginning of our project and we believe this is a very good choice. Pixel graph style allows us to create many different objects without limitations, it is much better than realistic style at this point.

Analysis Sections

The analysis framework I would like to use is the Mechanics, Dynamics, Aesthetics for an MDA analysis. I will analyze the weapon system, health system, level design and combat system sections by the MDA framework.

First section I would like to analyze is the weapon system. At the beginning of the game, the player has a pistol with 6 bullets in each mags. Which means the player has to reload after every 6 shots, we made the UI to show the bullets left and remind the player to reload. The player can find the rifle on the path to other rooms, which provide the player stronger fire power. I will analyze the weapon mechanics, the dynamics between weapons and levels and aesthetics of the weapon appearance. The weapon system is very important to our game, all combats in our game are based on this weapon system. And we spent a lot of time adjusting the weapon mechanics and balance, so I want to analyze this system.

Second section I want to analyze is the health system of the player. The player has 3 health points at the beginning of the game, and the player will lose 0.5 point every time he/she takes a certain amount of damage. The player can only recover the health by picking up the rewards in levels, he/she cannot recover the health automatically. Which encourages the player to fight rather than keep hiding somewhere. I will analyze the health mechanics, dynamics of the health system in combat and the aesthetics of health UI. I want to analyze the health system to find out the balance and potential issues of our project.

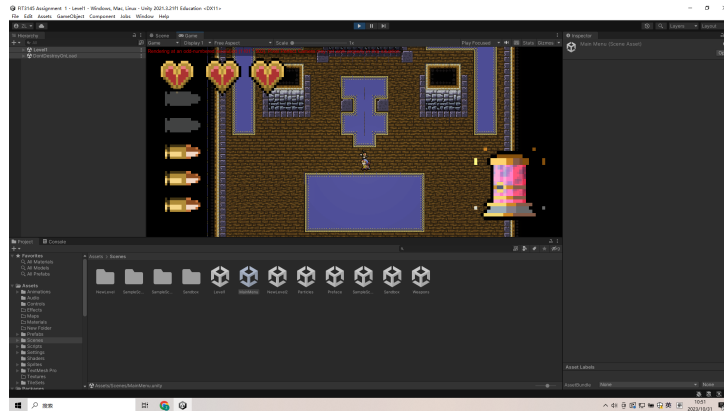
Third section I would like to analyze is the level design of our project. Our levels are based on many different rooms and each room is connected by paths. The player must kill all enemies in the current room to unlock the next room, and he/she will find the reward on the path to the next room. We included the rouge-like element in level design but not much, the randomness of the room won't affect the difficulty of the level. We don't want to force players to learn the levels again and again when they reload the game, rogue-like elements can just give them some surprise. I will analyze the level mechanics, dynamics of the level process and the aesthetics of the level appearance. It is necessary to analyze our level design to avoid the same mistakes in the future.

In the last section I want to analyze the combat system in our project. Most of the enemies in our project are a kind of the ghost, they will use pistols to attack the player. But the player can shoot the bullets from ghosts to break that, which is not difficult if the player is facing 1-2 ghosts at the same time. But the player will find it is difficult to deal with when he/she is facing more than 3 ghosts at the same time. To continue the level, the player must kill all enemies in the current room to unlock the path. The player can choose different strategies by the structure of the room to avoid dealing damage, and has enough health remaining when he/she steps into the next room. I will analyze the combat mechanics between the player and enemies, dynamics of enemies in levels and the aesthetics of the appearance. The reason I want to analyze this section is that the combat system is the core of our game experience, I want to break down this section to improve my design skills.

