

Project Week 6

Unit Testing Codes [Finished]:

- Platform Direction Tests:
 - Test if platform doesn't move when force is applied and velocity is 0
 - Test if platform maintains nonzero velocity when no force is applied
 - Test if platform increases velocity when force is applied in the same direction of the velocity
 - Test if platform decreases velocity when force is applied in the opposite direction of the velocity
- HM Tests:
 - Test if HM screen is the same as the Platform Direction given
 - Test LEDs turn on when HM crashes
 - Test both functions of each LEDs. Left LED current force magnitude, Right LED showing MAX_FORCE
- Error HM Tests:
 - Test to make sure CapSense works with new setup
 - Test to make sure PushButtons work with new setup
 - Test physics (later on)

All are now passing (Changed a few equations because it wasn't working when implementing)

Functional Testing:

- When resetting see if the LED is blinking very slow (Pass)
- Finger controls the platform acceleration with the touch slider, also releasing does not fully stop platform [LEFT CONTROL] (Pass)
- Finger controls the platform acceleration with the touch slider, also releasing does not fully stop platform [RIGHT CONTROL] (Pass)
- Make sure that the ball bounces off the platform correctly, including repeated bounces and how they change the ball (Pass)
- Make sure Button 0 makes the peak of the parabola higher (Pass)
- Slider matches the LED's pwm while it blinks and will collide with the ball (Fail)
- Make sure when button 1 is pressed the ball bounces outside of the canyon (Fail)
- Make sure when pressing the opposite direction of slider, the platform decelerates before accelerating otherway (Pass)
- Make sure button1 resets everything and the ball goes back to the top of the screen (Pass)
- Make sure you cannot press button 1 a lot of times. AKA make it do nothing after a lot of presses (Fail)
- Game over screen activates when appropriate (Pass)
- Make a cool game :) (In Progress)

Project Stands:

This week I pretty much implemented all of the functions which will probably be working by the time it should be. I also set up the reset button (BUTTON 1) that resets the HM. Most of the time was reorganizing and redistributing the capsense and eld code to their tasks. Everything has been initialized and most functions have been integrated into the project code itself. A lot of functions and implementations were easier to identify once I started first. I did not add a risk to the registers. The bounce part of the game has been the hardest imo.

Summary - I have completed 83% of my currently-scoped, estimated work time (50/ actually spent /60 hr total estimate) in 90% of the initially-estimated time. (54 estimated for the items I have completed, of 60 hr total estimate). For the work that has been completed, I took about 0.92x as much time as I estimated. I don't think I will change the scope with the information I gathered this week.

Very Productive week overall.

List of in-scope work items:

Completed works:

Task Diagram

LCD drawings

Laser Implementation

Task Integration

LED Control

Slider Control with LED PWM

Task Creations

Using Segger with Tasks

- This Week
 - Platform Motion
 - Platform Bounce
 - Collision
- Not Completed
 - LED implementation
 - Code Cleanup

Risk Register:
(Added 1 Risk)

Item	P	I	Risk (P*I)	Recognized	Mitigated/ Resolved	ROAM	How	Justin Robert		
Late office hours so I could not get to them	▼	▼	4	8-Mar-22	Resolved	R	Since I didn't have class afterwards, just come later			
Office hours were same time as this class lab	▼	▼	200	6-Mar-22	Mitigated	M	Decided to go to other class office hours but instead went to more office hours this week			
Slept during office hours	▼	▼	120	15-Mar-22	None	A	I fell asleep and that was my bad, got little sleep			
Test during lab	▼	▼	200	13-Mar-22	Mitigated	M	Went to office hours as long as lab was			
Original math was incorrect for unit tests	▼	▼	65	10-Apr-22	Resolved	R	Changed a few of the equations to make sure they actually work when implementing			
	▼	▼	0							
	▼	▼	0							
	▼	▼	0							
	▼	▼	0							