MEMORANDUM

DATE: June 17, 2013

TO: The Delaware General Assembly

FROM: Diann Jones, Chairperson
Developmental Disabilities Council

RE: H.B. 155 [Distracted Driving: Wearable Computer with Head Mounted Display]

The Developmental Disabilities Council (DDC) has reviewed H.B. 155 which would prohibit operation of a motor vehicle on the highway while using an electronic communication device while the motor vehicle is in motion. Similar legislation was introduced in West Virginia in March, 2013. See attached H.B. 3057.

Background on the bill is provided in the attached June 2, 2013 News Journal article. Google has developed a wearable multi-function computer (“Google Glass”) which is worn like glasses with access to the Internet. It is a “hands-free” device. Some traffic safety proponents are concerned that individuals will be distracted if driving with the device. Background on “Google Glass” is provided in the attached Wikipedia article.

There are pros and cons to the legislation. Detractors can cite to enforcement difficulties in trying to ascertain if the device is actually being operated while driving. They can also argue that the device is “safer” to use than a dashboard mounted GPS device or referring to a Smartphone screen for directions. Proponents can cite to the greater potential for distracted driving as operators drive while directing attention to a video screen only inches from their eyes to watch movies, read email, etc.

The DDC endorses the concept of the bill. While some drivers might only use the devices for GPS directions, Council suspects the majority would use it for extraneous multi-tasking, including checking emails. In turn, this will lead to more accidents and therefore more disabling conditions (e.g. spinal cord and traumatic brain injuries).

Thank you for your consideration and please contact Developmental Disabilities Council at 302-739-3333 if you have any questions regarding our position or observations on the proposed legislation.

cc: The Honorable Jack Markell
Mr. Brian Hartman, Esq.
Governor’s Advisory Council for Exceptional Citizens
State Council for Persons with Disabilities

hb 155 distracted driving wearable computer 6-13-13
Wearable computer could be banned behind wheel soon

Before it even hits store shelves, Google’s wearable computer might become illegal to use while driving on Delaware roadways, if a proposal in the state House wins support.

“To me, it’s an even bigger distraction than other technologies out there that we already prohibit while driving,” said bill sponsor Rep. Joe Miro, R-Pike Creek.

“If this becomes a popular communications device, it may create a distraction that could put you or I at risk.”

HB 155, introduced Thursday, would add “wearable computer with a head-mounted display” to the list of electronic devices that motorists may not operate legally while behind the wheel in Delaware.

State law bans texting and the use of handheld cellphones while driving. That leaves a loophole for “hands-free” gadgets such as Google Glass, which is worn like glasses and allows users to access the Internet and shoot photos and short videos. The devices won’t go on sale until next year.

“While this technology is nowhere near widespread yet, just look to the trajectory of the smartphone,” said Jim Lardner of Mid-Atlantic AAA. “Earlier this month, Google’s project team indicated that Glass will be compatible with prescription lenses.”

Google Glass is worn as a pair of lens-less frames with a teeny-tiny computer attached to the right earpiece. That could complicate enforcement of the bill under consideration by Delaware lawmakers.

Police say the hands-free exception to state law

See DIALOGUE, Page B3

Dialogue: Guard members assist McCain

Continued from Page B1

already makes it difficult to judge whether a motorist is illegally texting or merely dialing, which is permissible. At a distance, could officers decipher Google Glass from regular glasses?

“I don’t want to speculate on enforcement until we see how the bill is ultimately written or how the code is changed,” said Sgt. Paul Shavack, spokesman for the Delaware State Police.

“But anything that doesn’t allow the driver to give full attention to the roadway is a distraction, from our perspective.”

Some developers testing the device claim Glass is safer to use in traffic than looking away from the road to operate a smartphone. Glass users can send texts and emails, surf the web and make calls all via voice prompts and dictation.

Miro acknowledged the potential challenges for enforcement but said the bill has value nonetheless.

“The objective is in part to raise the level of awareness,” he said.

In Dover, HB 155 was assigned to the Committee Public Safety & Homeland Security, where it could get a hearing as early as Wednesday, Miro said.

