

Mind Glass Technology

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Abstract-The aim of this research was to explore the possible integration of Google Glass with Brain Mapping technology towards the development of enhanced version of Google Glass that can directly mapping the brain impulses and execute commands of users.

It refers to technologies like Brain Mapping, EEG and the Google Glass Device.

Keywords:Component in use, Brain analysis,eye analysis,Google glass,Feature,Applications.

I.INTRODUCTION

Google glass is formed up from technologies like Brain Mapping, EEG, brain's optical system, tissue system. Brain-grass enable users to control devices with electroencephalographic (EEG) activity from the scalp or with single-neuron activity from within the brain.We demonstrate here for the first time that electrocorticographic (ECOG) activity recorded from the surface of the brain can enable users to control a one-dimensional computer cursor rapidly and accurately.

Through the use of ECOG ,google-glass a wearable computer with an optical head-mounted display (OHMD) displays information in a smartphone-like hands-free format that can communicate with the Internet via signals sent by ECOG Google Glass Given mind controls powers..

II.COMPONENTS IN USE

Brain-computer interfaces (BCIs) convert brain signals into outputs that communicate a user's intent. Because this new communication channel does not depend on peripheral nerves and muscles, it can be used by people with severe motor disabilities. is usually controlled by voice commands or via a touchpad located on the arm of the device.

BCIs can allow patients who are totally paralyzed (or 'locked in') by **amyotrophic lateral sclerosis(ALS)**, brainstem stroke or other neuromuscular diseases to express their wishes to the outside world. However, practical applications of BCI technology to the needs of all people impeded by the limitations and requirements of current BCI methodologies.

BCIs can use non-invasive or invasive methods. Noninvasive BCIs use electroencephalographic activity (EEG) recorded from the scalp. They are convenient and safe but they have relatively low spatial resolution, are susceptible to artifacts such as electromyographic(EMG) signals, and often require extensive user training. This lack of nuance is one of the defining challenges facing current-

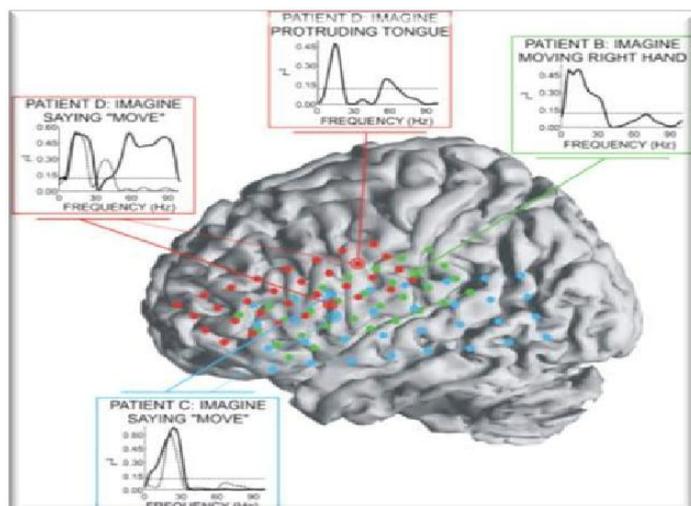
generation EEG technology. Although the hardware used to detect brain activity are now fairly cheap (This Place used a NeuroSky headset that costs less than £100), the fidelity of their measurements and the difficulty for users to broadcast 'precise' brain signals will mean that it's many years before we're all uploading snaps to Instagram just by thinking about it.

Invasive BCIs use single-neuron activity recorded within the brain. While they have higher spatial resolution and might provide control signals with many degrees of freedom, BCIs that depend on electrodes within cortex face substantial problems in achieving and maintaining stable long-term recordings.

III.BRAIN CURVES ANALYSIS

The below figure depicts the various convex and concave regions from where the electrodes can be placed to monitor the impulses during thinking process of Human. These records will help to identify the objective thought by Human.

Then use ECOG to convert that signals to computer data that analyse it to a meaningful word in human readable.



