



## The eventual fate of smart glasses: A paper about difficulties and potential outcomes with smart glasses

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**Abstract**-This paper talks about the diverse issues that emerge in conjunction with the improvement of smart glasses e.g., Google Glass. It is an applied and hypothetical study that talks about whether smart glasses will be utilized and how they may be utilized. It exhibits how diverse issues should be tended to soon, e.g., problems with social connection, mental issues, innovation improvement, legitimate and eye issues and inquiries of retail. It additionally closes by laying out the upsides and downsides of smart glasses.

### 1. INTRODUCTION

Smart glasses are items that are mounted on the head like ordinary glasses. They furnish the client with data and innovative potential outcomes, e.g., to take pictures or record video. Glasses as we probably unaware them today—with outlines that go behind the ears date from the late eighteenth century. Despite the fact that laser operations and contact lenses are promptly accessible today, there are still numerous individuals who wear glasses. Before remedy glasses got to be normal spot, they were an object of extraordinary consideration and a specific apprehension about what they could do. For medieval man, the amplifying and diminishing properties of glass were enchantment, generally as today numerous pariahs see computerized potential outcomes as something supernatural. The inquiry is, in what capacity will savvy glasses be gotten in the public arena and by individuals as a rule and, in this way, by what means will smart glasses fit into the social communication when they get to be standard.

This will be talked about all through the paper. Smart glass eases an optics innovation taking into account a Heads-Up Display(HUD), a Head-Mounted Display(HMD) and,

Specifically, an Optical Head Mounted Display (OHMD). In short, there is a plastic item at eye-level, through which the client can see both an on the web, advanced world and a

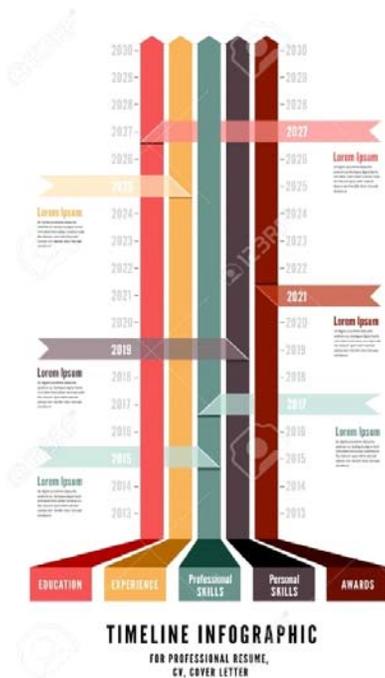
disconnected, physical world (Kress and Starner, 2013). It is, generally, such as having an advanced cell connected to the face. In any case, dissimilar to the PDA or different wearables (Pentland, 1998) and body-coordinated advances, which require the client to look down or away, brilliant glasses permit one to watch straight out at the world without relying on the utilization of one's hands. This gives a totally distinctive communication circumstance and fundamentally new applications. In the start of 2015, Google will most likely be dispatching Google Glass to a more extensive open. There are now different items available; however the buildup about Glass recommends that, over the long haul, we might discuss a distinct advantage. Opportunities and dangers related smart glasses disk in all through the paper and abridged in the conclusion. The paper is not solely about Google Glass (for short, Glass or GG) but rather all the more for the most part about smart glasses. The paper starts with reflections on the methodological methodology and, then, proceeds onward to a brief history of wear capable innovation. after that this paper concentrate on the difficulties and conceivable outcomes in various fields, for example, item class, eye issues , security issues , innovation advancement recorded, sociological issues and interactional and mental issues. The paper is closed by a brief outline of advantages and disadvantages with smart glasses.

### 2. A BRIEF HISTORY OF THE DEVELOPMENT OF EARABLES

An awesome part of the improvement of human progress has included an innovative development towards better, more proficient devices: from the principal rock hatchet and the rural instruments of the middle Ages to today's cutting edge items. In a perfect world, the main thrust lies in streamlining, change and Productivity. Early case of the combination of man and machine incorporate the main endeavors to fly, the configuration of different sorts of prostheses, and broadened establishments, for example, connected weapons, armor and gear. Be that as it may,

it is just with the advancement of the PC that we truly see innovation converging with people. This has prevalently happened in science fiction composing, PC amusements and early movies, for example, Star Trek, RoboCop and Terminator, among others. These movies demonstrated the combination of man and machine as well as the conceivable outcomes of getting to an additional advanced layer of data on a human scale (Graham, 2002). Notwithstanding tests in fiction, there has for quite a while been a modest bunch of analysts and laymen with an enthusiasm for innovation, who have explored different avenues regarding appending PCs to their 4 bodies. Most unmistakable, of course, is the group at MIT with Steve Mann and Thad (Starner et al., 1997). Over the most recent 20 years, PCs have created from stationary PCs, by means of portable PCs, to the PCs that the client can bear continually, likewise named wear ables (Dvorak, 2010). This advancement has prompted one progressive, new item classification available after another. Later on, this improvement will approach all out mix with smart garments, canny contact lenses, and the

consolidation of PCs in the skin.