Flying John McCain

Sen. John McCain was flown to his surprise May 27 meeting with Syrian rebels by a deployed crew drawn mostly from the Delaware Air National Guard, according to an Air Guard spokesman who viewed a McCain staffer’s photo published on Twitter and picked up by Reuters.

McCain, R-Ariz., a former Republican presidential candidate and one of the loudest voices calling for military aid to the Syrian opposition, met with some of the rebels during a visit to the war-torn country, Reuters quoted his spokesman as saying. He is the highest-ranking U.S. officials to visit Syria since the two-year uprising began.

Politico reported Thursday that McCain met with the rebels inside Syria, but does not say whether the Air Force C-130 that carried him from Turkey entered Syrian airspace. McCain told CNN Wednesday night the visit was “moving.”

“They’re up against them, so it’s moving,” he said.

Their message was, to be frank with you: They do not understand,” McCain said. “They do not understand the facts. They do not understand why we won’t help them.”

U.S. aid to date is what is called “non-lethal” – that is, non-military-specific. The U.S. is providing nearly $510 million in humanitarian assistance; the first such shipment, according to Air Mobility Command, was delivered April 30 by a Dover Air Force Base C-17. The U.S. also has committed, according to the State Department, to providing $250 million in transition support to the Syrian Coalition and the opposition’s Supreme Military Council. Transition assistance equals money for local opposition councils and civil society groups to “provide essential services to their communities and extend the rule of law and enhance stability inside liberated areas of Syria.”
Google Glass

From Wikipedia, the free encyclopedia

Google Glass (styled "GLASS") is a wearable computer with a head-mounted display (HMD) that is being developed by Google in the Project Glass research and development project,[10] with the mission of producing a mass-market ubiquitous computer.[1] Google Glass displays information in a smartphone-like hands-free format,[11] that can interact with the Internet via natural language voice commands.[12][13] While the frames do not currently have lenses fitted to them, Google is considering partnerships with sunglass retailers such as Ray-Ban or Warby Parker, and may also open retail stores to allow customers to try on the device.[17] The Explorer Edition cannot be used by people who wear prescription glasses, but Google has confirmed that Glass will eventually work with frames and lenses that match the wearer's prescription; the glasses will be modular and therefore possibly attachable to normal prescription glasses.[14]

Glass is being developed by Google[x],[15] which has worked on other futuristic technologies such as driverless cars. The project was announced on Google+ by Project Glass lead Babak Parviz, an electrical engineer who has also worked on putting displays into contact lenses; Steve Lee, a product manager and "geolocation specialist"; and Sebastian Thrun, who developed Udacity as well as worked on the self-driving car project.[16] Google has patented the design of Project Glass.[17][18] Thad Starner, an augmented reality expert, is a technical lead/manager on the project.[19]

### Contents

- 1 Development
  - 1.1 Glass Explorer program
- 2 Hardware
  - 2.1 Camera
  - 2.2 Touchpad
  - 2.3 Technical specifications
- 3 Software
  - 3.1 Applications (Glassware)
  - 3.2 Voice actions
- 4 Reception
  - 4.1 Privacy concerns
  - 4.2 Safety concerns

---

Development

Although head-worn displays for augmented reality are not a new idea, the project has drawn media attention primarily due to its backing by Google, as well as the prototype design, which is smaller and thinner than previous designs for head-mounted displays. The first Glass demo resembles a pair of normal eyeglasses where the lens is replaced by a head-up display. A Glass prototype weighed 8 pounds, the device is now lighter than the average pair of sunglasses. In the future, new designs may allow integration of the display into people's normal eyewear.

According to several Google employees, the Glass was initially projected to be available to the public for "around the cost of current smartphones" by the end of 2012, but other reports stated that the Glass was not expected to be available for purchase by then.

The Explorer Edition is available to testers and Google I/O developers in the United States for $1,500, to be delivered in early 2013, while a consumer version will be available by the end of 2013 for "significantly less" than the Explorer Edition. However, in an interview with BBC Radio 4's The World at One, Eric Schmidt said that Google Glass is "probably a year-ish away."

