Week One Report

Time Estimate

Predicted

1. Physics Engine: 3 Hours
2. Skeleton of project (25% of each task, 10% for lcd): 1.4875 hours

Actual

1. Physics Engine: 3.25 Hours
2. Skeleton of project: 1 hour

Test Plan

Week 1:

The first point at which we can perform more comprehensive testing is when the physics engine is completed. This will be the backbone of the game and run relatively often. Having a "cutting point" here would minimize bugs down the line.

Another point at which we can do comprehensive testing is once the player movement is implemented. This task involves a lot of peripherals and unforeseen behavior will be easier to find when I can interact with the game.

Week 2:

I have created unit tests for the physics engine. I have run into a problem where I need to implement stubbing of some OS structures that the functions use as the kernel isn't started at the time I run my tests. Besides that the basic structure will be the same, I have 7 smaller tests to ensure the sub functionality is working and one integration test where I will run the engine through multiple ticks . I need to add a way for game overs to occur in order for one of the tests to be implemented and I also still need to finish the full integration test of the physics system, but I am leaving that until next week.

Weekly Summary

This week I did the physics engine and implemented a skeleton architecture for the rest of the game, including tasks and data structures. The skeleton leaves most tasks at a good starting point, roughly 25% of the work for each of them has been completed. Besides finishing up testing with stubs and separate features blocking certain tests, the engine tests are also finished.

I have completed **46.3%** of my currently-scoped, estimated work (7.5 actually spent /17.25hr total estimate) in **93.9%** of the initially-estimated time. (7.9875 estimated for the items I have

completed, of 17.25r total estimate). For the work that has been completed, I took **0.94x** (7.5/7.9875) as much time as I estimated.

Scope

Completed this week:

- Physics Engine (Estimate 3 hours, actual 3.25 hours)

    Took slightly longer than expected. Had to rewrite the functions to accommodate arguments to make testing easier. Some tests aren't finished, but finalizing them shouldn't take too long.

In Scope (Not final order of completion)

- Physics engine (Estimate: 3 Hours)
- Player Movement (Estimate: 1.5 hours)
- HM System (Estimate: 2 Hours)
- Laser System (Estimate: 1 Hour)
- Shield System (Estimate: 1 Hour)
- LEDs (Estimate: 15 Minutes)
- LCD System & Design (Estimate: 5 Hours)

Out of Scope but want to implement

- Menu
- Difficulty settings
- Multiple HM's