

Repo link: <https://github.com/ArachnoBot/ZombieGame.git>

Project progression:

I chose the HTML5 game as the project as this was the most interesting out of the three. I had planned to make a game similar to the project example. When looking for a more interesting sprite i came across these soldier and zombie sprites and decided to make an exploration shooter game.

The game was written almost entirely in javascript. It was made with phaser 3.55.2 and assets were downloaded from craftpix.net. The physics engine used in phaser is the Arcade engine.

First i had to figure out how to make the ground that the characters would stand on. I decided to use tilemaps and a software called "Tiles". After creating a level ground for testing i started making the character. First i loaded the character spritesheets, created the sprites, added colliders and made them have gravity. Then i added some basic input from the keyboard, like moving left and right and jumping. After that i created the animations for the player and made them play at appropriate times.

The enemies are zombies, which have their own group and class. They hold a lot of similarities to the soldier, except they aren't controlled by the player of course. The zombies are controlled by basic AI, which basically tells the zombie to run left or right depending where the soldier is in relation to the zombie. It also checks if the zombie is blocked by something, which triggers the zombie to jump over the obstacle. If a zombie collides with the player, the zombie plays an attack animation, the player a death animation and the level restarts.

Since there are enemies, the player needed a way to attack. I made the player able to shoot, because the player is a soldier. Bullets have their own group and class, but all of the class does is assign speed and direction for the newly created bullet and set a timer after which the object destroys itself. There also is a collider for bullets and walls, which destroys the bullet on impact. Of course there is also a collider for bullets and zombies, which destroys the bullet, plays the zombie death animation and removes the zombie from its group. The attack button plays the soldier attack animation, creates a new bullet and sets a cooldown so you can't shoot again too quickly.

Events are triggered based on which tile the player is standing on. This is made with a collider that updates the soldier's location to an array with the tile's x and y coordinates. The update loop then checks if the array matches any preset locations. This way i can trigger events, like zombies attacking or changing to next level based on the player's location. Groups of zombies are added to arrays so that they don't all need to be triggered manually.

Suggested points generated from the project:

Has a report: 1 point

I forgot about the report and had to do it after completing the project, which probably reduces the quality of it, hence only one point.

Application works on multiple browsers: 1 point

I have no way of testing if it works on safari, but it works on firefox, edge and chrome.

Application works on any size monitor: 1 point

Game screen scales automatically to fill all the usable space.

The game's levels are split into multiple files: 1 point

The game's javascript files for levels are split to make the project easier to read.

There is a clear plot in the game, it has a start and end: 3 points

The game doesn't have a story, but the way to progress in the game is clear. It's also clear when the game ends, because of the ending screen.

There are more than one map: 3 points

The game has multiple levels.

There are multiple controls: 2 points

The game has no mouse controls but controls for each direction and additional keys for running and attacking.

The player can die: 3 points

The game has enemies that can kill the player, forcing them to restart the level. The player can also die falling off the map.

Basic zombie AI: 2 points

The enemies in game have basic intelligence so that they can run towards you, jump over obstacles and climb stairs while running.

Player can shoot: 2 points

The player can shoot which creates a bullet that behaves somewhat realistically.

Position based events: 1 point

Events on the game can be triggered by player position.

The characters have multiple animations: 3 points

The soldier and zombies have multiple animations (idle, walk, run, attack, death, jump, fall) that all work in both left and right directions.

The game has tilemaps and backgrounds: 2 points

The maps are tilemaps, which means they are created by hand using additional software. The maps also have alternating backgrounds.

Total: 25 points