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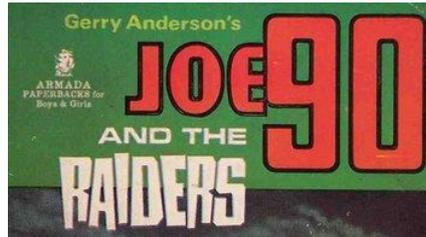## Google Glass: The *Joe 90* Effect

**Robert Plant**, Associate Professor, School of Business Administration, University of Miami
6/5/2013
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When I was growing up in England one of my favorite TV shows was *Joe 90*, a character created by Gerry Anderson, the brains behind many a children's sci-fi series, including *Thunderbirds* and *Stingray*.

**The glasses of an expert**
Joe 90 was a nine-year-old schoolboy who led a double life. His father was a scientist and had created a machine that transferred the brain waves and knowledge of experts to the wearer of special glasses. When Joe wore these glasses he could perform the tasks of that expert, usually a spy or military specialist and, being nine, could go undetected to carry out secret missions.

As I grew up I thought how great it would be to have Joe 90 glasses and, say, Einstein's brainwaves going into a college physics exam. Well, now that Google has developed the Google Glass, it may soon be possible that we are all capable of Joe 90 type experiences.

**Military glass**
Google Glass is, in essence, a heads-up display, previously only available in a more static form as accessories in cars such as Cadillac and Mercedes. Mobile heads-up displays have, however, been under development for military operatives such as fighter pilots and, more recently, the infantry, in what is termed the "Advanced Integrated Soldier." The AIS has been under development since approximately 2004, when it was commercially previewed at the Soldier Technology show in Belgium.

Systems for soldiers, composed of wearable computing devices and heads-up displays, have since then undergone rapid evolution. For example, Elbit Systems created Dominator®, an Integrated Infantry Combat System for the Israel Ministry of Defense, aimed at increasing the soldier's situational awareness capabilities.

These systems gather information from a variety of sensors across the battlefield to allow real-time views of the "common operational picture," detailing friend and foe positions, live targeting information, and status reports. The system also enables live video feeds to relay information back to the central command and control facilities, intended to shorten the sensor-to-shooter loop for dismounted soldiers in urban warfare environments.

The ability to develop situational awareness through Google Glass-like devices, just like those used in the combat situation, is central to the Glass concept. This is possible, in part, through the "Internet of Objects," estimated by Jean-Baptiste Waldner to comprise 50 to 100 trillion objects, where each human is surrounded by 1,000 to 5,000 traceable objects. Each human could connect to each of these objects in his vicinity through their RFID tags and then have this information in turn connected to him through a PDA or via a heads-up display such as Google Glass. This would continually feed new information and updates to the wearer, backed up with AI assistance and decision support to enable him to be more effective in his operational environment.

This would be the *Joe 90* scenario: Given the right environmental objects, we could all, for example, just fix our own cars through the instructions downloaded to us rather than take them to the mechanic. In fact, such an app may not be that far away: Research at Columbia University's Computer Graphics and User Interface Lab into Augmented Reality for Maintenance and Repair has already been tested with the United States Marine Corp on an armored turret and cut maintenance times by half.

**Augmented knowledge**
In this technological scenario it is not inconceivable that perhaps, as soon as five years from now, we will all be downloading augmented reality apps from Google to fix lots of our service problems: Plumbing, computer repair, and even minor medical procedures come to mind. However, the concern for many, including the US Congress, is privacy.

For example, will facial recognition be used to identify people walking down the street? Handy if you have forgotten the name of someone you bumped into, but creepy in other contexts if people, by knowing you're at an event, can gain information of value: Say, two CEOs are having coffee together at

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a cafe; does this signify the two are talking about a spinoff or a merger? It takes the concern about stalkers and personal space invasion to a new level.

A further big data issue is that the data host -- Google or another provider -- will be receiving real-time situational data from the objects around all wearers of the devices, in exchange for providing the wearer with information, just as happens now when we type a search query into a browser. This will eventually be the biggest collection of data in human history. It will show for each of the users what object-data we interact with, what collections of object-data we are surrounded with during each interaction, and the financial and temporal interaction we have with the object groups. This is the true treasure trove of human consumer data, and marketers will pay handsomely for access to it.

Perhaps, we will all become Joe 90s, but what will that mean for society? Will the service class become marginalized as people perform their own tasks? Will the intellectual property contributors to the augmented reality apps become the custodians of human knowledge? These and many other questions will have to be answered by society as a whole, and the process will be painful and often disturbing -- but ultimately Google Glass will happen, hopefully for the betterment of civilization.

