

# Google Glass

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**Abstract -- Google has built up a wearable PC with an optical head-mounted show (OHMD) the innovative work venture Venture Glass with the intension of creating a mass-showcase universal PC. Glass shows data in a without hands arrange which can collaborate with the Internet through regular dialect voice summons. The Google Glass will have the consolidated highlights of virtual reality and enlarged reality. It deals with Google's Android Operating System. It likewise utilizes different advances such as 4G, EyeTap, Smart Clothing, Smart Lattice. Google Glass is a cutting edge contraption we've found as of late. It will demonstrate as a valuable innovation for a wide range of individuals including crippled/debilitated.**

**Indexed Terms -- 4G, Android, Augmented Reality, EyeTap, Project Glass, Smart Clothing, Smart Grid, And Virtual Reality.**

## I. INTRODUCTION

Google has built up a wearable PC with an optical head-mounted show (OHMD) the innovative work Venture Glass with the intension of creating a mass-showcase universal PC. Glass shows data in a without hands arrange which can collaborate with the Internet through regular dialect voice summons. The Google Glass will have the consolidated highlights of virtual reality and enlarged reality. It deals with Google's Android Operating System. It likewise utilizes different advances such as 4G, EyeTap, Smart Clothing, Smart Lattice. Google Glass is a cutting edge contraption we've found as of late. It will demonstrate as a valuable innovation for a wide range of individuals including crippled/debilitated.

1) Virtual reality (VR): Virtual reality applies to PC reenacted conditions that can reenact physical nearness in places in reality what's more, in conjured up universes. It interfaces remote correspondence conditions which furnish virtual nearness of clients with the ideas, for example, telepresence and telexistence or virtual ancient rarity (VA).

2) Augmented reality (AR): Enlarged the truth is a perspective of a physical, genuine condition which is live, immediate or backhanded. It is identified with a general idea called intervened reality, which implies a view of the truth is altered by a PC. This innovation works by improving client's present view of reality.



Fig. 1: - Google Glass

## II. TECHNOLOGIES USED

1) Wearable Computing: Wearable PCs are the electronic gadgets that are worn by the carrier under, with or over apparel. This innovation has been created for general or unique reason data innovations and media advancement. Wearable PCs are helpful for applications that require more complex computational help than just equipment coded rationales. The primary component of a wearable PC is consistency. It gives a consistent connection between the PC and client, which implies there is no compelling reason to turn the gadget on or off. Likewise it can multitask. Client can join these gadgets to act like a prosthetic. Hence, it can be an augmentation of the client's psyche as well as body.

2) Ambient Intelligence: Surrounding Intelligence (AmI) makes electronic conditions that are touchy and receptive to the nearness of individuals. Gadgets work in agreement to help individuals in doing their regular daily existence exercises and errands in simple, characteristic path in encompassing insight. Individuals utilize data and insight which is covered up in the system associating these gadgets.

3) 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. The standardization of three phases having smart clothing, android operating system, and road map smart clothing.

4) Android operating system : Android is portable working framework comprise of the Linux base OS. It is produced by Google. It is open source and its code is discharged under the Apache License. There were roughly 700,000 applications made accessible for Android in October 2012 and roughly 25 billion was the quantity of utilizations downloaded from Google Play which is Android's essential application store. The number may have expanded till now. Relatively every advanced cell now a days is outlined on Android working framework. The android operating system consist of different version which are Astro, Cupcake, Donut, Eclair, Froyo, Gingerbread, Honeycomb, Ice cream sandwich, Jellybean and latest version is Kit-Kat.

5) Eye tap : Eye tap is head mounted display which acts as camera for recording pictures and scene present in front of eye. The image is reflected digital Camera (eye tap) this image is captured and send to the computer. It simply the capture image and scenes to use eye tap. The user's eye operates as monitor and camera.

6) Smart grid technology: It is an electrical grid which is used for gathering and acting on information through communication technology. Information such as about the behaviors of both consumer and suppliers to improve efficiency, reliability, economics and sustainability of production and distribution in an automated fashion is called as smart grid technology.

