

A Study on Google Glass Technology

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Abstract:

Google glass is a pioneering gadget which leads us to interact with the world through android operating system. Google Glass is an optical head mounted display designed in the shape of a pair of eyeglasses. They are wearable computers helps in hands-free displaying of knowledge which can be accessed by sensible phone users, and allow interaction with the web through voice commands. It was developed with the mission of producing a ubiquitous computing. Google Glass have a combined features of virtual reality and augmented reality. Google Glass is packed with Bluetooth, Wi-Fi, GPS, speakers, camera, microphone, touchpad and possibly a gyroscope that detects head-tilts .Thus Google glass is a helpful technology for all types of individuals as well as handicapped/disabled.

1. INTRODUCTION:

Google Glass is a new technology to create wearable computing thought, and it's effectively a combination of glasses with associate degree integrated alert show and a battery hidden within the frame. Google glasses is nothing but a technology on your face. We can use this technology of your Smartphone without using your hands. It is like an alternative device having software package and options that are offered in Smartphone. The main advantage is its quicker, wearable everyday activities. A futurist wearable alert show with a mounted camera and cellular property. Google glass is defined as “the program to develop an optical head mounted device having wearable computer”. The next version of Google Glass, which is due out sometime in2015, will be powered by an Intel x86 chip rather than the Texas Instruments ARM chip that helms the current Glass Explorer Edition hardware.



2. GENERATIONS OF GOOGLE GLASS:

A. First Generation Glass:

The use of television camera to “analysis of glass” camera is located in eye it effect the few hours display integration in between the eyes.

B. Second Generation Glass:

First generation of the glass camera and the display integrated in second generation is to define the effect of camera and display is by feeding the drives, its ray of light is incident of unaided eyes.

C. Third Generation Glass

In third generation glass includes the control Mechanism of focus in glass consist of clarification of pictures.

D. Fourth Generation Glass

In fourth generation to define looks distance of object is some of the problem can be solve in fourth generation to use the laser light to adjust the camera exactly in eye is also called as glass eye. It defines the two features virtual reality and augmented reality.

- **Virtual reality (VR):**

The Virtual reality is defining the presence of having artificial environment to develop the software use real world. It can be communicated with the environment in presence of people in to education and training to experienced two senses of sound and vision.

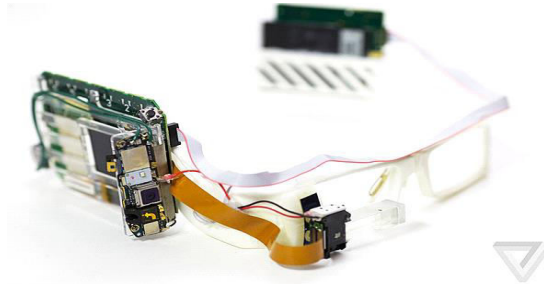
- **Augmented reality (AR):**

Augmented reality is a view of a physical, real-world environment which is live, direct or indirect. It is related to a general concept called mediated reality, which means a view of reality is modified by a computer. This technology functions by enhancing user’s current perception of reality.

3. LITERATURE SURVEY:

Google glass is an optical head mounted display developed by Google in Google x laboratory in the California to use the android operating system [1]. It captures the pictures, video interface between them in personal contact, map, and personal data. An advantage of this technique is that it both communicates the request to the computer and informs the conversational partner as to the wearer’s use of the machine [2]. In terms of increased public safety, Google’s new product can be a revolutionary savior. As with any new technology, People’s privacy will be an issue, but Google Glass is definitely not dangerous and harmful to society [3]. As a fast speed, forward moving culture, we can get a lot of benefits from such a futuristic product [4].

4. TECHNOLOGIES USED



Wearable Computing:

Wearable computers technology are worn by the bearer under, with or on top of clothing. This has been developed for general or special purpose information technologies and media development. They are useful for applications that require more complex computational support.

Ambient Intelligence:

Ambient Intelligence (AMI) refers to electronic environments that are sensitive and conscious of the presence of individuals.

In a simple way a technology that you can wear is said to be as wearable technology that's what is used in the Google glass.