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**Debera Harward**, User Rank: Exabyte Executive
6/11/2013 | 1:20:38 PM

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**Re: Google Glass**
On the contrary every new technology has its pros and cons uptill know we have just mentioned its disadvantages however according to me it can be used by police to catch criminals .As the glass has the technology to capture your subconsious even when you dont know this is a very good and aditional feature which can hepl police or other agencies in catching the criminals or solving the cases .

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**Debera Harward**, User Rank: Exabyte Executive
6/11/2013 | 1:06:15 PM

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**Re: Google Glass**
The most interesting thing is this that google glass can access your subconsious as well.Normal phones or cameras cant do this , its an add on feature of google glass. For example eyes plays very important role in subconsious they tell what exactly you are thinking, either you are liking something or not either you are getting attracted to something or someone or not .Google glass can track your eye movement this is one of the first consumer technology . It comes to know about your information which you yourself doesnt know .This is also one of the major privacy concern in this technology.

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**SharCo**, User Rank: Petabyte Pathfinder
6/10/2013 | 7:35:28 AM

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**Re: Hold on Joe.**
Good point, Legalcio. There are some things that you can just do yourself, but for big-ticket tasks like repairing a BMW, for instance, then I'm still heading to the pros who know what they're doing and have done it countless times before.

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**SharCo**, User Rank: Petabyte Pathfinder
6/10/2013 | 7:34:31 AM

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**Re: Google Glass**
I believe this technology is perhaps the next big thing. However, there is much that has to be done and standardized at this point, for lack of a better term. There are already many groups and institutions saying that this breaches privacy laws and encroaches upon the rights of others. These will probably have to be addressed by Google at some point.

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**Saul Sherry**, User Rank: Blogger
6/10/2013 | 4:58:04 AM

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**Re: Hold on Joe.**
That's all going to come down to the app creators SMkinoshita, and google seems more open to a wider selection of ideas.

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**Debera Harward**, User Rank: Exabyte Executive
6/8/2013 | 10:30:32 AM

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**Google Glass**
Googla Glass , the  very next upcomming technology it will leave behind smartphones within 10 to 15 years . Wearing a computer, getting all your questions answered , getting engaged with all the friends on social  media is simply just unbeleivable.Doing surfing whenever you want, taking pictures , making video has advantages but it can be harmfull for others. One can feel uncomfortable stting with a person wearing google glass

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**Qasim Bajwa**, User Rank: Gigabyte Governor
6/8/2013 | 2:38:48 AM

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**Re: Hold on Joe.**
Mike, Microsoft Smart Glass is a new way to interact with your Xbox, It has a search browser, a social's menu and it also converts your windows phone into a wireless controller. But as I don't

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own a windows phone I don't think I'm missing out much. My Xbox works just fine with its own remote.

I think Microsoft is trying to penetrate the living room market, I was sure about it when Microsoft first revealed the App. Rumors exist that Sony will come up with a similar project with PS4.

Will it intervene with Google Glass?, i'll say no, There's nothing exceptional about Smart Glass, but Google's Glass is a 'take me anywhere wireless assistant' I'm a fan of its design and the overall functionality it claims to provide. Smart Glass however stands in a completely different corner and the way I see it, Google has nothing to worry about.

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smkinoshita, User Rank: Exabyte Executive
6/8/2013 | 12:46:44 AM

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**Re: Hold on Joe.**
@Saul Sherry:  I'm seeing the full-out super-villain style rubbing of hands as far as big data collectors go.  I don't think it's avoidable.

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On the other hand, this is the first article that's really gotten me interested in Google Glass.  Up until this point, I just shrugged it off as another geek toy.  I like the idea of bringing up critical information when I need it in non-geek situations.

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Saul Sherry, User Rank: Blogger
6/7/2013 | 6:22:43 AM

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**Re: Hold on Joe.**
You've got me thinking Joe... I'm pretty pleased this has started with a Google push. Since Apple 'invented' the tablet, all other iOS have been playing catch up on the position and image the iPad has created... which means their closed door, strict admittance policy has dictated what we expect to see from tablet apps.

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Google's Android conversely, tends to be where the more daring kids hang out. Having Google's openness to new app ideas (and the ability to install non-store items without needing to jailbreak the device) should establish a pretty robust and creative framework for app developers.

I can imagine those big data collectors rubbing their hands at this prospect... I just hope they aren't doing it in a creepy way.

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Mike Lata, User Rank: Blogger
6/6/2013 | 4:03:25 PM

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**Re: Hold on Joe.**
Hey Quasim, what is your opinion of the amiscosoft Smqrtglass program and what is microsoft trying to penetrate with this -- the tablet market or the living room market? Also, will it somehow intertwine with the google Glass?

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