

sdmay18-17 MicroCART (Microprocessor Controlled Aerial Robotics Team)

Week 11 Report

Reporting Period: 11/13/17 - 11/26/17

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:

- Project Plan v3

Quad Software - Tyler and Kyle:

Summary for progress this report:

- Attempted to wrap up changes to Vivado from XPS(See Pending Issues for problems)

Pending Issues:

- Couldn't get vivado working correctly
 - Vivado currently routes connections that change the way the reset works when compared to the XPS project.
 - Vivado does not allow two clocks to be an input to the same port like the current XPS system does
 - Because of the above issues, something need to be changed in either vivado or XSDK to accommodate

- During vivado changes other teams cannot make .bit files

Plans for upcoming reporting period:

- Create work-around for vivado changes
- Duplicate workspace so other teams can make bit files during changes.

Controls - Austin and Blake:

Summary for progress this report:

- Added columns to parameter table for “Date Measured” and “Measurement Procedure”
- Added simplified document for moment of inertia measurement

Pending Issues:

- Still missing *good* documentation for several parameters

Plans for upcoming reporting period:

- Meet with Andy
- Translate new parameter identification docs from theses to git Markdowns
- Meet with Peter to go over Matlab files

Testing - Peter and Jakub:

Summary for progress this report:

- Opened merge request for updates to testing framework (Peter)
- Addressed some comments on merge request (Peter)
- Started work on Makefile documentation (Peter)
- Received general overview about CI server from Brendan (Peter)
- Started integration of virtual quad and the JSBSim based simulator (Jakub)

Pending Issues:

- Figure out how to reuse the current packet format to communicate between the virtual quad and the simulator, if possible (Jakub)

Plans for upcoming reporting period:

- Work more on Makefile documentation (Peter)
- Contact Eric Middleton for more information about users on CI server (Peter)

- Start dividing Matlab code to separate “DataAnalysisTool” GUI from assorted Matlab scripts (Peter)
- Team up with controls team to verify and possibly improve the JSBSim model of the quadcopter (Jakub)

Ground Station - Matt and Dane:

Summary for progress this report:

- Made a pivot, we are now exclusively focusing on implementing Crazy Flie into ground station.
- Planned out how to make a portable implementation of adding vehicles to our system.
- Milestone created for Crazy Flie implementation.

Pending Issues:

- Updates to computer resulted in no longer being able to build a BOOT.bin file for the quadcopter. (Kyle has a possible solution).

Plans for upcoming reporting period:

- Work on issues posted on github to implement Crazy Flie.

Name	Role	Contribution	Hours worked	Total
Peter Thedens	Repository Lead	Opened merge request; started Makefile documentation	5	70
Austin Rohlfing	Controls Lead	Wrote human-readable moment o' inertia doc from Ian's thesis; updated table	4	66
Kyle Trost	Team Lead	Vivado switch	18	110
Matt Kelly	Documentation Lead	Crazy Flie planning, small investigation of on	6	90

		going issue with issue 30 GUI approach.		
Dane Larson	Ground Station Lead	Created milestone and some issues, discussed at length plans for how to implement crazy flie	5	70
Jakub Hladik	Test Lead	Started integration of the virtual quad and the simulator. Updated project plan.	4	68
Tyler Imboden	Quad Software Lead	Continued looking at quad code and documentating	5	80
Blake Pries	Communications Lead	Read through previous merge requests and git issues to be up to date on where we're at.	2	52