

Guide to Smartwatch Sensors and API availability *

SENSORS

This guide is mainly for developers who wants to develop smartwatch apps that leverages in-built sensors and its accessibility. Each watch has its own development platform, so the API. This guide also provides an idea of whether the sensors are accessible through its platform API.

COMPATIBILITY

Development platform and hardware components of the smartwatches does not support all the mobile operating systems. This section gives an idea of how different smartwatches support mobile phones.

SPECIAL FEATURES

Recent day smartwatches have showcased many interesting features that provides intiutive user experience. Some of them are high-lighted here.

✔ Feature & API available

✔ API unavailable

✘ Feature / API unavailable

References

<http://developer.android.com/training/building-wearables.html>

<https://developer.apple.com/library/watchos/navigation/>

<https://developer.apple.com/library/watchos/documentation/General/Conceptual/WatchKitProgrammingGuide/index.html>

<http://www.gizmag.com/>

<http://stackoverflow.com/questions/31078293/moto-360-malfunctioning-gyroscope-after-android-5-1-update>






<https://developer.tizen.org/tizen/wearable>

<http://stackoverflow.com/questions/30322997/list-of-sensors-in-moto-360?rq=1>

Disclaimer

This guide is created based on several days of reading from developer documentation, different discussion forums (ex. stackoverflow), and articles based on smartwatches. All the logos and watch images are copyrighted to their respective companies.

* This guide may not be accurate. Use at your own risk. Please notify me if there is any discrepancies.

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|--|--|--|--|--|
|  |  |  |  |  |
| Apple Watch (42mm) APR 2015 | LG Watch Urbane NOV 2015 | Huawei Watch SEP 2015 | Samsung Gear S2 OCT 2015 | Moto 360 (2nd Gen) OCT 2015 |
| DEVELOPMENT PLATFORM | | | | |
| watchOS 2 | android wear | android wear | TIZEN | android wear |
| SENSORS | | | | |
| HEART-RATE MONITOR / PPG | | | | |
| ✔ | ✔ | ✔ | ✔ | ✔ |
| ACCELEROMETER | | | | |
| ✔ | ✔ | ✔ | ✔ | ✘ |
| VIBRATOR / TAPTIC ENGINE | | | | |
| ✔ | ✔ | ✔ | ✘ | ✔ |
| AMBIENT-LIGHT SENSOR | | | | |
| ✘ | ✘ | ✘ | ✔ | ✔ |
| GYROMETER | | | | |
| ✔ | ✔ | ✔ | ✔ | ✔ |
| COMPASS | | | | |
| ✔ | ✔ | ✘ | ✘ | ✘ |
| MULTI-TOUCH | | | | |
| ✔ | ✔ | ✘ | ✘ | ✘ |
| NEAR-FIELD COMMUNICATION (NFC) | | | | |
| ✔ | ✘ | ✘ | ✔ | ✘ |
| PEDOMETER | | | | |
| ✔ | ✔ | ✔ | ✔ | ✔ |
| BAROMETER / PRESSURE SENSOR | | | | |
| ✔ | ✔ | ✔ | ✔ | ✘ |
| COMPATIBILITY | | | | |
| ANDROID | | | | |
| ✘ | ✔ | ✔ | ✔ | ✔ |
| iOS (IPHONE) | | | | |
| ✔ | ✔ | ✔ | ✘ | ✔ |
| SPECIAL FEATURES | | | | |
| HANDS-FREE GESTURE | | | | |
| ✘ | ✔ | ✔ | ✘ | ✔ |
| ALWAYS-ON DISPLAY | | | | |
| ✘ | ✔ | ✔ | ✔ | ✔ |
| PRESSURE-SENSITIVITY DISPLAY | | | | |
| ✘ | ✔ | ✔ | ✔ | ✔ |