

EE CprE 492 – May 21 - 27

MicroCART Senior Design Team

Week 4 Report

February 15 - February 21

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

- UART Synchronous Functionality - Theo:
 - Can send a receive bytes of data over the rx and tx pins.
 - Found that `io_read()` polls so you should only read one byte at a time after checking if the fifo isn't empty so it doesn't lock.
- Ground Control Start Commands - Trent
 - Ground control cli and gui can both start from a single command

Pending Issues

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Alex	Ground control: worked on supported commands, logging, and packet implementations	6	84

Alfonso	Worked with Hannah to set up Drone soldering & spent most time unsoldering Wing. worked on putting Drone together on a breadboard.	6.5	89.25
Amith	Wrote a very debug friendly code to retrieve I2C data. Tested it with arduino as slave and ran into blockers.	11	101
Grayson	Ran several tests to gauge output of rotational encoder, and began drafting ideas to implement data transmission from encoder to an Arduino product. Also met with Mech E friend to begin CADing up changes to current test station design.	10	93
Hannah	Worked with Fonzy on building up the drone	3	53
Russ	Looked at last years design more.	4	63
Theodore Davis	Worked with Amith on understanding i2c. Finished getting UART functionality to work.	4	86
Trent	Made shell command to run both c server and UI, developed UI for connecting new devices	5	59.5

Plans for Coming Week

- Theo -
 - Wrap UART functionality into its own file.
 - Start on SPI functionality.
- Alex -
 - Test the rest of the implemented commands
 - Test packet functions
 - Finish logging implementation
- Fonzy -
 - Unsoldering Wing for later use.
 - Finish putting Drone together on a breadboard.
- Hannah
 - Putting up Drone together on the breadboard
- Amith
 - Finish up I2C setup
 - Format the I2C data received from the sensor and send it through wifi from UART.
- Trent
 - Add test station graphs
 - Begin work on logging
- Grayson
 - Studying for exams in biomed classes this week may get in the way of plans but here's what I have:

- Run more tests with an Arduino controller to see if my data capture ideas are correct. If not, correct them.
- Meet with Mech E friend again to further work on CAD of test station
- Meet with Russ to see how he is doing with working on previous design modifications.