CT30A2910 Introduction to Web Programming

Project Work

Final Report

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Description of the program:

Choosing to go with the third option, I built an HTML5 game with Phaser.js. The game consists of the playable bird, some collectables, pipes to go through and flying enemies to avoid.

The aim of the game is to collect as many fruits as possible while avoiding colliding with enemies or pipes. Upon taking a hit, the player is awarded points based on how long they survived as well as how many fruits they collected.

Fruits are heavily incentivized to collect over just advancing through the pipes, as fruits grant 5 times as many points as just dodging pipes and staying alive.

The game gets progressively harder as the timer in the top-left corner increases. The pipes get faster and more frequent, the gap in between them gets smaller, and enemies start to spawn and move randomly all over the screen.

Cherries grant the players 1 fruit, but also increase the timer by 2, therefore increasing the difficulty. Melons only increase the fruit counter by 1, making them a more desirable collectable to go for.

The player's highest achieved score is saved and updated over the course of the gaming session.

Tools used:

The game is built with a simple HTML boilerplate and a couple of JavaScript files utilizing Phaser. Being a total beginner to programming videogames I relied heavily on the course lecture on Phaser. Most of the “core” programming is based on the demo by Erno. I decided to make a Flappy Bird clone due to it being one of the simplest games I could think of while making it relatively easy for me to code along with the course demo and adapt to the teachings given by the lecturer.

I did some game assets myself on https://www.pixilart.com/draw.

Other assets were downloaded from Itch.io. I tried to look for people who shared their sprites for others to use. The users have been credited in the code.

Sound clips were downloaded from pixabay.com. From my understanding the sounds on the website are all free to use. I have also credited the users in the code.

IDE used was Visual Studio Code.

Webpack was used to bundle the game and compile everything into a neat package.

GitHub was used for version control.

Microsoft Word was used to type out the final report.

StackOverflow, Medium, YouTube and numerous other websites were used to teach myself the subject matter and have been credited when code was taken from other developers.

Points:

Feature	Points	Notes / Info
There is a clear plot in the game. It has a start and an end.	4	
There are different (more than 1) objects to collect.	2	
There are enemies that can hurt the player.	3	There is no health system in the game, getting hit by a pipe or a flying enemy ends the game.
There is music and sound effects.	3	
There is more than one map.	2	Different maps in this type of game are not really possible. Instead, I went with multiple scenes. (Welcome, Main Game, Game Over)
User can get their name in the scoreboard.	2	I don't know how a scoreboard would work in this type of game, so I went with saving the highest score of the current session.
Application is responsive and can be used on both desktop and mobile environment.	2	The game size is always relative to the active window size. The game is technically possible to play on mobile, but I haven't tested it.
Application works on Firefox, Safari, Edge and Chrome.	2	Tested to be working on Firefox, Edge, and Chrome. I don't own a Mac, so I couldn't test Safari.
Well-written report	2	I tried my best.

Total points	22