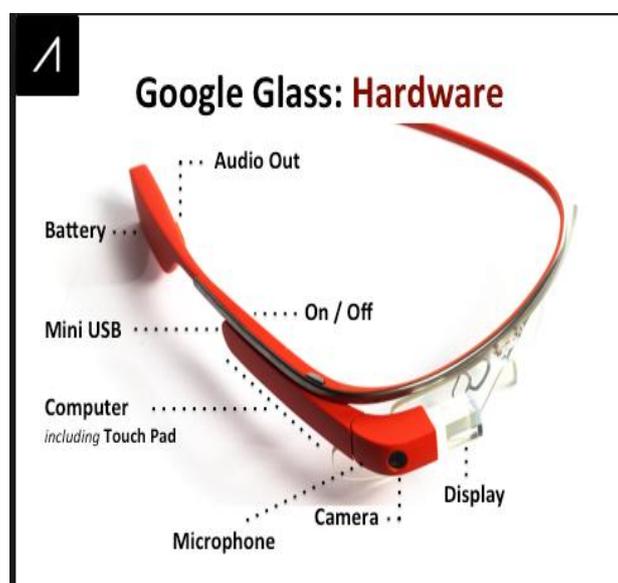


IV EYE LENCE ANALYSIS

The above figure gives the idea of Human eye vision and the glass used to display the Picture/images to the user. The above figure's working is control by google glass a device developed by Google.

V CURRENT USE OF GOOGLE GLASS AND BRAIN GLASS:

Google Glass was developed by Google X. Google glass from its inhibition stage has been a talk of town and inspiration to form plenty of advance technology which can out par its current state. The North yank nation government's defense technology agency is acting on a tool that will be able to transmit photos directly into a user's brain. The new systems area unit the size of 2 little or no coins and should be able to send footage directly into human brain. Google glass apps incorporating the brain glass technology area unit being created to help the specially abled of us to have increased communication with of us. Victimization the glass, they will act with their family, of us around judgment the emotions being delineate through the glass. Research being conducted to help amputees with their new body parts, dominant them with the help of EEG-based BMI management. It uses non-invasive brain observance, capturing brain activity to figure out what parts of the brain unit of International Journal of Advanced Research in Computer E



The principle is one that has been around for years in science fiction, and more recently it's become a slightly clunky reality. In fact, the "heads-up display" putting data in your field of vision became a reality as early as 1900 when the reflector sight was invented.

Google Glass uses display technology instead to put data in front (or at least, to the upper right) of your vision courtesy of a prism screen. This is designed to be easily seen without obstructing your view. According to Google the display is "the equivalent of a 25-inch high definition screen from eight feet. The embedded camera obviously does not need a viewfinder because it is simply recording your first-person perspective, allowing you to take snaps or footage of what you are actually seeing.

Any function that requires you to look at a screen could be put in front of you.

Controlling this data is the next neat trick. With a microphone and touchpad on one arm of the frame, you can select what you want to do with a brief gesture or by talking to the device, and Google Glass will interpret your commands.

Google Glass can also provide sound, with bone-induction technology confirmed. This vibrates your skull to create sound, which is both more grisly sounding and much less cumbersome than traditional headphones.

There's no official word on native resolution, but 640 x 360 has been widely mooted.

Overlaying data into your vision has obvious benefits; many of which are already functional in Google Glass. Directions become more intuitive (although it sounds like there is no GPS on board so you will have to pair it with your phone), you can view real-time translations or transcriptions of what is being said, and you can scroll through and reply to messages - all on the fly.

Google, according to a recent report, has started distributing a new version of Google Glass to healthcare and manufacturing businesses or Glass for Work startups. The firm is said to be directly providing the wearable to software developers.

As reported by the Wall Street Journal, the new version of Google Glass is being offered as a snap-on module which is essentially a mini computer featuring a button-and-hinge combination and prism. This also means that it can be attached with the protective eyewear used by researchers or in factories.

As per the WSJ report, the new Google Glass version is also said to come with an improved Intel Atom processor, offer better battery life (up to 2 hours) and wireless connectivity. Also housed is a slightly larger prism than the Explorer version - said to be longer and thinner. The prism can be moved horizontally and vertically - the first version to do so. The new version also features a battery pack that can be magnetically attached to the module.