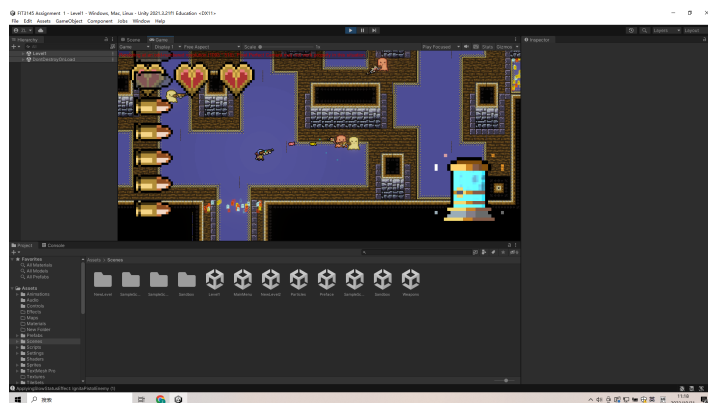
Game Analysis:

Weapon system

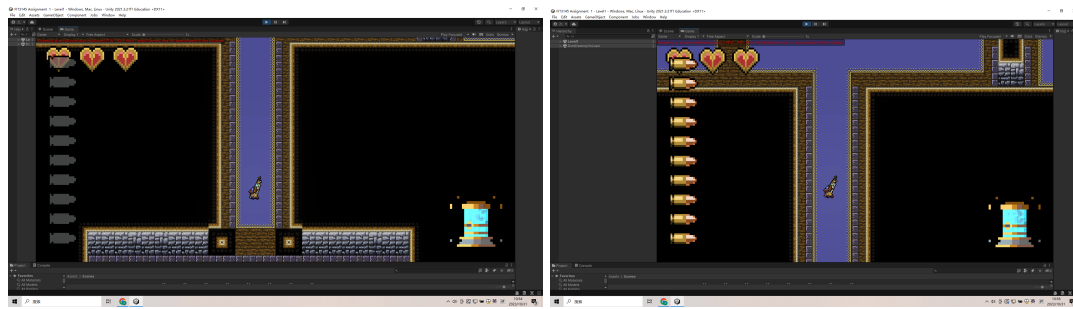
Description



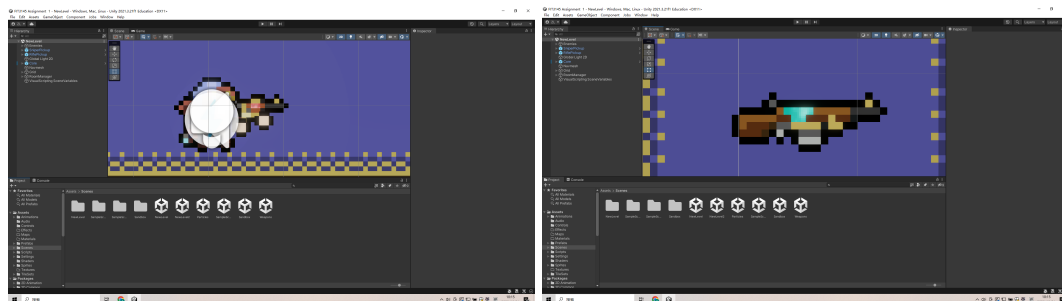
Our player can pick up a pistol at the beginning of the game to go through a tutorial level, the player can press the left mouse button to shoot enemies or enemies' bullets. Pistols have 6 bullets in each mag, the player has to reload after every 6 shoots.



The player can destroy the enemies' bullets by 1 pistol bullet and kill a ghost by 5 pistol bullets. But the player needs to remember that the pistol bullet projectile velocity is a little slower than enemies' bullets. We designed it in this way to tell the player that he/she needs to practice this skill rather than destroying enemies' bullets easily.



After the tutorial level, the player will enter the main level of our game. Then the player will find a rifle on the path to the next room after he/she killed all enemies in the first room. This rifle has stronger fire power and higher projectile velocity. But the player will spend a longer time reloading it. It can also destroy the enemies' bullets with 1 shot and kill a ghost with 6 bullets.



For the aesthetics of our weapons, we made both 2 weapons with pixel graphs to match the art style of our project. The appearance of weapons was based on the structure of real weapons but we replaced some parts with our own design. We also added the dynamic material for the body of weapons to improve the appearance in game.

Findings

In first testing, bullets from the guns of the player cannot destroy the enemies' bullets. We found it might be too difficult, so we allowed the player to destroy the enemies' bullets in combat to avoid damage. In this way, our game is much easier than before and most of the players can finish the main level. But it might be too easy so we slow the projectile velocity of the player's weapon to ask the player to practice this as a skill. We found the weapon system in a game is really important and needs to be tested again and again, then we can give players a good experience in combat. We should focus on the damage of the weapon, comparing the enemies' weapon and player's one and the finish rate of testers in each play test.

