**SHOOT’EM ALL**

**(THIRD PERSON ZOMBIE SHOOTER)**

**TEAM MEMBERS:**

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**PROBLEM SUMMERY:**

**> Description:** We are trying to create a PVP (Player versus Player) as well as a PVE (Player versus Enemy) based game wherein each player on the network can shoot zombies as well as the other player to increase his/her score. The zombies will randomly target any one of the player while the player has to doge the attacks from the other player as well as the zombies. The goal of each player is to defend himself from zombies and the other player, scoring points by killing zombies and winning the game by killing the other player.

> **Interest** **Point:** Rendering geometry and it’s fidelity over network. Each player should be able to see the other player as well as their health. Another interest point is the maintenance of health systems for both zombies and the players over the network. Also, the Zombie AI to be able to target one out of the two players.

**WORK** **DESCRIPTION:**

**>MAJOR WORK POINTS:**

* Left and right strafe animations and player skins, rendered for both players on the network.
* Different spawn points for each player.
* Camera being able to follow the player.
* Bullets being registered when they collide with game objects.
* Zombie animations and states which are network independent i.e. if both players hit the same zombie; it should be seen on both ends.
* Particle effects on bullet/projectile collisions.
* Hit particle and damage article effect when bullet hits any player or zombie.
* Maintaining health system of each player and zombies on the network.
* Made the zombies follow the players while avoiding the obstacles. (Zombie AI)
* Made the stage i.e the environment of the game.
* Including sound effects in the game.
* Used ray cast hit for handling mouse movement for the player.
* Created a stage with proper lighting.
* Used navigational mash for zombie AI.
* Maintaining separate scores for each player.
* Synchronized and smooth movement of every game objects including players and zombies.
* Detecting death of player and playing death animation and declaring the other player as the winner.
* Detecting death of zombie and playing death animation and also detecting who killed the zombie and updating the scores accordingly.

>**MAJOR CHALLENGES:**

* Had to learn all about creating AI using navigational mesh.
* Handling everything using a third party provide network was very hard.
* Creating a good-looking stage.
* Handling all the movements on the network and synchronizing them.
* Built dozens of small games to understand how things work.
* Maintaining smooth movements of player over the network was hard.
* Maintaining scores on the network.
* Positioning of the camera and making the camera follow the player.
* Adding hit particles and damage particle effects in the game.
* Tracking the collisions of bullets.

**RESULTS:**

We were able to achieve almost 100% of the goals set. We were successful in creating a multiplayer shooting game. We have created a game that allows two players to join the game and they fight with each other. The zombies act as an obstacle for them. The players defend themselves from zombies, scores points by killing the zombies and wins thegame by killing the opposite player.

**ANALYSIS OF WORK:**

**>MEETING GOALS:**

We were able to meet all the goals set by us. In addition to that we set up some new goals to make the game more interesting. Such as the voice commands.