Senior Design May 24, 32

MicroCART Senior Design Team

Week 13 Report

November 7 - November 14

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. We have also begun designing a new packet structure to be less crazyflie-dependent and to send logging data via the TCP connections rather than writing to files and sending the path.

For the groundstation rewrite, we are polishing the logging file system that is used by the current GUI, and will begin testing it with the current GUI. We wrote functions to use cflib to pull logging data from the crazyflie and put that into a logging file that will be read by the GUI. We also began determining how to translate the current packet structure into the new Microcart packet structure.

Pending Issues
- Approval for the new packet structure

Individual Contributions

Member	Contributions	Weekly Hours	Total Hours
Justin Kenny	• Worked on Testing doc, slides, and recording • Created logfilehandler class • Created thread to handle periodic additions of logging data to file • Worked on new Microcart packet structure	7	58
Steve Frana	• Reading through cflib documentation • Working on cflib_groundstation • Logging • Worked on new packet designs	6	52
Clayton Kramper	• Continued work on pycrocart • Began work on python script to convert set_param to match legacy CLI	4	35
Travis Massner	• Looking through GUI code for improvements and for understanding • Setup VM with git so I can test code • Looking through backend code for better understanding • Testing lightning talk	5	41
Will Maahs	• Continued work on pycrocart • Began work on python script to convert set_param to match legacy CLI	5	38
Trevor Friedl	• Testing doc & lightning talk • Dug more into current GUI code with specific interest in how errors are currently handled • Discussed packet updates with rest of team	4	40

Comments and Extended Discussion

Plans for coming Week

- 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)**
  - Finish all cases for log file commands
  - Test log file commands via CLI and GUI.
  - 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)**