GOOGLEGLASS

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HOW GOOGLE GLASS COULD REVOLUTIONIZE THE MEDICAL INDUSTRY

What is Google Glass?

Google Glass is an augmented-reality headset that will work through an Android smartphone or an iPhone via Bluetooth

> -Approximately 8,000 users will be asked to purchase Google Glass to participate in the beta test

● Bluetooth, WiFi, & a GPS 💦 🛜 💽

5 megapixel camera

HD capable screen that will recreate an image equivalent to 25 inches

It is a voice-controlled, hands free computing system that allows users to be always connected to the Internet, and:

The anticipated release date of a unit for consumers is late 2013 or early 2014

Take photos and videos





Get maps and directions



Send texts, and more.

"Best feature so far is its turn-by-turn navigation" -Russell Holly of Geek.com

Cost & Market Potential



Google Glass is currently priced at:

for 16 GB of internal flash memory and 1 GB of RAM.

Google Glass is in beta testing with the

Explorer version,

and it features a very costly prism "screen." It is possible that the retail price of a mass produced unit may be less.

Jet makes a similar product for



with 8 GB of on-board flash memory and 1 GB or RAM.

Tech experts estimate that the market for smart glasses, wearable devices and other head-mounted displays like Google glass will be worth \$800 million in 2013, increasing to \$1.5 billion in 2014 and to by 2016

\$6 BILLION.

Pros



Long Battery Life

Glass can last for up to 15 hours on its battery, depend on how it is used

Never Lose It

If lost or stolen, a user can log into the MyGlass App and locate the device on a map and do a factory reset remotely

Hands Free

Glass is simple to use and provides for hands-free use while walking, driving or working, etc.

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Very Limited

 Very little is adjustable in Google Glass, including volume levels or brightness. You can't disable the WiFi or Bluetooth.

A new user may feel eye strain

at first it doesn't fit perfectly over

Colors are inconsistent and viewing

the display in bright sunlight can

 Google Glass does not yet have a large collection of apps

Security Problem

- Glass users can record photos or video by command at any time.
- Anyone can pick up the headset, put it on and reach your email, take photos, etc.

Cons

Uncomfortable

eye glasses

be a problem



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Potential Use in Medical Industry

PROCEDURE HELP

Glass could be using during surgical procedures to consult with other physicians and sharing that information with providers nationally and internationally.

An app for Glass might be able to detect cavities that a dentist might miss during a routine cleaning.

SAVE TIME & LIFE

Emergency service technicians can use Glass in the field to get support from other medical professionals, get guidance for difficult procedures and serve as a time saver.

TEACHING TOOL

"I envisions Glass could be used as a teaching tool during surgery, connected with students via Google Hang Out." -Dr. Rafael J. Grossman, a surgeon at Eastern Maine Medical Center in Bangor

One start-up has developed an app for Glass called **Farlo**. One nurse using Glass was able to live stream video of a patient's vital signs to a doctor en route.

"Glass can show incoming notifications to physicians of patient conditions and could enhance the vision and perception of doctors and dentists." -J.C. Hewitt, Forbes.com

MORE ENGAGEMENT with the Patients

Dr. Grossman believes that medicine has gotten impersonal because doctors and other care providers are talking to patients but then turn to a computer to review, record or upload data. With Glass, they can still do these things but while making eye contact and addressing patients face to face.

MORE SANITARY

Hands-free glasses would also be cleaner and safer to use in health care environments, since they aren't touching multiple surfaces like a smartphone or tablet.

> *One concern Dr. Grossman has is that patient privacy has not yet been addressed through adequate apps, limiting possible uses for Glass.

Provide immediate access to "content based medical records" beyond what a physician can see on a computer screen.

Drug Information: Physicians could access patient charts and compare the medical history with drug options, interactions and contraindications.

Visual recognition apps could assist in diagnosing patients, while focused on the patient.

Stream images and videos to attending physicians for assistance in decision-making and diagnosis.

Use by a paramedic to **document patient care** with photos and videos to provide to a physician upon the patient's arrival to the emergency room.

Provide remote training and collaboration.

Contact pharmacy technicians for scanning and verifying medications and comparing them to the patient's medical records.

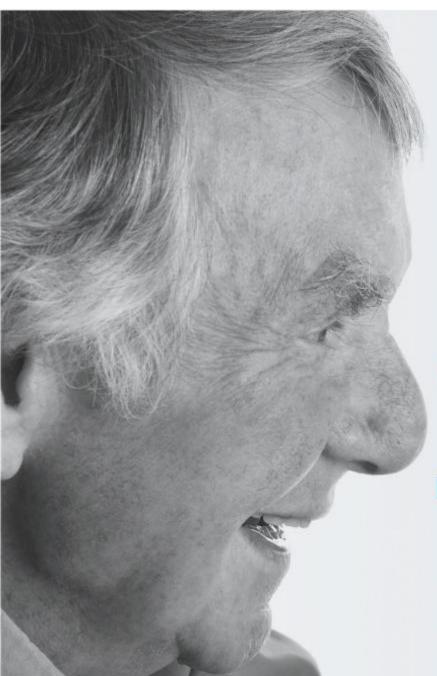
Record surgical procedures (with the patient's consent).

Utilize the AED4.US app on Google Glass to locate Automated External Defibrillators (AEDs) around the world (currently available for iOS and Android).

Serve as a tool for disaster management with shareable information, photos and videos and access to navigation tools for **dispatch purposes**.

Instant documentation doctors could instantly record and have their

Possible Uses in Patient Health Care



Virtual medicine: doctors and other health care providers could check on patients **remotely** (Could be particularly helpful in remote areas with limited access to care and in developing countries).

Share patient diagnostic images with patients, family members and other health care providers.

Glass could be used to educate patients using diagnostic test results (e.g., x-rays, MRIs, etc.).

Translation apps would allow doctors and other health care providers to **communicate** with their patients when needed.

Home care sessions from health care providers such as nurses could be recorded and shared with physicians and others who oversee care or are asked to provide **advice or feedback**.

Physical therapists could record patient sessions to monitor progress over time and **better identify** range of motion.

From a **personal healthcare perspective**, consumers could use Glass to **make better shopping choices** by comparing nutrition labels to dietary restrictions; diet tracking; health tips and recipes; personal fitness tracking; exercise feedback; health profiles; health warnings; medication information; personal safety; and overcoming visual, auditory and physical handicaps or disabilities.

Thank you for your attention