CubeSat

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Client: Kennedy Space Center

Task	**Completion %**	**To do**
1. Design Document	80%	Waiting on final requirements from team
2. Implement test application	80%	Finalize testing and debug
3. Test Plan	90%	Waiting on final requirements from team
4. Simulation	25%	Finish setting up environment in Unity
5. Functional on Pi	70%	Change settings to allow efficient running

Discussion:

1. The design document is almost completed as the team has yet to finalize the requirements needed due to the science portion of the mission still being discussed. However, the core aspects of the design will not change.
2. I have almost completed implementing a test application using OpenSatKit with just basic processing and communication. The application "collects" some random sample data from a sensor and sends this data to the main cFS system where it is saved and sent to the ground station. The main challenge in creating this test application was reading the documentation and finding the best way to implement physical sensors into the application as well as the most efficient way to store and send the relevant data to the main bus, and then to the ground station. I had some trouble figuring out how to try and simulate the sensors as we currently have not purchased them, although we most likely will soon.
3. The state of the test plan is similar to the design document as without knowing the final requirements I cannot fully outline the test requirements. Although I can generalize for the overall design and the requirements that are independent of changes of the science mission.
4. The simulation has partially been put on hold as I have devoted more of my time to debugging and implementing the test application, as I learned more about OSK I realized I should be able to create an example simulation using it and would potentially only need to use Unity for a small visual representation, rather than a full "demo" showcasing every aspect of the perspective applications.
5. Getting OSK and the cFS running on a Raspberry Pi has proven to be a challenge and very frustrating. As OSK only runs on Ubuntu 18.04 rather than Raspbian, which is very easy to set up on Pi's, there were a few bumps in setting Ubuntu up. After accidentally corrupting the SD card after it was unplugged during boot by my cat I was able to reformat it and successfully get Ubuntu running, but then ran into more trouble with setting it up for SSH but I worked around it after some time. Currently, I have OSK and

the cFS running on the raspberry pi without and of the changes I have made in developing the test application.

Plan for next milestone:

Task
1. Design Document
2. Implement test application
3. Test Plan
4. Simulation
5. Final Application Development

Client Meetings:

Date	**Purpose**
9/29/2020	Checking in with NASA contact and talking about potential science missions
9/30/2020	Discussed project specification with Aerospace professors and potential club aspect in future.
10/6/2020	Checking in with NASA contact and talking about potential science missions
10/13/2020	Checking in with NASA contact and talking about potential science missions
10/20/2020	Checking in with NASA contact and talking about potential science missions

Faculty Advisor Meeting:

10/22/2020 -

Faculty Advisor Signature: _____ Date:_____