In connection to the improvement of wear ables, a synchronous, online and disconnected world is beginning to unite, in light of the fact that individuals need innovation that permits them all the while and progressively to be available in the physical world while having the capacity to peruse and deliver advanced data from and for a virtual computerized world (Lord, 2013). This is to a great extent made conceivable by the innovative

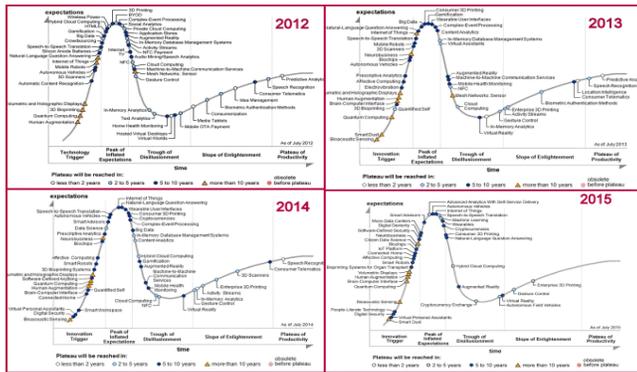
advancement of PC breaks that are getting to be littler and smaller (Brock and Moore, 2006).

The effect of this improvement is as of now obvious today—now that youthful (and old) people advance their lives on Face book, Twitter and Insta gram. Smart glasses, which don't oblige clients to look down or away yet exhibit information directly before their eyes, permit them to distribute precisely what they see when they see it. This will likely strengthen the meeting of online and disconnected. It is this phenomenon, broadly speaking, that creates an immeasurable scope of chances and difficulties. It will turn out to be at the same time less demanding and faster to help and overview, to enliven and objectify, and archive everything, for better and for more terrible e.g., there have as of now been reports about Google Glass Internet compulsion issue (Yung, Eickhoff, Davis, Klam, and Doan, 2015). So, the unavoidable issue is: how will individuals identify with these new astute items? This is unmistakably difficult to anticipate, this paper related about those issues that are most imperative in connection to utilize and acceptability. First, let us think about whether individuals may utilize them by any means.

### 3. WILL PEOPLE USE THE SMART GLASSES?

There is something noticeable all around, as Malcolm Gladwell says in regards to rising innovative developments (Gladwell, 2008). The reason is that society, innovation, society and business desire converge in a typical advancement, which prompts items turning into a characteristic part of the lives of conventional individuals and not simply of a couple of early adopters. This tipping point is the right item at the right cost and the right advertising at the privilege time (Gladwell, 2002). What's more, as per Rogers' diffusion of advancement hypothesis (Rogers, 1983), four fundamental components impact the spread of new thoughts: the innovation itself, correspondence channels, time, and a social framework—which is unmistakably an intricate matter. Inside the rate of selection, there is a time when advancement reaches minimum amount or the tipping point in Gladwell's wording. This is when there is a move from the trend-setters and early adopters to the early and late greater part. Right now, the innovation is still in a development or, may be early adopters stage. The advancement as for the development itself, the correspondence channels, time, and the social frameworks will decide what's to come. Be that as it may, in the event that one investigates Gartner's buildup cycle (2014), Wearable User Interfaces are at the highest point of the buildup yet with a course of events of up to 10 years until they get to be widespread. According to the rationale of the cycle, the buildup

around the items will hit a minute of frustrate before the items accomplish a wide application.



