**Visual Odometry:**

Completed Tasks:

We have gotten the code to work that allows the pi camera to recognize and estimate the distance of the Aruco marker.

Current Tasks:

We are trying to get the code to work that will connect the raspberry pi to the pixhawk and determine the position of the drone and make it land on the marker.

Future Tasks:

Deadlines:

Problems/Issues:

Not sure if the PixHawk we have works

Questions:

**Dead reckoning Team:**

Completed Tasks:

Current Tasks:

Come up with tangible code for an EKF filter to be implemented into the IMU code.

Future Tasks:

Implement EKF filter and Bias control in order to make the IMU data readings more accurate.

Deadlines:

EKF code by Fall break (OCT 12-15)

Problems/Issues:

We have dissected the EKF filter to the bare mathematics and are working on figuring out the Matrices from the state space equation. Implementing our data into these matrices to create this state space equation is the first goal.

Questions:


**Pi Integration/GPS:**

Completed Tasks:

Step by step instructions on how to connect the GPS wires as well as coding for Pi to integrate GPS have been made and posted to Raspberry Pi GPS coding under Quad Rotor section. We are still waiting on GPS connection chord that was ordered last week. Dr. Alberts gave us the green light to use the 3DR GPS to practice soldering wires to jumper cables and attach them to respective Raspberry Pi pins.

Power issues delayed the reading of GPS data to the Raspberry Pi. A more powerful adapter was used and the program was run again without insufficient power warnings. A large amount of program lag and CPU heating suggests that a more powerful microcomputer may be necessary to properly run the multiple codes necessary for UAV operation.

Current Tasks:

Read GPS data in the Raspberry Pi.


Future Tasks:


Deadlines:


Problems/Issues:


Questions: