

Project Description:

The project will be a game called Overworld Zombies. It will be a single player survival game where you have to kill as many zombies as possible. There will be no end to the game, only high scores.

Competitive Analysis:

This will be very similar to COD Black ops Zombies gameplay wise, but it will take place in an overworld similar to the overworld in the Pokemon games. I also found another 2D zombies game on YouTube but it was a side scroller.

Structural Plan:

Plan is to make pygame sprites for main character class, zombie class, obstacle class and probably bullet class and then make them interact with each other.

Algorithmic Plan:

The zombies must follow the player so I will try to make them match the players x and y coordinates with their own. They will do damage to the player when their hitboxes overlap. I intend to use `pygame.spritecollide` to solve a lot of the collision problems.

Timeline Plan:

Goal is to have MVP done in three weeks and polish the game in week 4.

Version Control Plan:

Everything is backed up on Google Drive

Modules:

Pygame is the module used.

Week 1:

Made code base and got basic knowledge of pygame.

Created sprites:

- Main character sprite
- Villain sprite

Gave both characters location speed and images.

Programmed basic AI that follows main character around by matching `sprite.x` and `sprite.y`.

Week 2:

Created a basic background the that the player can move about.

Created walking animations for the player and the zombies.

Created bullet object that can kill zombies if they are damaged enough.

Changed view of the screen so that main character is always at the center of the screen and everything else moves about him.

Week 3:

Created obstacle class that spawns an immobile object.

Fixed collisions for main character and AI. Main character no longer gets stuck when trying to move through an obstacle.

Zombies collide with obstacles as well, but they do not move around objects to get to the player just yet.

Week 4:

Created background grass tiles that generate as player moves.

Created zombie attribute that lets it move around simple obstacles so that they don't get stuck behind cars, trees etc.

Populated the map with new sprites. (Rocks, trees, cars, graves etc.)

Developed a game screen that keeps track of the score, lives, money and guns that the player has access to now.

Gave zombies the ability to harm the player and created an animation for when the player gets hit by zombies.

UPDATES

Created powerup class with two powerups (Nuke and instakill)

Zombies have a 20 percent chance of dropping a powerup when they are killed.

Gave structure to the game so that levels increase as zombies are killed.

As levels increase, zombies generate more often.

Start and game over screens added.

Created testing shortcuts that spawn test zombies, obstacles and powerups.