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Wearable Computers and Its Applications

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ABSTRACT:

Wearable technology offers several opportunities that ignites the thoughts and imaginations of individuals of all fields. During this age of technology, the dependence on gadgets and different interfaces needed them to be present. This has cut the primary turf for the event of the newest technology of what we tend to decision as wearable Technology. it would be a boon for us to be in Associate in Nursing era of technology wherever we will wear the technology like fitness trackers, good watches, Bluetooth devices etc. The wearables supply safety too like it's utilized in bound operations which might be accustomed send an alert. It will be as tiny as a chip and still work wonders.

Keywords - *Wearable Computers, Benefits & Drawbacks, Technology.*

INTRODUCTION

A wearable or a wearable pc or a wearable Technology is what the word refers to. It's technology which might be consolidated on the body for various functions. There are intentions to develop this technology which might be to require snapshots of your everyday life or to analyse real time personal information that informs are on everything from health to workouts. If you are doing not need to appear at your phone all day, you'll be able to get the notifications on your wearable good watch and you'll answer the calls on your Bluetooth earphones or headphones. There are differing types of wearables is good Watches, good jewellery, Fitness Trackers, Implantable, Head Mounted Displays. These wearables as name suggests will be embodied into the garments, within the jewellery, shoes, watches or perhaps tattooed on the skin. The fast adoption of the devices in today's times has LED them into the forefront of the technology game.
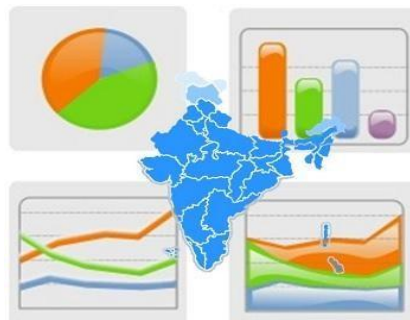

Image source https://trulyoffice.com/, https://i.imgur.com/KhPKSwc.png

LITERATURE SURVEY

Wearable devices is a trending topic in each business and educational areas. Increasing demand for innovation has LED to enhanced analysis and new product, addressing new challenges and making profitable opportunities. However, despite variety of reviews and surveys on wearable computing, a study outlining however this space has recently evolved, that provides a broad and objective read of the main topics addressed by scientists, is lacking. The systematic review of literature conferred during this paper investigates recent trends in wearable computing studies, taking into account a set of constraints applied to relevant studies over a window of 10 years.

The extracted articles were considered as a way to extract valuable info, making a helpful information set to represent the current status. Results of this study faithfully portray evolving interests in wearable devices.

The analysis conducted here involving studies remodelled the past 10 years permits analysis of the areas, analysis focus, and technologies that are presently at the forefront of wearable device development.

Conclusions conferred during this review aim to help scientists to raised understand recent demand trends and the way wearable technology will more evolve. Finally, this study ought to assist in outlining ensuing steps in current and future development.

The term "wearables" has acquired a specific connotation within the contemporary digital world. A wide used definition projected by Wright and Keith (2014) delineates wearable technologies as "electronics and computers that are integrated into clothing and different accessories that may be worn well on the body. Wearables now not just signify things that may be worn on the body, however also are connected with planted good devices (Sandvik, 2020) and also the capability to speak autonomously and method info on the go.

We adopt a complete view of wearable health technologies summarizing 3 main features: being attached to or implanted within the body of the user providing continuous way to of gathering physiological signals requiring none or a bit from the user.

Empirical research on wearables has gained traction as these devices become common. Recent reviews analysed studies focused on their development their effectiveness in health interventions and their ability to assess or predict health conditions.

Among existing reviews, there's a lot of concentrate on the event of wearable technology and also the incidental health outcomes, however a substantial gap lies in theoretical explanations of human behaviour concerning wearables.

Transdisciplinary integration of wearables analysis remains a challenge, one that we tend to will address through synthesizing the present data of the event, use and effectiveness of wearables across disciplines.

This study followed the scoping review methodology to spot and method the on the market literature be found in articles using the search engines of the digital libraries.

APPLICATIONS

The wearable technology has reached the head of its success. thanks to its wide usage in each field possible it's impossible to live or function without it. The increasing trends of this technology will be seen visually

The Hewlett Packard HP-01 is thought of the primary wearable device to possess a mass market impact. it absolutely was branded as a calculator wrist watch however showcased different technologies like time of day, alarm, timer, stopwatch, date and calendar. The watch sold for over $3000 in today's bucks. In professional sports, wearable technology has applications in observance and period of time feedback for athletes. The applications of wearables includes:

