

## Group-19 Phase 4

### **The Game**

The user plays as a cop fighting a crime syndicate and must traverse the enemy headquarters and reach the exit in order to win the game. In order to beat a level and move on to the next one, the player must pick up all the folders (rewards) in order to unlock the exit to the next level. Getting all the folders isn't easy however, as there are landmines (punishment) which explode on contact and enemies that will follow and attack the player. The player can receive aid in the form of donuts and explosive ammo packages (bonus rewards) which will provide health and power-ups to help in defeating the syndicate. Once the player beats the last level of the game, a win screen displaying the time it took to complete the game will appear. You can use the time to compete against your friends to see who can beat it the fastest.

### **Design Changes**

Our original design was slowly built upon each time we added a new feature to our game. For example, our original design didn't take into account how we were going to read in map files for the game. We ended up adding a way to construct a map object by reading a text file which contained a 2D mapping of tile images. These were cases we didn't foresee at the beginning of our design process. Our core classes such as entity and reward went unchanged throughout the design process. This shows that we were able to design the foundation of the game during the first stage, but had to make changes and improvements to the code that was built upon the foundation during the later stages.

One of the biggest lessons we learned from this project was the importance of version control software. There were a few times in development where a broken build was merged and we needed to figure out what was broken about it. Using git, we could look through the past commits, identify the error, and roll the merge back. Such features of git may not be used at all on a self project but in a collaborative project where requirements can change daily, backtracking is necessary to ensure our team has a workable iteration we can fall back to.

### **Trailer**

<https://youtu.be/-cIyODFS3DQ>

## **How to Play**



## **Controls**

W - Move up  
A - Move left  
S - Move down  
D - Move left  
P - Pause menu  
R - Reload ammo  
Left mouse button - Shoot

The player shoots in the direction of the mouse cursor.

## **Enemies**



Enemies are a type of entity which tries to attack the player when the player is within one tile of the enemy. The two types of enemies include moving enemies which try to chase the player down in the shortest path possible in addition to non-moving enemies which only stand still unless they are attacking. To kill an enemy, the player must shoot a bullet and have the bullet be in contact with the enemy. Lastly, all enemies will deal one health bar of damage to the player when the enemy successfully attacks the player.

## **Punishments**



Punishment mines are non-moving entities that interact with the player when they are in contact. Upon contact with the player, the mine will explode dealing three health bars of damage to the player. Punishment mines will not explode or deal damage when in contact with an enemy. Each mine will only explode once and disappear after exploding.

## Items

- **Ammo Package**



Ammo packages are time based rewards that spawn and disappear at random. Collecting the ammo package will empower the player's gun allowing for bullets to do explosive damage on contact. Ammo packages refill the players ammo bar providing six empowered bullets. Ammo packages can spawn on all levels of the game.

- **Donut**



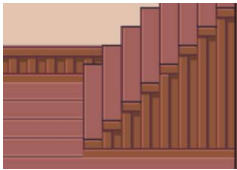
Donuts are time based rewards that spawn and disappear at random. Each donut will heal the player for three health bars. Donuts can spawn on all levels of the game.

- **Evidence**



Evidence folders are an item scattered across each level of the game. The player must collect all evidence before moving on to the next stage.

## Beating a Level



In order for the player to head to the next level, all folders must be collected and the player must reach the next set of stairs.