User guide

# Important files and directories in the repository:

* new\_system\ – the root of the current iteration of software
* new\_system\uav\ – contains the software meant to run on the UAV
* new\_system\gcs\ – contains the software meant to run on the ground control station
* main.py – the main entry point for each software item (GCS and UAV)
* system.log – the file containing output from running either the GCS or UAV software
* uav\_log\_file\_\*.csv – the log files generated by the UAV software, containing the UAV’s position and attitude through time

# Startup sequence

1. Start with the system powered down and unplugged
2. Place the UAV in the “landed” position and manually retract the reel. The GCS will consider this tether length to be 0m.
3. Connect the laptop to the Ethernet cable of the reel and manually assign the laptop an IP address of 192.168.1.X
   1. This might all be a lot easier if we used a home-grade WiFi router
4. Power on the GCS/reel and the UAV
   1. We still need to set up the UAV’s Pi to automatically connect to WiFi
5. Start an X windows server
6. SSH into the Raspberry Pi computers on both the GCS and the UAV, with X export enabled on the GCS connection
7. On the GCS, cd to the folder new\_system\gcs\ within the git working copy
8. On the UAV, cd to the folder new\_system\uav\ within the git working copy
9. On the GCS, run python main.py >> system.log. A GUI should appear.
10. On the UAV, run python main.py >> system.log
    1. This should eventually be replaced by a script that starts on powerup