



PTC IoT Course Project

The Watch of the Future

Samsung Gear Smartwatch



Physical Aspects (Gear S2)

- 1.2-inch circular AMOLED Display made with Gorilla Glass 3
- Rotating bezel
- Touch display
- Home + Back buttons
- Built-in mic
- Stainless steel case
- Elastomer strap
- Li-ion, 250mAh battery



Smart Aspects

- Sensors:
 - Accelerometer
 - Gyroscope
 - Heart Rate sensor
 - Ambient Light sensor
 - Barometer
- Dual-core 1GHz Pega-W processor



Connected Aspects

- Bluetooth
 - Used to synchronize user data and notifications between watch and phone and to store data in the cloud (via the phone's cellular or Wi-Fi connection)
- 802.11n Wifi
 - Can be used to synchronize or upload data if Bluetooth connection is unavailable
- Cellular (3G) – only on select models
- NFC
 - Used for Bluetooth pairing and mobile payments



Capabilities

- Live heart rate and fitness tracking (with smart auto-tracking features)
 - Set fitness goals, and compare yourself against your friends and other users
- Contacts, phone calls, texting, app notifications redirected from phone
- Music playback via Bluetooth
- News, Weather, Maps, etc.
- Apps: Health/Fitness, Lifestyle, Utility, Navigation, Entertainment
- Uses Samsung's Tizen API; Open for development
 - Already has compatibility with some IoT devices – smart car lock systems, Nest thermostat, smart LED lighting systems, etc.
- Acts as a full remote for your smartphone – and can therefore do just about anything a smartphone can!

My View

I never thought that a smartwatch could look so cool, let alone be so useful. I was actually reluctant, initially to buy myself a smartwatch, but winning a smartwatch at a hackathon finally convinced me to give it a try. I can say now, looking back, that my former opinion was certainly wrong, and that having a smart connected device on you (literally ON you) is very convenient. No longer do I have to take my large Nexus phone out of my pocket every time I want to change the song, check a notification, or call someone. Furthermore, as someone who enjoys running, working out, and playing school sports, I'm really starting to notice the value of having the device collect and display my exercise data in neat ways. For example, having the watch generate a chart of my speed and heart rate during my runs is always useful for seeing where I deviate from my intended pace, and what I need to work on. Having the ability to set fitness goals for myself, and having the watch remind me of them, is always a plus.