**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**

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| **Oct. 7** | Complete selection of project, define scope of project, |
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| **Oct. 14** | Place project objectives, components & timeline in writing, determine project approach |
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| **Oct. 21** | Finish Octave tutorials and begin writing program to produce a map based on test data |
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| **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 |
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| **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 |
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| **Nov. 11** | Finish Octave data analysis program (NN), test with data collected from the previous week, troubleshoot as necessary |
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| **Nov. 18** | Modify Octave program to work with inverse distance weighting & test with previous data |
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| **Nov. 25 or closest date** | Full test of all components and troubleshoot as necessary, begin work on Mentorship final presentation and general documentation |
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