EE CprE SE 492 – MAY15-28

MicroCART Senior Design Team

Weekly Report 20

February 16 - 22

Faculty Advisers
Phillip Jones
Nicola Elia

Member	Position	Weekly Hours	Total Hours
Paul Gerver	Key Concept	4	161
Tyler Kurtz	Key Concept	0	160.5
Ravi Nagaraju	Webmaster	1.5	97.5
Adam Campbell	Webmaster	3	99.5
Joe Benedict	Communications	0	194.25
Jacob Rigdon	Communications	2	111
Matt Vitale	Team Lead	1	135
Matt Post	Key Concept	3	32

Progress

- Start of MultiWii configuration testing
- MultiWii Documentation

Plan of Action

1) <u>Manual flight demonstration is the highest priority milestone at this time</u>
2) Develop data capture from sensor board and camera system for comparative analysis
3) Develop data capture of PID coefficents, input signals and motor output (maybe) for plotting and analysis

Pending Issues

- Quad_PID project stops sending data after a few seconds, likely something wrong with Bluetooh – will be looked in to

Contributions

Paul – 4 Hours, 161 Total
- Initial testing with MultiWii's configurations - 4
    - Tested sensor board with +/-2000dps and +/-8G worked fine with Sensor_board project (MultiWii doesn't convert ADC values to actual dps values which I thought was interesting)
    - For some reason, when the Quad_PID project is run with these settings and no motors going the data seems to cut off after a few readings (will investigate, I'm thinking there is a bluetooth issue)
    - Magnetometer hasn't been tackled yet

Tyler – 0 Hours, 160.5 Total
- Nothing Reported

Ravi – 1.5 Hours, 97.5 Total
- Zybo power PCB testing pushed to next week
- Updated Website - 0.5
- Client meeting - 1

Adam – 2 Hours, 96.5 Total
- Client meeting – 1
- PID work with Tyler - 1

Joe – 0 Hours, 194.25 Total
- Family emergency

Jacob – 2 Hours, 111 Total
- Client meeting – 1
- Team Documentation – 1
- Family matters and interview stifled progress for me

Matt V. – 1 Hours, 135 Total
- Looked into alternatives for Screen. Two potential programs:
    - ssh
    - plink

Matt P. – 3 Hours, 32 Total
- Continued on MultiWii Documentation, but had midterm project moved up and was unable to finish

Meeting Minutes

1) Logging
- Standardized across OmniCoor and MicroCART
- One remaining logging issue with GUI - Diagnosed, and Matt will be fixing the issue

2) Website
- Moving forward will be making the site in Weebly, then looking into long-term usability

3) Sensor Board
- It was suggested that only the gyroscopes (no accelerometer) be used for the initial PID tuning in order to expedite the process towards the manual flight demonstration (I don't think this was accepted by the client, clarification is needed)

4) PID milestone
- Client would like to see the quadcopter rotate on an X or Y axis. Be able to hold the position (10°-20°) until the joystick is moved back to neutral position and the quadcopter should return to level orientation