

Google Glass

UDIT SINGH RATHORE¹, DR.SONAL SHARMA²

^{1,2} Department of Computer Science & Engineering, Poornima College of Engineering, Jaipur, Rajasthan, India

Abstract -- Google's project program for developing a line of hands-free, head-mounted intelligent devices that can be worn by users as "wearable computing" eyewear. The first product release from Project Glass, Google Glass, was available for beta testers to purchase in 2013, for \$1,500 plus tax. It is the first conceptualization of a mainstream augmented reality wearable eye display playing out in a viral marketing campaign. Google Glass will enable us to capture video, let us interact with personal contacts, and navigate maps, amongst other things. The YouTube concept video "One Day..." that announced its coming on April 4, 2012, has been viewed more than 18 million times. Gracing the face of Diane von Furstenberg, who wore it at New York's fashion week, it is often strategically trotted out for photo opportunities. It has been provocative enough to scare both Apple and Microsoft, who had been issuing patents for augmented reality products of their own. However, most salient of all is the way Google Glass is framed in media as the brainchild of Sergey Brin, the American computer scientist of Russian descent who co-founded Google. Brin is also celebrated in online articles as a real life "Batman," who is developing a secret facility resembling the "Bat cave". This paper argues that Glass's birth is not only a marketing phenomenon heralding a technical prototype, it also suggests and speculates that Glass's popularization is an instigator for the adoption of a new paradigm in Human- Computer Interaction (HCI), the wearable eye display. Glass's process of adoption operates in the context of mainstream and popular culture discourses, a phenomenon that warrants attention.

I. INTRODUCTION

Google Glass is an optical head-mounted display designed in the shape of a pair of eyeglasses. It was developed by X (previously Google X) with the mission of producing a ubiquitous computer Google Glass displayed information in a smartphone-like hands-free format. Wearers communicated with the Internet via natural language voice commands.

Google Glass offers an augmented reality experience by using visual, audio and location-based inputs to provide relevant information. For example, upon

entering an airport, a user could automatically receive flight status information. Users can also control the device manually through voice commands and a touchpad located on its frame.

The Google Glass 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

II. PROBLEM DOMAIN

Google has never been a design-forward company, revolutionizing our lives through interface design. Instead, they've taken over the world building products with raw intellectual horsepower—brilliant artificial intelligence to fuel search, wise mapping systems to take us from point A to point B, and clever cloud-syncing apps that allow us to collaborate on projects from around the globe. Google never had to be pretty. It's always been smart.

Google officially revealed a project that will push them to their creative limits. It's called Google Glass, and it's a pair of glasses that layers digital information over the real world

Current Status

There's a reason that video glasses haven't taken off yet (and by that, I don't mean augmented reality glasses like Google's, but something more like Vuzix). And, for lack of a better term, we'll call it The Segway Problem. Technology can be a symbol of your future-forwardness, or it can be the exact opposite: a sign of the future's ridiculousness. The Segway flopped in part for its cost and in part for the fact that humanity isn't quite that lazy, but there was a deeper, visceral reaction to the core of the product that signified a silly future rather than an inspiring one. So far, the actual glasses Google is showing off aren't inspiring. To

succeed, Google will need to sell us on either the stylishness, or the invisibility, of video glasses. And may we suggest copying the iPod in this approach. Make the technology as obscured on the user as possible, except for one trademark calling card.

Importance of the Research Problem

People in the Valley used to talk all the time about finding “killer apps”—that is, the one, defining use of a technology that’ll spark its mass adoption. And no wonder: With technologies such as augmented reality and Project Glass, the possibilities seem to outstrip the actual need. As I suggested before, these glasses aren’t yet doing anything our phones can’t. So why do they need to be glasses.

A good counter-example is the iPad. Lots of people dismissed it when it first came out, saying, “Sure, it’s cool, but what does anyone need another computer for. Well, it turns out, people didn’t need another computer so much as they wanted one—a computer that would make surfing the web from your bed or couch a lot less clunky and more fun. With Project Glass, I’m not sure that they have that use-case yet—that is, the perfect scenario where this just makes sense in people’s lives.

III. OBJECTIVES & SCOPE

The Google Glass project is generating a significant amount of buzz. Really, it is scary how amped up people are about the product. But, why shouldn’t they be? It is a whole new technology. If you don’t know, Google Glass is the name of a new technology Google is developing that basically allows you to view things you would normally see on a smart phone through a pair of glasses, as well as do much more. In this blog post we make some predictions for the future of Google Glass.

The Small Screen Will Force Those To Adapt To Space Constraints

The Google Glasses will, of course, have a smaller screen than a PC. But the glasses will also have a smaller screen than any smart phone on the market. The viewing area is minimal, and it only resides on the right hand side. Because of this, everything that is rendered for Google Glass will be incredibly small. This will create a whole new medium for Web viewing

and usability. Google and third-party interests will need to explore different ways to perform actions and render data.

Less Browser Changing

Google will, of course, make their browser available first for use through Google Glass, and this will result in most users sticking with that browser. However, it is safe to say that new browsers will most likely be introduced later. Regardless, this will mean more market share for Google-owned browsers.

Less Switching Of Applications

When we are on smart phones, we often switch from app to app to accomplish an objective. With Google Glass, we can expect to start with a core set of abilities that are inherent to the operating system. Following this, applications will be introduced and their use will grow. While this is true, Google will get the first crack at developing all the functionality needed for the device, much like the advantage Apple had with the iPhone. If Google can do this well, they will limit the need for new apps and gain more control of this new market.