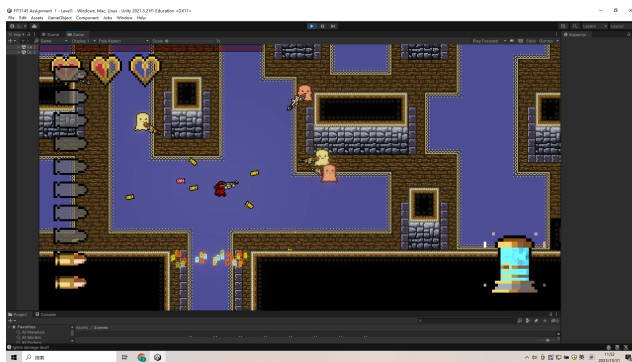
At the beginning of our project, we wanted to draw some cartoon style weapons for our project. But that kind of weapon cannot match the style of our main level, the player may find it looks very strange. So we decided to make some weapons by pixel graphs, now the art style of levels and weapons can match.

Ramifications

At the end, our weapon system mechanic is balanced and completed. The player needs to use it to shoot enemies and protect himself/herself. And we have the same art style of weapons and levels.

Health system

Description



For the health system of my game, the player will have 3 hearts as the health point and lose 0.5 point every time he/she takes a certain amount of damage. We set the sound effect to remind the player and UI will also show the change of health. The player cannot recover the health automatically, he/she must find the collectable loot in levels to recover the health. The player will lose 0.5 health point for every time he/she hurted by enemies' with 2 bullets, which means he/she can only take 12 bullets total. If the player loses all health points, it will spawn at the start point of the current level.

For aesthetics, we made the health UI with pixel graphs and the appearance is heart. We divided each heart to 2 parts to count each part as 0.5 health point, which is very clear to the player. Then the player can choose different strategies to fight based on the health point left. In this section, mechanics influenced the aesthetics.

Findings

At the beginning of the project, we wanted to use a health bar instead of the health point and allow the player to recover the health automatically after the combat. But the balance is too difficult to adjust in that case, we need to judge the value of the health, enemies' damage and recovering speed very carefully. Even one mistake on value balance can destroy the experience if we have to adjust so many values. So we decided to use the health point and don't allow the player to recover the health automatically. This design gives our game higher difficulty but we designed the mechanic to allow the player to destroy the enemies' bullets before, so

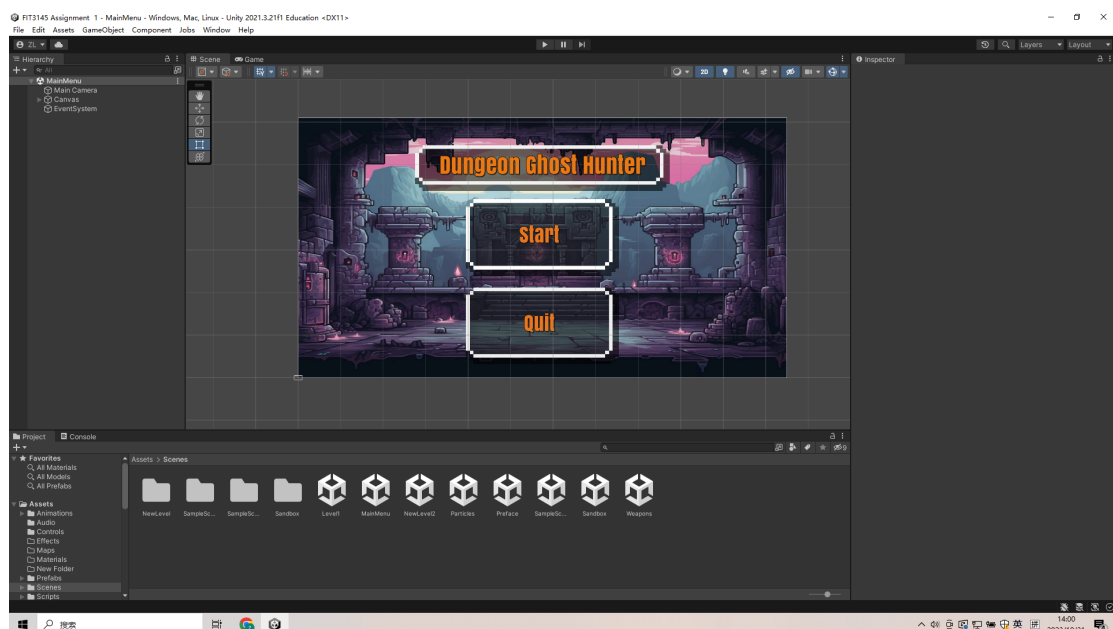
we believe this one is still balanced. We also allow the player to find the loot in levels to recover the health, which can encourage the player to keep fighting.