Be that as it may, most analysts trust that improvement will take under 10 years. At the point when Google Glass hits the business sector in late 2014, then all likelihood situation is that countless movers, early adopters or lead clients (Hippel, 2006) will purchase a couple of glasses instantly. Inside the following 3-5 years, there will most likely be a solid market for the offer of smart glasses of some kind probably not the Google Glass plan we know today. BI Intelligence (Danova, 2013) predicts that 22 million glasses will be sold on the world business sector by 2018. Furthermore, a survey by Love My Vouchers (n=1132)(2014) concludes that, today, 68% would not feel great utilizing brilliant glasses when conversing with other individuals, leaving 32% who really do not feel that route. Other thinks about from Glass Almanac show that, at the moment, 12-15% of American shoppers would be willing to purchase Google Glass, if the cost was \$750 (Braaten, 2014). This survey also shows that the objective gathering comprises for the most part of young fellows between the ages of 18 and 34. Then again, there is a solid inclination in innovative advancement for the principal variant of an item to appreciate just sporadic achievement and for the following adaptation or an ensuing item, a supposed fast second, to accomplish the real success (Markides, 2005). This is one reason there is habitually a period of frustrate, as delineated in Gartner's buildup cycle. Be that as it may, Google has managed to get around this advancement inclination by dispatching a beta model in both a 1<sup>st</sup> and 2<sup>nd</sup> version preceding commercialization on an expansive business sector. It is, therefore, very likely that Google Glass, fit as a fiddle or shape, will at present be available in 3-5 years' time. However, it is difficult to foresee customer conduct.

#### 4. WHERE AND BY WHOM WILL SMART GLASSES BE USED?

There are for the most part three sorts of beginning applications for brilliant glasses:

- 1) particular employment related applications,
- 2) assignment related and proficient, relevant applications
- 3) way of life applications for purported self-trackers.

#### 4.1 Job-Related Applications

It has ended up evident that there are a few employment related capacities that bode well on an instinctive level since smart glasses let the client use both hands. These capacities incorporate the projection of direction manuals, street maps, and different other comparative assets at eye level, while experts, for example, are occupied with stifling flames, seeking after culprits, working on patients, etc. Brilliant glasses may likewise empower others to see what the client is seeing. So, it is not only an issue of getting to essential information, a teacher who sees what you see can likewise direct you through a procedure. Applications are likewise at present being created to tell the client where he/she is, on account of it can recognize the environment of the area, within the house, etc. This will be useful to individuals who experience the ill effects of psychological issue: e.g., Asperger's syndrome, Alzheimer's or visual impairment. The potential in the healthcare zone is significant (Monroy, Shemonski, Shelton, Nolan, and Boppart, 2014).

#### 4.2 Task-Related Applications

We will likely additionally see various errand related applications, which take after employment related applications yet occur in the private circle. This implies applications that are included in particular errands that could be refined all the more proficiently with the utilization of smart glasses: e.g., guidelines for a DIY fan constructing a home expansion or as a method for recording and archiving certain imperative life occasions, for example, a ride on the Huge Dipper, a first plunge from the 5-meter jumping 8board or video correspondence over long separations. Different evident corner regions are wearing exercises, for example, running and cycling (Sörös, Daiber, and Weller, 2013).

#### 4.3 Lifestyle Applications

Notwithstanding the immediate applications, which tackle particular issues, brilliant glasses are additionally helpful as far as a wide assortment of way of life applications for individuals who are today known as evaluated selfers (QSers) (Due, 2013).

These individuals are portrayed by their "need" to measure their conduct. This is communicated in innovation, which measures and relates self-reported or self-measured information and gives people access to a prompt understanding of their state. There is as of now a tremendous measure of innovation and projects available to gauge rest, movement, sustenance and body flags, for example, glucose, heartbeat, blood pressure, etc. Joined with online networking, where one can bunny one's status, smart glasses could assume an uncommon part since they prepare one to archive life as it is lived considerably more. This is otherwise called life logging (Mann, 2014). The gathering of individuals who consider, record and share their lives has expanded at the same rate as the innovative improvement. There is no sign that the gathering will get littler. The "need" to report and show the amount of activity one has done, what number of fun encounters one has had, and the amount of good sustenance one has eaten is a trend that is just in its incubation period (Nissen, 2014). So, we can likewise expect that smart glasses will authorize and make cooperative energy with regards to life signing in various ways.

In this manner, there are unquestionably opportunities and a business opportunity for smart glasses. Yet, there are also numerous difficulties lying ahead. Let us now talk about some of these.

