

EE CprE 492 – May 21 - 27

MicroCART Senior Design Team

Week 5 Report

February 22 - February 28

Faculty Advisors: Phillip Jones

Team Members:

Alex Bjerke — *Project Manager*

Amith Kopparapu Venkata Boja — *Embedded Software Lead*

Theodore Davis — *Embedded Hardware Lead | System integration*

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*

Summary

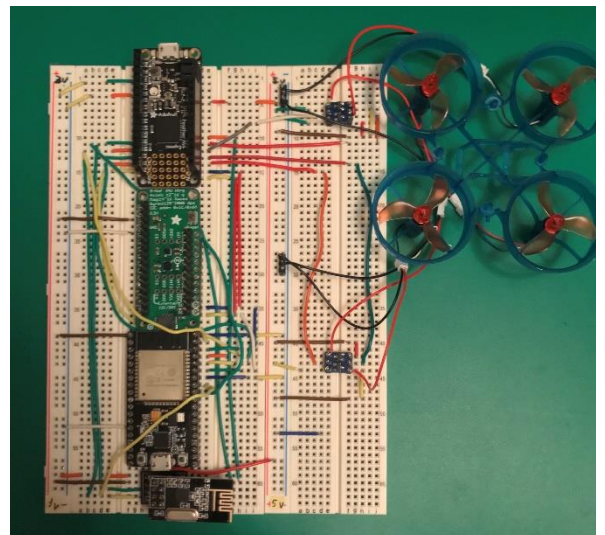
In this week, each sub-group team is working on their own tasks that was assigned. We had our meeting with advisor and get feedbacks that can help on our progress towards our project. Our major goal is to be able to work towards our first PID tuning where we can see everything are set in one place. Details on our work is listed in the contributions.

Past Week Accomplishments

- Unsoldering Wing + Build Modular Drone on Breadboard
- Ground control progress on logging
- Test Station data UI
- UART library

Pending Issues

- Prototype 1 Drone
- Programming ESP32 and IMU



Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Alex	Progress on logging	3	87
Alfonso	Unsoldering Wing + Build Modular Drone on Breadboard.	11.25	100.5
Amith	Fixed the code to receive information from the wing to the feather. Verified the atmel start setup was accurate.	6	107
Grayson	Met with Russ to discuss potential design changes. Began working on Arduino code for test station. Verified Shaft encoder is in fact 10 bit analog resolution	7	100
Hannah	Check the Modular Drone built by Fonzy and finish off by adding motors on breadboard	3	56
Russ	Converted inventor files to useable files	4	67
Theodore Davis	Helped Amith with I2C and packed UART into own file	4	90
Trent	Made UI for test station data	3	62.5

Plans for Coming Week

- Fonzy - Fix Build Modular Drone on Breadboard. I wired the Motors wrong. I did M4 = G, Vbat = S & D = M+. What we needed is G = M4 + 10k Res, S = GND, & D = Vbat with 0.1f Cap between D & S (the two motor leads) in parallel. Fix Pin Layout Image v5 again. Build Sandwich Drone aka Put together drone prototype 1.
- Alex - Finish C portion of ground control
- Hannah - Fix Modular Drone on Breadboard and start building prototype 1
- Amith - finish reading all the data from the wing. Describe and discuss the data formats with Alex and Theo.
- Grayson - Continue coding Arduino for data Tx/Rx to ground station. Meet with Ground Station Team to discuss data transmission.
- Trent - Make UI for logging, including opening a log file in matlab
- Theo - program esp32 wing and re-measure current draw