GOOGLE GLASS: PROJECT GLASS

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ABSTRACT

Google glass is the futuristic gadgets which lead us to interaction with world through android operating system. Wearable computer in the optical head mounted display (OHMD) has been developing by Google. It can have both the two features virtual reality and augmented reality. It is useful technology for hand free and works on natural language with voice command it use all kinds of user including handicapped or disabled. It consists of 4G technology, android system, eye tap, smart clothing, and wearable computing is this technology used in Google glass. The wearable computing consists of the vision to realize the functionality of android mobiles.
Keywords: Android system, Augmented reality, Eye tap, Virtual reality, Wearable computer, 4G technology.

1. INTRODUCTION

Google glass is defined as "the program to develop optical head mounted device having wearable computer" [3]. Google is declared the Google glass in April 2012 to use the wearable technology of head mounted display. The Google working to developed in Google glass device on the Google X laboratory. Google has started selling Google glass in US 15 April 2013 for limited period [3][5]. Nepal government is adopted the Google glass in June 2014 for use tracking the location also uses for wild animals and herbs pictures capture to the international park or other parks [5]. The Google class consists of the 4 Generations.

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 [2].

b. Second Generation Glass
First generation of the glass camera and the display integrated in second generation to define effect of camera and display is feed the drives its ray of light is incident of unaided eyes [2].

c. Third Generation Glass
In third generation glass includes the control Mechanism of focus in glass consist of clarification of pictures [2].

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[2].

The standardization of three phases having smart clothing, android operating system, and road map smart clothing [5]. It defines the two features virtual reality and augmented reality [3].

a. Virtual reality
The Virtual reality is defining the presence of state having artificial environment to develop the software user's real thing of real word. It can be communicated with the environment in presence of people in to education and training to experienced two senses of sound and vision[3][6].

Figure 1 Virtual Reality [6]

b. Augmented reality

The augmented reality is define the live things consist of direct or indirect on real world environment. The presence of state is work the technology in the sensory also to sound, video, graphic and internet data of navigation to global positioning of system [3][7].

Figure 2 Augmented Reality [7]

In the real world to define computer programming creating software consist of imaginary to represent the real world. Today the android system use to smart phone of the clarification of pictures, video is to define [7].

Advantages:

   i. It is wearable easy to handle.
  ii. It useful technology of all 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.
 vii. It innovation technology of new tread of fashion lovers

2. TECHNOLOGY

a. Wearable computer

It is an electronic device that is worn by the bearer under, with or on top of clothing. It is also known as body-borne computers. This technology proves helpful in case of the applications which require hard computations [3]. This technology have reduced the time of action and intention for example, as Google suggests possible search options on inserting few initial letters in the search box[4].Its main features are consistency and ability to multitask [3]. Its provides us consistency by the constant interaction between the computer and user; No need to on or off the devices. It common on mobile computing, Software architecture, wireless network in the interactions [3][8]. The electronic device consist of any were to use in the many of examples digital watch, Google glass, Tablets, Smartphone [8].


Figure 3 Wearable Computer [3]

b. 4G Technology

4G technology is fourth generation of mobile communication technology. A 4G system provides ultra broadband internet access for example, laptop, wireless modems also smart phone and other phones. Voice and 3G services to

communication with mobiles. It is successor of 3rd generation technology. Its data speed is 100Mbps. When device is used up to 1Gbps in stations. It provide Data security for mobile devices, computers [3][9].
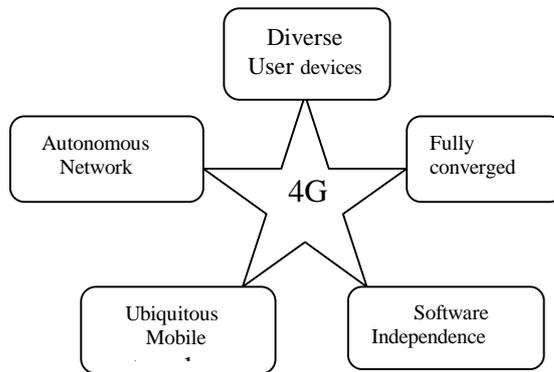
Figure 4 4G Technology [3]

The 4G technology consist of the fully converged software, software independent, diverse user device, autonomous network and ubiquitous mobile access [9].

c. Android operating system

Android is mobile operating system consist of the Linux base OS. It is developed by Google. It is open source and its code is released under the Apache License. There were approximately 700,000 apps made available for Android in October 2012 and approximately 25 billion was the number of applications downloaded from Google Play which is Android's primary app store. The number might have increased till now. Almost every smart phone now a days is designed on Android operating system [3][10].


