One Way Out

Final Report

SD3985 Assignment 7d

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Game Title

One Way Out

Game Overview

1. Game Concept

One Way Out is a 2D Roguelike game for the PC that uses Unity to create a magical world that player will be the warrior and need to find the way to become the hero in the face of suspicion and the threat of monsters.

2. Genre

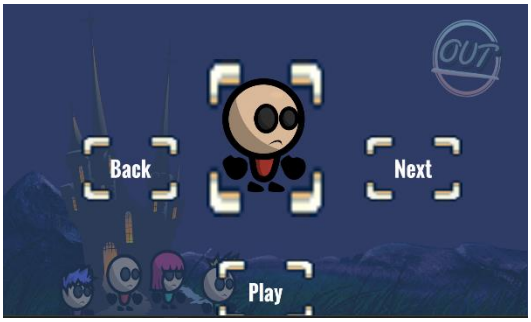
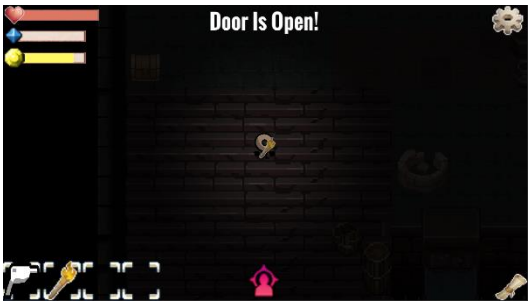
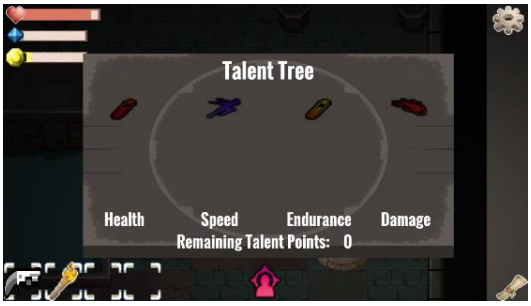
Our game belongs to the strategy action roguelike game. And the leading tone of the game is chosen magical style. In terms of details, our game combines randomness and dungeons elements to bring more fun and challenge to players.

3. Target Audience

This game is aimed at a wide audience, mainly at players who want to have fun with their friends or who simply enjoy adventure games. And because it is not a traditional two-player game, the competitive part can be more fun for friends and more challenging for achievers.

4. Game Flow Summary

	Start with a start menu, player can click the option to do some settings.

	Click the Start button, user will be led to select character interface. After player confirm their choice, click “Play” button
	First level is for tutoring. We try to teach the user use the torch to light up the brazier and shoot the enemy. After player defeat the monster, the door to the next level will be activate. A message will also show up. Players need to find the door themselves in the scene.
	Each level is a new map. We set multi levels for our game and the players are born in the certain position we set in the scene, and monsters are randomly generated on the map. Players need to find the braziers in the scene to light them up or they will lose the health point.
	Players also need to find the treasure chest to arm themselves. Each level we set 5 rounds’ monsters. Player can choose whether to kill them all to earn the empirical value to light up the talent tree. The door will open in the second rounds and players need to find where it is themselves.
	After player clear all the levels, they will face the final boss. And during any moment in the game, if the player died, they must start form the very beginning. And because our game is full of random elements, so each start will be a different experience totally.

5. Look and Feel

The game is a roguelike game with dark colors as the main painting style. Players need to find a way to escape. In the game, players cannot predict what kind of

monster will show up and what kinds of props will drop from the treasure chest. Players need to make strategy to light up the talent tree. Each start will be a different experience.

6. Project Scope

Property	Details
Levels	6(1 tutorial level+ 4 normal levels+ 1 boss level)
Type of enemies	7 Enemies (including two types of close-combat enemies, two types of long-distance enemies and two middle level enemies) 1 final Boss
Maps	6 maps
Weapons	3
Props	3 (torch+ snowball+ bomb)
Roles	4(With different attributes)

Gameplay and Mechanics

1. Gameplay

Game Progression

In general, “One Way Out” is PVE mode. As a player, they must switch their tools to suit the environment and kill the enemies. They need to light up the brazier and use different weapons to deal with the monsters. And make the strategy to level up their talent to make it more easier to pass the game.

PVE

There are six levels in “One Way Out”. In the level 2 to level 5, they must use their weapons to defeat monsters and save their health and level up to light up the talent tree as much as possible. At last, the player defeats the final boss in level 6 will wins the game. By the way, all monsters and bosses follow the hate mechanism designed in “One Way Out” to chase and attack players. After each level, there are many treasure chests for players to select, with one containing weapons and tools. Once the player opens it, they have to take it. It needs to be mentioned that the player doesn't know in advance whether weapon is better or not, so the selection is random.

The general goal of “One Way Out” is to start your adventure in the town and go outside to the ground to defeat the final boss and take back control of the town.

On players’ way, there are different monsters preventing them to meet the final boss and defeat it. Players need to take advantage of various obstacles and shelters on the map to defeat all monsters as well as trying to protect themselves.

2. Mechanics

Physics

Since “One Way Out” is a 2D game, physical force like gravity will not be included, however, there are obstacles like stones, steles and stone walls containing colliders, which collide with the player to prevent movement. We also create the bridge for our game to make it funnier.

Movement

(1) General Movement

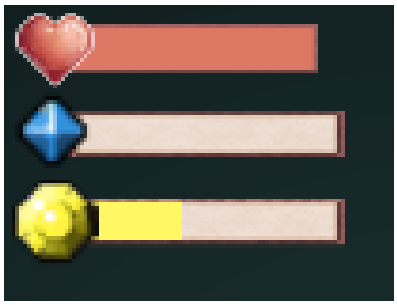
The player stays in the middle of the screen and uses shortcut keys “WASD” to control the character’s movement up, left, down and right. Since the player's main weapons in the game are varieties of guns, the character's orientation is important. The character will always be pointing in the direction of your mouse. When players click on the left mouse button, guns will fire bullets towards the pointing direction of the character.

(2) Other Movement

Because we contain many prop in the game, player can see it by the icons in the left bottom. Click “1” for using the guns, “2” for torch, “3” for snowball, “4” for bomb. We also set flash when clicking space key.

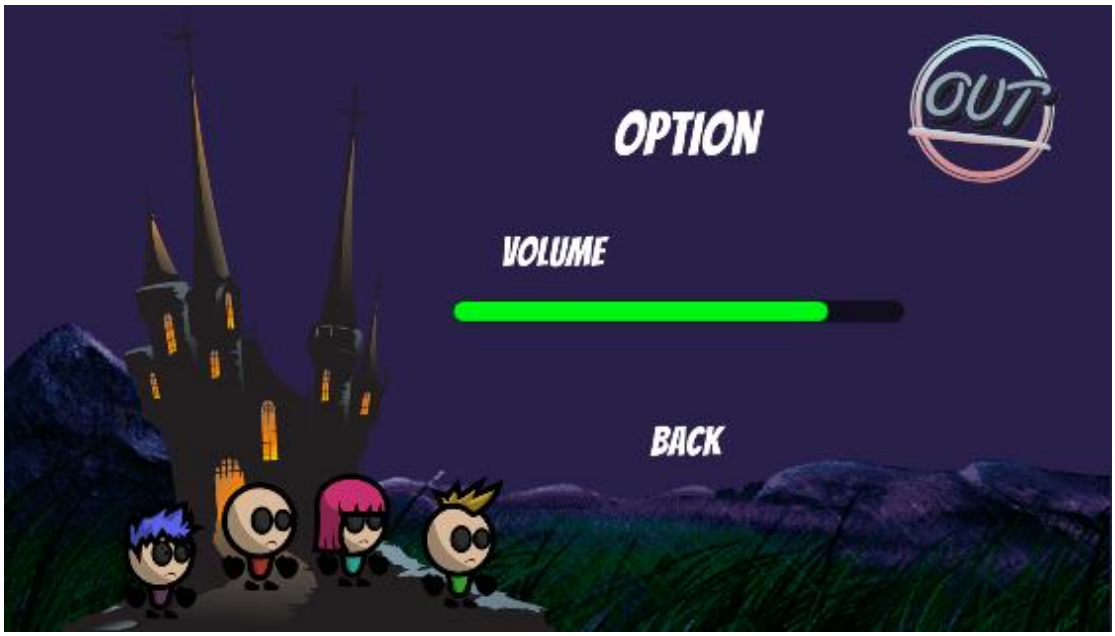
Status Bar

Our status bar contains health bar(red), empirical value(blue) and endurance value(yellow). Health bar represents the health point, if it goes to zero, the game fails. When empirical value is full, the player will level up get one talent point to level up their ability. Endurance value show the remaining number of using flashing. It will recovery by its own.



3. Game Options

The main menu is the first screen shown to players. There are three buttons: ‘Start’, ‘Option’, and ‘Quit’. Players can adjust the basic setting of the game in ‘Option’. The last button ‘Quit’ is used to exit the game.

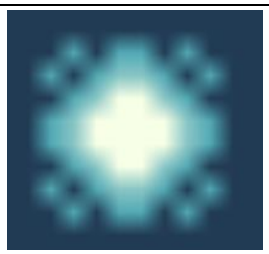


In the game, when players click the setting button, the setting button will show up like this:

4. Guns

Name	Image	Feature
Pistol		Pistol is the initial weapons for both players. By our team's design, this gun has a medium rate of fire, fire damage, and a longest range.
Shotgun		Shotgun will drop randomly in the treasure chest, and this gun has the highest damage, the slowest firing rate, and the closest range.
Rifle		Rifle will also drop randomly in the treasure chest, and this gun has the lowest damage, the fastest firing rate, and the medium range.

5. Props

Name	Image	Description
snowball		Players can use snowballs to freeze the pursuing enemies temporarily and prevent them from moving.
Bomb		Players can use bombs to inflict ranged damage on enemies

Story, Setting and Character

1. Story and Narrative

Once a rich and prosperous city, it has now become a vassal of the Big Boss, and its inhabitants have to face poverty and hardship. The King, decadent and cowardly, was unable to withstand the onslaught of the Big Boss and was eventually defeated. The town is under siege, life is fading away and the hearts of the people are filled with helplessness and despair.

However, just then, one young warrior appeared. He came from the wilderness on the outskirts of the town, undaunted by the odds, undaunted by the hardships, with justice at heart and a mission. He vowed to defeat the Big Boss, take back control of the town and return it to a time of prosperity.

In their arduous quest, the warrior face countless challenges and dangers. He will have to traverse dangerous wilderness, climb steep mountains, cross rushing rivers and treacherous forests to enter the town occupied by the Big Boss.

In the town, Big Boss's men patrol the area to prevent anyone from entering. Against all odds, the warriors must sneak through the enemy lines to find an opportunity to attack Big Boss. Risking their lives, they aim for Big Boss's weaknesses and strike a fatal blow.

Eventually, the warrior' efforts was rewarded. The Big Boss was defeated, and control of the town returned to the people. The town was rejuvenated, and the inhabitants were happy and prosperous. The warrior became the hero of the town and was admired and respected by the people. With his courage and determination, he brought hope and light to the town.

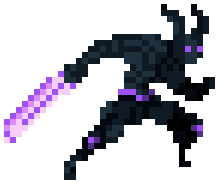
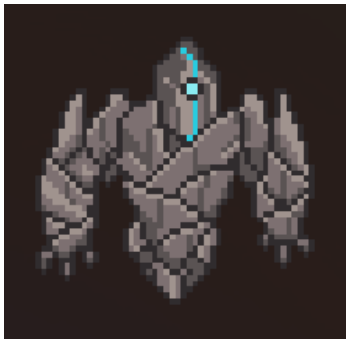
2. Game World

The game world is designed according to the background story. The first two level game world will be on the castle, full of stones, pools and traps. The next two-level game world will be assigned as a grassland of tilemap by us. The final level game world will be designed as the scene with nothing for player to fight with the boss explicitly.