The product began testing in April 2012. Sergey Brin wore a prototype of the Glass to an April 5, 2012 Foundation Fighting Blindness event in San Francisco. In May 2012, Glass was demonstrated in the first test video shot with the eyewear, demonstrating the 720p HD first-person video recording capabilities of the device. Sergey Brin demonstrated the Glass on the Gavin Newsom Show where California Lieutenant Governor Gavin Newsom also wore the Glass. On June 27, 2012, he also demonstrated the Glass at Google I/O where skydivers, abseilers, and mountain bikers wore the Glass and live streamed their point of view to a Google+ Hangout, which was also shown live at the Google I/O presentation. In February 2013, Google released a demo video showcasing the voice-augmented display of the Glass filming various experiences in first-person.
Google is currently working on models that can be used with prescription lenses. In a Google+ post, Google stated that it will not be ready for the Explorer Edition of Glass; however, consumers can expect it later in 2015.[14]

**Glass Explorer program**

An early adopter program named the Glass Explorer program is available for developers and consumers to test Google Glass and gauge how people will want to use Glass. Entry into the Explorer program was made available to the general public on February 20, 2013, and ended on February 27, 2013. The program stated that it was looking for "bold, creative individuals" who wanted to test the device. Those who wanted to apply were required to post a message on Google+ or Twitter consisting of 50 words or less, featuring the hashtag #ifihadglass. Those who were selected were required to attend a Google Glass event in either New York, San Francisco, or Los Angeles to pick up the developer version for $1,500 USD.[13] The Explorer Edition receives data through Wi-Fi, or it can tether via Bluetooth to an Android device or iPhone and use its 3G or 4G data; the Glass also has a GPS chip. The Explorer Edition is available in Charcoal, Tangerine, Shale, Cotton, and Sky colors.[58] Users issue voice commands by first saying "ok glass", then the command, or they can scroll through the options using a finger along the side of the device. The Explorer Edition has an interchangeable sunglasses accessory which twists on or off. Monthly updates to the Glass are planned after the program starts.[2] On April 16, 2013, Google announced that the initial Glass Explorer Edition units had completed production and would begin shipping.[39] On the same day, Google also released a web-based setup page for Glass,[40] as well as the MyGlass companion app.[41] Developers were also given first access to the Mirror API for Glass.[42]

**Hardware**

**Camera**

Google Glass has the ability to take photos and record 720p HD video. While video is recording, a recording light is displayed above the eye, which is unnoticeable to the wearer.[43]

**Touchpad**

The side of Google Glass is a touchpad, allowing users to control the device by swiping through a timeline-like interface displayed on the screen.[44]

**Technical specifications**

For the developer Explorer units:

- Android 4.0.4 and higher[6]
- No official information about display resolution, 640×360 suggested, as it is recommended for app developers[45][46][47]
- 5-megapixel camera, capable of 720p video recording[8]
- Wi-Fi 802.11b/g[8]
- Bluetooth[8]
- 16GB storage (12 GB available)[8]
- Texas Instruments OMAP 4430 SoC 1.2Ghz Dual(ARMv7)

- 3 axis gyroscope [48]
- 3 axis accelerometer [49]
- 3 axis magnetometer (compass) [48]
- Ambient light sensing and proximity sensor [48]
- Bone conduction transducer [49]

Software

Applications (Glassware)

Google Glass applications (Glassware) 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. [49]

On April 15, 2013, Google released the Mirror API, allowing developers to start making apps for Glass. [50][51] In the terms of service, it is stated that developers may not put ads in their apps or charge fees, [52] a Google representative told The Verge that this might change in the future. [53]

Many developers and companies have built applications for Glass, including news apps, facial recognition, photo manipulation, and sharing to social networks, such as Facebook and Twitter. [54][55]

On 16th May 2013, Google announced the release of seven new apps, including reminders from Evernote, fashion news from Elle, and news alerts from CNN. [56]

