

## Senior Design May 22, 43

### MicroCART Senior Design Team

### Week 19 Report

*March 08 - March 21*

*Faculty Advisor: Philip Jones*

#### Members:

Ryan - System architect

Zach - Groundstation lead, co system architect

Reid - GUI team lead, Test station sub-team

Ellissa - GUI sub-team

Colton - Git manager, Firmware lead

Carter - Web Master, OptiTrack Lead

Brandon - Project Lead, Test Station lead

#### Links

- [Shared Google drive folder](#)
- [Order list](#)
- [Crazyflie inventory](#)

#### Summary of Progress this Week

- Production and assembly of test stands for 488 underway (5 stands completed so far) - Brandon
- Added controller support to GUI, sends rate setpoints to the crazyflie worker thread every 100 ms. - Colton
- Sending setpoints from the GUI to the crazyflie now works - Colton, Ryan
- Manual flight with gamepad through the GUI works. Needs some tweaking, currently only sends all rate setpoints, the pitch and roll need to be attitude setpoints, while the yaw needs to be a rate. - Colton, Ryan, Zach

## Pending Issues

- Additional spool of filament for lab stands required if not already purchased by Jones

## Individual Contributions

Team Member	Contributions	Hours	Total Hours
Brandon Cortez	<ul style="list-style-type: none"> <li>- Began production of lab test stands, 5 currently assembled with sensors and completed.</li> <li>- Tested and updated current design of PCB housing.</li> <li>- Preparations for printing of mounts and PCB housings begun.</li> </ul>	8	112
Reid Schneyer	Updated PCBs, ordered more of rev 2	6	104
Colton Glick	<ul style="list-style-type: none"> <li>- Worked on running a dry run-through of the lab. Found many issues and room for improvements. Documented with Ryan.</li> <li>- Talked with ETG about VM logistics, have a plan lined up</li> <li>- Added QT gamepad support to the GUI with joystick mapping. Gamepad sends rate setpoints to the crazyflie at a TBD rate to allow for manual flight through the MicroCART GUI.</li> <li>- Worked with Ryan to merge his GUI changes with mine from spring break</li> <li>- Debugged sending setpoints from the GUI with Ryan and Zach</li> </ul>	22	163
Ellissa Peterson			78 + _
Ryan Hunt	<ul style="list-style-type: none"> <li>-Initial dry run of lab</li> <li>-added send setpoint functionality to GUI</li> <li>-debugged GUI</li> </ul>	15	103
Carter Irlmeier			70 + _
Zachary Eisele	<ul style="list-style-type: none"> <li>-Get/set param working on gui and setting up get/set param to work with CRTP V2 commands.</li> <li>-Helped with dry run through lab</li> <li>-created a script to run the whole ground</li> </ul>	20	168

	station system at once -fixed how logging data is changed in the log file -set up attitude setpoint command		
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## Comments and Extended Discussion

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## Plans for coming Week

- Test Stand, drone mount, and PCB housing printing, and printing documentation - Brandon
- Wait for PCBs to arrive, assemble PCBs - Reid
- Implement graph and finalize lab doc - Ryan
- Improve gamepad control through the GUI. Finalize VM to get loaded on lab computers by ETG. Finalize lab doc with details of the GUI for students to begin reading. - Colton