Wearable Technology

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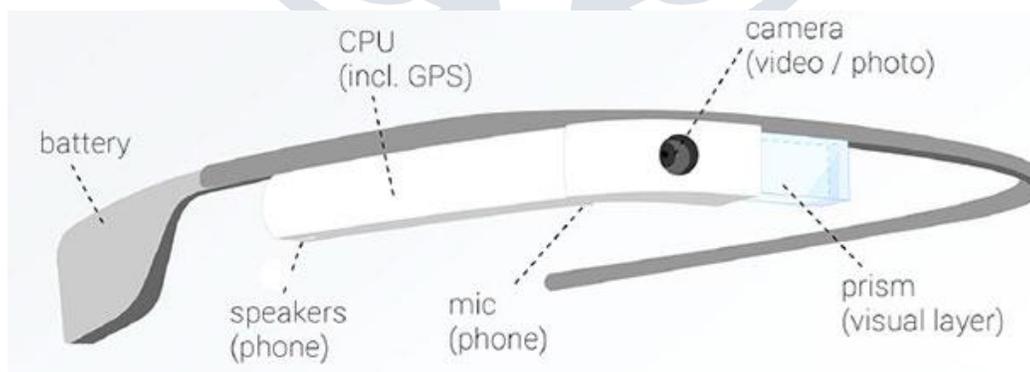Dronacharya College of Engineering ,New Delhi, India.

Abstract-Wearable technology, wearable devices, tech togs, or fashion electronics are attires and accessories integrating computer and highly developed electronic technologies. The blueprints frequently integrate realistic purposes and facets, but may also have a solely serious or artistic plan Wearable technology is connected to both the field of omnipresent computing and the history and growth of wearable computers. With omnipresent computing, wearable technology reveal the foresight of interweaving technology into the day by day life, of making technology persistent and communication friction less. In this research paper our main emphasis will be on wearable technology called Google glass. We will discuss its features & working. We will further discuss about its applications & alternatives to google glass.
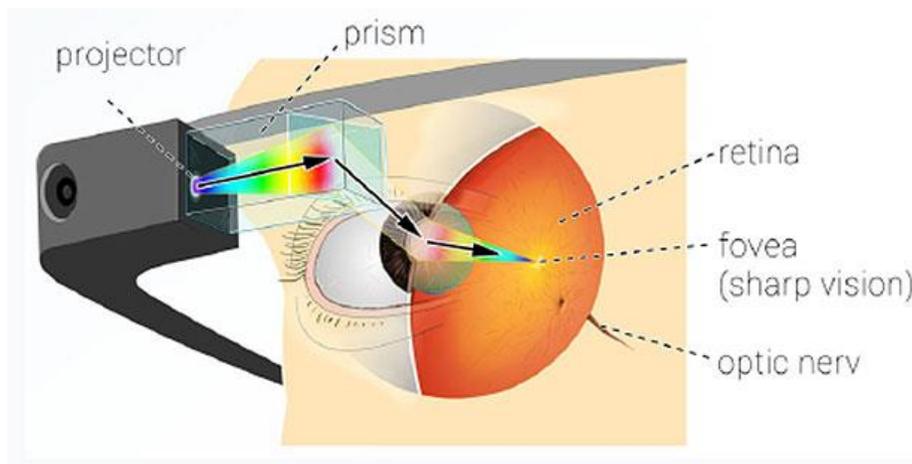
I. INTRODUCTION

Google glass is a technology which is developed by Google X**.** It is a types of wearable technology which run on android operating system. Google made it available for glass explorer in april15,2013 for a specific period for $1,500 whereas it became accessible for public on May 15, 2014. Glass imparts information in a Smartphone-like, hands-free set-up. Wearers of Glass interact with the Internet via natural language voice instructions. Google proposed four frame choices. The Google Glass sample bear a resemblance to customary eyeglasses with the lens substitute by ahead-up display. The invention began testing in April 2012. Sergey Brin wore a trial product of the Glass ,Foundation Fighting Blindness event in San Francisco. May 2012, Google verified for the first time how Google Glass could be utilized to shoot video. In June 2014, Nepal Government adopted Google Glass for tackling poachers of wild animals and herbs of Chitwan International Park and other parks listed under World heritage sites. Gurkha Military currently make use of Google Glass to trace the animals and birds. This procedure led to the latest development in military venture. Google Glass was consumed in military for the first time in the world by Nepal.

