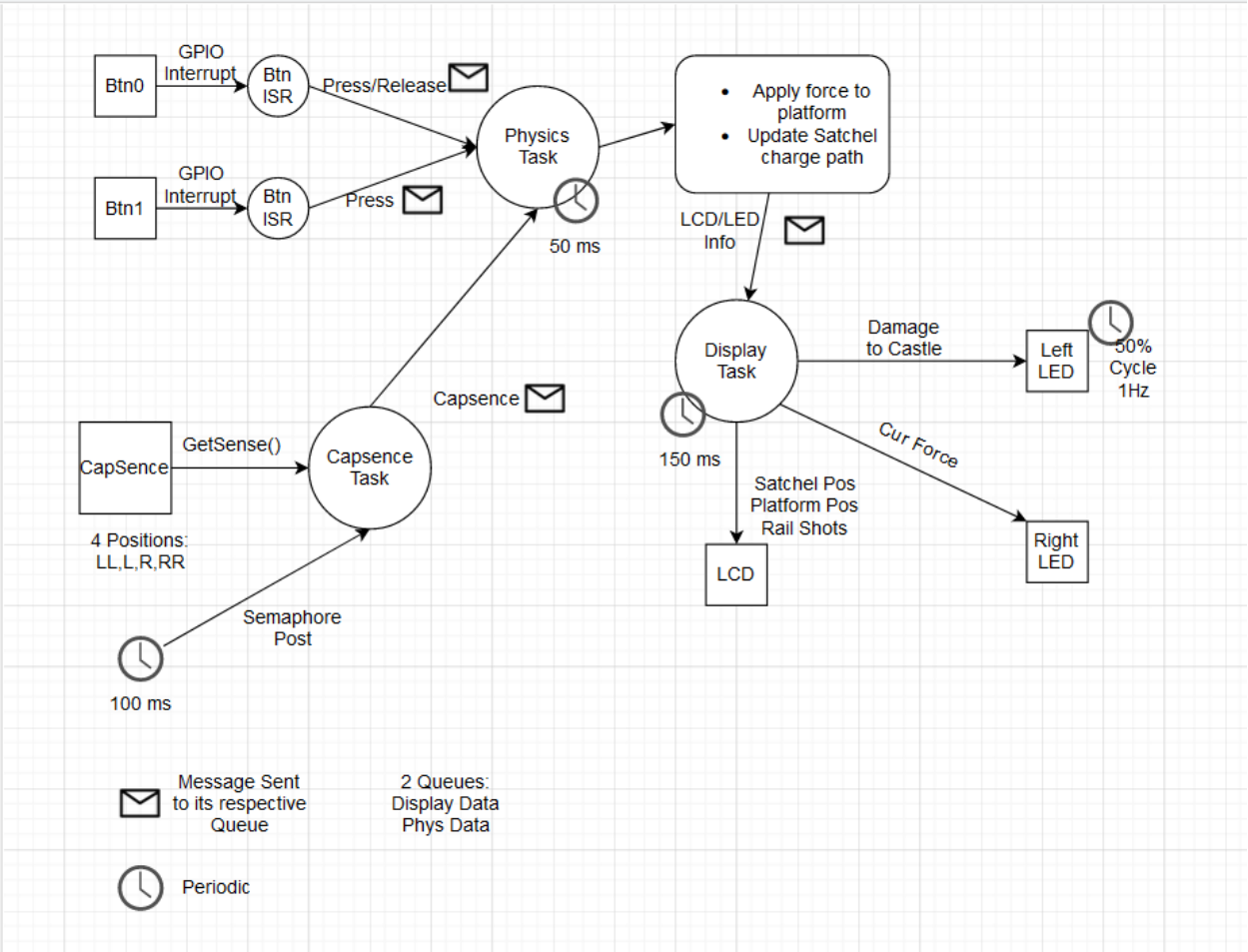
Week 2:

Task Diagram:

- I kept the Task Diagram the same as last week as I haven't implemented enough to make changes or get more new key details about any processes.



Test and Plan:

Unit Testing Plan (Min 3 cutting points) (Min 10 Tests)

- Queue functionality:
  - [Priority/Round Robin Functionality]: Complete Functionality
- Task OS management:
  - [Correct Task Creation/Able to Enter Each Task]: Complete Functionality
- Physics Task Input Functionality: (Button/Capsense testing)
  - [Capacitor Timer Callback/Semaphore Post]: PartialFunctionality
  - [Btn0 Press And Release]: Complete Functionality
  - [Btn1 Press Only]: Complete Functionality
  - [Enters Physics task every 50ms if no Msg Queue]: NotRun
- Physics Task Output Functionality:
  - [Satchel Pos]: NotRun
  - [Platform Pos]: NotRun
  - [Rail Shots]: NotRun

    - [Enters Display task every 150ms if no Msg Queue]: NotRun

- LED Cycle Test:
    - [50% Cycle 1 Hz]: NotRun
    - [PWM to show Force as % of MAX_FORCE]: NotRun

Statement of where my Project Stands:
This week in order to progress in my project I chose to first implement the basic outline for the entire project. This included All of my tasks, defines, static variables, global variables, function declarations, IRQ Handlers, OS Create Calls, OS Flag Post, OS Semaphore Pend/Post, OS Timer Start, and my Queue system. All of this work was practically the same as Lab 6/7 but I had to change things to make it more specific to my project. For example I setup my message queue:
Originally in Lab 6 I used a struct with an int and char. The integer represented the state of the system and the Char told me which system I was referencing (button 0, button 1, capsense). Now because I plan on using two queues I want the system to be as simple as possible. I now represented each state with an associated 8 bit integer representation:
BTN0_PRESS:0
BTN0_RELEASE:1
BTN1_PRESS:2
CAP_OFF:3
CAP_LL:4
CAP_L:5
CAP_R:6
CAP_RR:7
I tested to verify that every OS related thing I configured ran without any errors. I also verified that my NVIC worked and that I had the GPIO setup aswell.

Summary Effort & Estimate Numbers:
I have completed **20%** of my currently-scoped, estimated work (**4** estimated for work completed thus far **40** /hr total estimate)
This week I initialized OS_Tasks, OS_ITC, NVIC, and Timers
List of in-scope work items:

- % Of Test Cases implemented:5/12
- % Of Test Cases Passing:4/12
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