3. Characters

Name	Image	Features
VVuncl		Health value: 100 Attack Value: 10 Speed Value: 5 Endurance: 5
Wilson		Health value: 120 Attack Value: 10 Speed Value: 4.5 Endurance: 5
Noct		Health value: 120 Attack Value: 10 Speed Value: 4 Endurance: 6

Vincy		Health value: 90 Attack Value: 15 Speed Value: 6 Endurance: 5
Enemy: Demon of eye (Level 1)		Health value: 100 Attack Value: 10 Speed Value: 4 Mode of attack: Melee
Enemy: Demon of eye (Level 2)		Health value: 100 Attack Value: 10 Speed Value: 4 Mode of attack: Ranged
Enemy: Walkman1		Health value: 120 Attack Value: 25 Speed Value: 3 Mode of attack: Contact
Enemy: Walkman2		Health value: 110 Attack Value: 20 Speed Value: 3.5 Mode of attack: Contact

Enemy: Walkman3		Health value: 100 Attack Value: 15 Speed Value: 4 Mode of attack: Contact
Enemy: Suski		Health value: 1000 Attack value: 30 Speed value: 10 Mode of attack: Melee
Enemy: Sakski		Health value: 1000 Attack value: 40 Speed value: 8 Mode of attack: Melee
Final Level Boss: Stone Destroyer		Health value: 2000 Attack value: 50 Speed value: 10 Mode of attack: Melee

Levels

1. Level 1

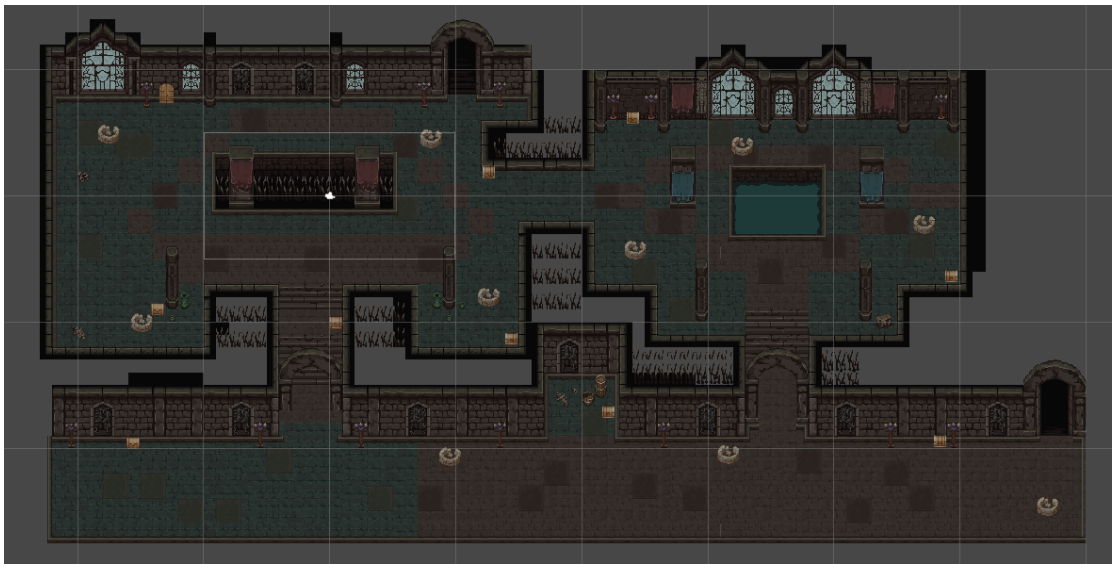
For level 1, we set it as tutorial level. It's just going to be a flat area with no obstacles.

2. Level 2

The art style of our scene is shown below. We plan to set 10 monster birth points in the first level, and we will set three rounds of monster birth, with 5 monsters in each round. We set lots of obstacles in our scene including the spike trap and fire trap. Also lots of treasure chest in the scene.

3. Level 3

In the third level, we will also set ten birth points, but the number of monsters in each round will increase to 10. The monsters in each round will be the enhanced version of the first level, with more HP and higher damage.



4. Level 4

In the scene, will we set layer by using stairs. We also set obstacles in our scene to make it more abundant. Also, there will be different obstacles at this level.

5. Level 5

6. Level 6

This is the last level, we will not set any obstacles, so that players face the boss directly.

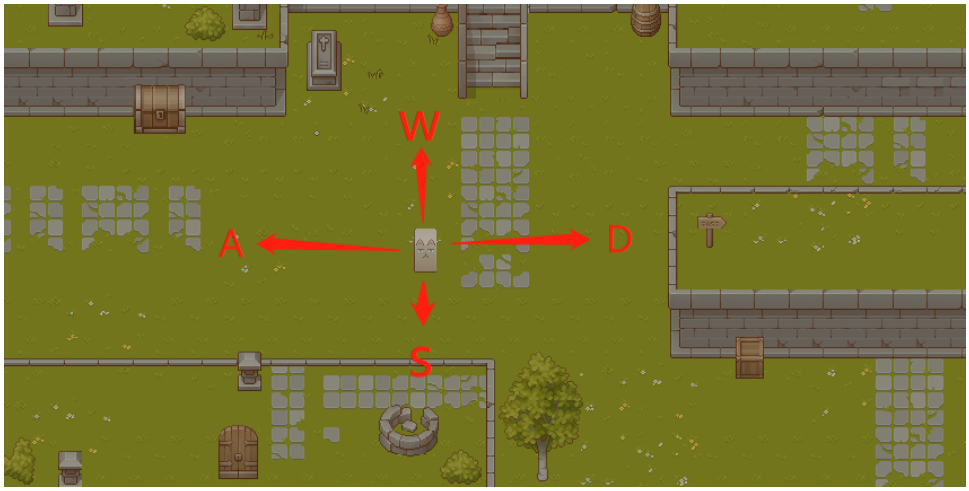
Interface

1. Visual System

Players will have top view only since it is a 2D game.

2. Control System

Players will use “WASD” to control the movement of the character and use mouse clicks to decide the direction. Use “ZXC” to release different skills.

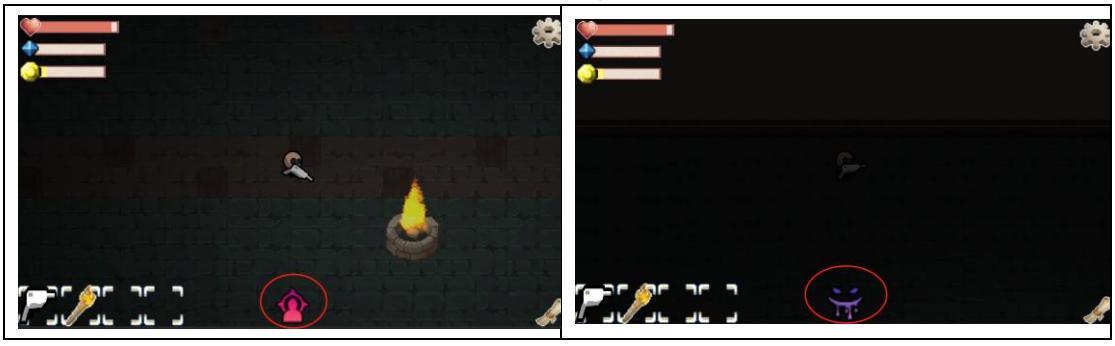


3. Audio

We add background music according to the progress of the game and it will become more and more urgent.

4. Lighting System

As players play the game, they are killing enemies and finding doors while constantly lighting fires to expose themselves to the light. If they are not in the light, players will keep losing health, and similarly, when they are exposed to the light, they will regain health. As a result, a player needs to fight with enemies in the light rather than in the dark. Players should always pay attention to the location of the firepit during the battle with enemies and switch tools, i.e., torches, to light it up.



Artificial Intelligence

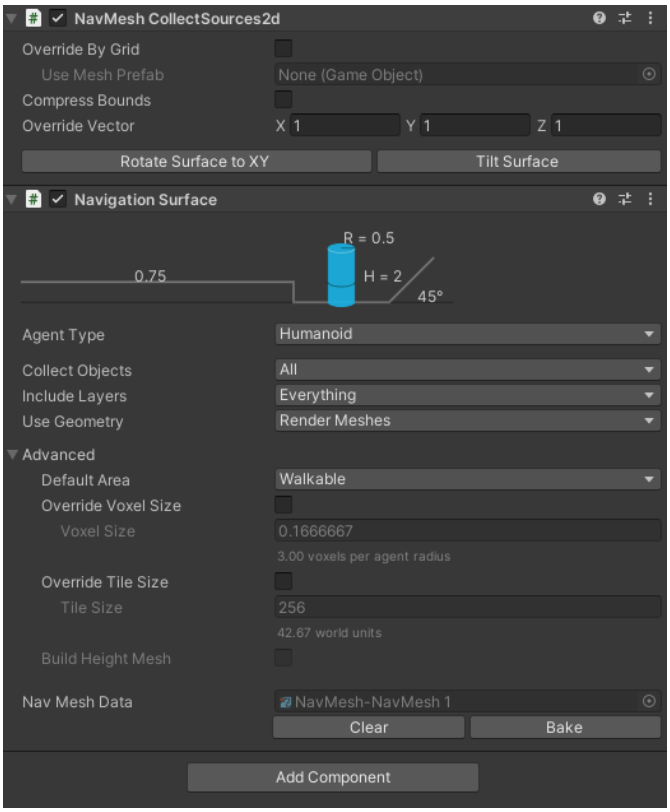
1. Enemy AI

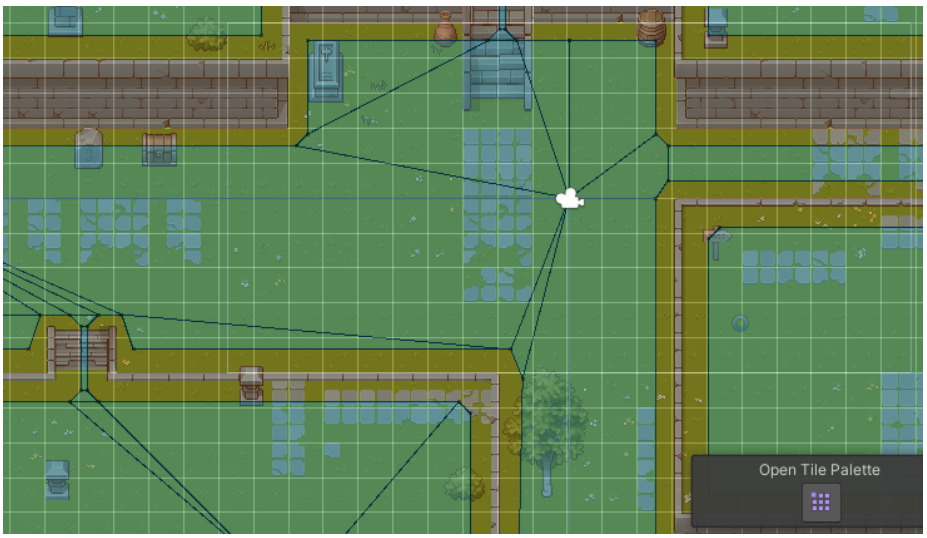
Melee Monster walk

To enable melee monsters to chase the player without getting stuck in obstacles on

the map, we imported NavMesh to enable monsters to auto pathfind when chasing.

```
void SetAgentPosition()
{
    agent.SetDestination(new Vector3(targetPlayer.transform.position.x, targetPlayer.transform.position.y, targetPlayer.transform.position.z));
}
```





