

sdmay18-17 MicroCART (Microprocessor Controlled Aerial Robotics Team)

Week 18 Report

Reporting Period: 2/26/18 - 3/4/18

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:

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Quad Software - Tyler and Kyle:

Summary for progress this report:

- Figured out what is causing issues in the Vivado port
 - There are some logic checks around the Axi_timer component we removed from hardware
 - No idea how we are going to workaround yet. Need more research
- Got JTAG/UART working on old quad
 - Just need to hold the usb contact perfectly

Pending Issues:

- AXI_timer
- Uart port loose

Plans for upcoming reporting period:

- Fix Axi_timer Issue
- Go to ETG and get Uart fixed

Controls - Austin and Blake:

Summary for progress this report:

- Spent time studying base control theory to better understand Matt's work
- Continued work on the manual assist flight mode

Pending Issues:

- No issues per se, just a good amount of solid work to get done (Austin)
- I'm having to relearn more C than I'd like to. Last time I used it was back in 288

Plans for upcoming reporting period:

- Clean up implementation of LQR in Simulink
- Revert virtual parameters back to our current values
- Begin design of new LQR
- Have a merge request created with the finished manual assist mode.

Testing - Peter and Jakub:

Summary for progress this report:

- Worked with Jakub to get up to speed on current status of simulator (Peter)

Pending Issues:

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Plans for upcoming reporting period:

- Identify simulator outputs that match variables needed for control model (Peter)
- Make plan for cleaning up Data Analysis Tool folder (Peter)
- Get the controls running inside the simulator (Jake)

Ground Station - Matt and Dane:

Summary for progress this report:

- Got branch 43 ready for merge (Dane)
 - Updated documentation

- Cleaned up code
- Made makefiles
- Issue 44 and Issue 43 merge request created + final testing (Matt)
- Merge request for camera calibration documentation.

Pending Issues:

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Plans for upcoming reporting period:

- Merge (Dane and Matt)
- Set up and execute a code review with team (Dane and Matt)
- Get back to existing issues set up earlier in the semester (Matt).
- Work with GUI and start updating for newer functionality (Matt).

Name	Role	Contribution	Hours worked	Total
Peter Thedens	Repository Lead	Looked at integrating controls and simulator	4	101
Austin Rohlfing	Controls Lead	Studied control theory; assisted w/ Vivado	8	129
Kyle Trost	Team Lead	Vivado Port and Axi_timer Issues	6	161
Matt Kelly	Documentation Lead	Merge Request created for issues 43 and 44 together, merge request for VRPN calibration documentation	5	164
Dane Larson	Ground Station Lead	Got adapter branch 43 ready to merge	4	121
Jakub Hladik	Test Lead	Went through the	3	110

		control graph with peter, started isolating needed IO from the sim		
Tyler Imboden	Quad Software Lead	Worked towards wiring of quad. Need to talk to ETG for cables and board headers	5	118
Blake Pries	Communications Lead	Continued to work on manual assist mode.	6	86