

SmartWatches

And finally watches can do more than just keep track of time.

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Structure

- ▶ Definition
- ▶ History of Smart Watches
- ▶ How does a typical Smart Watch function
- ▶ Ad- and Disadvantages of Smart Watches
- ▶ My Take
- ▶ Sources

Definition

A Smartwatch is a computerised Watch capable of doing more than just the usual task of keeping time.

And following the trend of Technology, should be able to answer questions about time, Notification , fitness.

History of smart Watches

- ▶ 1970s Hamilton produced the first LED digital watch (prototype)
- ▶ In 1984 - Actually considered as the dawn of WC -Seiko UC-2000 .
- ▶ 1990s Timex released the Data-link.
- ▶ 1999 SPH-WP10 by Samsung Electronics.
- ▶ 21st Century as pick of it all
 - The beginning
 - Today.

History In Pictures



Hamilton Pulsar,
1973



Seiko UC-
2000, 1984



Timex Data-
Link, 1990s



Samsung sph-wp 10, 1999



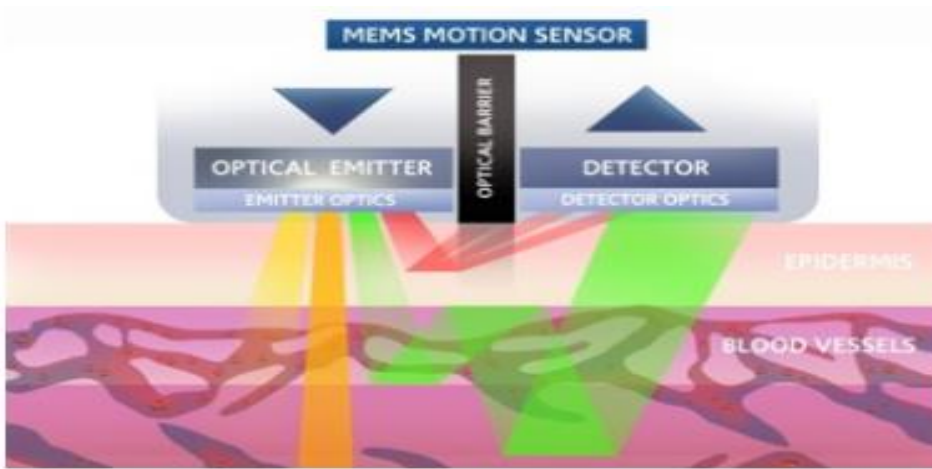
Samsung SM-
R810NZKAXAR,
2018

A typical Smart Watch

- ▶ Time keeping
- ▶ Notifications
- ▶ Fitness.

Fitness-Heart Rate

- ▶ The optical heart rate sensor uses a methodology known as photoplethysmography (PPG)
 - Changes in the Blood flow dynamics



Optical Emitter

Digital Signal Processor

Algorithm

Algorithm

- Website:- [Journal of Computer Science & Systems Biology](#)

Advantages

- ▶ Keeps us on course
- ▶ Portability

Disadvantage

- ▶ Price
- ▶ Accuracy
- ▶ Most are dependent

10

Sources

- ▶ <https://www.inexhibit.com/case-studies/seiko-uc-2000-1984-the-dawn-of-wearable-computers/>
- ▶ <https://www.youtube.com/watch?v=HbUPCjPzEtM>
- ▶ <https://www.quora.com/How-do-Smart-Watches-measure-the-heart-beat-on-the-wrist>
- ▶ [https://www.news-medical.net/health/Photoplethysmography-\(PPG\).aspx](https://www.news-medical.net/health/Photoplethysmography-(PPG).aspx)
- ▶ <https://electronics.howstuffworks.com/gadgets/clocks-watches/puls-wearable-differ-from-smart-watch.htm>
- ▶ <https://gizmodo.com/the-seiko-uc-2000-wrist-pc-an-awkward-80s-attempt-to-l-5401391>
- ▶ **Algorithm:-** <https://www.omicsonline.org/open-access/algorithm-to-calculate-heart-rate-and-comparison-of-butterworth-iir-and-savitzkygolay-fir-filter-jcsb-1000268-101771.html>

The End

THANK YOU

ANY DOUBTS ????