Game Art

1. Characters

Name	Image	Features

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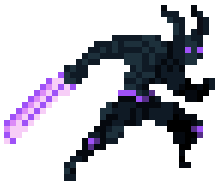
Enemy: Suski		Health value: 1000 Attack value: 30 Speed value: 10 Mode of attack: Melee
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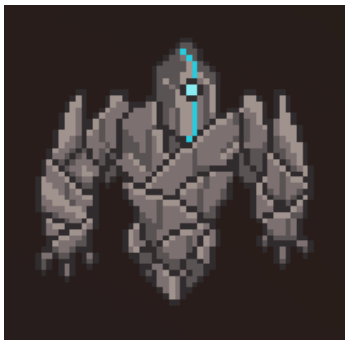
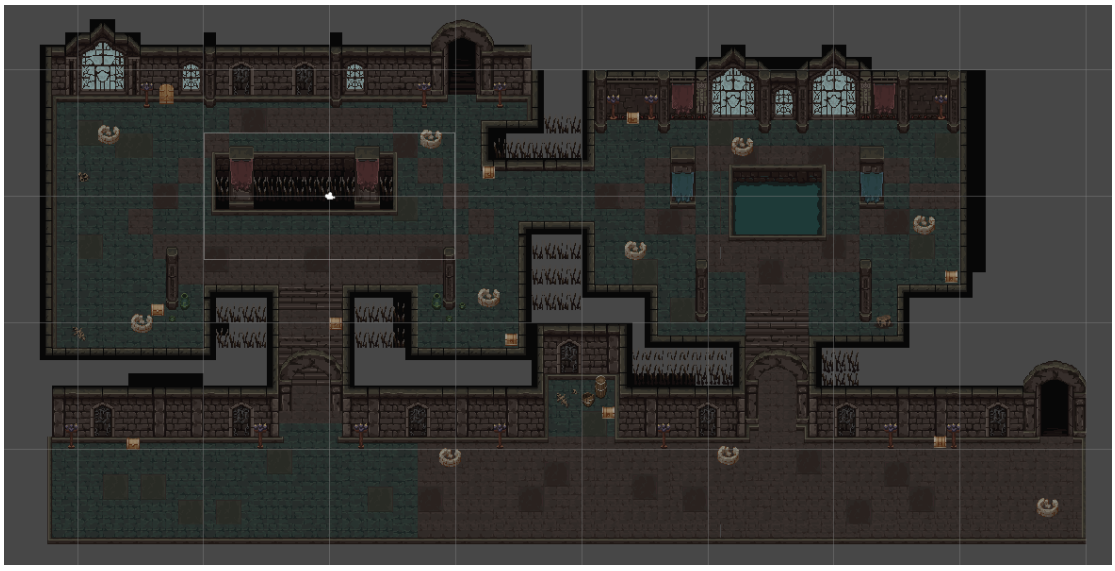
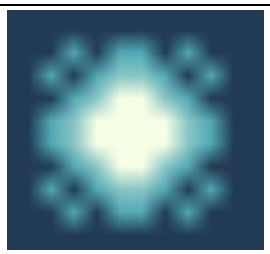
Final Level Boss: Stone Destroyer		Health value: 2000 Attack value: 50 Speed value: 10 Mode of attack: Melee

2. Environments



3. Equipment

Guns & Items		
Name	**Image**	**Features**
Pistol		Pistol is the initial weapons for both players. By our team's design, this gun has a medium rate of fire, fire damage, and a longest range.
Shotgun		Shotgun will drop randomly in the treasure chest, and this gun has the highest damage, the slowest firing rate, and the closest range.
Rifle		Rifle will also drop randomly in the treasure chest, and this gun has the lowest damage, the fastest firing rate, and the medium range.

snowball		Players can use snowballs to freeze the pursuing enemies temporarily and prevent them from moving.
Bomb		Players can use bombs to inflict ranged damage on enemies

4. Miscellaneous

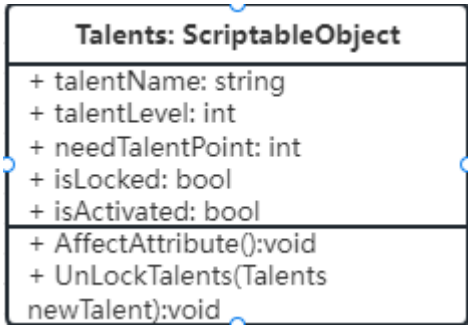
Other Items		
Name	**Image**	**Features**
Pistol bullets		Medium fire damage
Shotgun bullets		Highest fire damage
Rifle bullets		Lowest fire damage

