May14-10 Weekly Report

MicroCART 2013-2014
Week 12: November 11-November 17, 2013
Advisors: Nicola Elia & Phillip Jones

Name	Weekly Hours	Running Hourly Total
Kevin Engel	9	68
Nathan Ferris	5 (sick)	59
William Franey	8	62
Michael Johnson	5	70
Kelsey Moore	7	79
Lucas Mulkey	8	66
Aaron Peterson	4	60

Weekly objectives

Completed Objectives:

- Getting IMU data works
- Yaw PID controls seem to function fine, but the pitch and roll seem to go a little out of control when actual flight occurs
- Finished Matlab code for comparing Kalman Filter

Next Week Goals:

- Work on own flying implementation
- Compare IMU data with what would be expected through the camera data

Issues/Concerns

- Need nylon screws to fasten IMU
- Could use a hand-held multimeter
- Jone's PID code: what to do with the correction value that is the output of PID function?
- Couldn't find the battery for the IMU, can try using the 11 V battery we found.

Individual Accomplishments

Kevin Engel:

- Furthered understanding of wiki editing. Began making changes to wiki, with Kelsey.
    - Main Page now has links to each year's main page.
    - Began adding things to the How To page in our wiki: editing the wiki, svn with command line, demoing procedure
- Debugging of IMU data code, with Luke and Kelsey
- Working on main CLI program/ PID controls, with Mike

Nathan Ferris:

- Attempted to tune quad's yaw, found that with the foam guards and legs it needed to be completely retuned.
- Found battery and charger for the board, battery seems to be in good condition, positive and negative are marked but Luke stated we should still wait just incase the board doesn't have protection (it is a custom board).
- Kevin showed me how to edit the wiki, will begin posting relative "how to's"

William Franey:

- Finished Matlab artificial data generation code and made Kalman filter comparison with noise.
- Helped start tuning PID controller for quad with legs and bumpers.

Michael Johnson:

- Helped retune quad PIDs, since the new foam and legs have required new constants (still not complete)
- Working on a unified program that combines all of the simple programs we have written so far to control the quad, PIDs, and read camera data.
- Learned how to edit the wiki

Kelsey Moore:

- Worked on yaw PID controls
- Worked on the wiki page
- Helped with bluetooth communication for IMU

Lucas Mulkey:

- 10000 rows of data w timestamps
- Attempted to migrate code to basestation (unsuccessful)

Aaron Peterson:

- Still understanding stabilization code for arducopter
- Began downloading ardu programming.