EE CprE SE 491 - MAY15-28
MicroCART Senior Design Team

Meeting Minutes - Week 12

November 18, 2014

Attendance:

Team Members: (All Present)
Paul Gerver
Tyler Kurtz
Joe Benedict
Jacob Rigdon
Matt Vitale
Ravi Nagaraju
Adam Campbell

Advisors:
Dr. Phillip Jones

Agenda Items and Discussion

1) Bluetooth
   - Module on base station is paired with onboard module
   - Able to send data to Zybo board, but some data is lost in the transmission
   - Next Step:
     a) Find source of data loss and apply a fix
     b) Read data back from Zybo
2) PID Controls
   - 3-axis testing platform (FAQs) is now in the lab
3) Chassis and hardware
   - New RF receiver received
   - Question was raised about maximum payload for the system
     a) That will be assessed after the main components are installed and flight ready
4) 3-axis sensor
   - Magnetometer is not on the main bus and needs to be rerouted as an external sensor
     a) Client wants to delay further trouble shooting and focus on other tasks
   - Next steps:
     a) Test the 2nd sensor board mounted on the chassis and compare it's data with the 1st sensor board and the camera system

5) Wi-Fi module has been sourced
    - Setup is delayed while other tasks are completed first
6) Modeling
    - Reviewed with Matt Rich the parameters needed for his modelling program
7) Power control boards (motors and Zybo)
    - Layout is still getting finalized due to issues with interconnecting some components on the chips and the input/output connections
    - Finishing these components are a high priority
8) Safety switch for toggling between manual and auto flight
    - PMUX was located and Ravi will begin setting it up
9) Zybo board
    - Two 2GB SD cards were found (no need to purchase others at this time)
10) Onboard camera
    - Currently using Raspberry Pi camera module
    - Discussed purchasing a different model with higher quality resolution
        a) No decision made at this time
11) Documentation
    - Client wants the team to go over the task list and decide who will be responsible for documenting the current state of each task
12) Team assessment
    - Adviser will send out individual assessments to each team member
    - Team will hold a meeting to restructure and prioritize the tasks list
13) Client set three main goals for the end of the semester
    - Document all work up to this point
    - Manually fly the quadcopter using RF controller
    - Integrate the quadcopter into the camera system

Deliverables for next week

Joe

- Continue (with Paul) to optimize 3-axis sensor data
- Gather characterization parameters
- Write task documentation

Adam

- Write task documentation

Paul

- Continue (with Joe) to optimize 3-axis sensor data
- Write task documentation

Matt

- Write task documentation

Ravi

- Go through feedback provided by Ian before break and make necessary changes
- Stay in contact with Ian over break and e-mail him with any questions
- Work on documentation for boards and website
- Create BOM and explanatory slides for both boards
- Start reading documentation for kill switch from last

Jacob

- Write task documentation

Tyler

- Write task documentation