Crosshair		
Fire_Bullet		Used to light up the brazier.s

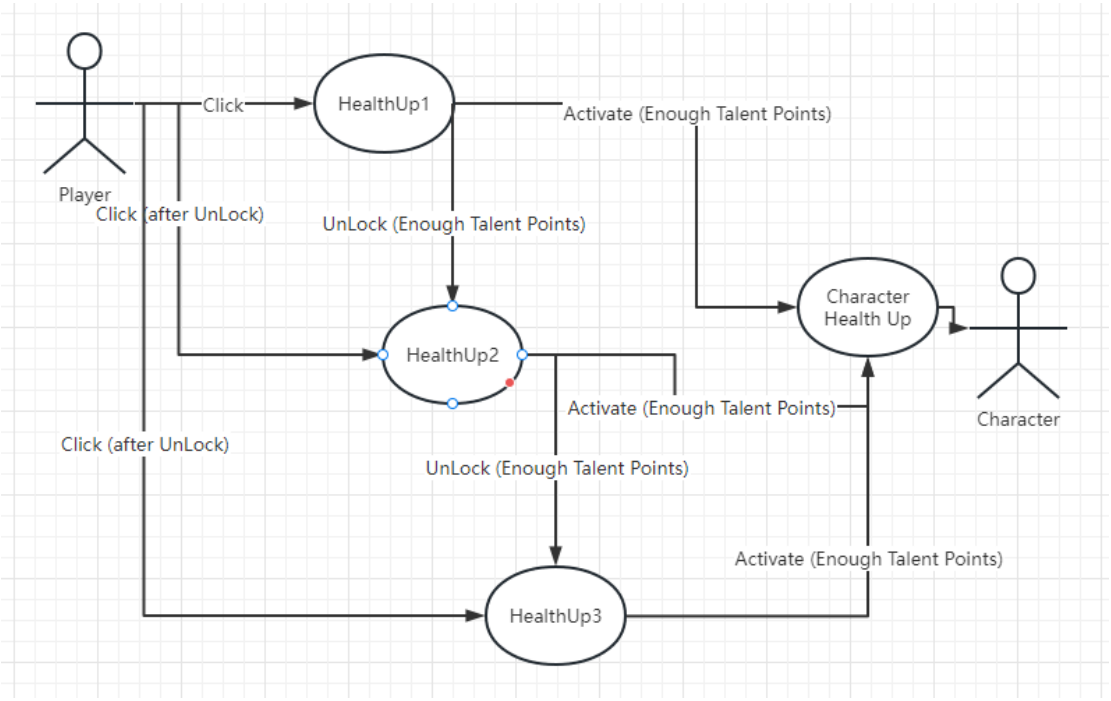
Game Technical Design

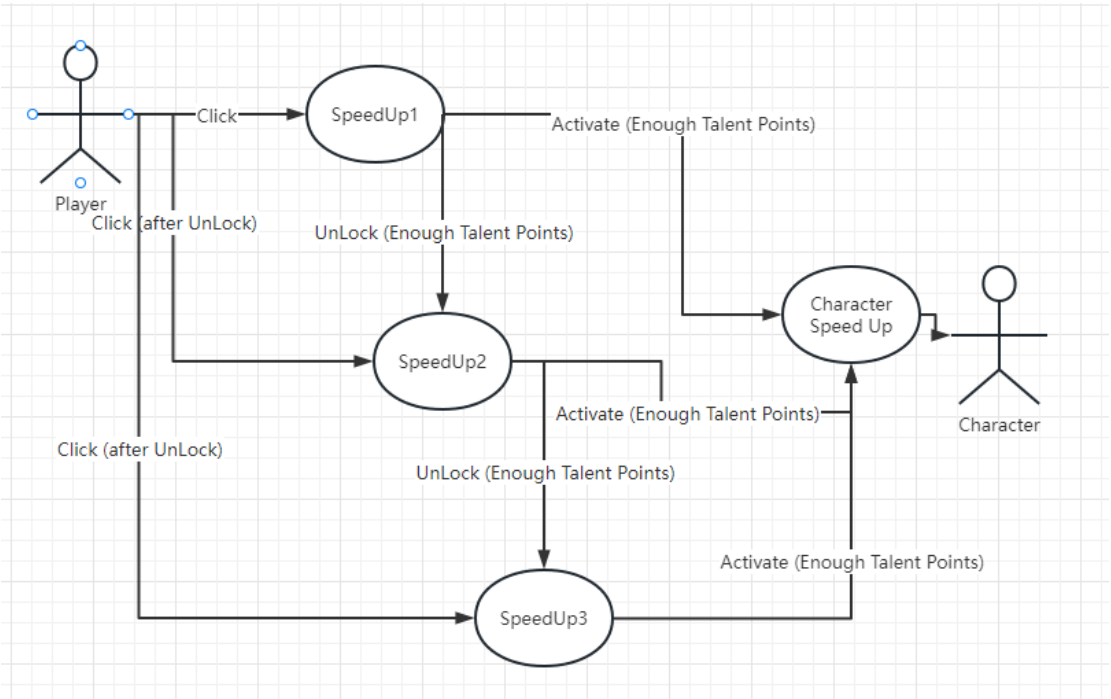
1. Player

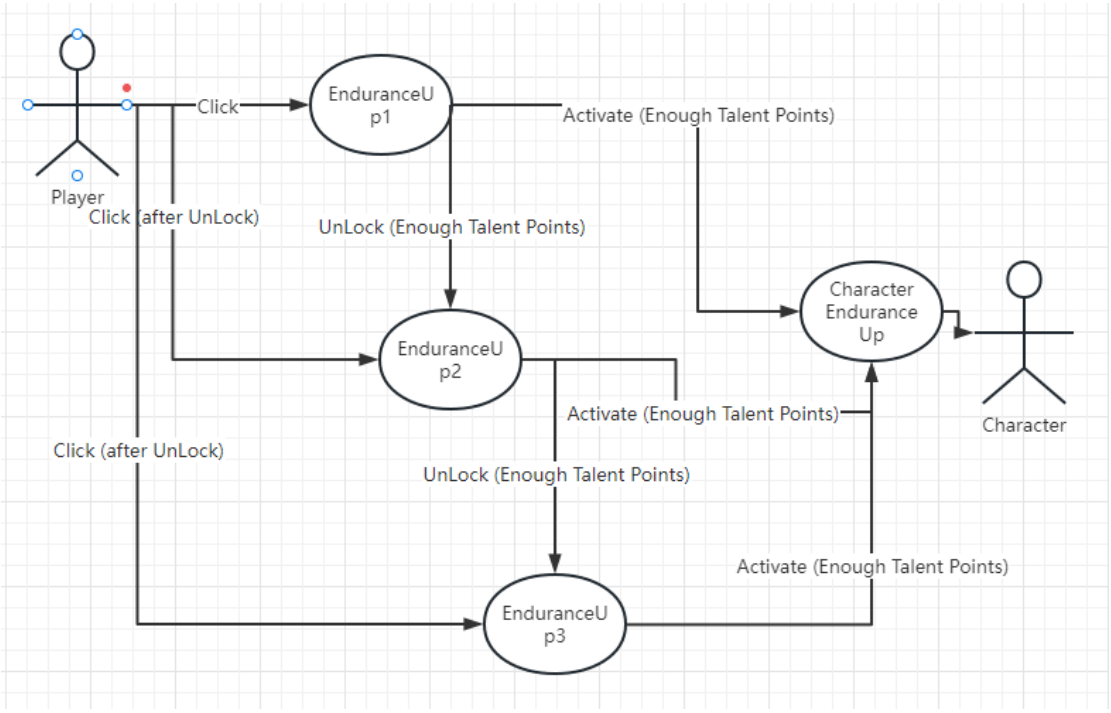
(1)Talent System

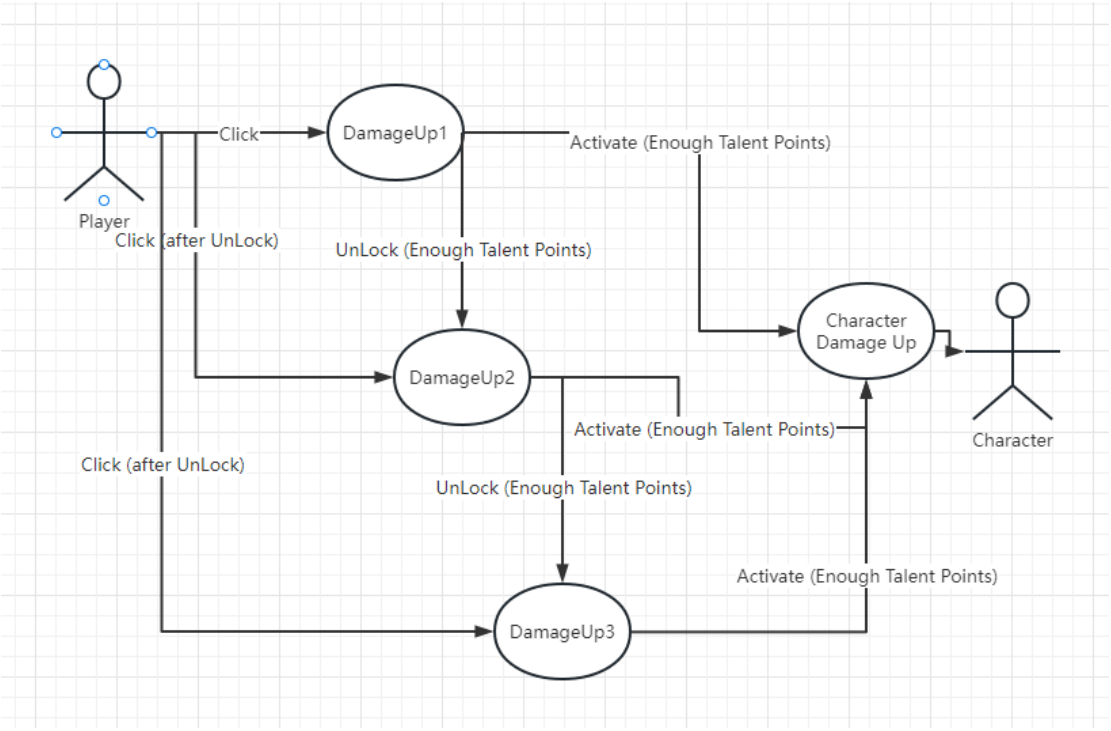


Since there are 12 different talents for a single player, it is very difficult to design them one by one, so I used SriptableObject in Unity to design a general class called Talents, with 5 different parameters: talentName, talentLevel, needTalentPoint, isLocked and isActivated, and two different functions to be implemented: AffectAttribute() and UnLockTalents(Talents newTalnet). After this class is implemented, all talents (like HealthUp1, HealthUp2 and DamageUp1) are just implementations of this Talents class.


Player
Click
HealthUp1
Activate (Enough Talent Points)
Click (after UnLock)
UnLock (Enough Talent Points)
Character Health Up
Character
HealthUp2
Activate (Enough Talent Points)
Click (after UnLock)
UnLock (Enough Talent Points)
Activate (Enough Talent Points)
HealthUp3


Player
Click
SpeedUp1
Activate (Enough Talent Points)
Click (after UnLock)
UnLock (Enough Talent Points)
Character Speed Up
Character
SpeedUp2
Activate (Enough Talent Points)
Click (after UnLock)
UnLock (Enough Talent Points)
Activate (Enough Talent Points)
SpeedUp3

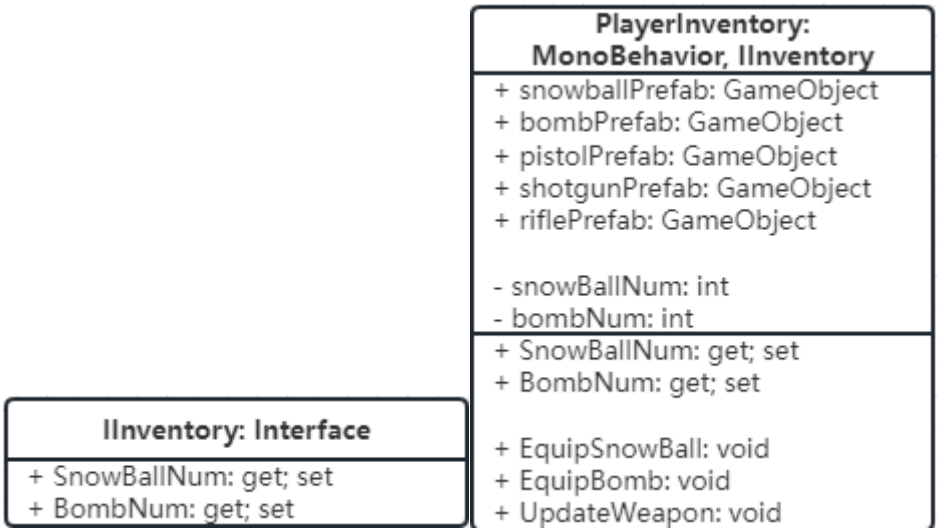




In general, the basic ideas of all four different categories of talents are the same. Taking talents for health up as an example, only Health Up 1 is unlocked at first, and after a player clicks Health Up 1 button, its character's health will be increased and the talent Health Up 2 will be unlocked if the player has enough talent points for activating Health Up 1. Similarly, since this time Health Up 2 is unlocked, the player is allowed to click on it, and after that, its character's health will be increased again and the talent Health Up 3 will be unlocked if the player has enough talent points for activating Health Up 1. Finally, since this time Health

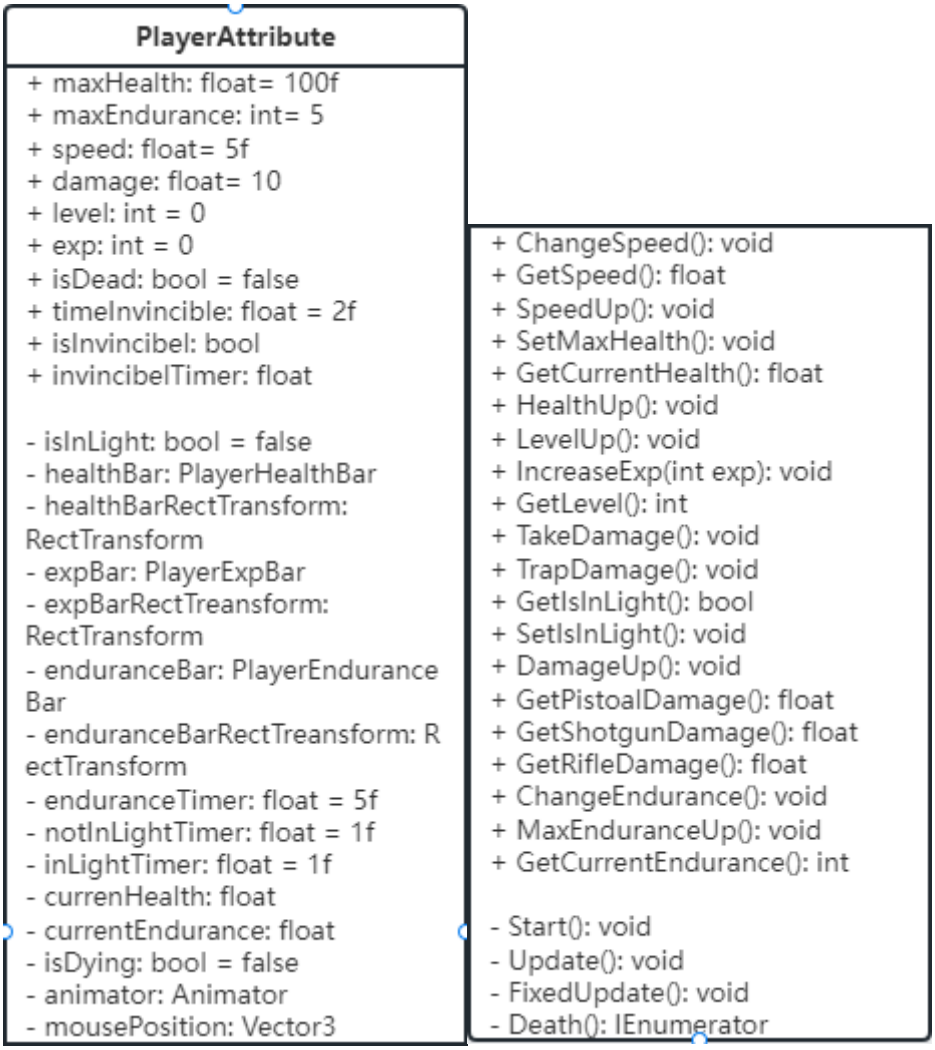
Up 3 is unlocked, the player is allowed to click on it, and after that, its character's health will be increased again if the player has enough talent points for activating Health Up 1.

(2) Player Inventory



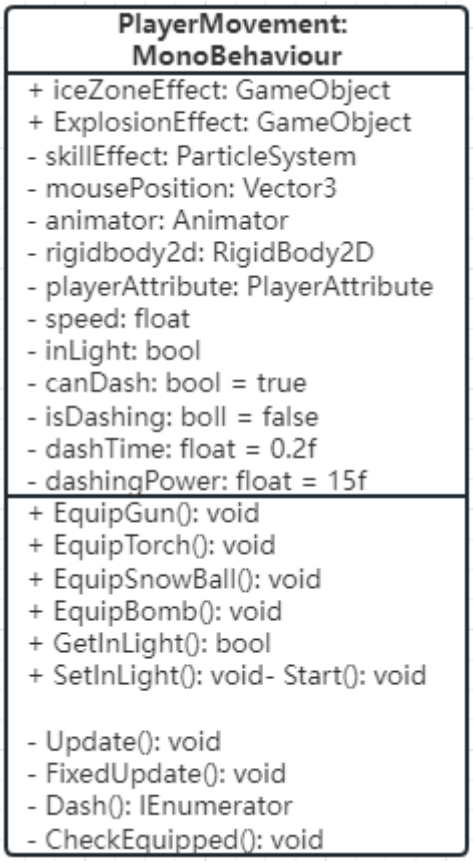
IInventory is an interface for PlayerInventory class to implement. It contains two integer variables: SnowBallNum and BombNum, which both have get and set functions. For PlayerInventory, it implements MonoBehavior and IInventory. This class is used when a player picks up snowballs, bombs or a new weapon. If a player picks up a snowball, its SnowBallNum will be increased by 1, and similarly, if a player picks up a bomb, its BombNum will be increased by 1. Besides, if a players picks up a new weapon, then its current weapon will automatically be changed.