## 5. CHALLENGES LYING AHEAD

There are numerous difficulties for this sort of innovation. One of the key inquiries in any case is the thing that item class savvy glasses have a place with (Tedlock, 2013). A great many people concur this is an altogether new classification, like when the iPad (tablet) went ahead the business sector. There was a lot of feedback to begin with, yet the need and the field of utilization showed up bit by bit a while later. Regarding item classification, it will be vital to answer the question: to what degree are they 9glasses with the same useful and tasteful qualities as normal glasses or only a PC gadget/wearable? In expansion to challenges in regards to the item class, there are physical, intellectual, social, mental and innovative issues. These issues will be examined beneath

### 5.1 Challenges With Eye Effects

One possibly dangerous issue is the impact of smart glasses on the eye and the body all things considered. Smart glasses are wearable PCs; in any case, not at all like every single other wearable, the innovation is settled

before the eye and, thus, adapted to the eye's properties. Applications are being produced that empower one to utilize the glasses to take a gander at things so as to control them. This is conceivable in light of the fact that a portion of the glasses (e.g., Google Glass) can recognize eye developments and thus, the seeing course. So, the potential for overseeing and controlling the outside advanced world through the eye is immense. Be that as it may, various expert, optician-related inquiries emerge. In the 1970s, one of the pioneers of wearable innovation, Steve Mann, found that extreme utilization of his model smart glasses prompted exasperates vision. Mann learned that, when he (additionally) saw the world through the video lens appended to his helmet, it in this manner bothered is typical vision. The camera's position in connection to the eye is crucial; and, right now, no one recognizes what the impacts of delayed use may be. Mann experienced tipsiness and trouble with concentration(Mann, 2013b).

### 5.2 Challenges With Law And Data Security

As digitization increases, it gets to be less demanding for everybody to screen each ther. One of the principle hindrances against the deal and utilization of insightful glasses is, undoubtedly, people's distress with the thought of always having the capacity to be recorded and transferred on to the Internet—possibly, for business use or deployed by nations in their reconnaissance. With respect to this inconvenience, there are a few focuses. To begin with, it is still very hazy, as far as the present enactment in both the USA and Europe, what the attitude is to google glasses and the likelihood of consistent, video-shot observation. Truth be told, this marvel has been given its own name: Sousveillance(Mann, Nolan, and Wellman, 2002),which 1A phoria is an inert deviation, or misalignment, of the eyes that is just obvious as a rule. A phoria shows up when obsession with a solitary item is broken and the eyes are no more having a striking resemblance object(Bedinghaus, 2014). 11is less about being checked from the top yet by similarly invested individuals: individual to-individual observing. This English/French term Sousveillance is a contrasting option to Surveillanceand signifies "to look from below "rather than " to look from the top". As of now, Google has announced that they won't create facial acknowledgment programs, yet observers trust it is just a short time before

applications go ahead the business sector. Face book has as of now advanced entirely far with face acknowledgment (the Deep Face program), and Google Glass will likewise soon have the capacity to recognize individuals (and their connections, geology, age, etc.). This is a genuine test to any sort of protection. The key administrative issue is, in part, about whether and how it is legitimate to be taped without monitoring it and tolerating it and, in part, about how information will in this way be put away and who has entry to that information.

### 5.3 Challenges With Product Development

A significant part of the technological development in the field of software engineering today is about expelling the PC from individuals' prompt awareness. It is referred to as pervasive computing or ubiquitous computing, which is about giving the PC a separated, yet still all-infecting part in the lives of utilization is (Hansmann, 2001). At whatever point commentators discuss sousveillance and security, advocates allude to the empowerment of the person. In this light, it is additionally clear that technological development is advancing in several parallel directions. To begin with, the innovation and its capacities must be adequately helpful, operational and easy to understand and have no less than one alleged executioner app before users will make utilization of them(Downes and Mui, 2000). On account of Google Glass, it will presumably be the computerized layer (enlarged reality)(Starnes et al., 1997)of street map sand guideline manuals that end up being of most value to begin with (Smith, 2013). But several observers emphasize that the usefulness and ease of use of Google Glass are still excessively minor for the customer, making it impossible to experience that she/he is getting esteem for money. On the huge in addition to side, smart glasses are simpler to access than, for instance, phones. The utilization of innovation is liable to a purported 2-second manage: the utilization of a capacity diminishes ramatically on the off chance that it takes longer 13than 2 seconds to discover and enact it (Starnes, 2013a, 2013b). The glasses are separating this boundary – atleast, if one is wearing them. Like all other technologies, the glasses must tackle an issue the client has in a more wise , less expensive, less complex or more helpful way.