II. WORKING OF GOOGLE GLASS

It comprises of all the functional components of the computer including sensors such as GPS, a CPU, battery , microphone and. Speakers, to which are inserted a minute projector and a prism that transmits the light onto your retina. Good broadband signal is essential for the working of google glass as all the processing take place in the cloud only to make the device as light as possible.

 In the image below, you can clearly see the prism and the projector working together in the google glass. Google Glass is a miniature projector implanted into a twosome of glasses frames with some microscopic computing components to drive the package.

There are two ways to control the glass interface first is by using touchpad which is present on the side of glass and the other way is to use voice commands to instruct your Google glass. You can ask your glass to open an app,take pictures, call your friends or family members & records numerous videos.

III.   FEATURES OF GOOGLE GLASS

1) **Camera** : its has the ability to take pictures & record videos .
2) **Touchpad:** it is present on the side of the device.
3) **Record voice :** just say the word, Google glass will record it ,there is no need to touch the device.
4) **Messages:** it shows messages as well as emails. It gives you a facility to reply any message or email via voice commands.
5) **Information :** if your habit is to goggling everything than this glass made your task a bit easier by allowing you to ask questions and you will get the answer from the internet on your glass.
6) **Maps :** Google maps are embedded in Google glass so that one can plan their journey and can easily find the location.
7) **Live sharing-** google glass can show the world what are you watching currently
8) **Translate –** you can simply ask the google to translate the sentence in another language.

IV.   ALTERNATIVE TO GOOGLE GLASS

google glass itself is not the only the specific technology available in market. It was rumored that apple & Microsoft are also working smart glasses and numerous similar smaller devices with more advanced technology. There's yet a project at Monash University in Melbourne to create a bionic eye in which several ultra-modern glasses link to a chip embedded in the brain, which immediately stimulates the visual cortex.

V.   GOOGLE GLASS CANNOT DO

Google glass have many boundaries. It is not capable to email the photos & it also lacks visual search.

VI.   ADVANTAGES

1) It has all the features of computer ,smartphones,gps navigator, tablet.
2) It can be used in healthcare
3) Convenient to use. Can send messages and emails via voice commands.
4) Can capture mind-blowing moments of your life instantly.
5) It is user friendly.
6) Clearness of sound is really very good as comparation to headphones.
7) Process of delivering an app are done in an innovative ways.
8) Finds all the information instantly.
9) It will make you look like scientific & technical.
10) It is easily wearable.

VII.   DISADVANTAGES

1) The main disadvantage of google glass is its privacy.
2) Videos & camera can be misused.
3) Overall cost is very high.
4) Face recognisation technology of google can be misused easily.
5) You cannot use it everywhere you want. There is ban on google glass in clubs & bars.

VIII.   APPLICATIONS

It has two main applications first is in medical field and the other one is in media.

Application in medical field- wearable health record is an application of google glass which is used to record patients details which is stored in cloud immediately. Doctor can get into patients details, can check him live. it can be shared with patients on need. Google Glass can assist a liver biopsy and fistulaplasty. Google Glass has the ability to boost up patient safety, procedure efficiency , and operator comfort in the arena of interventional radiology. Rafael J. Grossmann, as the first surgeon ever to validate the use of Google Glass in the course of a live surgical practice. the application of Google Glass to obtain images of a patient's retina was openly verified for the first time at the Wilmer Clinical Meeting at Johns Hopkins University School of Medicine by Dr. Aaron Wang and Dr. Allen .google glass also recognize fractures of the mandible on donor cadaver patients.

Applications in media: google glass helps in live reporting applications, including cover stories and interviews from the reporters point of view.

Conclusion-google glass is a nice innovative technology which make life easier in many ways. It has many applications in therapeutic field which would definitely going to serve up people. People can reveal their videos & images live by using it. Peoples who are physically disabled find it much more comfortable to use .it has many cons also like its privacy issue. video & camera may result in some serious privacy issues. There have issues to regarding the eye pain caused by the device. cyber concerns like stealing Smartphone 7 tablet using google glass is also an issue. Overall it is a good device for mankind if uses in a good way .there should some laws to taken care of privacy & other related issues.

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