Ramifications

In this analysis, I analyzed the mechanics, in-game dynamics and aesthetics of UI design of the health system in our project. I learnt about how to manage the interactions between different sections in a game in our design process, and I believe the final version of our health system is reasonable and balanced.

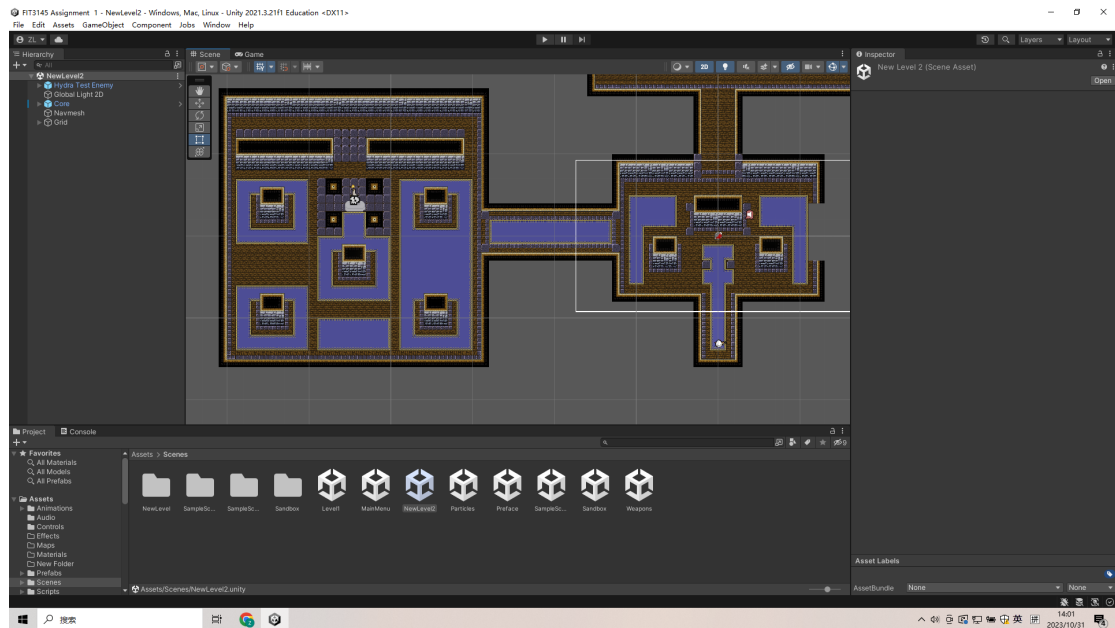
Level design

Description



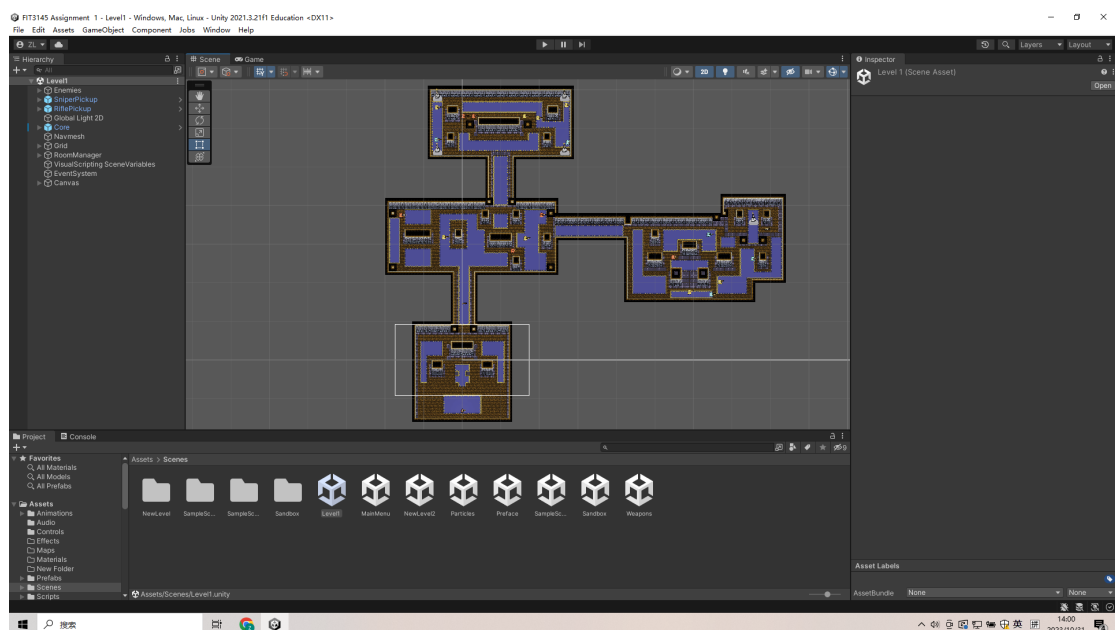
For our level design, I will also analyze the mechanics in it first. Our level design began with the main menu UI. Actually we didn't take this into consideration at first, but after we discussed our assets from Assignment 1A we realized that a main menu will be necessary. So we made this main menu, the player can press the start to begin or press quit to leave the game. If the player pressed the start button, he/she will get a narrative content about our game background and then enter the tutorial level.

For the aesthetics section, we decided to make a cartoon style background to give a good impression for new players. Then we included the name of our game at the top of the screen and made all buttons easy and clear. UI should not be complicated and difficult to learn.



This is the tutorial level of our game. The player will learn about how to move and use weapons to fight with enemies. Then he/she can find out how to use covers to hide the bullets from enemies and kill them all to enter the next room. We will also remind the player the information about the health UI and reload the UI, then he/she will have enough knowledge to enter the level1.

For aesthetics, we chose the pixel graphs to build the map which is easy to achieve a good effect. We chose the purple pixel graph to make floor, black and brown pixel graph for dirty and gray pixel graph as stone. Then we combined all things together and fulfilled our level prototype, and set some of the parts unable to cross to make sure the player can use that as cover to hide from enemies' bullets.



