

aar Documentation

v1.1.0

Structure

mylibrary

↳ *mindrove*

↳ *ServerManager*

↳ *ServerThread*

↳ *SensorData*

↳ *Instruction*

The *SensorData* class in the *mylibrary.mindrove* package is a data class that represents sensor data.

- *SensorData.channel1*
 - Type: Double
 - Voltage measured on each (1-8) EEG channel (in microvolts)
- *SensorData.accelerationX*
 - Type: Int
 - Accelerometer data corresponding to the three axes (X, Y, Z)
- *SensorData.angularRateX*
 - Type: Int
 - Gyroscope data corresponding to the three axes (X, Y, Z)
- *SensorData.voltage*
 - Type: UInt
 - Battery voltage measured [mV]
- *SensorData.trigger*
 - Type: UInt
 - Trigger events; 0 — None, 1 — Beep trigger, 2 — Boop trigger
- *SensorData.numberOfMeasurement*
 - Type: UInt
 - Packet identifier
- *SensorData.impedance1ToDRL*
 - Type: Int
 - Magnitudes of impedance measured between pairs of electrodes [Ω]
 - (1ToDRL, 3ToDRL, RefToDRL, RefTo4, 1To2, 2To3, 3To4, 5To4, 5To6, 6ToRef)

The *ServerManager* class is responsible for managing a server thread and its interactions.

- *ServerManager.sendInstruction*
 - Sending instructions to the client
 - Expecting Instruction
- *ServerManager.start/stop*
 - Starting and stopping the server thread
- *ServerManager.isMessageReceived*
 - Check if a message has been received
- *ServerManager.ipAddress*
 - IP address of the server

The *Instruction* is an enum class for different types of instructions

- *Instruction.BEEP* for Beep trigger
- *Instruction.BOOP* for Boop trigger
- *Instruction.EEG* for EEG mode
- *Instruction.IMP* for impedance mode
- *Instruction.TEST* for generating test signals

The *ServerThread* class is a thread for the server, the whole class is managed by the *ServerManager*.

Importing .aar file to new android studio project

- Add .aar file to projects libs folder (project\app\libs)
<https://developer.android.com/studio/projects/android-library>

- build.gradle

```
implementation(files("libs/mindRove-debug.aar"))
implementation(fileTree(mapOf("dir" to "libs", "include" to
listOf("*.jar", "*.aar"))))
```

- Import classes

```
import mylibrary.mindrove.Instruction
import mylibrary.mindrove.SensorData
import mylibrary.mindrove.ServerManager
```

- Make sure that you have the necessary network permissions in your *AndroidManifest.xml* file. Add the following permission:

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

- To check network connection and open it:

```
<uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE"
```

- For live data

```
implementation("androidx.lifecycle:lifecycle-livedata-ktx:2.7.0")
implementation("androidx.compose.runtime:runtime:1.6.1")
```