A Greater Need for Voice Recognition Technology

Most of the usability in this device is activated based on voice recognition. Google has improved their abilities here, but voice recognition and activation technology is still very new and buggy. Google will need to continue to improve and expand the capabilities of this technology to make the product successful long-term.

IV. LITERATURE REVIEW

Google glass is an 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 author has come 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 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 Shimpali Deshpande et al. has done survey of the technology used has done the survey of the technologies used in Google glass. This paper includes some of sections which explain glass technologies, working, advantages and disadvantages and last conclusion.

V. BASE PAPER METHODOLOGY AND DESCRIPTION

The aim of this thesis is to understand what people do and what they feel when they are using HMDs and what is their expectation of such technology in their daily life. How they will use such device in different context and what are the benefits they get and what might be the problems. In order to reach this goals one should be able to evaluate such a technology. The type of HMDs that is going to be studied in this thesis is in class of ubiquitous computing which is expected to be used by the user all the time, in changing environment and while doing different tasks. Designing for this kind of technology can be challenging because of the variability of the users, context of use and changing environment and evaluating of such technology cannot be approached in laboratory setting (Consolvo & Walker 2003, 24) as people should adopt and use ubiquitous computing in different situations and different environments . So, one should use a method of evaluation that makes it possible to study it in various situations. The appropriate evaluation techniques to study such ubiquitous applications would take place in situ environment (Hurlburt & Heavey, 2006), with several participants and over a period of time (Consolvo & Walker 2003, 25). In order to accomplish these objective a method called "Experience sampling method" (ESM) will be used with the help of a design probe which in this case is a Lo-fi prototype of a HMD.

VI. LIMITATIONS OF THE BASE PAPER

Wearable computers, conjointly referred to as body-borne computers are electronic devices that are worn by the bearer underneath. This category of wearable

technology has been developed for general or special purpose info technologies and media development. Wearable computers are particularly helpful for applications that need a lot of advanced process support than simply hardware coded logics

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. The advantage of exploitation this technology is that not solely are you able to hear music that you simply are taking part in through this device, however you'll be able to conjointly hear conversations that are happening beside you

VII. DESCRIPTION OF THE PROPOSED RESEARCH WORK

In the Area of the HMDs most of the early researches are related to the technology of the device. How the system works and what is the latest out of shelf technology to apply to the system and what might be the potential usage of the system (Chung et al. 1989) and most of the early research done with bulky technology setups. In addition some research try to explore mix reality and how it can affect the user and interaction between virtual and physical environment and how user can benefit from such system (Starner et al. 1997). Also, some researches are about to study the related technology in different stage of virtual continuum and definition of different terms of vitality between real environments to virtual environment such as augmented reality (Milgram 1994). Furthermore, in some research they try to describe the characteristics of such a system and possible applications of it (Azuma 1997). Related to the applied research focusing around a real world use cases, research has been done to discover the potential benefits of HMDs in different area such as healthcare, manufacturing, entertainment and military by using AR system (Azuma 1997). Chung et al. have discussed the benefits of using HMDs in interactive molecular studies and virtual building exploration (Chung et al.1989). Thomas et al. have presented early work in area of architectural design, namely using HMDs as an augmented reality tool allows a building design to be

viewed in its physical surrounding (Thomas et al. 1999). Moreover, the user studies with HMDs have been dominantly made in laboratory settings with a focus in interaction research. In addition, wearing HMDs have been investigated as an interaction method for the angle of physiological aspects, for example as part of a treatment for fear of flying (Wiederhold et al. 2002), or by comparing it with other technologies such as projection display systems

VIII. CONCLUSION

Thus we've got overlook a replacement approaching device that is gonna to be discharged in market by the top of 2014 and which can be revolutionary device referred to as a google project glass. These devices can modification the medium of communication within some years.

REFERENCES

- [1] Freeman, Jay. "Exploiting a Bug In Google's Glass." June 2013, Suarik's Blog. <http://www.saurik.com/id/16>, Web Nov 2013.
- [2] Namrata S. Pathkar, "GOOGLE GLASS: PROJECT GLASS", International Journal of Application or Innovation in Engineering & Management (IJAEM) ,Web Site: www.ijaem.org Email: editor@ijaem.org, Volume 3, Issue 10, October 2014 ISSN 2319 – 4847.
- [3] Steve Mann, "Google Eye", Supplemental material for "Through the Glass, Lightly", IEEE Technology and Society, Vol. 31, No. 3, Fall 2012, pp. 10-14.
- [4] K. Lyons, "Improving Support of Conversations by Enhancing Mobile Computer Input," doctoral dissertation, School of Interactive Computing, Georgia Institute of Technology, 2005.
- [5] Miss. Shimpali Deshpande, Miss. Geeta Uplenchwar, Dr. D.N Chaudhari, "Google Glass", IJSER 12 December 2013.
- [6] http://en.wikipedia.org/wiki/Augmented_reality.
- [7] http://en.wikipedia.org/wiki/Wearable_computer.
- [8] Pallavi. N Holey," Google Glass Technology", International Journal of Advance Research in Computer Science and Management Studies, Volume 2, Issue 3, March 2014 , ISSN: 2321-7782.
- [9] Claburn, Thomas. "Google Glass connects with JavaScript." October 2013, InformationWeek. <http://www.informationweek.com/software/google-glassconnects-with-javascript/d/d-id/1111951>, Web Dec 2013. [10]Zheng , Song."How to run Android apps on Google Glass." May 2013, Quora. <http://songz.quora.com/How-to-runAndroid-Apps-on-Google-Glass>, Web Dec 2013.
- [11] <http://dl.acm.org/citation.cfm?id=1601355> .