EE CprE 492 – May 21 - 27
MicroCART Senior Design Team
Week 1 Report

January 25 - January 31
Faculty Advisors: Phillip Jones

Team Members:

Alex Bjerke — *Project Manager*

Amith Kopparapu Venkata Boja — *Embedded Software Lead*

Theodore Davis — *Embedded Hardware Lead*

Grayson Goss — *Technical Lead | CAD Design Lead*

Hannah Mohamad — *Team Webmaster*

Russ Paulsen — *Test Station Lead*

Alfonso Raymundo — *PCB Design Lead*

Trent Woodhouse — *High-Level Software Lead*

Past Week Accomplishments

Ground Control - Created a set of programs meant for simulating the test station, drone, and UI that is used to show the data coming from the UI, and getting directed to the drone or test station, then getting a response back to the UI. All of this data transfer is handled by ground control.

Pending Issues

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Alex	Ground Control - Created a set of programs meant for simulating the test station, drone, and UI that is used to show the data coming from the UI, and getting directed to the drone or test station, then getting a response back to the UI. All of this data transfer is handled by ground control.	7	70

Alfonso	1) Looked into how much power the Drone motor needs. They need 3.7v so I picked a 3.7v Lithium Polymer Battery to have Jones order for us. 2) I broke down Pin_Layout_Image_v5 into small parts for the team called v5.1 - v5.4 3) Fixed Wiring in Pin_Layout_Image_v5 so motors are powered from BAT pin over 3v Pin. 4)Paperwork for class & team	3	70.75
Amith	Worked on setting up the new windows computer for programming the IMU. Wrote initial code to set up the I2C for allowing the wing's data.	17	68
Grayson	Worked on CAD design for Yaw platform locking mechanism. Began working on Arduino and Shaft Encoder communication decoding.	4	73
Hannah	Worked closely with Fonzy on the Pins layout with new hardware parts. Looked into datasheets relevant to our projects.	4	45
Russ	Working to figure out the position of the test station microcontroller. Then also working on a design to lock the platform in place to keep it from flying off.	4	52
Theodore Davis	Working on pushing code to the feather, created pwm code and a library to run on the feather	20	70.5
Trent	Set up communication server for UI that transfers data from raw TCP to websockets and vice versa. Also configured drone graphs to display roll, pitch, yaw, and thrust data	4	48

Plans for Coming Week

- Embedded software - Amith, Theo
    - Figure out the perfect compiler to use to compile the c code to binary
    - Transition to writing code for I2C for the Wing
- Drone Embedded PCB Design - Alfonso, Theo, Hannah
    - Working on Making Modular parts run on their own for easy testing
    - (Due: February 7th)
- Test Station - Russ, Grayson
    - Continue modelling yaw platform lock
    - Begin communication tests with MA3 shaft encoder for future work with feather.
- Embedded software - Amith, Theodore
    - Get USART functionality on the feather. Possible communicate using putty
    - Need to start working on the embedded software with Amith
- Ground Control - Trent, Alex
    - Begin linking up C application with JavaScript application
    - Finish graph UI design

- Switch to using select() for ground C program