

EE CprE 492 – May 21 - 27

MicroCART Senior Design Team

Week 10 Report

March 29 - April 4

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

- Alfonso - Met w/ Theo to get one of his MOSFETs for Prototype 1, Finished Photo wing, Tested Battery & Everything Lights up
- Alex - Minor updates to Ground Control (C portion). PID algorithm written.
- Theo - Got reads from USART RX buffer to work. Placed functions in their own file. Divided up who should work on what part of the PID algo this week with Amith and Alex.

Pending Issues

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Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Alex	Made minor updates to Ground Control (C portion). Met with Amith and Theo to discuss what still needs' done. Wrote the PID functions and have all needed definitions defined	6	108
Alfonso	Met w/ Theo to get one of his MOSFETs for Prototype 1, Finished Photo wing, Tested Battery & Everything Lights up	10.666	143.58

Amith	Discussed with Alex and Theo major tasks to accomplish to get PID working. Made some progress in adding the complementary filter.	5	134.5
Grayson	Worked on reprinting test platforms. Investigated several avenues for more precise and durable prints on and off campus.	4	128
Hannah	Finished setting up the footprints for ESP8266, Currently finding measurements for footprints for NRF24L01. Verified the Protoboard made by Fonzy.	6	86
Russ	assisted with printing platforms	5	87
Theodore Davis	Got reads from USART RX buffer to work. Placed functions in their own file. Divided up who should work on what part of the PID algo this week with Amith and Alex	8	126
Trent	Debugged UI to fix node incompatibility	4.5	77.5

Plans for Coming Week

- Alfonso - Working on finishing Prototype 1 & Will be ready for testing on Monday. Next Help Hannah with PCB.
- Trent - Finish node integration and c server integration
- Alex - Begin looking at final presentation, poster, and report requirements. Create an outline for the team to begin working on. Do some more on the embedded side to improve modularity.
- Amith - Finish up complementary filter and start working on writing the internal PID for calculating change in angle.
- Theo - Write and update documentation for programming the drone and using putty with it. Talk with Fonsy to see which pin is controlling which motor. Work on PID to motor control functions.
- Grayson - Start documentation of project, finish printing platforms and meet with Alex to troubleshoot test station issues as needed.