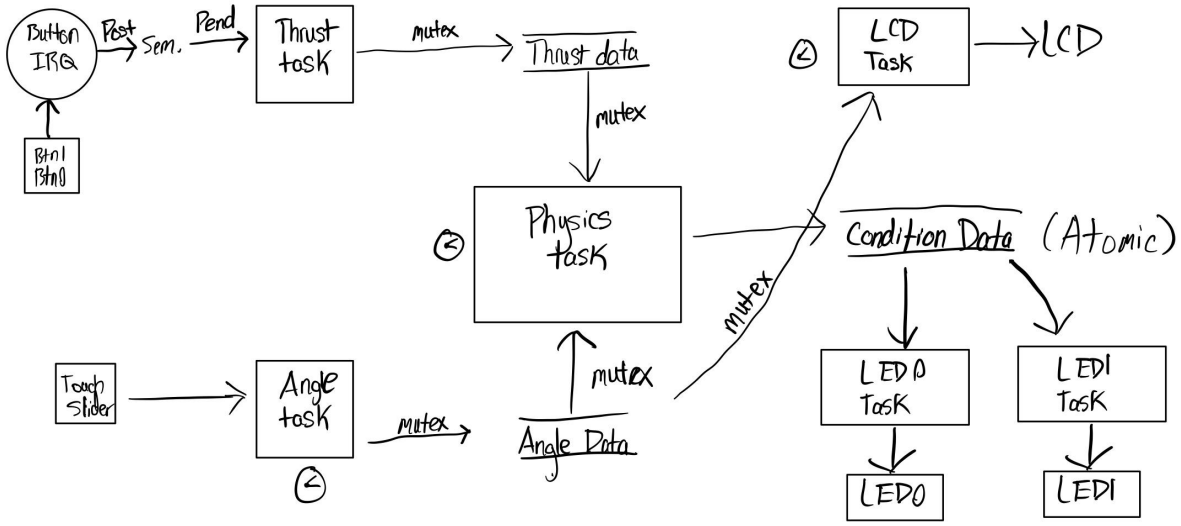
Task Diagram



Testing Plan

1. Test Case: Valid AngleValues
    a. Test that the Angle task is getting proper values into the angle data structure when no input
    b. Value with no input should be -1.
2. Test Case: Valid Angle Values
    a. Test Angle task is setting proper value to angle data structure with user input
    b. Value with input should be between 0 and 50.
3. Test Case: Valid Thrust Values
    a. Test thrust task is correctly setting thrust data on button 0 interrupts.
    b. Should set button 0 field in struct to true
    c. Should decrement the thrust counter by 1.
4. Test Case: Valid Thrust Values
    a. Test thrust task is correctly setting thrust data on button 1 interrupts.
    b. Should set button 1 field in struct to true.
    c. Should increment the thrust counter by 1.
5. Test Case: Valid Thrust Values
    a. Test thrust task with zero thrust percentage.
    b. X component for acceleration should have a zero value
    c. Y component for acceleration should only be the gravitational constant
6. Test Case: Valid Thrust Values
    a. Test thrust task with button held for longer period of time
    b. Verify by checking thrust countries maxed out.
7. Test Case: Test LCD Functionality.
    a. Check that LCD is correctly initialized by displaying a test message.

    b. I didn't implement it in lab 7 so it'll be useful to test that I successfully implemented the code/sources for it.
8. Test Case: Test LED0
    a. Test LED brightness at different duty cycles to verify correct PWM implementation.
    b. Verify by seeing brightness of LED with different values.
9. Test Case: Test LED
    a. Test with healthy flight conditions
10. Test Case: Test LED
    a. Test with blackout flight conditions
11. Test Case: Test LED
    a. Test with game over conditions
12. Test Case: Test Config Data
    a. Test with values that should quit simulation
    b. Test with valid values.

Test Summary: As I am still in the process of planning the project, all the tests are currently not implemented.

Project Standing

This week, I worked on planning the project. This included creating the task diagram, creating a testing plan, estimating the scoped work, and assessing possible risks.. So far, I have completed just the project planning phase.

As seen in the next section, I have completed the project planning phase and have contributed 11.02% to the project completion that I have scoped so far (3.25 out of 29.5 hours).

Work Items

Task	Estimated Time (Hrs)	Actual Time (Hrs)
Project Planning	2	3.25
Create Unit Tests	3	
Implement Button IRQs	0.5	
Instantiate all OS Resources	2	
Import LCD Sources	2	
Implement Thrust Task	3	
Implement Angle Task	3	
Implement Physics Task	8	
Implement LCD Task	4	
Implement LED Task	2	
Total	29.5	3.25
Percent Done	11.02%	