

Untitled Tank Game

This game was created as project work for the course Basics of Web Programming, which goes through building simple web applications using HTML, CSS and JavaScript. This is quite frankly the first “real” project I have coded with my prior experience being only Python in an intro to programming course. This is because I changed studies after completing my Bachelors in Mech. Eng. and switched to study Computer Science.

The initial idea was to create a simple tank game, where the player can shoot enemies and have more powerful weapons or powerups. Additionally, the game needed some kind of goal which was decided to be a 2-level story about defending a kitten orphanage from attacking tanks and then proceeding to destroy the base from which the enemy tanks were coming from. This proved to be a great motivator in play.

In level 1 a certain specified amount of tanks spawn which must all be killed to progress to level 2. In level 2 the tanks spawn infinitely, to provide the player with access to the powerups with which the enemy base is much easier / more fun to destroy. The change between level 1 and 2 is controlled by a level change trigger at the right side of the screen which activates once all enemies in level 1 have been destroyed. If the player fails in level 1 or 2 (orphanage gets destroyed or player dies) they can retry from the level they were in with the level state reset. Additionally, an option to look at the scoreboard is available. Both level 1 and 2 have text prompts which appear on screen to guide the player in what they must do.

The game was programmed in JavaScript using the Phaser 3 Game Framework. The page for the game itself is very simple, only housing a small introduction to the game and a player name input. CSS was used to style the few HTML elements on the page. Sound effects for the game were gathered from “freesound.org” by the following creators:

Tank firing sound: by qubodup <https://freesound.org/people/qubodup/sounds/168707/>

Explosion sound: by eardeer <https://freesound.org/people/eardeer/sounds/390182/>

Metal hit sound: by ajanhallinta <https://freesound.org/people/ajanhallinta/sounds/650700/>

Tank assets made by Willie88 were gathered from <https://willie88.itch.io/simple-tank-2d-asset>

Rest of the assets used are original.

Expected points: 35-36 / 40 (+ additional points)

What follows next is a breakdown of the justification for points from the project work:

Well written PDF report – **3 points**. This PDF documents what was done, using what and the points justification.

Application is responsive and can be used on both desktop and mobile – **2-3 points**. The application works flawlessly on desktop, the texts can be harder to see on smaller devices.

Application works on FireFox, Safari, Edge and Chrome – **3? Points**. Works on all browsers which could be tested (couldn't test Safari)

The application has clear directory structure, and everything is organized well – **2 points**. The directory structure is clear with HTML, CSS and JS being in their own files.

There is a clear plot in the game. It has a start and end – **3 points**. The plot is clear, linear and the game has working start and end conditions.

User can get their name in the scoreboard – **3 points**. While the username input was outsourced to the HTML page, as a phaser input interface would have been a hassle for the user and programmer, the player can input their name and have it saved to the scoreboard.

There are different (more than 1) objects to collect – **2 points**. There are 2 different kinds of powerups the player can collect from destroyed enemies.

There are moving parts in the game area (other than the player and enemies, so e.g. some floors fall apart) – **3 points**. There are destructible structures (cacti and enemy base). Also player progression is controlled by barriers and level change triggers.

There is more than one map – **3 points**. The game consists of 2 levels which are played in order.

Gamer needs to use both keyboard and mouse to meaningfully control the player character – **3 points**. Both keyboard and mouse are used to control player.

Game uses physics engine, so that there are falling parts / enemies / players – **2 points**. The player, enemies, bullets all are affected by physics.

There are enemies which can hurt the player – **3 points**. The enemies in the game can hurt the player, and there are many of them.

There is music and sound effects when player shoots/jumps or anything like that – **3 points**. There are sound effects for firing, hits and destroying enemies.

Gamer can play the game with touch screen – **0 points**. The game has no touch screen interface.

Additional points: **X** pity points. This was a hard project to complete with minimal programming experience. But I think it turned out pretty well. Of course it requires some tweaking and balancing, but this is like an early beta of the game.