Project started at 5:23pm on 11/8/2022.

I estimate the following times to complete tasks this week:

Task	Estimated Time	Actual Time
Create task structure	3 hour	4 hour
Create unit tests	1 hour 30 min	1 hour 30 min
Report	30 min	30 min
Total	5 hour	6 hour

Test plan and results:

I have created unit tests to test the physics engine that I began implementing this week. The unit tests do not all pass, but that is fine. I still need to implement more for the physics engine, but I have a great start.

I included tests that test most relevant physics engine functions:

- Check if HMs are removed at the top of the screen
- Check if HMs are repelled with no shield
- Check if HMs are repelled with a shield
- Check platform movement
- Check platform collision with walls
- Check if HMs update correctly
- Check collective physics
- Check game over

State of where project stands:

This week I created the task structures and all the synchronization handlers. I began implementing the physics engine and created unit tests for it. I put a decent amount of time into several in scope objectives, but I didn't complete any of them.

Summary effort and estimate numbers:

I have completed **48%** of my currently scoped, estimated work (10.25 actually spent / 21hr total estimate) in **38%** of the initially-estimated time. (8hr estimated for the items I have completed, of 21hr total estimate). For the work that has been completed, I took **1.28x** (10.25/8) as much time as I estimated.

List of in-scope work items:

Completed this week:

- Create task structure (estimate: 3hr, actual: 4 hour)
- Create unit tests (estimate: 1.5hr, actual: 1.5hr)

- In scope:
- Physics Engine (estimate: 4 hours)
- Player movement (estimate: 2 hours)
- HM System (estimate: 2 hours)
- Laser System (estimate: 2 hours)
- Shield System (estimate: 2 hours)
- LEDs (estimate: 1 hour)
- LCD System and Design (estimate: 5 hours)

Out of Scope but Considering for Implementation:

- Menu
- Difficulty Options