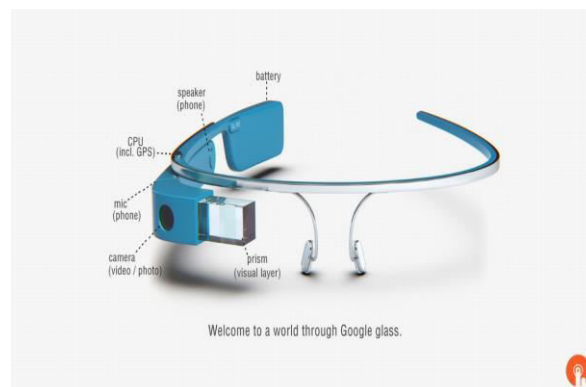
Android operating system:

The **operating system** is based on a version of Android, and it can run apps called Glassware that are optimized for the device. The glasses have built-in Wi-Fi and Bluetooth connectivity and a camera for taking photographs and videos.

Bluetooth:

Google Glass can doubtless have network property through Bluetooth. What this suggests is that Google Glasses can eliminate headphones also as earpieces and instead suppose vibrations that are conducted through the ear bones to permit you to listen to music and different audio content. Google Glass also has a property to connect through the Wi-Fi

5. DESIGN



- **Video Display:**

Its options with the tiny video display screen that's display the crop up hands free data.

- **Camera:**

It additionally has the front facing video camera with that photo and video is taken in it.

- **Speaker:**

Google glasses are designed to be hands free wearable device which will be build or receive calls too. Therefore a speaker is additionally designed by the ear.

- **Button:**

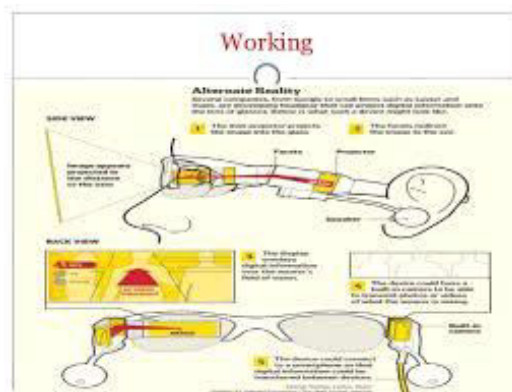
A single button on the specs of the frame the glasses to figure with the physical bit input.

- **Microphone:**

A mike is additionally place in, which will take the voice commands of the user. This mike is additionally used for having telecommunication.

6. WORKING:

Google Glass has the basic features of any computer, such as a CPU, also sensors like GPS, speakers, microphone and battery, a tiny projector and a prism that directs the light to your retina. All components are neatly embedded in its frame. Most of the processing will actually take place in the cloud so that the device will be light .Google Glass will communicate with other mobile phones via Wi-Fi or Bluetooth and display contents on the video screen and respond to the voice commands of the user. The video camera is sensible to the environment and it recognizes objects and people around. Most of the working of the Glass depends on user's voice commands.



- Easy to wear and use.
- Google glass responsive and sensitive to presence of people.
- It provides fast access of maps, videos, chats, documents and much more.
- It is a new trend for fashion lovers within an innovative technology.
- Being a spectacle based computer, it resides directly on your eyes so that you don't need to keep it in your pouch or pocket.

- It is a useful technology for handicapped and disabled people.

Limitations:

- It can be easily broken or damaged. Google is trying to make it as modest as possible.
- Glass shows data in front of user's eyes so it will be a tough experience for users because people will focus on data and will possibly miss the surroundings.
- Users wearing spectacles won't be able to wear glass.
- Privacy of people may be violated with glass.

7. Future scope:

Photography and video:

- Take a picture
- You will never have to touch the hardware
- "record a video"
- Also be shared on social networking websites.

Send messages and Google search:

- Send message via voice command
- Google search in internet

8. CONCLUSION:

Google glass can modify the medium of communication within some years. As a fast speed, forward moving culture, we can get a lot of benefits from this futuristic product .It is a wearable computers which use the familiar technologies that bring the sophistication and ease of communication and information access even for the physically challenged class of people who cannot use palmtops and mobiles.

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