This is the overview of our level 1. It includes a lot of rooms and all rooms connected by the paths. But the player has to kill all enemies in the current room to unlock the path to the next room. We will provide the loot on the path for the player to collect. For the start point to level 1, the player can find a rifle on the path. Then the player will face a lot of enemies in the first room of the level 1, he/she should use the weapons and covers carefully to kill them all. After all enemies in this room are eliminated, one of the paths towards other rooms will be unlocked. Which is the rogue-like element of our level 1, we just made a limited rogue-like element to make sure the player won't get tired.

For the aesthetics of level 1, we kept the same art style with tutorial level. But we rearranged the structure of rooms, and added more ghosts with different colors.

Findings & Ramifications

We found that for a good level design, a strong rogue-like element is not necessary. We all love the rouge-like element but we should not ask the player to learn the randomness again and again, so we decided to make a level with many rooms with limited rouge-like elements. We focused more on the structure of each room to make sure all rooms can give a good game experience. The player will just have a different room sequence every time they want to experience our game again.

Combat system

Description

The combat system of our game is based on the weapons. The player needs to shoot the enemies to kill them. What's more, the player also needs to destroy the bullets from enemies or avoid that by hiding behind cover. The bullets from enemies have higher velocity than the bullets from the player, so the player will find it difficult to avoid bullets from many different enemies by just moving away. The player should use the movement mechanics in combat to enter the cover rather than just try to avoid bullets.