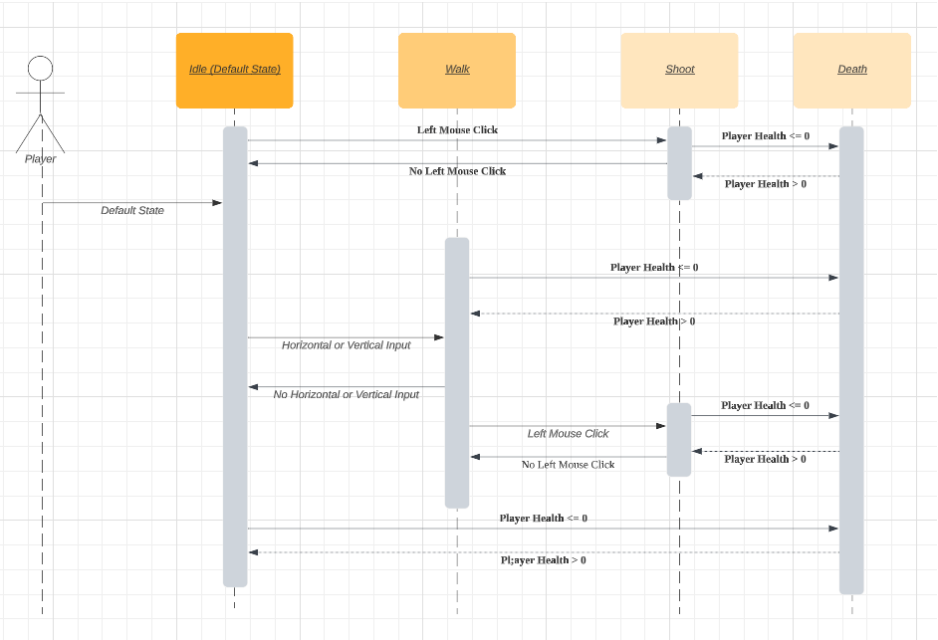
(3) Player Attributes



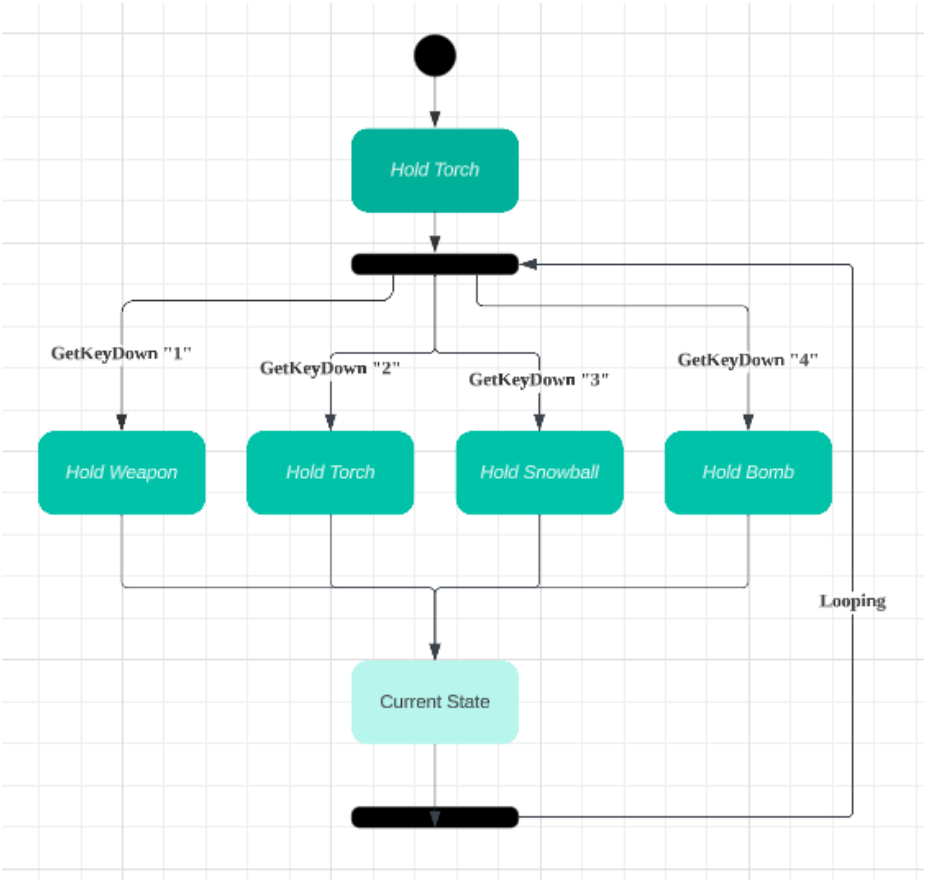
PlayerAttribute is a class related to all attributes of a character, especially including maxHealth, currentHealht, maxEndurance, currentEndurance, speed, damage, level, exp and isDead flag. All these attributes have both get and set functions.

(4) Player Movement





For a player's movement, its default movement state is idle. If any horizontal or vertical input (WASD) is detected, the player's state will be changed to Walk. In addition, if the player is not dead and left mouse key is clicked, the player is enabled to shoot different bullets based on its current hold state. By the way, at any state, if the player's health is less than or equal to 0, the player is dead and can choose to restart a new game or quit this application.



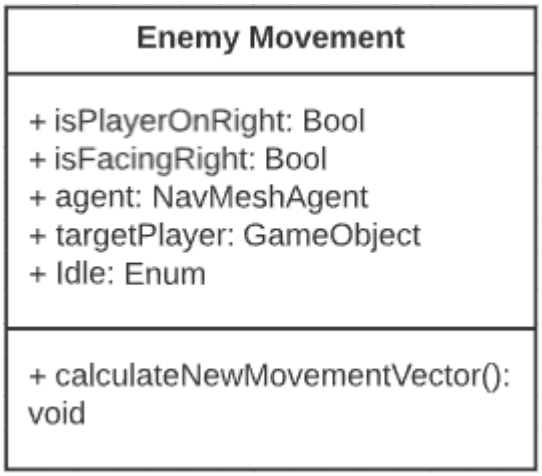
There are four different items for a player to hold, and whenever a player enters a new game, it will hold a torch by default. If keycode 1 is entered, the player will change to hold its weapon, and if left mouse key is clicked, gun bullets will be fired. If keycode 2 is entered, the player will change to hold its torch, and if left mouse key is clicked, a fire will be released. If keycode 3 is entered, the player will change to hold a snowball, and if left mouse key is clicked, a snowball will be released at the mouse position. If keycode 4 is entered, the player will change to hold a bomb, and if left mouse key is clicked, a bomb will be released at the mouse position.

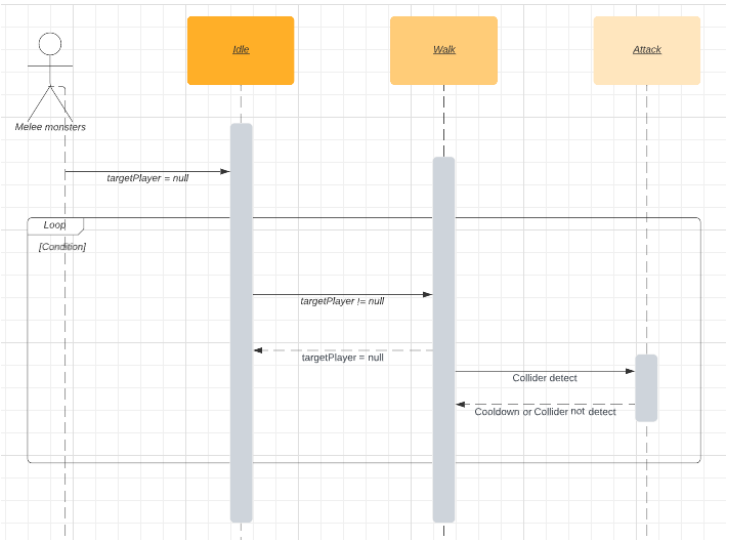
(5) Player Pick Up

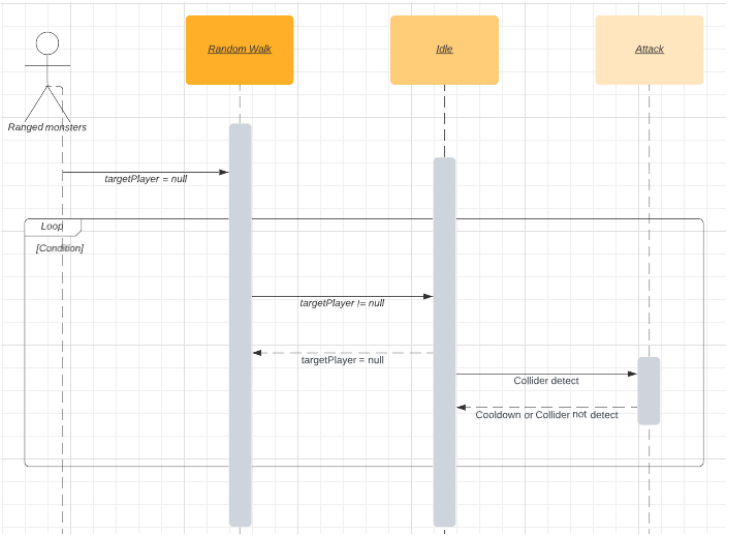
This part's technical logic is very simple. Every time a player opens a treasure chest, a weapon or prop (snowball or bomb) will be randomly dropped from the chest. If a weapon drops from a treasure chest and the weapon hits the player's collider, then the player will renew his weapon. If the treasure chest drops a snowball or bomb and the drop hits the player's collider, the player's SnowBallNum or BombNum in PlayerAttribute is increased by 1.

2. Enemy

(1) Movement







For the enemy movement system, I set the bool value, isPlayerOnRight, to call different animations for the left and right sides respectively, depending on the player position. For melee small monsters, when no player is detected, they will just go into Idle mode in place and then switch between left and right animations. When a player is detected, it will use NavMesh to avoid obstacles to follow the player and attack the player when the collider detects the player and play the

corresponding attack animation. For the ranged small monster, when no player is detected, the calculateNewMovementVector() function is called to randomly create a new vector every 3 seconds to implement a random walk. When a player is detected, it stops still and fires a projectile in the direction of the player while in range. The middle boss is basically the same principle as the melee small monsters, except that the detection range is changed to the full map. The final boss has five stages, the first of which is the same as the middle boss, and the remaining four stages are the same as the ranged small monster, except that it also has a full map detection range.

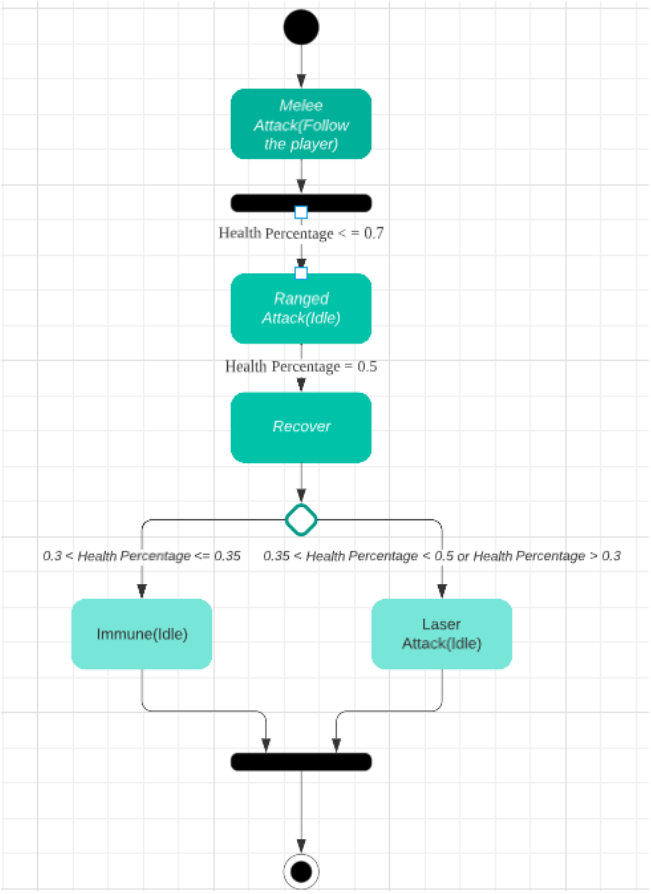
(2) Combat System

Ranged small monsters: when targetPlayer is null, they walk randomly around the map. When they detect the player, they will stand still and fire a projectile in the player's direction every two seconds, dealing damage to the player.

