

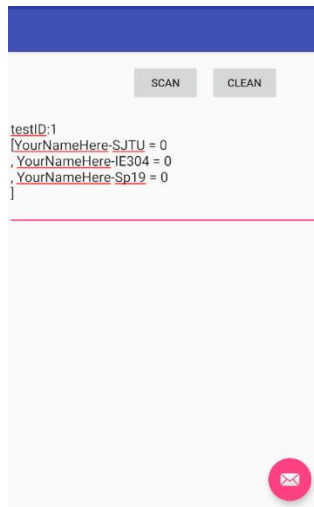
Measurement of WiFi Signal Strength

Teaching Assistant

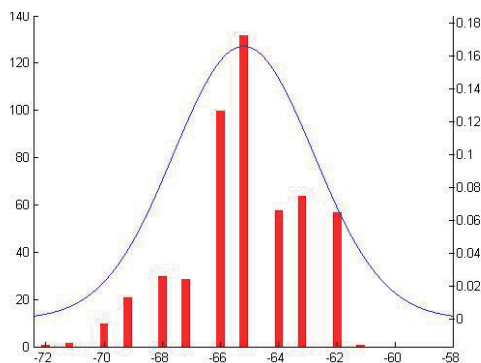
April 17, 2020

1. The Tasks

- Get used to the WiFi system;
- Accomplish the sampling and measuring of WiFi signal strength through programming in Android on smartphone. You may need to enter the Developer Mode of your phone in this step;
- Provide a screenshot of the experiment as follows;
(Notice: DO Replace “YourNameHere” with your name; Please make sure that your phone connects to the Internet with Wi-Fi Signals to make your outputs be non-zeros; It does not matter whether you change the number of File Name Groups.)



- Find the corresponding “.txt” file(s) in the storage of your phone, and try to plot the data as follows.



2. Questions

- a) Why is it necessary to record all the measured values rather than only the average value?
Please show your own explanations.
- b) Besides from the WiFi signal strength, what other information of the Routers can be got in the test?
- c) Why does the scanning need to be operated in thread “scanThread”?

3. Bonus

Design an indoor positioning system based on WiFi signal strength by using the signal strength measuring function of Android mobile phone. Any positioning algorithm can be acceptable.