SMART EYE GLASSES

This is a freestanding device which might be wore on eyes. good glasses are considered as the next quantum leap into the globe of wearables. Not only a user will see however can even hear info because it has a voice assistant. These glasses contains lenses that displays required information graphs and knowledge. it's extremely used for the key operations to relay the message. If rumours are to believed, Apple is functioning on good glasses and Facebook has already confirmed it plans to launch good glasses in 2021 and have increased reality at the centre, merging virtual and physical worlds overlaying information on the globe aroundyou.
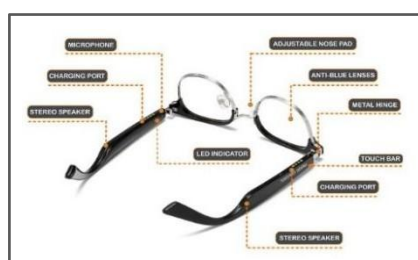
Smart Eye Glasses

MILITARY

Almost all combat systems have faith in these devices. wearable devices and sensors are embedded into the uniform of troopers and are human built designed to match forces.

However, raised computing power, AI systems and advanced process speeds are expected to bring prior benefits to operations with larger reliance on pc networks that need advanced security technologies.

In the late 1990s, the Georgia Institute of Engineering and Technology developed a "Smart fabric" that was used to monitor the physical condition of troopers.

USArmy Uniform

MEDICAL

The industry that uses wearable computing on massive scale is medical and health industry. Some healthcare firms are functioning on wearable technologies. These wearable devices are an aid to patients whose sickness will be diagnosed the advantage of wearable aids for medicals is that the patient doesn't have to lie on bed all the time throughout the diagnosis, however he can do his normal work and it varies from disease to disease.

Medical Armband

CONSTRUCTION

Construction field is one among the dominating fields. the main problem this field is facing is ever-changing the situation of the location, environment and low vision. wearable computing helps them in achieving their tasks simply and accurately. Normal computer cannot be carried to the places like underground, or hundreds of feet above the land. wearable computing solves this problem with the assistance of head mounted show system and different wearable computer wherever these architects modify their style on the spot and that they haven't to carry lot of papers and style charts with them

Wearable for construction

TEXTILE

There are varied researches are going on in the textile business to make the electronic textiles called smart fabrics which may be used to make cloths that cool your body in high temperature surroundings. at the moment time some fabrics materials (silk organza) are discovered that are capable of constructing the electronic circuits which may be used to build the various parts of the wearable computers.

Smart Fabrics

ADVANTAGES

Wearable computing or technology has the ability to monitor the fitness level, such as total steps walked, heart rate etc. It conveys the messages and notifications to the user.

People become way more engaged with their health once they use wearable tech to watch themselves. By accessing the real -time information collected by their device, users stay informed about their health conditions. Patients feel like they're in control of their health when they will monitor themselves with wearables instead of relying only on doctors' tests.

With mobile payment apps like Apple Pay, that mom holding a toddler whereas dragging another one that's attached to her leg doesn't have a 3rd arm to go digging around in her wallet. She appreciates being able to wave her wrist to pay for her things and be on her way.

Sometimes it gets tiring to carry phones all the time that's when these wearable devices comes in handy whether you want to attend a call or hear music just synchronize your phone with another device.

Provides local content with geo-targeted ads, consumer habits can provide insight to local retailers. Retailers can then share special ads and discounts to the stores you frequent most. Some stores can prompt you with ads simply by being shut or driving by.

DISADVANTAGES

Having access to a large quantity of information about your health can make users become obsessive or even hypochondriac.

Googling symptoms associated with health problems doesn't perpetually provides correct answers to the user's question and these general answers could lead on to irrational fears and health scares.

Poor information quality, style and also the WebMD issue are every vital shortcoming of wearable technology.

Wearables may seem cool to most, however the bulk of studies are showing that customers, for the most half, still realize wearable technology to be too high-priced. Hence, the price of buying wearable technology looks to be a lot of a luxury instead of necessity.

Nothing is a lot of frustrating than heading out for your jog and…oops! You forgot to charge your smartwatch or your earbuds. Battery life may be a critical issue once it involves wearables hitting the mass markets as a result of the bulk of wearable batteries don't last a sufficient quantity of your time, and still need to be charged on an almost on every day.

Unlike mobile phones or the other sort of technological devices wearable devices are restricted, for instance, you're not progressing to wish to write an email on a watch, and whereas your bracelet could light up to allow you to understand once you've received a message it's not going to enable you to respond it or to respond to it.

CONCLUSION

We're during a fascinating amount once it involves wearable computers wherever in each tiny start-ups and big-name corporations are functioning on an experimentation to faucet new markets and convince people to buy new technologies that may be of immense help to them. The aim of wearable computing is to style wearables that are either terribly trendy or invisible. wearable computing enables significant new research opportunities in the

interface, AI, perception and user modelling through devices carried on the body progresses new intelligent interfaces can result that may reduce work and quality and can cause new capabilities. However, by merely making eye catching and lucrative wearable technology won't serve the aim till it reaches out to the massive population and their full market potential is tapped .

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