Melee small monsters: When targetPlayer is null, they will enter Idle mode and remain stationary in place. When the player is detected, it will follow the player in detection range. And when the collider detects the player, it will attack the player and play the corresponding animation according to the different attack cooldowns.

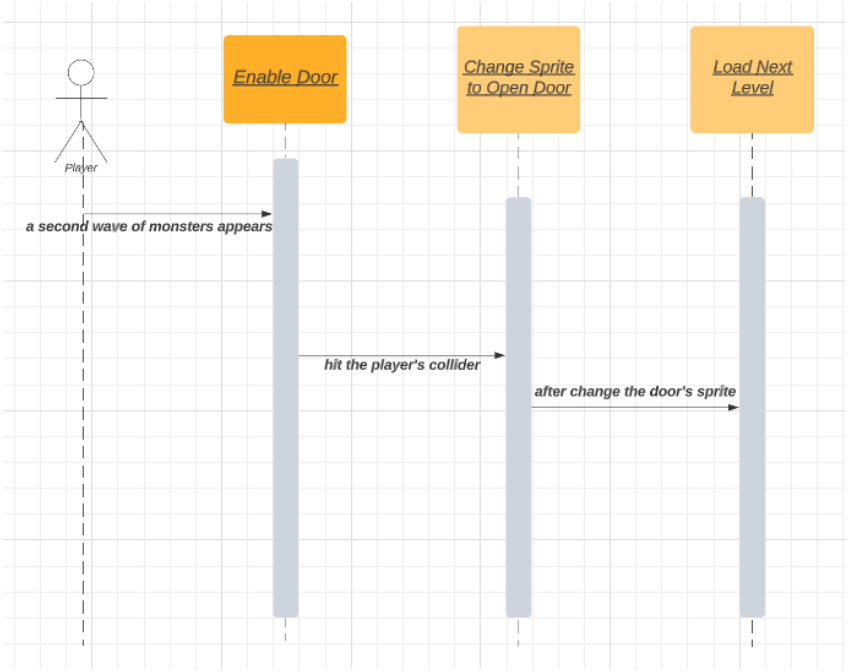
Middle Boss: Since the targetPlayer of it is initialized in the start(), it will follow the player throughout the map and attacks the player once the collider detects them and switches between Attack and Idle constantly to ensure that the idles are articulated on cooldown.

Final Boss: The final boss has five stages. When the life ratio is greater than 0.7, the final boss is a melee attack with a cooldown of 2 seconds and will follow the player throughout the map. When the life ratio is less than or equal to 0.7, the final boss will switch to a ranged attack and will stand still and release a projectile at the player every 1 second. When the blood level reaches half for the first time, the Final Boss will bleed back once. And, when the ratio is 0.35-0.5, the final boss has a chance to release a laser attack. At a ratio of 0.3-0.35, the final boss will enter invincibility every 20 seconds and the player will not be able to damage it. When the ratio drops below 0.3, the probability of the final boss releasing a laser attack is increased.



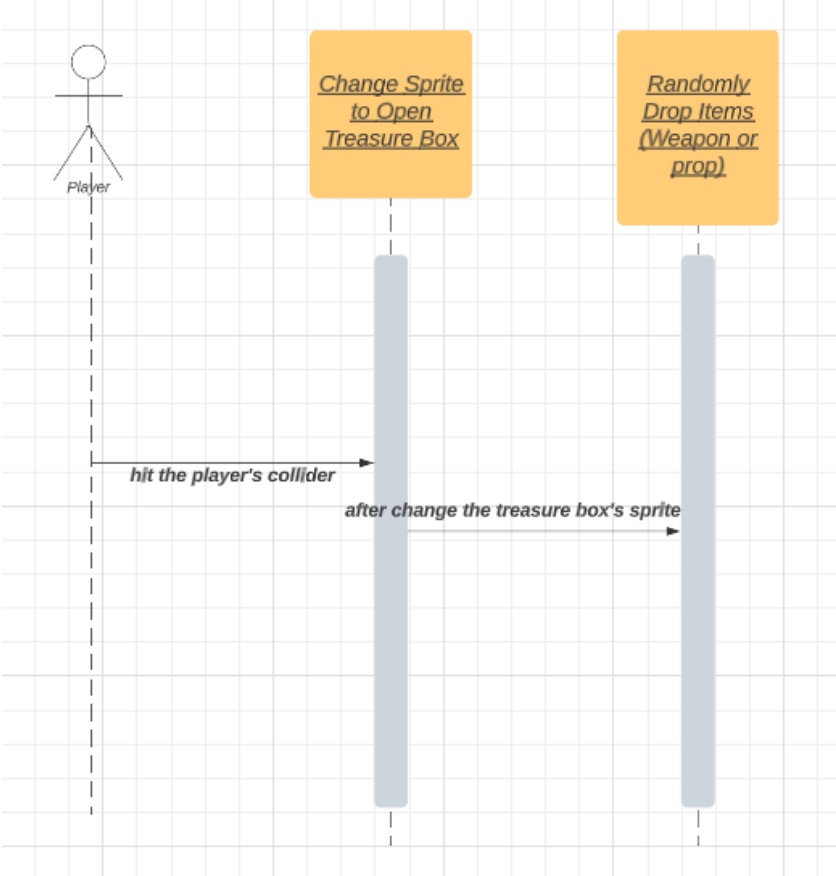
3. Environment

(1)Door



For all levels for small monsters, a door on the map will appear whenever the second wave of small monsters is refreshed. This is when players need to find the door to the next level while keeping themselves alive. Of course, players can also stay at the current level and wait for more waves of monsters to refresh in order to increase their level and experience value.

(2)Treasure Box



There are many treasure chests scattered around the map, which players can open by touching them. When a treasure chest is opened, it will drop random weapons or items (snowballs or bombs) to increase the player's competitiveness in the level.

(3)Traps

All traps start out in an inactive state and are activated when the player steps on them for the first time. Whenever the player walks on the trap, the player will continue to lose blood.

Roles and Schedule

1. WEI Zhenyu

WEI Zhenyu is a group member of group 05. I am responsible for the players' design, weapons' design, and Props' design.

Initially, I tried to implement online multiplayer mode, and I considered that this website (https://www.youtube.com/@divingsquid) is quite useful for implementation. All parts taught by her was finished smoothly by me, but I had a lot of difficulty when I tried to sync up against picking up guns or picking up props. For player1 I was able to synchronize fully in player2, but I did not know why player2's movements were not synchronized in player1. I've been trying to debug for days but I can't find out why. Finally, after some discussion between me and the group, we decided to give up on making online games.

Besides, I ran into a problem when I wanted to implement jumping between scenes.

Because I needed to keep the player data from the previous level to the next level, rather than simply jumping to the next scenario, all the player data from the previous level needed to be transferred to the next scenario. However, because our game also includes player talents and so on, this makes the transfer of player data to the next scene extremely difficult. Finally, I learned about the don't destroy feature after asking and answering questions on Stack Overflow and learned that everything about the player can be preserved during the scene transition. As a result, the problem of data transfer during scene transitions was finally solved.

2. XUE Zining

XUE Zining is a group member of group 05. I'm responsible for the environment design.

One problem I encountered during the process is the player lighting effect. My initial idea is to use the direction light for the whole scene and then make it dark. And add a spotlight for the player, also add the spotlight for brazier. But the most obstacles' shape is irregular, to make them rendered under the light, I need to change the material, so, there comes a problem: if I change the sprite material, the irregular part of the sprite will become black. So, this way is not working. I did a lot of research on the Internet and finally found a solution. I created two materials, one for the whole scene to make it look dark and another for the player and brazier to make it light. And player and braziers' layer should be higher than the material which make the scene dark. Here is the website for the solution:
https://zhuanlan.zhihu.com/p/475443795?utm_medium=social&utm_oi=1007267486101700608&utm_psn=1637076137988874240&utm_source=wechat_session

Another problem I met is the random item dropped from the treasure box. I don't know how to invoke the prefabs. After learning from the internet, I realized that I can use the Instantiate function to solve it.

3. WEN Juntong

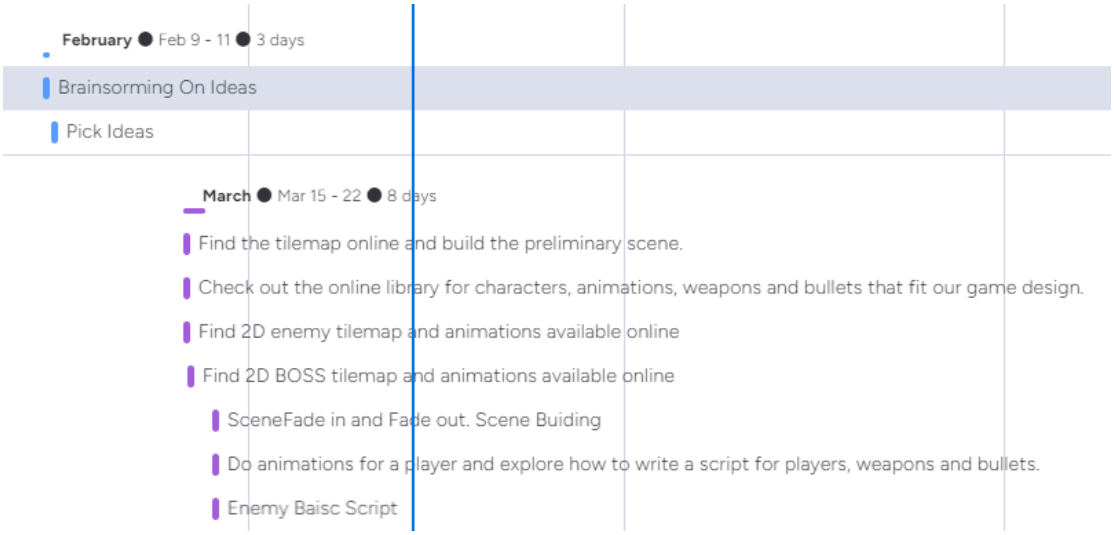
WEN Juntong is the group leader of group 05. I am responsible for the enemy system, including enemy movement, enemy combat and enemy experience and health system.

