**EE CprE SE 492 – MAY1732**

**Crazyflie Swarm Senior Design Team**

**Weekly Report 1**

**1/16-1/23**

**Faculty Advisers**

Phillip Jones

Nicola Elia

|  |  |  |  |
| --- | --- | --- | --- |
| **Member** | **Position** | **Weekly Hours** | **Total Hours** |
| **Nick Robbins** | **Team Leader** | **8** | **87.5** |
| **Ben Nelson** | **Key Concept Holder** | **5.5** | **65.25** |
| **Jake Frazier-Flores** | **Webmaster** | **6** | **63.75** |
| **Grant Manley** | **Key Concept Holder** | **3** | **65** |
| **Chengrui Yang (Roy)** | **Key Concept Holder** | **3** | **42.5** |
| **Cole Beaulieu** | **Communicator** | **5** | **87** |
| **Tianxiang Shen (Jesse)** | **Key Concept Holder** | **2** | **34.5** |

**This Week’s Progress**

1. Quads/Camera System

* Received parts for the Big Quad that we had ordered over winter break and attempted to assemble, realized that we were missing minor components needed to successfully assemble and test the new quad.
* Started PID parameter testing where able

1. Ground Station/Wifi Systems/Firmware

* Continued troubleshooting of firmware on the crazyflie.
* Rewriting the ESP8266 library so that it is comparable to the udp communication that we would like to use.

**Pending Issues**

1. Waiting on part orders from the part shop to finalize the assembly of the new big quad

**Plan of Action**

1. Cole – continue documentation of processes that our team has developed while waiting for remain quad parts to arrive. Assist Ben and Jake as much as possible.
2. Nick – Find motor resistance, put quad together when parts arrive, assist software team
3. Jake – Planning on flashing the new firmware onto a crazyflie and turn it on and then send it packets from the groundstation.
4. Grant – working on getting crazyflie packets sent with the wifi mod and help get a quad copter flying
5. Chengrui ­– assist in assembling the quad and testing it when we are able to
6. Tianxiang –
7. Ben – Test the new WiFimodule firmware, get a version of the full ground station that works with the wifi module

**Individual Contributions**

Cole:

* Monday: 2 hours– attempted to put together new quad, realized minor components were missing so compiled a purchase order for the remaining parts necessary.
* Wednesday: 2 hours – finished an instructable that was started over break and researched and ordered a voltage regulator to take voltage from CF down to the level that the ESP chips run at
* Sunday: 1 hour – weekly report

Nick:

* Monday 2 hours – Met with Tara and Andy to discuss procedures used in PID development
* Tuesday: 1 hours – Reviewed documents on how to measure motor resistance and drag
* Thursday: 1 hour – Talked with Paula from the physics department about meeting for testing moment of inertia.

Grant:

* Monday: 1 hours- website work
* Wednesday: 2 hours – working with Ben on wifi communication

Jake:

* Tuesday: 1 hour – continued crazyflie firmware troubleshooting
* Wednesday: 2 hour – rewriting Arduino Wifi Module library
* Saturday: 3 hours – rewriting Arduino Wifi Module library

Ben:

* Tuesday: 1 hour – Updating the Cflie C++ library to send and receive data over WiFi in a way that can be integrated into the groundstation
* Wednesday: 1 hour – Meeting, more Cflie lib work
* Sunday: 3.5 hours – writing firmware for Wifi modules on the crazyflies, made changes to the groundstation Wi-Fi module to send packets to specific crazyflies.

Tianxiang Shen:

* Wednesday: 2 hours – studied papers about quad testing

Chengrui:

* Wednesday: 2 hours – studied papers about quad testing

Saturday: 1 hour: searched more info about the parts we received