Findings & Ramifications

At first we wanted to give the player a very high moving speed and he/she should always focus on the game and avoid the bullets from enemies. But in that case we need to design one very big room rather than many different small rooms in a level, this conflict with our level design idea before. So we gave up this idea and made a new combat system. This new system provides 2 ways to avoid damage: destroy the enemies' bullets and hide behind cover. The player needs to fight with enemies carefully and try not to face too many enemies at the same time.

Conclusion:

Summary

For the findings of my analysis, I want to start by describing the weapon system. We actually adjusted the balance of the pistol and rifle many times and we believed this section should be fine. However, I realized we may need to add more different weapons to allow the player to choose different styles. What's more, the current reload speed of the pistol and rifle is too slow. We wanted to make it slow, but we made it too slow which can influence the overall game experience.

For the health system of our game, I found that we gave the player too little chance to recover. And we didn't provide any reward to extend the player's total health point.

For the level design, our old tutorial level is actually unclear enough and the player cannot learn everything in it. For our main level, the rooms we made before are not complicated enough. The player may find it boring if we just add new functions for other sections but level design is still at a low level.

For our combat system, it is a little bit boring and difficult to control the dynamics. It is difficult for the player to control the amount of enemies they need to face, even if we don't encourage the player to fight with too many enemies at the same time. The movement mechanic in combat is also unbalanced, the player can only find cover by moving. The damage of the enemies' bullets is also too high, the player can lose many health points by just one mistake. At last, almost all enemies in our game are ghosts and the player will get tired in game easily.

Application & Takeaways

The findings in the weapon system I want to apply includes the updatings of new weapons and faster reload speed for all weapons. For new weapons, I want to add a throwing knife which is a kind of weapon with very high damage and low fire rate. The player has to prepare the knife again after he/she throws a knife. But the player just needs to use 2 knives to kill a ghost. Another new weapon I want to add is shotgun, the player can kill a ghost with just 1 shot by the shotgun in close range combat. But the shotgun will be useless if the enemies are too far away from the player. For the updating of reload speed, I wish to make the reload speed about 30% faster than current and give 1-2 more bullets in each mag to reduce the reload frequency for all weapons. My first takeaway from this part is the importance of the variety of weapons. Another takeaway is how to improve the game experience without breaking the balance, I learnt it by adjusting the reload speed of all weapons.

The findings in the health system I want to apply mainly about the loot for health points. Firstly, I will give more recovered objects in rooms to make sure the player can recover health on time. What's more, I will add the upgrade reward in some

rooms which can give the player 1 more health point. In this case, the player can survive in this game easier. By this application, my takeaway is about how to adjust the rewards in a game to make the player feel better.

My findings in level design I want to apply include the design of new rooms. I believe we can add 3 more rooms with different enemies and structure, then the player can experience something totally different. For the first new room, I believe a small room with many covers and a strong enemy will be cool. Second new room can be a big room with complicated structure and the player needs to move carefully. Last new room can have no enemy or just 2 ghosts, but the player has to find out the right interaction to leave. My takeaway from this section is the importance of the level variety, as a designer I should design different parts for a level to make sure the player won't get bored.

For the findings I want to apply on the combat system, I want to make new enemies and give the player a dash ability to avoid the damage in some cases. For the first new enemy I want to add, it is a kind of bat. This bat can only attack the player in a very close range, and the player can kill a bat with just 2 bullets or 1 knife. But the bats have very fast speed and always stay with other 2-3 bats, the player still needs to be careful and try to kill the bats fast.

Another new enemy I want to add is the giant, which will attack the player by throwing rocks. The giant is always alone but it has high health and damage, the movement speed of the giant and its rocks are both very slow. The player has to use the movement mechanic to fight with the giant, in this case the movement mechanic in our game is more useful than before.

For the dash ability I want to add, it allows the player to dash in combat to run away from some enemies. After the player's dash, only the enemies in close range will keep chasing the player. Enemies in a far range will stop chasing and go back to the patrol area. But the dash ability will have a 10 seconds cooldown time, the player needs to consider before using it.

My takeaway from the combat system section is that I should not give the player the same experience in all combats. Randomness, different enemies and dynamic environments based on abilities can enhance the combat experience a lot.