Project Week 4

Tim Houck

Functional Tests:

1. Hold Button0. LED0 should blink using PWM until the light is solid.

   Pass

2. Press Button1 while a satchel is near the platform and enough energy is available. The satchel should be destroyed.

   Fail, force field mechanic has not been added yet.

3. Hit the castle once. LED1 should blink with a 50% duty cycle at 1Hz and end-game screen will display.

   Fail, LED works but end-game screen not added yet.

4. Hit the castle's foundation 3 times. LED1 should blink with a 50% duty cycle at 1Hz and end-game screen will display.

   Fail, LED works but end-game screen not added yet.

5. Touch the far left end of the slider. The platform should move quickly to the left.

   Pass

6. Touch the middle left part of the slider. The platform should move slowly to the left.

   Pass

7. Touch the far right end of the slider. The platform should move quickly to the right.

   Pass

8. Touch the middle right part of the slider. The platform should move slowly to the right.

Pass

9. Move the platform until it hits either side of the display (the cliff wall). The platform should bounce off the wall or be destroyed, depending on the speed.

   Fail, bounces but does not destroy yet.

10. Let a satchel touch the platform. The platform should be destroyed and end-game screen will display.

    Fail, end-game screen not yet added.

Summary:

This week I finished my LCD Display task. This was one of the most important parts in the development of the game because it was a way to visually test if the other parts were all working together properly. With this, I have completed all major tasks in the game and can now focus on debugging and fully tying everything together next week.

I have completed **71.4%** of my estimated work (**25.5** hr estimated for work completed out of 35 hr total estimate) in **63.8%** of the budgeted total project time. (**23** hrs spent out of 36 hr total estimate). For the work that has been completed, I took **1.11x** (25.5hrs/23hrs) as much time as I estimated.

List of Work Items:

Item	Status	Estimate	Actual (so far if inc.)
Task Diagram	Complete	1 hour	1 hour 30 min
Unit Testing	Incomplete	5 hours	3 hours
Risk Register	Incomplete	4 hours	1 hour
Config Data Structs	Complete	2 hours	2 hours
Button Input & FIFO	Complete	1 hour 30 min	1 hour

Slider Input	Complete	1 hour 30 min	1 hour
Physics Model	Complete	6 hours	7 hours
Satchel Throwing	Complete	3 hours	2 hours 30 min
LED Display	Complete	2 hours	2 hours 30 min
LCD Display	Complete	6 hours	8 hours
Summary/List Work	Incomplete	3 hours	2 hours
Total:	8/11	35 hours	31 hours 30 minutes

Completed this week:

- LCD Display

  This task may have been the hardest, as a good amount of time was spent looking through documentation and finding the right functions to use to display various parts of the game on the screen. One thing that was especially tricky to me was converting the positions values sent from the physics task from cm to pixels. I was able to do this by finding the correct ratio to effectively scale down the values to fit within the screen.