

## Recent Trend in Wearable Electronics

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### ABSTRACT

The Electronic technologies have been growing rapidly throughout the last decades. Uses of electronic devices in day to day life have also drastically increased. The miniaturization plays an important role in advanced electronic application. Miniaturization is the trend to manufacture smallest electronic gadgets like mobile phones, PDA. Wearable electronics is a new generation miniaturized technology. The wearable electronics is a robust implementation of electronic circuits. These devices are more sophisticated than hand held electronic gadgets.

In this paper the main focus is to identify application of wearable electronics and scope in future. The wearable electronics gadgets used to maintain human health. Wearable systems for health monitoring may comprise various types of miniature sensors, wearable or even implantable. New advanced Wearable devices like electronic shirt are used to monitor a kids or elderly people. The shirts use embedded sensors. Some recent electronic gadgets are inbuilt in body to track a location and different aspects. This paper explains overview of wearable technology.

**Index Terms:** Electronic Gadgets, Smart Electronics, Wearable electronics.

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### I. INTRODUCTION

In last few years there has been an enormous growth in the diversity and market penetration of small electronic appliances like wearable electronics gadgets. Wearable electronics and technology is the new technology areas today. Wearable electronic systems are an emerging trend and are expected to be revolutionary in many applications. Wearable Electronics refers to any electronic device or products which can be worn by a person to integrate computing

in his daily activity or work and use technology to avail advanced features & characteristics.

Now a day's people commonly carry such devices like mobile phones, Tablets, Personal Digital Assistance and other electronic accessories as a part of daily life. A smart user prefers wearable electronics gadgets for medical reasons like ECG monitor, heart monitors and pulse meter. These devices are typically carried in pocket and can use anytime. From these devices user can monitor and improve health and wellness.

## II. WEARABLE ELECTRONICS

Wearable electronic is still a fairly new field of research and as a result much of the terminology has still to gain widespread acceptance. The history of wearable electronics goes back to 1960s when first wearable computer was designed [1].

The term wearable electronics refers to the functional, robust implementation of electronic circuits into innovative electronic gadget, textiles in which that is suitable for daily life.

Wearable electronics is a general term for the systems or appliances that contain electronics and that are carried during usages. Wearable technology, on other hand, does not define the type of technology utilized, i.e. electronics are not necessarily needed. [2]

Wearable electronic systems are an emerging trend and are expected to be revolutionary in many application areas like sports and medicine. This is a rapidly growing product sector. Large numbers of up-and coming tech companies are investing heavily in this area like Google, Samsung, Apple, Motorola along with networks, device makers and venture capitalists. As a result, with in decade of year, things will look a lot different than they do today. It isn't uncommon to see a person wearing a heart rate monitor when exercising, a pedometer when dieting, or a watch with ambient temperature sensors. These devices are becoming wirelessly connected to information hubs, and therefore more independent of professionals for their interpretation. In addition, they are making it possible to transmit information back to caregivers quickly and seamlessly. Recent advances in miniaturized devices, as well as mobile devices, have

fostered a dramatic growth of interest for wearable technology [3, 4].

In health care technology have drawn a lot of attention from the research community and the industry during the last few years as it is pointed out by the numerous and year by year increasing corresponding research and development efforts. As healthcare cost is increasing and the world population is aging, there has been a need to monitor patient's health status while he/she is out of the hospital in his/her personal environment [5]. In addition, Wearable Health Monitoring system constitutes a new means to address the issues of managing and monitoring chronic diseases, elderly people, postoperative rehabilitation patients, and persons with special disabilities. Recently the use of wearable system to monitor various health related biometric parameters during daily activities has attracted increasing interest.

## III. WEARABLE ELECTRONICS APPLICATIONS

The wearable electronics market is seeing a tremendous growth with a variety of products ranging from smart watches and medical patches to fitness monitors being introduced by multiple companies. A smart wearable device cannot simply be technology for technology's sake – a device that is expected to be bought because it is a gadget. It has to be practical, and do something that the user needs; otherwise it will not be able to carve out a significant market of its own.

The wearable electronics have many applications. It is widely used in Health care, for fitness, smart cars, Security purpose, outdoor pursuit's navigations, sports like golf training system which contains wearable motion sensors, in fashion designing for different types

of smart dresses, entertainment like MP3 wearable jackets, smart offices and other many applications.

In healthcare system wearable technology is used to monitor person vital sign throughout day, store that data for analysis and provide alert to doctors or relatives in case of emergencies.

In fitness management wearable electronics plays an important role. In this case body sensors are used to send a real time report to user. In smart cars smart glasses are used for navigation purposes that can be help to record a vedio (in case accident) and also record the driver's position and speed of car. In security system electronics are used worldwide. In this case police used smart glasses automatically get information and picture of person/accident. New advanced Wearable devices like electronic shirt are used to monitor a kids or elderly people. The shirts use embedded sensors. Some recent electronic gadgets are inbuilt in body to track a location and different aspects.

#### **IV. ADVANTAGES OF WEARABLE ELECTRONICS TECHNOLOGY**

There are many reasons to use wearable electronics technology. Wearable augment and extend the capabilities of the wearer while preserving personal privacy and functioning over a wide range of situations and contexts.

Some of its advantages are that it's reliable as there is continuous interaction between the wearable device and its user. It provides the capability to multitask, offers flexibility, convenience. On the other hand they are heavy, expensive and they can be hacked into by anyone since they are expensive.

#### **V. CONCLUSION**

The wearable technology is not only about hot area of electronic technology but also a category which promises a value added services and it also raises very serious privacy related questions. This technology help you could use it to simplify some tasks in your life. They can help you organize your data and information. This system is helpful for people facing the problem of chronic diseases.

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