### 5.4challenges With Technology Acceptance

From a recorded and sociological perspective, the historical backdrop of innovation tends to rehash itself. Each time new products are launched on the market—especially, new item classifications, they are welcomed with awe and feedback. Indeed, even Socrates (Plato)lamented the innovation of composed dialect since he envisioned that composed musings would prevent individuals from utilizing their heads to recall things(Plato, 1925). At the point when the wristwatch was concocted, individuals were overwhelmed at this strict time controlling of life that kept the faculties from working. At the point when the tractor was imagined, individuals were dismal about the disappearance of the Romantic rancher and his horse. Etcetera. Today, we discuss the Walkman effect(Hosokawa, 1984), in light of the fact that in its day the Walkman really experienced a ton of feedback from the manon the road. On one hand, individuals suspected that, 15in tasteful terms, it was out and out senseless to stroll around with enormous earphones on one's head. On the other hand, they on sidered it profoundly reserved to wear them out in the open. The Walkman effect is relevant to smart glasses in light of the fact that they also represent a new, different and unmistakable component on the head, which can control mental impressions. So, it is not by any means shocking that the same issues crop up. Individuals who have officially utilized brilliant glasses for a while report a progression of surprising encounters: they are topped in the city, they are met with interest, and individuals inquire as to whether they may attempt them on. On the other hand, the Glass users are also met with feedback and outrage, and individuals request that they take them off. The glasses make a considerable measure of consideration, which has drove to what has gotten to be known as the Glass hole effect (Due, 2014a). Glass holes are people who don't tail either diffuse social behavior for utilizing the new smart glasses.

### 5.5challenges With Psychological, Philosophical And Interactional Issues

The glasses move significantly more the limits for cooperation between individuals –boundaries that are right now turning out to be increasingly mechanically interceded. For instance, numerous youngsters today have no issue in listening to music with a solitary earplug inone ear, while they take a gander at their telephone and interface with companions. They are incompletely present in a continually increased reality in which an advanced layer of data from a cell telephone streams over physical

reality. As new mechanical items show up, new arrangements of principles are always being discussed. The most practical type of manners will presumably be that the client ought to evacuate his savvy glasses on the off chance that he is not utilizing them. Be that as it may, there will dependably be individuals on the edge of this manners for instance, the kind of individual who will likewise dependably utilize the Bluetooth headset (bluedouchers) and the sort of individuals who are continually taking a gander at their phones, wherever they are. Decorum frequently endorses that this separation is inappropriate behavior regarding cooperation, yet parcels of individuals do it in any case. At the point when clients have the glasses on, they can make themselves important as intelligent members, since they are turning upward and appear to be included despite the fact that, in reality, they may really be included in some other advanced movement. Then again, individuals look down and away, when they utilize a phone, in this way making themselves immaterial as forthcoming speakers. Be that as it may, the distinction is more inconspicuous: when utilizing a cellular telephone, clients stop people in their tracks away totally; when utilizing the glasses, clients just move their eyes. In both cases, innovation meddles into communication (Lyons, 2005). By dismissing their face and look, clients for the most part show that they are not accessible for discussion at that specific minute. Along these lines, the telephone has been utilized as a device to make preparations for losing face: the client is never alone and desolate and never without cooperation on the grounds that he/she can simply take out the cell telephone and check messages and other "vital" matters.

The client is never absolutely "naked" in front of other individuals; she/he generally has the chance to conceal any hint of failure face and embed separation into the interaction. The same sort of face sparing capacity will likewise most likely be seen in the utilization of brilliant glasses, creating some sort of new alone harmony (Turkle, 2012). But this is still to be analyzed through point by point examination (Due, forward.).

Exactly how this will be managed as far as communication in social circumstances, time alone will tell.

## 6. CONCLUSIONS

In this paper, I have attempted to talk about the conceivable outcomes and difficulties that emerge in conjunction with the improvement of smart glasses as wearable innovation. I have attempted to diagram whether and how the innovation will create and how quick it may

get to be standard. It is my estimate in spite of the fact that this is "risky" that smart glasses will first hit standard in particular institutional connections, for example, for occurrence, administration commercial enterprises, social insurance and assembling, and this could happen inside 3-5 years relying upon further innovation advancement. In any case, the acknowledgment and use in social collaboration is right now the greatest test, as I see it. How individuals in social connection might need to utilize smart glasses in significant ways will rely on upon how the information plan (conversing with the glasses) and equipment, for example, edges and optics will create. The reception of brilliant glasses by the standard populace will legitimately not occur with glasses pretty much like the models available today. Be that as it may, in 5 years, the innovation and social adequacy will as of now have changed a great deal. The wearable innovation will be enormous and colonize systems and the life world as we probably am aware it; and, sooner rather than later, glasses, watches, gadgets in garments and, maybe, joined into the skin will be totally typical, similar to the Internet and cell phones are today. The innovation will absolutely develop and land with incomprehensible items, and everybody will need to think about the huge issues, for example, social collaboration and mental prosperity, eye issues and lawful and protection issues.

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