sdmay18-17 MicroCART (Microprocessor Controlled Aerial Robotics Team)

Week 15 Report

Reporting Period: 1/29/18 - 2/5/18

Team Members

Blake Pries -- Communications Lead

Dane Larson -- Ground Station Lead

Matthew Kelly -- Documentation Lead and Webmaster

Tyler Imboden -- Quad Software Lead

Jakub Hladik -- Test Lead

Kyle Trost -- Team Lead

Peter Thedens -- Repository Lead

Austin Rohlfing -- Controls Lead

Summary of Progress this Report

Generals Tasks for entire team:

- Work on assembling new Quad.

Quad Software - Tyler and Kyle:

Summary for progress this report:

- I changed a few things that I think will fix JTAG but haven't gotten into lab to test

Pending Issues:

- UART changes are still not tested
- Vivado quad isn't flying
- There is no testing pipeline for hardware changes

Plans for upcoming reporting period:

- Test UART changes on the FPGA in lab
- Building new quad

- Create individual tests for new vivado components
- Keep writing basic hardware tests for Hardware build

Controls - Austin and Blake:

Summary for progress this report:
- Finished last of non-iterative parameter identification documents
    - Added a merge request for changes
- Contacted Andy about location/existence of measurement setups
- Contacted Matt about new quadcopter model

Pending Issues:
- Matt said the new quadcopter model probably won't happen this semester
    - Controls team needs some new goals
- Neet to find physical setups used for param. ident. (so new quad can be measured)

Plans for upcoming reporting period:
- Construct new photointerrupter if Ian's no longer exists?
    - Thinking a simple setup: analog to be measured by O-Scope
- Help on other subteams' work while determining new end o' semester goal

Testing - Peter and Jakub:

Summary for progress this report:
- Continued work on Makefile documentation (Peter)
- Fixed two LiPo batteries (Jake)
- Started simple OpenGL renderer for JSBSim

Pending Issues:
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Plans for upcoming reporting period:
- Get merge request merged (Peter)
- Complete Makefile documentation (Peter)
- Sort through MATLAB files related to "DataAnalysisTool" (Peter)
- Finish a preliminary version of the OpenGL renderer and start working with the control graph (Jake)

Ground Station - Matt and Dane:

Summary for progress this report:

- More improvements to backend for the multi-trackable support. (Matt)
- Made changes in backend to support multiple VRPN trackers. (Matt)
- Finally got ground station documentation merged, more changes will be coming in the future. (Matt)
- Sockets for adapter working (Dane)
- Trying to get the

Pending Issues:

- Need a way to differentiate VRPN tracker input (Planning on looking at Crazyflie files to see how they do it).

Plans for upcoming reporting period:

- Fly crazyflie and quad together (video will be provided). (Matt and Dane)
- Start on GUI updates for these changes. (Matt and Dane)
- Further update backend modifications to support future expandability rather than just supporting crazyflie. (Matt)

Name	Role	Contribution	Hours worked	Total
Peter Thedens	Repository Lead	Makefile markdown	4	87
Austin Rohlfing	Controls Lead	More param docs (all direct parameters finished)	4	97
Kyle Trost	Team Lead	- Went through Merge Requests -Changes some code around UART on the Quad(Not tested)	3	139
Matt Kelly	Documentation Lead		6	124

Dane Larson	Ground Station Lead	adapters.	5	93
Jakub Hladik	Test Lead	Fixed two LiPo batteries, started OpenGL implementation.	4	93
Tyler Imboden	Quad Software Lead	Finished looking at parts order. Going to start building 2nd quad. Also looking into controller implementation for ground station.	5	97
Blake Pries	Communications Lead		1	66