Estimated completion time: 2 hours for thoughtful consideration of project, test plan and detailed diagram

Actual time spend 1 hr 15 mins

Diagram:

A picture containing text, indoor, map

Description automatically generated

**Test Plan and results:**

Preliminary unit testing

1. Show that pb0 and pb1 inputs and tasks are working by reading in the push buttons and outputting the result to an LED
2. Show that the cap sensor task is working properly by reading in various cap values
3. See that the LCD screen works and that it shows preliminary visuals (basic pendulum line, center bar etc.)
4. Hardcode in a pattern and see that the LCD updates and that the pendulum looks at last semi good
5. Set theta to 0 or pi and see that LED1 turns on as this is an error
6. Move the position by using the cap sense and verify that the slider actually moves the position by outputting the value to the LCD screen

Acceptance testing

1. Observe a steady pendulum when no inputs are pressed
2. Push PB0 and see that the pendulum slows down
3. Push PB1 and see that the pendulum speeds up
4. Push PB0 repeatedly to try and get the pendulum to fail and fall to one side, causing LED1 to turn on

**Statement of where your project stands:**

Currently my project is still in the planning stages. I have created a flow diagram with all of the inputs mapped to their action. As well as mapped out the testing plan that will be used to verify proper functionality.

As of now, we have done 5% of the total work for the project with 0% of the implementation. This 5% comes from the above accomplishments.

**List of in-scope work items:**

1. Incomplete
   1. Implement button input tasks
   2. Implement cap slider task
   3. Create pendulum structs and current physics structs
   4. Define unchanging physics
2. Complete

**Update your risk register:**