

## **Study Guide**

### **Wearable Technology**

#### **What is Wearable Technology?**

Wearable technology describes any electronic device that consumers can wear on their body. “Wearables” have currently grown to include items ranging from pedometers, watches, glasses, etc... Wearables can meet a variety of needs for consumers: fitness trackers, fashionable accessories, communication devices, sources for additional news and social media, etc.

#### **How Does Wearable Technology Work?**

Wearable gear in the form of watches, eyeglasses, and more, integrates the form and function of multiple devices. Most of these work in a similar manner. Multiple sensors capture changes in position, temperature, etc. and translate them into data. Then, microprocessors extract, transform, and load data to a transmittable format. Finally, transmitters wirelessly send data to cloud storage for further processing and reporting.

#### **A Variety of Applications (& Apps)**

Driven by the healthcare industry, the corporate sector, and consumer demand, the wide array and number of applications ranging from health and fitness monitoring to employee monitoring and safety will increase very quickly. According to PricewaterhouseCoopers, over 80 percent of consumers believe that an important benefit of wearable technology is its potential to make healthcare more convenient. Moreover, 68 percent said in exchange for lower health insurance costs, they would be willing to wear employer-provided wearables that streamed anonymous data to an information pool.

#### **What are some different types of wearable tech?**

Pedometers, fitness trackers, smart watches, smart glasses, and action cameras are all popular wearables. Pedometers are some of the original technology in this industry. While their main feature is only to track movements and steps, pedometers have historically been the most widely available and mass produced type of wearable technology. Fitness tracking wristbands are a more modern and complex device that built upon the success of pedometers. They measure and record data related to the wearer's physical state and performance, such as heart rate, speed and distance traveled, sleep patterns, and more. Smart watches primarily tell time while also displaying information supplied by the wearer's smartphone, such as email, SMS, call info, and media controls. Some smart watches also make and receive calls, take pictures, play games, and provide some of the features of a fitness tracker. Smart glasses can allow users to search the web, see maps, send messages, take photos, and play music, among many other features. Consumers need to make sure the glasses are both light and comfortable, and see if they come with either regular or sunglasses-style lenses. Rugged action cameras mount to a helmet, chest harness, or to the sporting equipment itself, capturing video under strenuous, adventurous conditions.

## **How can wearable tech help improve your health?**

Fitness trackers gather in-depth information about wearers' physical activity that they would not otherwise know, helping them monitor their progress towards or away from their health, fitness, and athletic goals. Some fitness wearables sync with apps that help users stick to healthier eating and sleeping habits as well.

## **What are some important features to look for in an activity tracker?**

A heart rate monitor, timer, GPS tracker, and convenient connectivity features are some basic essentials to consider. Although most fitness trackers monitor steps taken, the advanced models take speed and altitude into account. Accelerometers are small motion sensors inside wearables that detect the orientation of the device. By analyzing motion and GPS information, the device can assess if the user is sitting, standing, or running. Additionally, the accelerometers can be used to interact with apps and/or games. An attractive interface and automatic charting of performance data are both helpful. For example, some trackers convert physical activity to calories burned. A long-lasting battery is another advantage, as is a waterproof design for use while swimming.

## **The Future for Wearables**

The future for wearables is very bright. The potential to help people get and stay healthy using wearables is huge. The other opportunity is for monitoring people with long-term chronic diseases, so that they may be medicated appropriately. We have only begun to see the power of wearables.

## **What Are the Risks?**

There are three main categories of risks the wearable tech companies and consumers face:

- 1 Cyber risks. The data transmitted via wearables must be properly secured; otherwise, companies are at risk of class action lawsuits, costly fines, and injury to their reputation.
- 2 Bodily injury risks. Malfunctioning devices can cause injuries, illnesses, and even death to wearers or patients. Manufacturers of defective devices may even face product liability lawsuits.
- 3 Technology errors and omissions risks. Companies can be held liable for economic losses from the failure of their devices to work as intended.

## **What Consumers Must Do**

Make sure that any wearable device you wear already has a good track record. Keep your own information protected by using strong passwords and changing them regularly. Ask the question, "Do I need another device (i.e.- a mobile phone) to make my wearable device have full functionality? Since the price of wearables can vary depending on the type of device, consumers must be aware of what features they most need in relation to the price for those features. The same goes for battery life. Consumers must look for a wearable that has enough battery life to meet their needs. They may consider: the type of charger needed, the length of time to a full charge, and if the device is still useable with a minimal or empty charge.