Nervousnet Mobile API's

How-To build an Android Native Axon App

- ## Overview

  This document specifies a How-To step-by-step guide of integrating the nervousnet Mobile Library into your Android Project to use the Mobile API's.

  A Nervousnet Extension Android application is any Android App that uses the nervousnet Mobile API's to access sensor and other related data from Nervousnet Mobile application.

- ## Prerequisites

  Since nervousnet Mobile APIs is based on the Android Services and Android Interface Definition Language (AIDL) it would be good to read and understand how it works at:

  https://developer.android.com/guide/components/services.html

  https://developer.android.com/guide/components/aidl.html

  For using the nervousnet mobile API's requires calling a remote interface defined with AIDL

  https://developer.android.com/guide/components/aidl.html#Calling

- ## Tools

  - Eclipse
  - Android ADT Plugin for Eclipse
  - Android Studio (not tested, but importing the project should work)

- ## JavaDoc

  https://github.com/nervousnet/nervousnet-android/tree/master/Documents/Technical/Android/APIs

  - Click on index.html to launch the API documentation in your browser.
  - NervousnetRemote Interface lists all API's that can be used by External Apps.

- ## Source Code

  1) Nervousnet Project

     https://github.com/nervousnet/nervousnet-android

  2) **Nervousnet Library Project (nervousnetLIB)**

     https://github.com/nervousnet/nervousnet-android/tree/master/MobileClients/Android/nervousnetLIB

3) **Sample Extension Project (LightMeter, Accelerometer & Noisemeter)**

(Inside GitHub project -> Mobile Clients -> Android -> Sample Extensions -> *)

https://github.com/nervousnet/nervousnet-android/tree/master/MobileClients/Android/SampleExtensions/Lightmeter
https://github.com/nervousnet/nervousnet-android/tree/master/MobileClients/Android/SampleExtensions/Accelerometer
https://github.com/nervousnet/nervousnet-android/tree/master/MobileClients/Android/SampleExtensions/Noisemeter

• Steps

1) Include the ***nervousnetLIB*** project as a library project of your Android project.

In Android Studio,:

- build.gradle (Project) add:

```
repositories {
    jcenter()
}
```

- build.gradle (Module) add:

```
dependencies {
    compile 'ch.ethz.coss.nervousnet:nervousnetLIB:0.7.35'
}
```

**The latest version of the nervousnetLIB can be found at:

http://jcenter.bintray.com/ch/ethz/coss/nervousnet/nervousnetLIB/

https://bintray.com/ppulikal/maven/nervousnetLIB/

2) In the manifest file of your Android project define the Nervousnet Permissions:

```
<uses-permission android:name="ch.ethz.coss.nervousnet.hub.BIND_PERM" />
```

3) In your main activity implement

```
Interface NervousnetServiceConnectionListener  and its methods

public void onServiceConnected();

public void onServiceDisconnected();

public void onServiceConnectionFailed(ErrorReading errorReading);
```

4) To connect to the Nervousnet Service

```
nervousnetServiceController = new NervousnetServiceController(YOURACTIVITY.this, this);
nervousnetServiceController.connect();
```

5) Once the service is connected a callback is received inside the method

```
onServiceConnected()
```

6) To disconnect from the nervousnet Service call:

```
nervousnetServiceController.disconnect();
```

7) Once your app is connected to the Nervousnet Service you can use the methods to request for sensor data:
   - ***SensorReading getLatestReading(long sensorType);***
   - ***void getReading(long sensorType, RemoteCallback cb);***
   - ***void getReadings(long sensorType, long startTime, long endTime, RemoteCallback cb);***

NOTE: **Please look into the Sample Axons Project for Lightmeter to understand a sample implementation.**

- ## Google Play Store Links:

1) Nervousnet Mobile App

   https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.hub

2) **Nervousnet – Sample Native Axon App List**

   LightMeter: https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.extensions.lightmeter

   NoiseMeter: https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.extensions.noisemeter

   Accelometer: https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.extensions.