# **Introduction**

Our project is a space shooter called “Termination Arc”. The game genre is an action; its subgenre is a 2D shooter. The objective of the game is to shoot down the enemy ships and reach the boss.

# **Design**

## **Rules**

The player ship is free to move around the entirety of the screen; however, they cannot go beyond the screen dimensions. The player is able to fire directly in front of them in a rapid manner. The common enemies will try to fire at the player while trying to ram into them. The player can fire at enemy bullets to negate them, and the enemy can do the same. The boss follows similar rules to the common enemies.

## **Sources of uncertainty**

The game may prove to either be too difficult or easy if the player figures out a certain playstyle that will generally work. In addition, the game will occasionally place the player in its starting location upon contact with the enemy; this may be due to a calculating error. We were unable to implement a hi-score system in time.

## **Win State, Lose State**

Like with traditional arcade games, there is no win state; the objective is to get as far as you can while obtaining a hi-score. The lose state is reached when the player reaches 0 lives; the game will automatically shut down.

## **Expected Skills**

The player is expected to know how to operate a keyboard, using 4 buttons to navigate the two-dimensional space and using the fire button.

## **Controls**

W - Up

A - Left

S - Down

D - Right

Spacebar (hold) - Fire bullet

## **Expected Duration of a Game**

The game’s duration may vary from between 10 seconds to several minutes, depending on the player’s skill.

## **Scoring**

Each enemy destroyed nets the player 50 points.

## **Visual Representation of Game State**

The player is represented by the color blue; this means that their avatar is a blue ship that fires blue lasers. The enemy are color-coded to be red; enemy ships appear red and they fire red projectiles.

# **Software Architecture Detail**

This was developed in Python 3.6 using Microsoft Visual Studio 2015 as the IDE. A module that was widely used was pygame, which enabled the use of creating a visual program that the user can interact with.

# **Game Demonstration**

# **Bibliography**

**Coding Resources:**

Game Development with Pygame by KidsCanCode

<https://www.youtube.com/playlist?list=PLsk-HSGFjnaH5yghzu7PcOzm9NhsW0Urw>

**Aesthetics Resources:**

space.jpg

https://i.ytimg.com/vi/fOl6TUPTcO8/maxresdefault.jpg

Art assets

<http://kenney.nl/>

Sound effects by Bfxr tool

<https://www.bfxr.net/>

Music\_1.ogg - Ikaruga Chapter-04 Reality (Hiroshi Iuchi) https://www.youtube.com/watch?v=8ym2uK-nm7k