**hyperspace**

Yash Mathur Ambareesh Balaji

Quest ID: y2mathur Quest ID: a3balaji

Student #20670653 Student #20654649

We are going to build a Space Shooter game using the Orbit Booster Pack for the Software Engineering final project.

**About the game**

HyperSpace is a single player game. The objective of the game is to protect the player ship from the enemies by avoiding get shot down while shooting the enemies down.

In our version of the game, the player moves his ship by physically moving the board up and down. The ship moves forward on its own, and it cannot go backwards. The player shoots enemy ships by pressing the button on the board.

**Software Components**

This project will involve heavy usage of the available software components. The following components will be utilized:

* Arduino Wire Library: For operating the temperature sensor and accelerometer.
* OrbitOled Library: For operating the OLED screen.

**Hardware Components**

We will make use of various hardware components for this game. They are as follows:

* Accelerometer: In order to make the game more immersive, we wish to use the accelerometer for controlling the ship.
* OLED Screen: We will display the menu, the ships and all other objects on the screen.
* Buttons: The player will use the button to fire the weapons on the ship.
* Potentiometer Knob: This will be used in the menu for selecting the difficulty/level.
* Temperature sensor: Use as cheat ;)

**Challenges**

We expect to face the following challenges:

* Displaying multiple objects on a small screen with low resolution.
* Smooth movement of objects like the ship and the fired shots.
* We are not sure yet if using the accelerometer for controlling the ship is a good idea because we don’t know if it will make the game too difficult for the player.