These details match largely the leaked detailed that had been tipped earlier this month. The earlier report had also mentioned that the new rugged design is "built to

withstand normal drops and bumps" and will also have "fewer openings and tighter buttons to close off areas where liquid could otherwise seep into the device," making it more water resistant.

The Wall Street Journal report however adds that Google has not yet killed the consumer model of Google Glass, but adds the new version would at least take a year to reach general consumers.

The 'Explorer Edition' of Google Glass was launched as a beta product in 2013. The company invited a select group of 'Explorers' to purchase Glass for \$1,500.

Google discontinued the eye wearable device earlier this year.

VI .FEATURES

Touchpad: A touchpad is located on the side of Google Glass, allowing users to control the device by swiping through a timeline-like interface displayed on the screen.^[30] Sliding backward shows current events, such as weather, and sliding forward shows past events, such as phone calls, photos, circle updates, etc.

Camera: Google Glass has the ability to take photos and record 720p HD video.

Display: The Explorer version of Google Glass uses a liquid crystal on silicon (LCoS)(based on an LCoS chip from Himax), field-sequential color system, LED illuminated display.^[32] The display's LED illumination is first P-polarized and then shines through the in-coupling polarizing beam splitter (PBS) to the LCoS panel. The panel reflects the light and alters it to S-polarization at active pixel sensor sites. The in-coupling PBS then reflects the S-polarized areas of light at 45° through the out-coupling beam splitter to acollimating reflector at the other end. Finally, the out-coupling beam splitter (which is a partially reflecting mirror, not a polarizing beam splitter) reflects the collimated light another 45° and into the wearer's eye.

VII What can Google Glass do?

As well as Google's own list of features, the early apps for Google Glass provide a neat glimpse into the potential of the headset. As well as photos and film - which require no explanation - you can use the Google hangout software to video conference with your friends and show them what you're looking at. You'll also be able to use Google Maps to get directions, although with GPS absent from the spec list, you'll need to tether Glass to your phone.

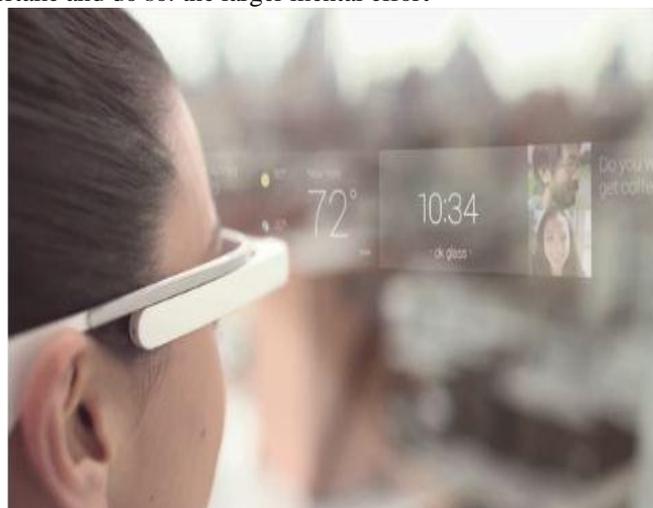
To do that, Google offers the MyGlass app. This pairs your headset with an Android phone. As well as sharing GPS data, this means messages can be received, viewed on the display, and answered using the microphone and Google's voice-to-text functionality

That functionality will also bring the ability to translate the words being spoken to you into your own language on the display. Obviously you'll need a WiFi connection or a hefty data plan if you're in another country, but it's certainly a neat trick if it works. Third parties are also already developing some rather cool/scary apps for Google Glass - including one that allows you to identify your friends in a crowd, and another that allows you to dictate an email. The New York Times app gives an idea how news will be displayed when it's asked for: a headline, byline, appropriate image and

number of hours since the article was published are displayed.

