

Senior Design May22, 43

MicroCART Senior Design Team

Week 8 Report

November 10 - November 16

Faculty Advisor : Philip Jones

Members:

Brandon Cortez - Team Lead, Test Station Sub-team

Reid Schneyer - Test Station Lead, Test Station Sub-team

Colton Glick - Git Wrangler, Firmware Sub-team

Ellissa Peterson - Tech Lead

Ryan Hunt - Firmware Sub-team Lead

Carter Irlmeier - Web Master

Zachary Eisele - Firmware/Groundstation Sub-team

Summary of Progress this Week

The first iteration of the side anchored drone mount was 3D modeled and is ready for polishing and printing.

The groundstation is still being converted, but good progress has been made. Additionally, enough code was converted that we could test if the program created the socket that the MicroCART ground station needs to connect to, and it was successful.

Past Week Accomplishments

- Added crazyflie firmware to gitlab to allow for collaboration on the firmware between members - Colton
- Side anchored drone mount 3D model prototype designed - Brandon
- Encoder was mounted and tested on the test stand - Reid, Brandon
- understanding of cascading PID functions - Ryan
- Socket creation from ground station adapter

Pending Issues

- Work on faculty presentation on December 8
- Trying to get CI CD working on Gitlab, having issues running the docker container crazyflie provides as a build environment - Colton

Individual Contributions

Team Member	Contributions	Weekly Hours	Total Hours
Brandon Cortez	- 3D modeled the side anchored drone mount - Mounted the encoder to the test stand and tested it.	5	36
Reid Schneyer	491 class assignment, beginning ESP8266	4	35
Colton Glick	- Added Crazyflie firmware to gitlab repo to - Trying to get CI CD working on Gitlab, having issues running the docker container crazyflie provides as a build environment	4	37
Ellissa Peterson	Exploring the current GUI for the ground station and helped with the class assignment	4	28
Ryan Hunt	-gained understanding of the cascading PID control system and what functions are necessary in its calculations.	4	34
Carter Irlmeier	-gained access to youtube channel, uploaded first video, set up more website stuff, and tried to figure out some configurations with the crazyswarm system	2	30
Zachary Eisele	-continued converting ground station code, created presentation for crtp and app channel	7	42

Comments and Extended Discussion

- Ground station conversion is going well, however there is a lot more to go through than originally thought. Although, lots of progress was still made. Zach will be working on it up until and during break so the adapter should be up and running when people return

from break.

Plans for coming Week

- Polish the side anchored drone mount design and get it printed - Brandon, Reid
- find out how PID gets input from sensors - ryan
- Get CI/CD working on gitlab to build and test the firmware as we develop - Colton

Summary of Weekly Advisor Meeting