EE CprE SE 492 - MAY15-28
MicroCART Senior Design Team

Meeting Minutes - Week 4

February 2, 2015

Attendance:

Team Members:

Paul Gerver
Joe Benedict
Adam Campbell
Jacob Rigdon
Matt Vitale
Matt Post
Ravi Nagaraju
Tyler Kurtz

Advisors:

Dr. Phillip Jones
Paul Uhing

Agenda Items and Discussion

1) Bluetooth

- Collecting ideas for lower latency
- Low energy Bluetooth has inherently lower latency
- Low latency is only necessary for old system integration camera and on board sensor need to be receiving on a comparable level there
- For now, things are reliable - Adam will be moving on to other projects

2) Documentation

- Readme is updated
- Working on documenting Xilinx custom module creation and importing
- Working on documenting Precious code such as PWM, PID, etc.
- What is being logged is slightly confusing for some of the team - documentation should be made, and data teams on both OmniCoor and MicroCART should meet up to discuss this

3) Multi-Wii code

- Continues to be reviewed, documented and commented
- Found I2C code for sensor board magnetometer that may be useful
- Found ideas for smoothing the gyroscope signal that may be useful
- Need to set a deliverable date for documentation generated from Multi-Wii code

4) 492 Meeting

- Discussed the 492 meeting with Dr. George Amariucai and team members agreed that it went well

5) Website

- Team needs to concentrate some resources on the website
- Jacob will be the lead on maintaining website
- Ravi, Matt and Joe will also assist with website migration and improvement

6) Data logging

- Team members need to meet with OmniCoor to work on universal format
- Universal format needs to be extendable
- Items currently being logged
    - Camera system roll
    - Camera system pitch
    - Camera system yaw
    - Camera system X,Y and Z Quadcopter location
    - Camera system timestamp
    - Sensor board roll
    - Sensor board pitch
    - Sensor board yaw (from the gyroscope)
    - Sensor board timestamp
- Items that need to be added to the data logging
    - Raw data from all three accelerometers
    - Raw data from all three gyroscopes
    - PID coefficients for throttle, roll, pitch and yaw
    - Transmitter input for throttle, roll, pitch and yaw
    - Heading from magnetometer
    - Pitch attitude pre and post filtering
    - Roll attitude pre and post filtering
    - PID components of the controls (maybe?)