

HMI ASSIGNMENT 1

Janmejaya Patil

Roll no: BE-A 52

Problem Statement

→ Things that don't work the way you expect

Fitness devices are getting more and more powerful each year. Companies like Fitbit, Samsung, Mi and others are always adding new features to their devices that keep a track of everything from simple step counts to potentially detecting sleep apnea.

But do you trust your wearable to report all those numbers correctly?

Maybe not all the time.

Most wearables nowadays comes with optical heart rate sensors. But the resting and active heart rate, heart rate zones, and other nitty-gritty heart rate details are inaccurate most of the time.

Optical heart rate sensors work by shining an LED ~~dispi~~ directly onto your skin and monitoring how that light reflects off your blood vessels. Sensors picks up all the information and process it into easy-to-understand pulse readings.



However, no. of factors can skew this data:

Color of your skin

Amount of hair on your wrist

How tightly you are wearing the band

Also, different companies have different methods, metrics and sensors which aren't all at same level.

Hence there are high chances that two different fitness trackers will show different readings at any given point.

How can we improve fitness tracker's accuracy?

- Follow manufacturer's guidelines
- Wear your fitness tracker firmly on your wrist
- Don't wear fitness tracker on your dominant wrist
- Tweak settings to your comfortability in your fitness tracker app.
- Buy the right gear: quality products with higher reliability