

## **Android App Readme**

### **Summary**

For developing the Android App, I took advantage of the Android Native Development Kit(NDK)

This android app will open up a C socket on your phone and talk to the server software. The app will transmit decibel strength to the server and with those decibel values the server will respond by playing audio only on a specific speaker.

Note: This app is NOT pulling decibel values from its own wireless interface card. This app is generating random values to send to the server. This app is only to show you how an app can potentially function. For the functional tracking client you must use the client.c file and run it on a computer with a wireless interface card.

The server and android app(like the desktop client.c) will need to be located on the same local area network

### **native-lib.cpp**

I have included the transmitSignal function that does the socket handling same as stated in the client.c readme. The server ip and socket values can be changed here.

The transmitSignal contains a function call getSignal. This function will randomly generate a numerical value and return it back. (If we were to make this app functional like client.c , most of the changes in the code would go here.)

### **Android Manifest.xml**

In the Android Manifest.xml I had to add two permission for the android ndk to be able to use sockets to communicate with the server

```
<uses-permission android:name="android.permission.INTERNET"></uses-permission>
<uses-permission
android:name="android.permission.ACCESS_NETWORK_STATE"></uses-permission>
```

Note: The above lines are very important as without it you cannot use sockets the way I have. This took me a while to figure out and had to Google it. I cannot remember the exact site where I found the lines above for permission.

### **MainActivity.java**

This file contains the function call stringFromJNI which is used to call the functions coded in the native language.

### **To run on Android Device**

Open the project files in Android Studio

Connect your phone with Android Debugging Enabled

Connect your phone with adb(developer options) and run the code(play icon) on Android Studio and it will install the app directly to your phone.

The app itself has no GUI to it. If you want to transmit decibel(randomly generated) values, you just keep the app running in the background. This app is more of a service than an actual “application”.