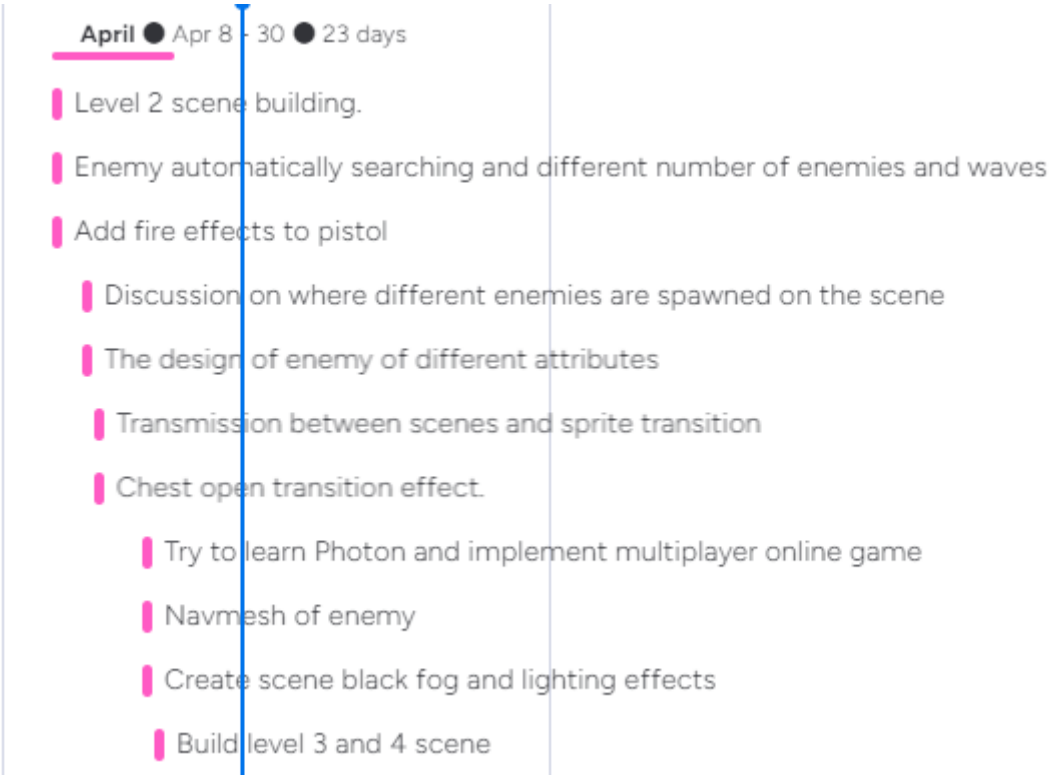
In the early stages of development, I tried to implement a melee monster, and its combat and movement without detecting player implementation were successful, but when implementing the chase function after a player was detected, I found that using a vector that simply followed the player tended to get the enemy stuck in the map's obstacles. So, I looked on YouTube and Stack Overflow to find a solution. The final solution was to use NavMesh AI to implement chasing and enable automatic enemy pathfinding.

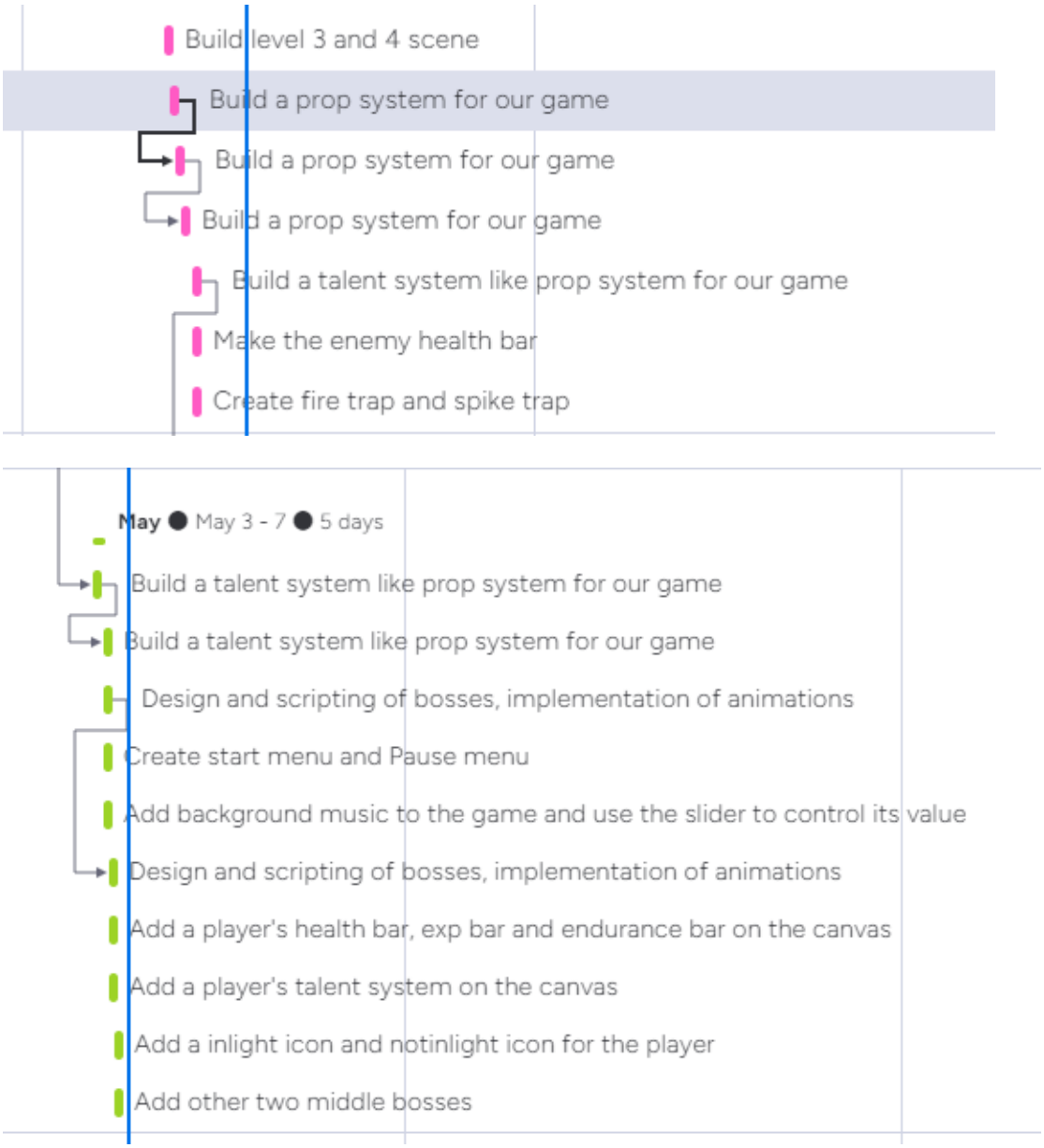
When designing the final BOSS, I found that the implementation of the logic between animations was prone to problems and using the SetBool() function often resulted in the animations being occupied between them. So, I linked only some of the animations

to set a bool value to ensure that some of the animations could be switched after playing, and then used the Play() function to play the animations directly to ensure their integrity when playing.

4. Schedule





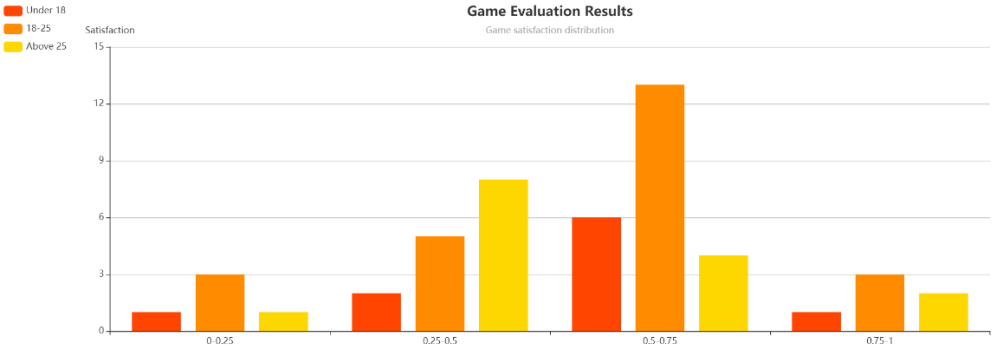


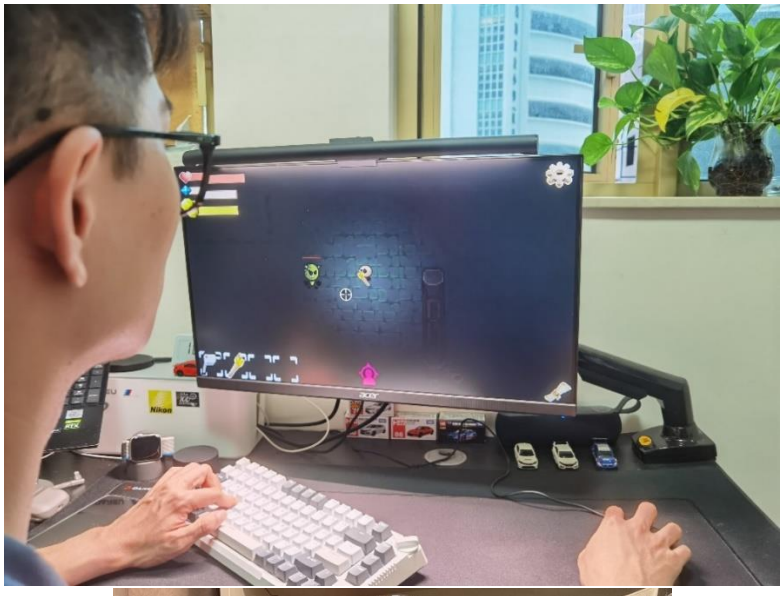
Evaluation

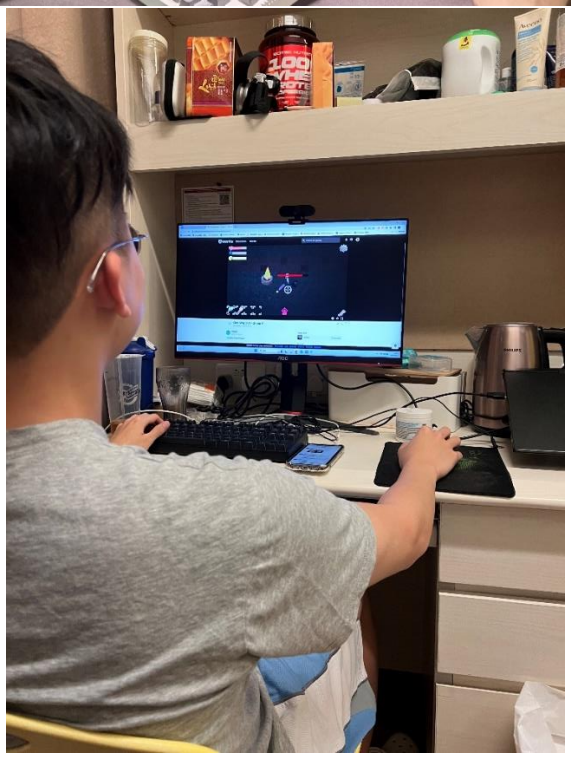
1. Target Audience

In order to get better feedback on the beta version of our game from our target audience, we drafted a questionnaire, uploaded it with the URL of the game it was uploaded to social media to get some feedback from different age groups. In this questionnaire, there are totally 7 questions, including: 1. Age; 2. Overall satisfaction with the gaming test version; 3. any technical difficulties while playing the game; 4. most enjoyable aspect; 5. Would you be interested in playing the full version of our game once it is released? 6. Suggested improvements; 7. Is there anything else you would like to share about your experience playing our game?

And we invited our classmates and other students to experience and evaluate our game.







As I mentioned, I found it really hard when I start your game, as I don't know how to attack enemies, what is the meaning of the 3 bars in the left top corner and how can I use the items. Maybe you can add some text guidelines at first to teach players how to control this game. Or just like your video walkthrough, use a video as a guideline, as that's the way I use to learn your game.

Also, I think your game will be more attractive if you use a similar art style on characters, enemies, and items!

Reply Like May 08, 2023 03:52

FU Bangyan

I was impressed by many of the settings in your work, such as the player's restricted vision, lighting fires, etc. I also appreciate your weapon design, players can use different kinds of firearms, it will be a very interesting shooting game.

However, as a player just starting the game, I can feel a bit overwhelmed when I enter the game. I think you should lower the difficulty in the initial levels and give more guidance to newcomers.

Overall, I quite like the art design as well as the gameplay mechanics of this shooter. Thank you for taking the time and effort to make this game!

Reply Like May 08, 2023 03:55

CHEN Yitong

Amazing game! The gameplay is new to me and very attractive! I am impressed by its light design and monsters' design.

The game truly support enough tips for tutorial. But if would be better show it anytime in the game like by pressing some key.