VIII Health Concerns

Google Glass has the potential to form plenty of within targeted and fewer susceptible to participate in real-life conversations. That alienation might need an impact on our physical health. The nerves vagus — that connects the middle and conjointly the brain — was negatively laid low with a deficiency of face-to-face communication that happens once you're constantly hooked on the device. Peripheral field of vision could also be a main component of vision and essential for daily activities like driving, pedestrian safety and sports. Carrying Google Glass may part impede modality, inflicting blind spots that may interfere with daily tasks like driving. The 3D happening is improbably foreign to our eye and it's forced with apparatuses and devices like glasses, to envision a picture three dimensional although the brain itself options a really similar plan. But the brain keeps a pair of slightly whole totally different angles and is not forced by glasses to undertake and do so. the larger mental effort



IX APPLICATION

Google Glass applications are free applications built by third-party developers. Glass also uses many existing Google applications, such as Google Now, Google Maps, Google+, and Gmail.

Third-party applications announced at South by Southwest (SXSW) include Evernote, Skitch, The New York Times, and Path.

On March 23, 2013, Google released the Mirror API, allowing developers to start making apps for Glass.^{[36][37]} In the terms of service, it is stated that developers may not put ads in their apps or charge fees;^[38] a Google representative told The Verge that this might change in the future. Many developers and companies have built applications for Glass, including news apps, facial recognition, exercise, photo manipulation, translation, and sharing to social networks, such as Facebook and Twitter.

On May 16, 2013, Google announced the release of seven new apps, including reminders from Evernote, fashion news from *Elle*, and news alerts from CNN. Following Google's XE7 Glass Explorer Edition update in early July 2013,

evidence of a "Glass Boutique", a store that will allow synchronization to Glass of Glassware and APKs, was noted.

Version XE8 made a debut for Google Glass on August 12, 2013. It brings an integrated video player with playback controls, the ability to post an update to Path, and lets users save notes to Evernote. Several other minute improvements include volume controls, improved voice recognition, and several new Google Now cards.

On November 19, 2013, Google unveiled its Glass Development Kit, showcasing a translation app Word Lens, a cooking app AllTheCooks, and an exercise app Strava among others as successful examples.

On May 15, 2014, Google announced three news apps – TripIt, FourSquare and OpenTable – in order to entice travelers.

On June 25, 2014, Google announced that notifications from Android Wear will be sent to Glass.

The European University Press published the first book to be read with Google Glass on October 8, 2014, as introduced at the Frankfurt Book Fair. The book can be read as a normal paper book or – enriched with multimedia elements – with Google Glass, Kindle, on Smartphone and Pads on the platforms iOS and Android.

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CONCLUSIONS

To design a device that can be handle by the as per thinking of the person and not as per voice command.

Brain glass is an emerging technology which is finding its uses in various fields. Google glass with its various uses can be integrated with brain glass as one complex and yet highly effective device which can explore various avenues of neural science which are yet to be explored.

REFERENCES

- "Gadgets". NDTV. IN.
- Google.com
- Beginning Google glass development-(reference book)
- Torberg, Scott (June 11, 2013). "Google Glass Teardown". TechRadar. Retrieved June 12, 2013. With a native resolution of 640x360, the pixels are roughly 1/8th the physical width of those on the iPhone 5's retina display.
- Fitzsimmons, Michelle (June 24, 2014). "Google Glass gets more memory, photo-framing viewfinder".
- Tech radar. "Tech specs". Google. April 16, 2013. Retrieved April 18, 2013.
- Goldman, David (April 4, 2012). "Google unveils 'Project Glass' virtual-reality glasses". Money (CNN). Retrieved April 4, 2012.
- Albanesius, Chloe (April 4, 2012). "Google 'Project Glass' Replaces the Smartphone With Glasses". PC Magazine
- Haslam, Phil; Mafeld, Sebastian (October 31, 2013). "Google Glass: Finding True Clinical Value". Which Medical Device. Retrieved December 23, 2013.
- , John (June 21, 2013). "Inside The Operating Room With Google Glass". Forbes. Retrieved December 18, 2013.
- "First US surgery transmitted live via Google Glass (w/ Video)". Medical Xpress. August 27, 2013. Retrieved August 29, 2013.