Voice actions

Other than the touchpad, Google Glass can be controlled using "voice actions". To activate Glass, wearers tilt their heads upward or say "O.K., Glass." Once Glass is activated, wearers can say an action, such as "Take a picture", "Record a video", "Hangout with [person/Google+ circle]", "Google 'What year was Wikipedia founded?'", "Give me directions to the Eiffel Tower", and "Send a message to John". [57] Many of these commands can be seen in a product video released in February 2013. [37]

Reception

There have been parodies and criticisms aimed at the general notion of augmented reality glasses, ranging from the potential for Google to insert advertising (its main source of revenue) to more dystopian outcomes. [citation needed] However, Google has stated it has no plans to insert advertising. [58][59]

In November 2012, Glass received recognition by Time Magazine as one of the "Best Inventions of the Year 2012", alongside inventions such as the Curiosity Rover. [60]

After a visit to the University of Cambridge by Google's chairman Eric Schmidt in February 2013, Wolfson College professor John Naughton praised the Glass and compared it with the achievements of hardware and networking pioneer Douglas Engelbart. Naughton wrote that Engelbart believed that machines "should do what machines do best, thereby free[ing] up humans to do what they do best." [62]
Privacy concerns

The eyewear's functionality and minimalist appearance have been compared to Steve Mann's EyeTap,[63] also known as "Glass" or "Digital Eye Glass", although Google Glass is a "Generation-1 Glass" compared to EyeTap, which is a "Generation-4 Glass". According to Mann, both devices affect both privacy and secrecy by introducing a two-sided surveillance and sousveillance.[53]

Concerns have been raised by various sources regarding the intrusion of privacy, and the etiquette and ethics of using the device in public and recording people without their permission.[65][67][68] There is controversy that Google Glass would violate privacy rights due to security problems and others.[69][70][71] Privacy advocates are concerned that people wearing such eyewear may be able to identify strangers in public using facial recognition, or surreptitiously record and broadcast private conversations. Some companies in the U.S. have posted anti-Google Glass signs in their establishments.[72][73]

Other concerns have been raised regarding legality of the Glass in a number of countries, particularly in Russia, Ukraine, and other post-USSR countries. In February 2013, a Google+ user noticed legal issues with Glass and posted in the Glass Explorers community about the issues, stating that the device may be illegal to use according to the current legislation in Russia and Ukraine, which prohibits use of spy gadgets that can record video, audio or take photographs in an inconspicuous manner.[74]

Safety concerns

Concerns have also been raised in regards to operating motor vehicles while wearing the device. West Virginia state representative Gary G. Howell has introduced an amendment to the state's law against texting while driving that would include bans against "using a wearable computer with head mounted display." In an interview, Howell stated, "The primary thing is a safety concern, it (the glass headset) could project text or video into your field of vision. I think there's a lot of potential for distraction."

Terms of service

Under the Google Glass terms of service for the Glass Explorer pre-public release program, it specifically states, "you may not resell, loan, transfer, or give your device to any other person. If you resell, loan, transfer, or give your device to any other person without Google’s authorisation, Google reserves the right to deactivate the device, and neither you nor the unauthorized person using the device will be entitled to any refund, product support, or product warranty.” Wired commented on this policy of a company claiming ownership of its product after it had been sold, saying: "Welcome to the New World, one in which companies are retaining control of their products even after consumers purchase them."

Pre-release bans

Due to the potential privacy violating capabilities of Google Glass, several facilities have already banned the use of Google Glass before its release to the general public. Others, such as Las Vegas casino Caesars Palace, banned Google Glass, citing their desire to comply with Nevada state law and common gaming regulations which ban the use of recording devices near gambling areas.[77] Additionally, there is a petition on the White House website calling on President Obama to issue a nationwide ban on Google Glass until clear limits on privacy can be established on the technology.[78]
• Virtual retinal display – display technology that projects images directly onto the retina
• EyeTap – eye-mounted camera and heads up display (HUD)
• Golden-i – head-mounted computer
• Laster Technologies – manufactures augmented reality (AR) devices
• Looxic – ear-mounted streaming video camera
• Oculus Rift – wide field of view virtual reality (VR) goggles with low latency head tracking
• Recon Instruments – manufactures HUDs
• SixthSense – wearable AR device
• Vuzix – manufactures display devices and AR head-mounted devices
• Google Goggles – query-by-image search engine
• Sousveillance

