Project Objective

The objective of this project is to create a three dimensional spectrum sensing map using the data pulled from a drone mounted cellphone. The data will be collected via the relative signal indicator on the drone mounted Android device. The data will consist of a set of GPS coordinates, altitude, relative signal strength, and time. This data will be processed and converted into a 3D spectrum map using Octave, a spinoff of MATLAB. More specifically, the program will use several interpolation algorithms to fill in the space where no data was actually collected.

Project Components

- Drone (3DR Solo? Since the payload is not that large)
- Mobile device capable of recording & storing time, GPS coordinates, relative signal strength (most likely Android or some other easily modifiable platform)
- Octave program capable of graphing the spectrum map
- Computer to analyze the data & run the octave program

Project Timeline

Oct. 7	Complete selection of project, define scope of project,
Oct. 14	Place project objectives, components & timeline in writing, determine project approach
Oct. 21	Finish Octave tutorials and begin writing program to produce a map based on test data
Oct. 28	Continue Octave program for test data, goal to be more than 50% done with it at this point, begin work on data collection aspect of project
Nov. 4	Complete data collection program and begin testing it, goal to be in the final stages of Octave data analysis program, determine how the data will be sent to analysis
Nov. 11	Finish Octave data analysis program (NN), test with data collected from the previous week, troubleshoot as necessary
Nov. 18	Modify Octave program to work with inverse distance weighting & test with previous data
Nov. 25 or closest date	Full test of all components and troubleshoot as necessary, begin work on Mentorship final presentation and general documentation