Create

Resume

Active

Pause

Finish

Android Application

Android Application

Android Native App

Dalvik Java Virtual Machine

Android Framework Java Libraries

Native Android API

Native Development  
Kit (NDK)

Device Abstraction Layer

Modified Linux Kernel   
with device specific Device Drivers

Hardware

Android OS

**Asynchronous** **Delivery  
of the Sensor Data**

Android OS

Android Application

Android Sensor Manager API

Hardware Sensors

**Polling**

**Interrupts**

**Register/Unregister Listener   
(Synchronous)**

UI Layer

Algorithm Layer

Step Detection Layer

Sensor Unification Layer

Android Sensor Manager API

Android Wifi Manager API

Android File API

Android SQLite API

Hardware SDCard Storage Driver

Wifi NIC  
driver

Sensor   
Driver

Hardware

Persistence Manager

Map Information

**Async**

**Async**

**System Architecture**

**Android OS**