ASSIGNMENT – 1

**PROMPT**

**Identify and analyze a device that is an IoT device now, but in the past was a non-IoT device. Describe and list the features of the device. Compare the functions of the device in the past to the functions of the device now.**

Gone are those days where people used a pendulum or a wall hanging clock to take note of time. As time passed, we saw the miniaturization of the clocks which turned into wristwatches. Later with the advent of technology, the usage of smartphones has increased. This has led to the sole purpose of a watch that is to show time has diminished. As the usage of a wristwatch decreased, there arose a pressing need to build on the functionalities of wristwatches which led to the invention of smartwatches!

Features of an old timepiece:

1. The only purpose was to display time.

2. It doesn’t require any charging. It has got great battery life.

3. Cheaper compared to smartwatches.

Features of a smartwatch:

1. It not only shows time but offers various functionalities as it has computational intelligence and is connected to a network.

2. They have got advanced processors embedded in them.

3. They also have a storage device in them to save our data locally.

4. They are wifi and Bluetooth enabled.

5. It can be connected to our smartphones.

6. It provides us with instant message notifications.

7. It can be connected to our social media account.

8. It can track our heart rates, blood pressure and other useful biometrics to keep our health at check.

9. It's very handy when traveling as it can provide us with directions while driving and it also can be used to answer calls without using our phones.

10. It can be used to track the location of our smartphone in case we lose it.

11. It can be used for monitoring our fitness activity by keeping track of the steps we walk, the distance we run or cycle, and the calories we burn.

**PROMPT**

**Compare the functions of the device in the past to the functions of the device now.**

In the past, watches had only one function, which is to provide us with time. When there were other sources to know the time, watches lost their purpose. Smartwatches perform various other functionalities than what a normal wristwatch does. Like the wristwatch, the smartwatches can also show time, can be used as a stopwatch or a timer. Apart from this, a smartwatch is also our tech assistant. It can store and organize our data. It can be synchronized with our smartphones. We can turn our smartwatch into our smartphone as it can be used to make calls, send a message, listen to music, give us direction, and do a lot more. When it comes to health care, they can track our sleep, pulse rate, blood pressure, and it is a very necessary item for old people as the smartwatches can tell them if they are doing well or not. It also has a fall detection feature that would instantly notify others when there's any calamity such as a seizure and the person tends to fall. It can also connect to emergency services such as an ambulance or police or fire service.  
  
Overall smartwatches posses functionalities that people would have not even imagined that a watch will have in it.

**PROMPT**

**For your chosen IoT device, list any improvements or any diminishments if they exist, over the non-IOT device. Describe any limitations that are present in the new IoT version of the device**.

Smartwatches do possess a few diminishments even though they have got numerous features to boast of.

1. Smartwatches have very minimal battery life. They require constant charging and can only last a few hours (generally 18 hours) when compared to the wristwatches which run for years without any winding or battery.

2. Smartwatches are reported to collect and show inaccurate data. The steps calculator and the heart rate sensor do not give 100 percent accurate results.

3. Smartwatches have got a tiny screen. It gets cramped when a lot of notifications appear and it also makes it tough to watch videos on them even though they offer that feature.

**PROMPT**

**Describe any privacy issues with the IoT device that never existed in the original version of the device. Compare the price of the original device to the price of the new IoT version of the device. When performing a price comparison, attempt to normalize for the changing value of currency over time by using an online inflation calculator.**

These miniaturized-computer systems work differently to other types of operating systems, but that doesn’t mean they’re any less susceptible to hacking. Smartwatches store data locally and when these watches are lost and if they get to the hands of a hacker, it's quite easy for them to break into the device and collect our data such as messages, photos, and contact details.

Parents gift their school-going children with smartwatches to track their live location. Hackers can modify their location as they wish and send their false location to their parents. They can also send customized messages to these children imitating their parents and cause life threats.

There are also potential threats in connecting a smartwatch to the smartphone. When the smartwatch is hacked, it can also allow the hacker to obtain access to the smartphone and the information stored in it.

Comparing the price of the non-IoT wristwatch and an IoT smartwatch, the smartwatches are priced on the higher side. A basic designer timepiece costs around 80 to 90 USD. On the other hand, a smartwatch costs a whooping 500 USD. The prices of both these watches vary widely based on their design and the features they offer.

To conclude, living in a world where technology is growing at a rapid pace, its important to get accustomed to the change, but at the same time take proper measures to safeguard ourselves from the piracy threats they offer!