Figure 5 Android operating system [3]

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.

d. 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 [2][3].
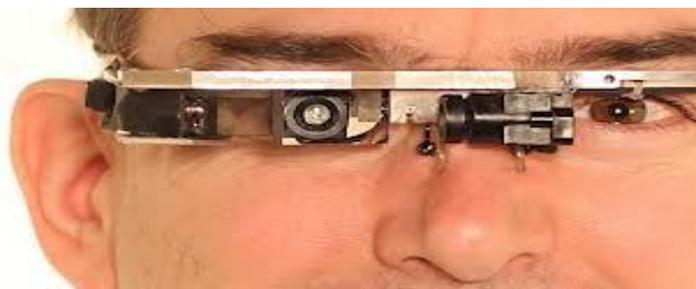
Figure 6 Eye tap [2]

e. 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 [3].

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3. WORKING OF GOOGLE GLASS

Fig. Google glass [11]

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 [3]:

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.

3.1   Voice Commands

Enlisted with the commands which can be used while handling Google glass.

FEATURES	VOICE ACTIVATION TEXT
RECORD VIDEO	" OK, GLASS, RECORD A VIDEO''
TAKE PICTURE	"OK, GLASS, TAKE A PICTURE"
USE GOOGLE NOW	"OK ,GLASS,[QUESTIONS]"
START GOOGLE + HANGOUT	"OK ,GLASS, HANGOUT[PERSON ,CIRCLE]"
DISPLAY WEATHER	"OK, GLASS, IS THE WEATHER IN [LOCATION]" "OK, GLASS DO I NEED AN UMBRELLA TODAY?"
SEARCH PHOTO	"OK, GLASS, GOOGLE PHOTO OF SEARCH [QUERY]"
TRANSLATION	"OK, GLASS, SAY [TEXT] IN [LANGUAGE]"
GIVE DIRECTION	"OK, GLASS, GIVE THE DIRECTION[PLACE]"
SEND MESSAGES	"OK, GLASS, SEND MESSAGE TO [NAME]" "OK, GLASS,[SEND] NAME THAT [MESSAGE]" "OK, GLASS, SEND[MESSAGE] TO[NAME]"

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4. LITERATURE SURVEY

Google glass is a optical head mounted display consist of the develop by Google in Google x laboratory in the California to use the android operating system. It captures the pictures, video interface between them in personal contact, map, and personal data. In [1] author has came up with a particular 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. in [2] author has confronted the challenges and conclude that 4th and 5th generation digital eye glass will prove more fruitful than other technologies as the problem of the clarification of pictures in camera, objects out from the range of laser light are also verified. Author has came up with idea of using digital eye with wearable computing which will facilitate author has also mentioned about the issues that can arise due to it. display technology Steve Mann to research the including visual memory. In [4] author Thad starner has worked on the time area of this technology. Author has reduced the time of communication. Author is using wearable technology since last 20 years. When author has reduced time between intension and action the interface has become action to the self. Author has taken many real life examples for the demos of the technology. In [3] Shimpali Deshpande et al.. Has done survey of the technology used has done the survey of the technologies used in Google glass. Author where privacy was the main issue. Author has also explained the working of Google glass future scope discussed in the paper.

5. FUTURE SCOPE

It is wearable computer consist of the futuristic gadget to use doctors and all kinds of people it hand free device current state it limited scope but in future Incredible compelling in Google. It is personal safety device to use virtual reality and augmented realities are facilitated.

6. CONCLUSION

Google glass is wearable computer. This brings ease and sophistication at life. There can be social and ethical issues. Google glass can be used more efficiently by used coupling two technologies together.

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