**EE CprE SE 492 – MAY1732**

**Crazyflie Swarm Senior Design Team**

**Weekly Report 7**

**2/27-3/6**

**Faculty Advisers**

Phillip Jones

Nicola Elia

|  |  |  |  |
| --- | --- | --- | --- |
| **Member** | **Position** | **Weekly Hours** | **Total Hours** |
| **Nick Robbins** | **Team Leader** | **3** | **132.5** |
| **Ben Nelson**  | **Key Concept Holder** | **10** | **125.75** |
| **Jake Frazier-Flores** | **Webmaster** | **10** | **116.25** |
| **Grant Manley** | **Key Concept Holder** | **5** | **111.5** |
| **Chengrui Yang (Roy)** | **Key Concept Holder** | **6** | **72** |
| **Cole Beaulieu** | **Communicator** | **6** | **136.5** |
| **Tianxiang Shen (Jesse)** | **Key Concept Holder** | **3** | **51.5** |

**This Week’s Progress**

1. Quads/Camera System
* Found all the parameters and started to find constants using Ian’s model, and ran into a hiccup, working through it
1. Ground Station/Wifi Systems/Firmware
* Fixed several bugs with the groundstation, got to the point to where we can do a full communications system test.
* Stress testing of the firmware

**Pending Issues**

1. Begin the tuning of the controllers for the big quad
2. Waiting on new regulators because they were burnt out
3. Begin a full communications test

**Plan of Action**

1. Cole – Find a better kd value and see if it works with Ian’s model
2. Nick –Use alternative method to find a more accurate kd value
3. Jake – work with Ben and to test Groundstation and firmware
4. Grant – Helping with Big quad work
5. Chengrui ­– solder on new regulators to the prototype boards
6. Tianxiang – solder on new regulators to the prototype boards
7. Ben – do a full communications system test

**Individual Contributions**

Cole:

* Monday: 2 hours – meeting and working with Andy to figure out a way to get an instantaneous duty cycle switch
* Tuesday: 1 hour - got final parameter measurements done, and worked with Matt Rich on how to find the time constant to find prop and motor MOI
* Friday: 2 hours – met with Ian, with Nick, plugged in all of the values we found, Ian’s model had problems, specifically with our Kd we found
* Sunday: 1 hour – weekly report

Nick:

* Monday: 1 hour - group meeting
* Friday: 2 hours, meeting with ian to plug in our values to get proportional rates. Had problems either using ians model or with our current kd

Grant:

* Tuesday: 1 hour – working with code for network
* Wednesday: 2 hours – working with Ben and Ian for mesh network
* Friday: 1 hour – worked with team for presentation
* Sunday: 1 hour – final presentation working

Jake:

* Monday: 1 hour – team meeting
* Wednesday: 3 hours – worked on serial writing to ESP chips
* Thursday: 2 hours – continued working on serial writing from crazyflie to ESP
* Sunday: 4 hours – team meeting for presentation planning, working on sending UDP packets from Crazyflie

Ben:

* Monday: 2 hours – Meeting, fixing some groundstation code, debugging serial problem
* Wednesday: 2.5 hours – working on the dumb ESP firmware
* Thursday: 5 hours – Researching ESP problems, Arduino messing around, testing groundstation code and fixing bugs and making changes to matlab, fixing a serial problem
* Sunday: .5 hours – meeting with the team

Tianxiang Shen:

* Monday: 1 hour – meeting
* Tuesday: 2 hours - assembled and soldered parts
* Saturday: 2 hours – assembled and soldered parts on prototype board and burnt a board

Chengrui:

* Monday: 1 hour – meeting
* Tuesday: 2 hours - assembled and soldered parts
* Saturday: 2 hours – assembled and soldered parts on prototype board and burnt a board
* Sunday: 1 hour – tried to solder on regulators to prototype board