

Senior Design May 24, 32

MicroCART Senior Design Team

Week 12 Report

October 31 - November 7

Faculty Advisor: Philip Jones

Members:

Justin Kenny - Scribe

Steve Frana - Technical Lead

Trevor Friedl - Project Manager

Travis Massner - UI/UX Designer

Clayton Kramper - Technical Lead

Will Maahs - Team Organization Lead

Links

- [Shared Google Drive Folder](#)
- [Tentative Project Gantt Chart](#)

Summary of Progress this Week

We have divided into three groups of two and begun to work three separate tasks: rewriting the crazyflie adapter and crazyflie groundstation using cflib, getting the Pycrocart GUI slotted into the infrastructure, and improving error handling for the current GUI.

For the groundstation rewrite, we have outputoverride, getparam, and setparam working. We are now working on getlogfile and other logging commands. We have created the system of saving the table of contents to files, and we will next be working on ensuring the GUI can open the files correctly. The python version of this code snippet seems to run much faster than its old counterpart.

For the current GUI, we have met to discuss possible solutions for improving the handling of errors. We are currently working on looking through all of the current GUI code in order to see if we can find any notes from previous teams with problems that never got fully resolved.

Pending Issues

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Individual Contributions

Member	Contributions	Weekly Hours	Total Hours
Justin Kenny	<ul style="list-style-type: none"> ● Worked on Testing doc, slides, and recording ● Verified setparam is working in conjunction with getparam. ● Created functionality to copy TOC to file. ● Learned more about cflib data structures which hold TOC and other logging information. 	5	51
Steve Frana	<ul style="list-style-type: none"> ● Reading through cflib documentation ● Working on cflib_groundstation ● Fixed setparam and getparam ● Wrote param and log TOC's to files ● Looked into different packet protocols/scheduling we could use as part of a Real-Time systems project 	6	46
Clayton Kramper	<ul style="list-style-type: none"> ● Continued work on pycrocart ● Began work on python script to convert set_param to match legacy CLI 	4	35
Travis Massner	<ul style="list-style-type: none"> ● Continued watching MicroCart videos ● Looking through GUI code for improvements and for understanding ● Still looking through backend code 	5	36
Will Maahs	<ul style="list-style-type: none"> ● Continued work on pycrocart ● Began work on python script to convert set_param to match legacy CLI 	5	38
Trevor Friedl	<ul style="list-style-type: none"> ● Began to work on testing document and slides ● Worked on groundstation GUI code: <ul style="list-style-type: none"> ○ Read through most of the groundstation & quad graph comp code ○ Finished writing the free_graph method for in quad directory; needs testing in the GUI package 	6	36

	<ul style="list-style-type: none">○ Finished watching backend videos● Looked at some more bitcraze component hardware schematics		
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Comments and Extended Discussion

Plans for coming Week

- Watch remaining instructional videos in the bootcamp **(High)**
- Make Pycrocart GUI MP-4 viable and determine how to slot it into infrastructure. **(High)**
- Edit current GUI to improve error handling with backend interactions. **(High)**
 - Work on adding debugger plans & implementation into frontend code
 - Track connections from backend -> frontend and the other way around
 - Look into revising/improving node calculations within the backend
- Combine crazyflie groundstation and crazyflie adapter using cflib. **(High)**
 - Look at existing file structure for all log file commands
 - See if CLI/GUI can successfully parse our created files
 - Match type struct to the TOC file entries.
- Request MicroCART user on lab computer **(High)**
- Test packet scheduling protocols **(Medium)**
- Begin to consider changes to make for MP-4 lab documentation to push towards improvements **(Medium)**
- Add team information into the team website **(Low)**