

EE CprE 491 – Fall 2019

MicroCART Senior Design Team

Weekly Report 9

Nov 18th - Dec 2nd

Faculty Advisors: Phillip Jones, Matt Cauwels, James Talbert

Team Members:

Evan Blough -- Technical Team Lead, Embedded Software Lead
Kynara Fernandes -- Ground Control Station Lead
Aaron Szeto -- Controls Lead
Joe Gamble -- Embedded Hardware Lead
Shubham Sharma -- Crazy Fly Implementation Lead, Website Manager
Jacob Brown -- Physical Hardware Lead

Summary for Progress this Week

Past Week Accomplishments

- Placed battery holders on to crazy flies - Joe
- Tested the MI07 LED and Lidar / I2C on second quad and documented process with video - Evan -Appendix
- Took measurements with Lidar to test consistency in sensor values -Evan - Appendix
- Control tuning supports floating point numbers - Kynara

Pending Issues

- Integrating slider bars with existing GCS GUI
- Matlab Vercat error with data log file “2018-04-24”
- Lidar Readings inconsistent with actual position and I am not sure what I should be using as the reference distance.
- Lab computers still need admin access. Sent a reminder during the break
- REHL 6 computer hasn’t been updated yet.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Evan Blough	I made a quick video on how to run drone preflight tests. I found an issue with the Lidar. I worked on the Design Document testing methods section.	6	84

Kynara Fernandes	Worked on converting slider bars to decimal values	4	70.5
Joe Gamble	Put on battery holders on to crazy flies. Crazy fly frame development	2	63
Jacob Brown	News4report assignment	2	48
Aaron Szeto	Helped with News report and design doc	2	54
Shubham Sharma	Worked on the news report assignment and helped edit the video. Minor progress with CFs.	3	57

Plans for Coming Week

- Finish performing Hardware tests and move onto testing GCS interactions and autonomous navigation
- Fix Lidar issue

Appendix:

- Lidar Measurements

Trial	Expected(inch)	Expected (cm)	Actual	(Measured from bottom plate) Error
1	20.5	52.07	79.66	27.59
2	4.5	11.43	38.66	27.23
3	25.125	63.8175	87.66	23.8425
4	34.875	88.5825	95.66	7.0775
5	4.125	10.4775	30.6	20.1225
6	32	81.28	93.66	12.38
7	27.5	69.85	86.66	16.81
8	6.75	17.145	38.66	21.515
9	8.5	21.59	44.66	23.07
10	10.125	25.7175	50.66	24.9425

- Videos Hyperlink
https://drive.google.com/open?id=1SmlwcEcTyDhtqydMg5vs_mXqEBuzf8f4

