

README

This file is to demonstrate the code for all the figures in this measurement project, I will show how the result is generated:

1. Basestation coverage

NOTE: You have to import/install following package to run and draw the resulting heatmap.

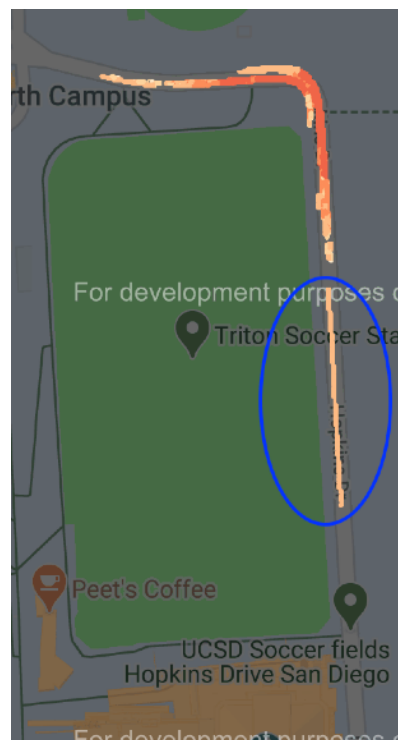
```
import numpy as np
import scipy.io
import ast
from math import sin, cos, sqrt, atan2, radians, log10
from gmplot import gmplot
import pandas as pd
import googlemaps
import gmaps
import sys
```

we have plotted all the maps for you

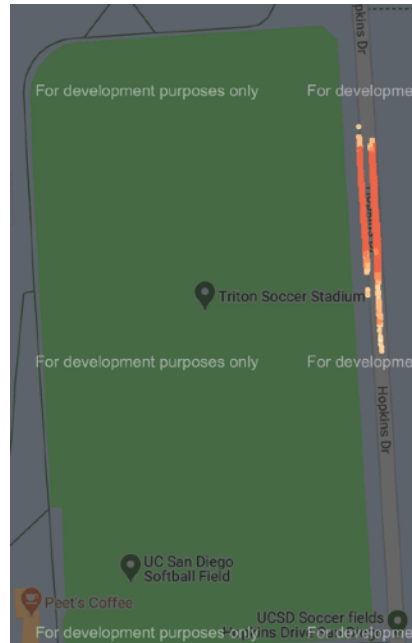
PS: all the heatmap takes a little bit long time to run, the resulting heatmap (html files) also has to take a little bit long time to open. **These heatmaps can be opened only when you are connecting to the internet!** Thank you for your patience!

1.1 Go into the “basestation_coverage” older. Setting 1 are generated by running the python program “setting1.py” the resulting heatmaps are “setting1.html”.

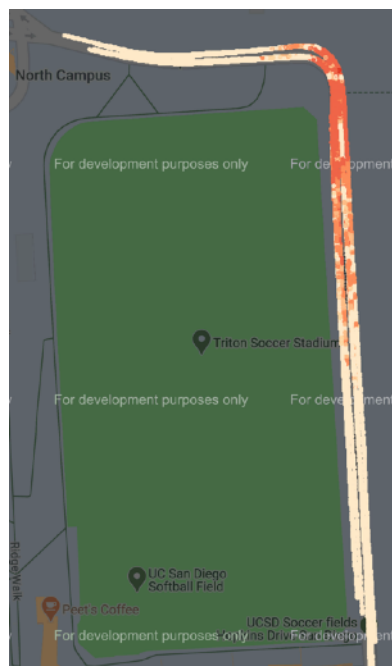
NOTE: the dots in blue circle are invalid points in the measurement due to the device bug, please ignore.



1.2 Go into the “basestation_coverage” older. Setting 2 are generated by running the python program “setting2.py” the resulting heatmaps are “setting2.html”.



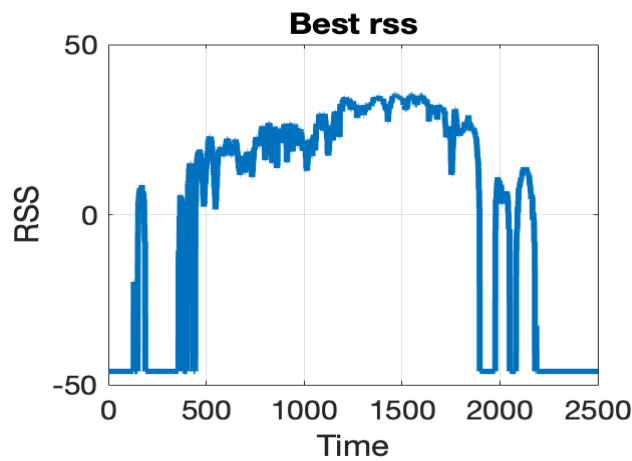
1.3 Go into the “basestation_coverage” older. Setting 3 are generated by running the



python program “setting3.py” the resulting heatmaps are “setting3.html”.

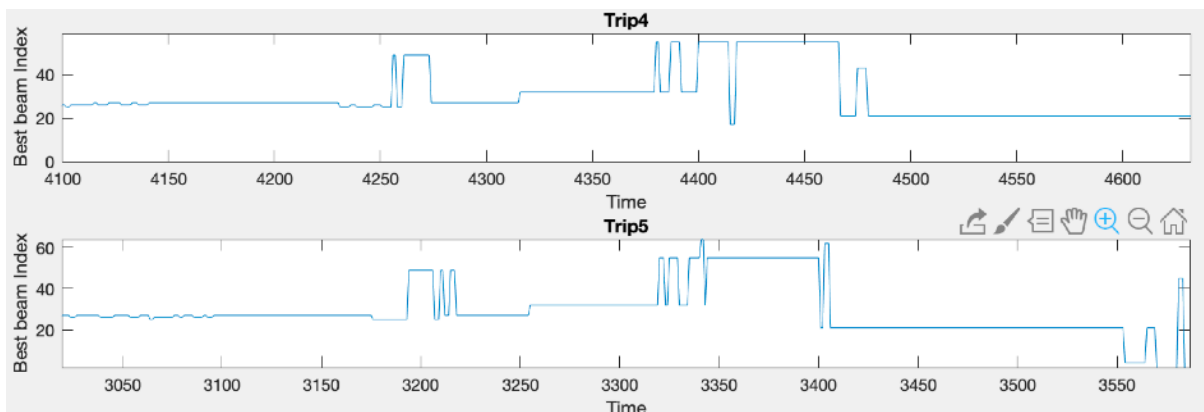
2. Best beam RSS

Go to the “matlab_codes” folder, run “main_data_plot.m”. Best RSS is in the bottom figure. Note that we set the invalid value as -50 in our slides in our slides for easy understanding.



3. Best beam location correlation & Best beam persistence interval

Go to the “matlab_codes” folder, run “main_best_beam_dynamic.m”. You can see they all have similar pattern. Due to the sample time offset, they are not in the figure generate from matlab, but they do align after calculating the distance and make distance as x-axis. The report just shows part of the result for demonstration (as follow). The table shows the statistical result.



4. “Forecasting beam” Effect

Go to the “matlab_codes” folder, run “main_data_plot.m”. It is in the middle figure, titled “best beam index”.