The UI, especially start menu is interesting. The map is also good. It would be better to add maze elements.

In future development, I think u could add more types of little monsters and distinctive characters.

Reply Like May 08, 2023 04:26

SUNG Siu Fung

a) I am sorry to say that the game doesn't provide clear and sufficient information. First, there are no control settings and telling us how to use the weapons and use space for dash. Maybe you need to consider adding a controls panel for the players familiarize the game. Also, When I first try the game, there are no instructions that the torch can light up the campfire, and no instructions to tell the players where to go after you defeated the boss(the door is hiding in the dark and the map is so dark). Maybe you should consider adding a minimap for the players to indicate where the door is?

b) The UI is generally easy to understand except the stamina bar for dashing

c) the level up aspect is quite interesting because can get talent points to activate different talents.

d) For improvement, clear instructions are needed, maybe you can add some text guidelines.

Reply Like May 08, 2023 04:58

FENG Ziyao

A very excellent game, the setting of the flame illuminating the world sets it apart from other games. It fully enhances players' desire to explore, allowing them to immerse themselves in the game and experience it step by step.

The upgraded system also makes the game more interesting.

A small suggestion is that the game can provide more tutorials so that players can explore with sufficient preparation.

Reply Like May 08, 2023 06:14

LI Xuyuan

Your game information is very clear, and the UI is suitable. I do like your UI when switching characters, that part is cool!

The simple but clear art style is impressive, I think this can bring you some players. Also, your tool and weapon operations feels well and smooth when playing.

What may be improved is, although get a light view is one of the game targets, somewhere's view is too dark to recogenize information or danger. You may give more view when it is too dark.

Game Evaluation Questionnaire

In order to provide a better gaming experience to our players, you are invited to test our initial game. We hope that you can take a few minutes to tell us your thoughts and suggestions.

*** 01** The Age of you

- ○ Under 18
- ◉ 18-25
- ○ Above 25

*** 02** Please rate your overall satisfaction with the gaming test version

- ○ 0-0.25
- ○ 0.25-0.5
- ◉ 0.5-0.75
- ○ 0.75-1

*** 03** Did you encounter any technical difficulties while playing the game?

No

*** 04** Which aspects of the game did you find most enjoyable?

The survival part.(Light the fire in the dark and shoot the monsters!)

*** 05** Would you be interested in playing the full version of our game once it is released?

Absolutely! The whold part is amazing.

*** 06** What improvements would you suggest for the gaming test version?

The talent points can be inproved. Since when I played fourth level, my talent can only be at second level, sometimes even worse.

*** 07** Is there anything else you would like to share about your experience playing our game?

No

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- ○ 0-0.25
- ○ 0.25-0.5
- ◉ 0.5-0.75
- ○ 0.75-1

*** 03** Did you encounter any technical difficulties while playing the game?

Yes, since when I was shooting the monster in the first level, the monsters seems cannot contact me, but it feels better in the rest levels.

*** 04** Which aspects of the game did you find most enjoyable?

The shooting experience.

*** 05** Would you be interested in playing the full version of our game once it is released?

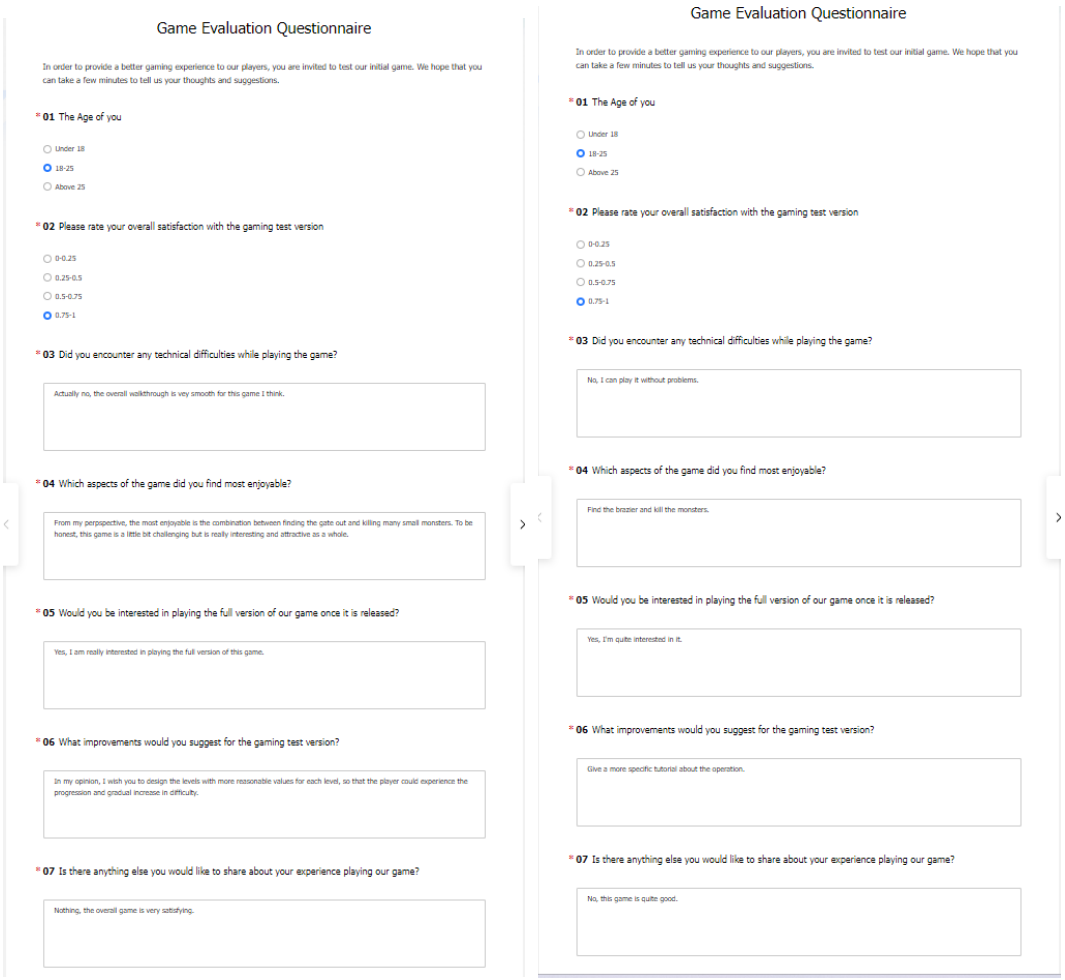
Maybe, depends on the price.

*** 06** What improvements would you suggest for the gaming test version?

The difficulty of game should be decreased.

*** 07** Is there anything else you would like to share about your experience playing our game?

It is a great experience, some art style could be more delicated.



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* 02 Please rate your overall satisfaction with the gaming test version

- 0-0.25
- 0.25-0.5
- 0.5-0.75
- 0.75-1

* 03 Did you encounter any technical difficulties while playing the game?

Actually no, the overall walkthrough is vey smooth for this game I think.

* 04 Which aspects of the game did you find most enjoyable?

From my perpspective, the most enjoyable is the combination between finding the gate out and killing many small monsters. To be honest, this game is a little bit challenging but is really interesting and attractive as a whole.

* 05 Would you be interested in playing the full version of our game once it is released?

Yes, I am really interested in playing the full version of this game.

* 06 What improvements would you suggest for the gaming test version?

In my opinion, I wish you to design the levels with more reasonable values for each level, so that the player could experience the progression and gradual increase in difficulty.

* 07 Is there anything else you would like to share about your experience playing our game?

Nothing, the overall game is very satisfying.

Game Evaluation Questionnaire

In order to provide a better gaming experience to our players, you are invited to test our initial game. We hope that you can take a few minutes to tell us your thoughts and suggestions.

* 01 The Age of you

- Under 18
- 18-25
- Above 25

* 02 Please rate your overall satisfaction with the gaming test version

- 0-0.25
- 0.25-0.5
- 0.5-0.75
- 0.75-1

* 03 Did you encounter any technical difficulties while playing the game?

No, I can play it without problems.

* 04 Which aspects of the game did you find most enjoyable?

Find the brazier and kill the monsters.

* 05 Would you be interested in playing the full version of our game once it is released?

Yes, I'm quite interested in it.

* 06 What improvements would you suggest for the gaming test version?

Give a more specific tutorial about the operation.

* 07 Is there anything else you would like to share about your experience playing our game?

No, this game is quite good.

Also, we have received many suggestions for the game. For example, a reduction in the difficulty of the game, the adjustment of the access to talent points, etc. As a result, we have reduced the number of enemies and waves, increased the player's attributes to ensure that the game is not too difficult, increased the number of enemies per wave, and reduced the amount of experience required to earn talent points each time to ensure that players can improve their attributes after a certain amount of play time.

2. Team

(1)WEI Zhenyu

During the process of game development, I learned a lot about Unity. First of all, I learned that in addition to transferring data via static variable, the don't destroy feature is really recommended after asking and answering questions on Stack Overflow, and I learned that everything about the player can be preserved during the scene transition. As a result, the problem of data transfer during scene transitions was finally solved. Besides, some knowledge of Photon interface was learned through trying to implement a multiplayer online game. The essence of a two-player game is that two players are connected to a server at the same time, and all functions can only affect the current player. After one player has run a function, the other player synchronizes it, so that

both players can play simultaneously.

However, I had a lot of difficulty when I tried to sync up against picking up guns or picking up props. For player1 I was able to synchronize fully in player2, but I did not know why player2's movements were not synchronized in player1. I've been trying to debug for days but I can't find out why. Finally, after some discussion between me and the group, we decided to give up on making online games. By the way, we originally wanted to add a player skill system to the game, but then after some discussion in our group, we decided that our current game had enough elements that adding a player skill system would be redundant, so we ended up dropping the idea of adding player skills.

(2)XUE Zining

In the process of creating the game, I got a deeper understanding of unity scene construction. In the process of creating the game, I got a deeper understanding of unity scene construction. I will set the scene into three layers, a layer set the background, a layer set the boundary collision body, the last layer for decorating the scene, such as traps, obstacles, etc. In the follow-up process there is a need to add another layer. In the production process, I want to set the camera as a subclass of the role to let it follow the role. But then I realized that this would not work because the player's layers are tightly tied to the scene, and some layers cannot be rendered when the camera is a subclass of the character. So I decided to write a camera-following script that makes the camera look for the object with the "Player" tag in the scene, so that the player can run normally no matter which character is selected.

For the future design, I think I can add a guide to the start menu. It's a pity that I couldn't add it this time because of the incident, I think it reduces the player's experience, so we added a guide to our game website, hopefully it will make up for it.

(3)WEN Juntong

For the enemies, we have implemented bosses with different skills in different stages, AI movement for small monsters, different types of monsters. The maps also have their own style and have some traps and treasure chests to add to the playability of the game.
Certainly, there are some features that we have not implemented and need to improve. For example, for the style aspect of the game, the style of many of our enemies didn't match the overall. The game's settings page, we also only offer the ability to change the volume of the background music and there are no other attack sound effects. We also do not provide a clear guide for players to help them understand the game.

Conclusion and future works

In conclusion, we have encountered many problems and gained a lot during the development of the game. First of all, we have made different types of enemies and multiple skill designs for enemies in the overall design of the game. For the player, there are different characters to choose from, and the weapons, props and talent points give the player more possibilities. The treasure chests, traps and darkness also add to the game's playability. For the evaluation part, we were able to collect feedback from our testers, identify bugs and glitches, and make improvements to the game based on the data we gathered. Overall, the development phase was crucial in helping us refine our game and prepare it for a successful launch.

For future enhancement work, we will implement the design that was started to enable two-player functionality, allowing players to co-operate and compete, enhancing more playability. And we will add detailed tutorial levels to give players a clear understanding of how the game works and how to play. We will also change the style of the game to give it a more uniform and refined look.