### III. WORKING OF GOOGLE GLASS

Google glass's design is embedded with small chips camera, video display, battery, and speaker. It hand free display works on the android and connects a phone through Wi-Fi and Bluetooth. Small chips cameras are used to capture the images and scenes in

front of the eyes. Hand free information is displayed in pop up manner using video display.

Google glass's working steps are as follows:

- I) The mini project on the glass projects the image in it.
- II) Then the image is redirected to eye.
- III) The information is displayed over the wearer field of vision.
- IV) If the uses wants to transmit the data that can be photo or videos of what wearer it seeing, can be done through the build camera.
- V) To transfer the information between devices the device can be connected to smart phone.

It catches the photos, video interface between them in individual contact, guide, and individual information. In creator has thought of a specific favorable position of this strategy is that it both imparts the demand to the PC and advises the conversational accomplice with regards to the wearer's utilization of the machine. in creator has gone up against the difficulties and reason that fourth and fifth era advanced eye glass will demonstrate more productive than different advances as the issue of the elucidation of pictures in camera, protests out from the scope of laser light are additionally checked. Creator has thought of thought of utilizing advanced eye with wearable registering which will encourage creator has additionally specified about the issues that can emerge because of it. Show innovation Steve Mann to inquire about the including visual memory. In creator Thad starner has taken a shot at the time region of this innovation. Creator has diminished the season of correspondence. Creator is utilizing wearable innovation since most recent 20 years. At the point when creator has decreased time amongst intension and activity the interface has progressed toward becoming activity to the self. Creator has taken numerous genuine cases for the demos of the innovation. Study of the innovation utilized has done the overview of the innovations utilized as a part of Google glass. Creator where security was the fundamental issue. Creator has likewise clarified the working of Google glass future extension talked about in the paper.

#### IV. DESIGN

1) Video Display: Google Glass has small video display which is used to display hands free information in pop up form.



Fig. 2: - Video Display

2) Camera: It also has the front facing 5 megapixel video camera which helps to take photos and videos in a glimpse.



Fig. 3: - Camera of Google Glass

3) Speaker: Google glass is designed to be hands free wearable device which can be used to make or receive calls. Therefore, a speaker is designed by the ear for that.



Fig. 4: - Speaker

4) Button: A button is given at one side of the frame which helps the glass to work with the physical touch input.

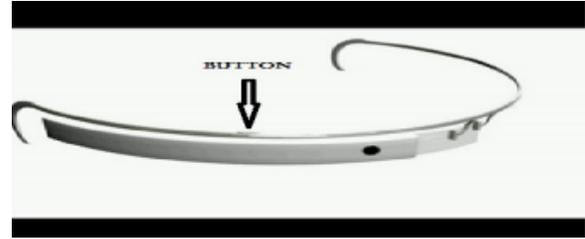


Fig. 5: - Button

5) Microphone: A microphone is provided take the voice commands of the user. It can also be used for telephonic communications.

Advantages:

- I) It is wearable and easy to handle.
- II) It useful technology of different kinds people.
- III) Access the document, pictures, video, map accept Fast.
- IV) Mainly used navigation, communication, and social networks.
- V) It is natural voice command language to communication
- VI) To use android phone through Wi-Fi.

Limitations:

- I) It can be easily broken or damaged. Though Google is trying to correct it and make it less fragile.
- II) Glass displays data in front of user's eyes so it will be a ambiguous experience for the person because then the focus will be on data not the surroundings.
- III) Users wearing spectacles won't be able to wear Glass.
- IV) Privacy of people may be disturbed with Glass.

#### V. FUTURE SCOPE

It is wearable computer consist of the futuristic gadget and can be used by doctors in medical field and the provided cost should be less than that of it is now. It is personal safety device to use virtual reality and augmented realities are facilitated.

#### VI. CONCLUSION

Google glass is a computer that can be worn. This brings ease and increases quality of life. It is a fascinating innovation and has more potential than any new device. It includes every kind of services that a smart phone has like navigation, maps, image and video capturing, It needs better compelling applications.

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