**Week 1 Statement on Project Standing**

This week I did the project planning, created my task diagram, wrote my unit test plan to ensure that my project will function as intended. Also set up github repo and did overall project designing. I decided on using the slider to adjust fuel burn rate and buttons to adjust the angle of attack. Currently planning on having five total tasks.

I have completed 6% of the currently scoped work, estimated work (2/34hr) in 6% the initially estimated time (4/34hr). Still early and the fact that more time was spent planning than expected is probably a good thing. The more time spent planning the better.

**Scoped Work**

| **Work Item** | **Description** | **Estimated Time** | **Status** |
| --- | --- | --- | --- |
| Project Planning | Create an initial task diagram and documents for week1. Have an idea of project design. | 2 hrs | Complete |
| Data Structure Setup | Setup initial data structures for rocket, message queue, angle setpoint, and throttle setpoint. | 2 hrs | Not Yet Complete |
| Writing Unit Tests | Write initial unit tests. Should fail until further development. Challenge in porting in data needed between cutpoints. | 3 hrs | Not Yet Complete |
| ITC and Shared Resource Setup | Establish the structures needed between tasks, such as semaphores, timers, mutexes, and the tasks themselves. | 1 hr | Not Yet Complete |
| Angle Task | Develop code for angle task to pend on semaphore from button ISR and write to angle setpoint. | 0.5 hrs | Not Yet Complete |
| Throttle Task | Develop code for throttle task to pend on semaphore from timer and write to throttle setpoint. | 0.5 hrs | Not Yet Complete |
| LED/PWM Task | Develop code to drive LED’s based on PWM. PWM code created in a separate work item. | 0.5 hrs | Not Yet Complete |
| Rocket Design | Practice with the micrium graphics library to design how the rocket will look and what are the meaningful points. | 1 hr | Not Yet Complete |
| Display Task | Develop code for display task to take data from rocket data structure and display the rocket. Challenge is to display the rotation of the rocket graphic, here the math is done to move the vertices of the rocket. | 5 hrs | Not Yet Complete |
| Physics Task | Develop code for physics task. This is the bulk of the project. Includes programming kinematic equations to computing the acceleration, thrust, fuel, position, and rotation of logic. Will also be responsible for knowing if a win or loss has occurred. | 8 hrs | Not Yet Complete |
| PWM config | Create the routines necessary to program configurable PWMs using software timers. Needed by LED task. | 2.5 hrs | Not Yet Complete |
| Configurability Implementation | Program a home screen on the game that takes in input via the buttons. Also takes config either through config file or changing settings in project code. | 3 hrs | Not Yet Complete |
| Debug | Built in time to debug. After all previous work items complete it is expected that the project is not fully functional without substantial debug work. | 5 hrs | Not Yet Complete |

**Completed this Week**

Project planning - It took more time to plan the project and get these documents set up than expected but it feels good to have it laid out. I have a decision for how the angle change will work and how the configurability will be accomplished but I would call them “soft decisions” and want to spend more time on both of these items after I have some code written.