

EE CprE 492 – May 21 - 27

MicroCART Senior Design Team

Week 3 Report

February 8 - February 14

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*

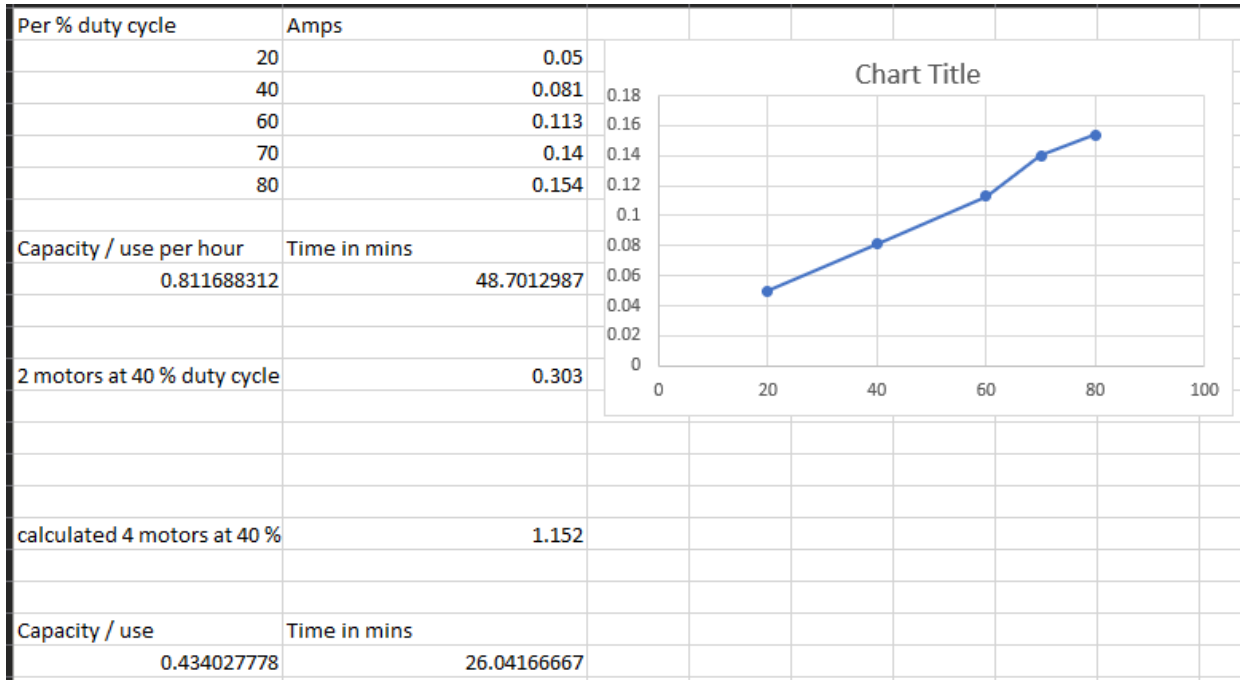
Russ Paulsen — *Test Station Lead*

Alfonso Raymundo — *PCB Design Lead*

Trent Woodhouse — *High-Level Software Lead*

Past Week Accomplishments

- Measured current draw for the motors. Note: this does not account for mcu use as the controller was idle at the time as well as the other peripherals.



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Pending Issues

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Alex	Not much done this week. Some discussion on supported commands and packet formats.	2	78
Alfonso	Worked on Building the Drone on a Breadboard. Did not finish due to no M4.	4	82.75
Amith	Read the sensor data from the wing without the IMU by using the arduino. Setup the skeleton code for the I2C setup.	16	90
Grayson	Unsuccessful attempt to develop screws and elevation limiting mechanism for test station.	4	83
Hannah	Worked on the Bills of Materials for the project.	3	50
Russ	Looked into modifying last years design	3	59
Theodore Davis	Motor current draw and testing UART functionality, adjusting provided template from Jones.	3.5	82
Trent	Worked on getting the C server and UI to startup together	4.5	54.5

Plans for Coming Week

- Demonstrate UART functionality - Theodore
 - Transmit data on PB16 (TX)
 - Receive data on PB17 (RX)
 - Will be testing functionality by having an OScope monitoring RX as well as an Arduino Uno hooked up to both pins to receive data.
 - Turn on red LED on receiving data on TA
- Finish I2C functionality - Amith
 - Read data from the registers corresponding to the accelerometer and gyroscope.
 - Transmit it over UART.
- Build Modular Drone on Breadboard - Fonzy & Hannah
 - Meet up with Hannah & Finish Building Modular Drone on Breadboard
 - Build a prototype drone with all the connections
- Ground Control (C) - Alex
 - Functions for packing/unpacking packets to and from the drone
 - Incorporate supported message types
 - Potentially start on logging
- Ground Control (UI) - Trent
 - Enable c server and ui to startup together with a single command
 - Create UI for adding new devices
 - Add graphs for test station
- Test Station
 - Finalize hoverlock system, choose between old and new test station designs
 - Begin data collection tests from sensor
 - Grab dimensions of drone for finalized platform CAD.