References

3. ^ a b ^ "Eric Schmidt: 'It's amazing that we let humans drive at all'" (http://www.bbc.co.uk/programmes/p0181d41).
4. ^ a b ^ "Google's Eric Schmidt Says Glass for Consumers 'a Year-ish Away'" (http://mashable.com/2013/04/23/google-glass-consumers-year-eric-schmidt/).
7. ^ a b ^ "These Are Google Glass's CPU and RAM Specs | Gizmodo UK (http://www.gizmodo.co.uk/2013/04/these-are-google-glass-cpu-and-ram-specs/) April 26, 2013 - 7:30pm


44. "Getting to know Glass" (https://www.google.com/glass/help/).
54. "7 Standout Google Glass Apps You Can Download Right Now" (http:// mashable.com/2013/05/14/glass-apps/).
55. "Mashable Launches Google Glass Viral Prediction App" (http:// mashable.com/2013/05/14/mashable-launches-velocity-for-google-glass/).
56. http://bits.blogs.nytimes.com/2013/05/16/new-apps-arrive-on-google-glass/?ref=technology


71. ^ Google Glass security failings may threaten owner's privacy | Technology | guardian.co.uk (http://www.guardian.co.uk/technology/2013/may/01/google-glass-security-privacy-risk) 1 May 2013. 18:19 BST.


**External links**

- Official website (http://www.google.com/glass/start/)
- Google Glass (https://plus.google.com/+projectglass/posts) on Google+


Categories: Google | Augmented reality | Display technology | Eyewear | Wearable computers

---

- This page was last modified on 7 June 2013 at 12:22.
- Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.
H. B. 3057

(By Delegates Howell, Hamrick, Rowan, A. Evans, E. Nelson, Ashley, McCuskey, Hamilton, Westfall, Azinger and Hunt)

[Introduced March 22, 2013; referred to the Committee on Roads and Transportation then the Judiciary.]

A BILL to amend and reenact §17C-14-15 of the Code of West Virginia, 1931, as amended, relating to traffic safety; specifically, establishing the offense of operating a motor vehicle using a wearable computer with a head-mounted display.

Be it enacted by the Legislature of West Virginia:

That §17C-14-15 of the Code of West Virginia, 1931, as amended, be amended and reenacted to read as follows:

ARTICLE 14. MISCELLANEOUS RULES.

§17C-14-15. Prohibited use of an electronic communications device driving without handheld hands-free features; definitions; exceptions; penalties.

(a) Except as provided in subsection (c) of this section, a person may not drive or operate a motor vehicle on a public street or highway while:

(1) Texting; or

(2) Using a cell phone or other electronic communications device, unless the use is accomplished by hands-free equipment; or

(3) Using a wearable computer with head mounted display.

(b) For purposes of this section, the following terms shall mean:

(1) "Cell phone" shall mean means a cellular, analog, wireless or digital telephone.

(2) "Driving" or "operating a motor vehicle" means operating a motor vehicle with the motor running including while temporarily stationary because of traffic, a traffic control device or other momentary delays. but does These do not include operating a motor vehicle after the driver has moved the vehicle to the side of or off a highway and halted in a location where the vehicle can safely remain stationary.

(3) "Electronic communication device" means a cell telephone, personal digital assistant, electronic device with mobile data access, laptop computer, pager, broadband personal communication device, 2-way messaging device, electronic game or portable computing device. For the purposes of this section, an "electronic communication device" does not include:

(A) Voice radios, mobile radios, land mobile radios, commercial mobile radios or two way radios with the capability to transmit and

receive voice transmissions utilizing a push-to-talk or press-to-transmit function; or

(B) Other voice radios used by a law-enforcement officer, an emergency services provider, an employee or agent of public safety organizations, first responders, Amateur Radio Operators (HAM) licensed by the Federal Communications Commission and school bus operators.

(4) "Engaging in a call" means when a person talks into or listens on an electronic communication device but shall does not include when a person dials or enters a phone number on a pushpad or screen to initiate the call.

