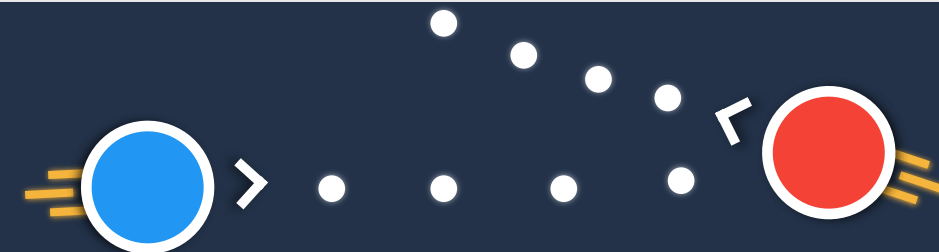**UNIVERSITY OF SUSSEX**

Building a front-end application infrastructure for web-based games to store player customisation and statistics.

Charlie Aitkin

Project Overview

Throughout this project, the author aims to build a front-end application infrastructure for web-based games, using contemporary web technologies. The front-end application infrastructure will be linked up to a single-player web game and will allow users to create profiles and view their game statistics such as high scores and kill/death ratio. The game will be designed to be engaging, easy to play and ultimately fun. Game assets are created by hand and follow the aesthetic of the front-end interface.

The Approach

A waterfall approach was applied throughout the project, with background research and user questionnaire gathering happening first. This was used to generate a requirements specification which influenced design and development.

After development, the game and application were tested with users and feedback was collected. This was used to implement design changes to the application and game.

Design & Graphics
Sketch & Pixelmator

Front-End
CSS3, HTML5, JavaScript, jQuery & Bootstrap

Back-End
Firebase & PHP

Game Development
Firebase & Phaser

Objectives

- Develop a web-based video game that has simple, but engaging gameplay mechanics.
- Develop a web application to hold the game and also provide functionality to create a user profile, see player stats.
- Allow the game to be playable across a range of different screen sizes, by building the web application to be responsive and mobile first.
- Ensure the game has a space theme.
- The web application will follow the latest user interface and experience conventions to provide a fluid experience for the user.
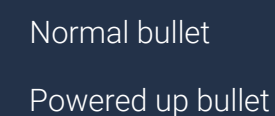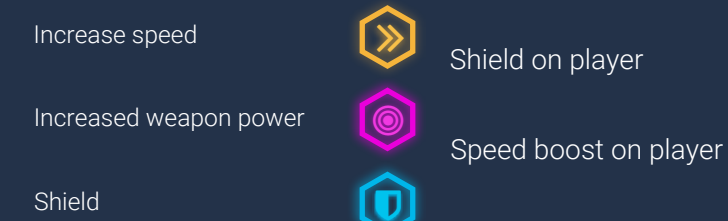
Art & Theme

Player

Player Body   Aiming   Propulsion

Projectiles

Normal bullet
Powered up bullet

Powerups & Pickups

Increase speed   Shield on player
Increased weapon power   Speed boost on player
Shield

Future

If more time was given the following would be incorporated into the project:

- Multiplayer functionality.
- Custom ships and more emblem unlockables.
- Gamepad support.
- Writing detailing documentation for the front-end application so other developers could incorporate it into their projects.

Questions? Drop me an email at ca278@sussex.ac.uk