

Senior Design May22, 43

MicroCART Senior Design Team

Week 6 Report

October 27 - November 2

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 Sub-team

Summary of Progress this Week

The test stand team began redesigning the test stand components based on the initial 3d printed prototype and instructor feedback

Ground station team working on crazyflie adapter for the previous team's ground station.

Firmware team working on building custom firmware onto the crazy flies. Simple modifications of the source code to get familiar with the workflow. Next week hope to make more significant changes.

Past Week Accomplishments

- Created [inventory spreadsheet](#) detailing the current status of all the crazyflies - Colton

Pending Issues

- Research integrating wifi into crazyflie - not assigned
- Integrate test stand data into ground control - not assigned

- Allow in flight PID gain changes - not assigned
- CrazyFlie #3 needs battery connector soldered
- Can we close the 44 git issues that are from past teams?
- Ground station has trouble querying computation type from CF which is sent over packet, this may be related to why certain CF's aren't working with the CF python library

Individual Contributions

Team Member	Contributions	Weekly Hours	Total Hours
Brandon Cortez	Test stand design revisions	4	26
Reid Schneyer	Test stand design revisions	3	26
Colton Glick	Took inventory of crazyflies	3	30
Ellissa Peterson	Explored crazyflie repositories	2	21
Ryan Hunt	continued looking into firmware code	2	25
Carter Irlmeier	Helped with crazyflie inventory and organization, put together drone #4	3	24
Zachary Eisele	Continue work on adapter	5	28

Comments and Extended Discussion

N/A

Plans for coming Week

- Modify firmware and flash to crazyflie to start development - Colton Glick
- Hopefully get adapter to work
- Fix some CrazyFlie drones? - Carter Irlmeier, team
- Get started on the YouTube channel plans and testing - Carter Irlmeier
- News report video assignment - Colton, Ryan, Carter

Summary of Weekly Advisor Meeting

10/27/21 Jones Meeting

- Went over status report
 - Planning to make drone tracking spreadsheet
 - some drones are delayed/slow, needs research
 - USB RC controller fix, colton documented
- Jones dropped off box of lots of stuff
- Don't forget about adding wifi capabilities to the Crazyflie
 - start with arduino to arduino communication with esp8266
 - test latency
 - advantage of wifi connection is socket programming
- Try software decoding on arduino nano
 - research other controllers with hardware decoding support
 - also magnet absolute encoder
- tech/team lead discussion
- take a step back @ Thanksgiving to reevaluate team & roles
 - dont be afraid of confrontation
- Research crazyflie adapter code
- ETG has balancing thingy, check out their GUI
- email jones about old ground station demo