(5) "Hands-free electronic communication device" means an electronic communication device that has an internal feature or function or that is equipped with an attachment or addition, whether or not permanently part of such electronic communication device, by which a user engages in a call without the use of either hand or both hands.

(6) "Hands-free equipment" means the internal feature or function of a hands-free electronic communication device or the attachment or addition to a hands-free electronic communication device by which a user may engage in a call or text without the use of either hand or both hands.

(7) "Texting" means manually entering alphanumeric text into or reading text from an electronic communication device and includes, but is not limited to, short message service, e-mailing, instant messaging, a command or request to access a World Wide Web page or engaging in any other form of electronic text retrieval or entry for present or future communication. For purposes of this section, "texting" does not include the following actions:

(A) Reading, selecting or entering a telephone number, an extension number or voicemail retrieval codes and commands into an electronic device by the pressing the device in order to initiate or receive a phone call or using voice commands to initiate or receive a telephone call;

(B) Inputting, selecting or reading information on a global positioning system or navigation system; or

(C) Using a device capable of performing multiple functions including fleet management systems, dispatching devices, smart phones, citizens band radios or music players for a purpose that is not otherwise prohibited in this section.

(8) "Using a cell phone or other electronic communication device" means holding in a person’s hand or hands an electronic communication device while:

(A) Viewing or transmitting images or data;
(B) Playing games;

(C) Composing, sending, reading, viewing, accessing, browsing, transmitting, saving or retrieving e-mail, text messages or other electronic data; or

(D) Engaging in a call.

(9) "Wearable computer with a head mounted display" means a computing device which is worn on the head and projects visual information into the field of vision of the wearer.

(c) Subsection (a) of this section shall does not apply to:

(1) A law-enforcement officer, a firefighter, an emergency medical technician, a paramedic or the operator of an authorized emergency vehicle in the performance of their official duties;

(2) A person using an electronic communication device to report to appropriate authorities a fire, a traffic accident, a serious road hazard or a medical or hazardous materials emergencies; or

(3) The activation or deactivation of hands-free equipment or a function of hands-free equipment.

(d) This section does not supersede the provisions of section three-a, article two, chapter seventeen-b of this code or any more restrictive provisions for drivers of commercial motor vehicles prescribed by the provisions of chapter seventeen-e of this code or federal law or rule.

(e) Any person who violates the provisions of subsection (a) of this section is guilty of a traffic offense and, upon conviction thereof, shall for a first offense be fined $100; for a second offense be fined $200; and for a third or subsequent offense be fined $300. No court costs or other fees shall be assessed for a violation of subsection (a) of this section.

(f) Notwithstanding any other provision of this code to the contrary, points may not be entered on any a driver’s record maintained by the Division of Motor Vehicles as a result of a violation of this section except for the third and subsequent convictions of the offense for which three points shall be entered on any a driver’s record maintained by the Division of Motor Vehicles.

(g) Driving or operating a motor vehicle on a public street or highway while texting shall be enforced as a primary offense as of July 1, 2012. Driving or operating a motor vehicle on a public street or highway while using a cell phone or other electronic communication device without hands-free equipment shall be enforced as a secondary offense as of July 1, 2012, and as a primary offense as of July 1, 2013 for purposes of citation. Using a wearable computer with a head mounted display shall be enforced as a primary offense as of July 1, 2013.

(h) Within ninety days of the effective date of this section, the Department of Transportation shall cause to be erected signs upon any highway entering the State of West Virginia on which a welcome to West Virginia sign is posted, and any other highway where the Division of Highways deems appropriate, posted at a distance of not more than one mile from each border crossing, each sign to bear an inscription clearly communicating to motorists entering the state that texting or the use of a wireless communication device without hands-free equipment is illegal within this state.

(i) Nothing contained in this section shall be construed to authorize seizure of a cell phone or electronic device by any law-enforcement agency.

NOTE: The purpose of this bill is to provide that using a wearable computer with a head-mounted display violates the provisions of this section.

Strike-throughs indicate language that would be stricken from the present law and underscoring indicates new language that would be added.