

sdmay18-17 MicroCART (Microprocessor Controlled Aerial Robotics Team)

Week 10 Report

Reporting Period: 11/6/2017 - 11/12/2017

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:

- None

Quad Software - Tyler and Kyle:

Summary for progress this report:

- Started working with vivado specific project
- Talked to ETG to get board folder onto remote file server that contains vivado installation
- I think I have the same implementation in vivado as XPS but cannot confirm this due to current issues

Pending Issues:

- Right now Zybo board is not supported on the installation of vivado currently on the remote server
- First lines(within first 10) of instruction memory are looping infinitely and code is not running on quad. Even with an empty main function.

Plans for upcoming reporting period:

- Finish and test Vivado implementation
- Move control graph outside of quad directory
- Continue Doxygen documentation

Controls - Austin and Blake:

Summary for progress this report:

-

Pending Issues:

-

Plans for upcoming reporting period:

- Upgrade parameter identification table with new columns
 - Measurement date
 - Procedure description or link
- Work with Peter on the MATLAB files

Testing - Peter and Jakub:

Summary for progress this report:

- Completed work on moving existing tests to third-party testing library (Peter)
- Merged testing documentation merge request (Peter)
- Sent email to Brendan about CI server (Peter)
- Started laying out a generic interface to use external control algorithms with JSBSim (Jakub)

Pending Issues:

- None

Plans for upcoming reporting period:

- Add explanation of how to use the third-party testing library (Peter)
- Open merge request for third-party testing library (Issue 20) (Peter)
- Create documentation for makefiles in quad/ directory (Peter)
- Review MATLAB files with Blake (Peter)
- Create an external control algorithm for the simulated quad (Jakub)

Ground Station - Matt and Dane:

Summary for progress this report:

- Installing fedora on Raspberry Pi 3.
- started to work on wireless AP.
- Started looking at the wifi code.
- Found issues with the current issue 30 implementation.
- Started Wireshark dissector.
- Found issues with communication files redefining a equivalent variable in another file.

Pending Issues:

- Changes to backend for issue 30 broke GUI compatibility (We believe it has to do with returning from the client_recv function).
- Currently stuck on compiling the wireshark dissector in the wireshark that is installed on the ground station computer.

Plans for upcoming reporting period:

- Dig into the wifi chip and see how to change from an AP to just a normal client
- Further Doxygen comments on functions relating to communication.
- Find and resolve issue with the backend and GUI.
- Create a single file that defines communication related enums and variables.
- Get AP working on Raspberry Pi 3.

Name	Role	Contribution	Hours worked	Total
Peter Thedens	Repository Lead	Completed work on third party testing framework	8	65
Austin Rohlfing	Controls Lead	None; out of town interviewing	2	62
Kyle Trost	Team Lead	Vivado project work Decoded instruction memory of XSDK	12	92

		Documentation on quad software/SDK stuff (not on master yet)		
Matt Kelly	Documentation Lead	Started Wireshark Dissector, further progress on issue 30.	8	84
Dane Larson	Ground Station Lead	Working on fedora on rpi3. Installing AP on rpi3.	4	65
Jakub Hladik	Test Lead	Started laying out a generic interface for external control algorithms for JSBSim	4	64
Tyler Imboden	Quad Software Lead	Worked more on Doxygen comments in quad app	7	75
Blake Pries	Communications Lead	Some reading of controls thesis but was sick most of the week	5	50