

2014

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Recommended Citation

Kristin Bergman, *Cyborgs in the Courtroom: The Use of Google Glass Recordings in Litigation*, 20 Rich. J.L. & Tech 11 (2014).
Available at: <http://scholarship.richmond.edu/jolt/vol20/iss3/4>

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CYBORGS IN THE COURTROOM: THE USE OF GOOGLE GLASS RECORDINGS IN LITIGATION

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Cite as: Kristin Bergman, *Cyborgs in the Courtroom: The Use of Google Glass Recordings in Litigation*, 20 RICH. J.L. & TECH. 11 (2014), <http://jolt.richmond.edu/v20i3/article11.pdf>.

I. INTRODUCTION

[1] The future is now. Wearable computers such as Google Glass (Glass) have begun entering society—we see people wearing these devices on the streets, in classrooms, at parties, and elsewhere. Though most of these devices are not yet available to the public at large, there has been much hype over the impact Glass will have on our interactions, privacy, safety, and more. Although this Article will briefly address such controversial aspects, it will focus more narrowly on the potential utility of Glass in litigation.

[2] Despite the fear that Glass will somehow destroy the world, Glass, and its counterparts, could revolutionize litigation for the better. Google Glass is a wearable computer device featuring an optical head-mounted display.¹ These glasses allow wearers to make phone calls, record videos, and run Google searches, in addition to other tasks, through voice

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¹ See, e.g., *Google Glass*, GOOGLE GLASS APPS, <http://glass-apps.org/google-glass> (last visited Apr. 16, 2014).

commands and a small touchpad.² First-person point of view recordings taken by Glass will provide valuable evidence to supplement witness testimony by placing the trier of fact—whether judge or jury—in the witness’ shoes.³ These recordings can help resolve problems of witness credibility, including bias and memory issues, and will provide more useful evidence than recordings from devices like traditional cameras and cell phones.

[3] This Article will begin by exploring the evolution and features of Glass and other wearable computers. It will then speak to the particular utility of Glass recordings with focus on the inconspicuousness, accessibility, and first-person perspective, additionally describing prospective uses for Glass’s recording feature. This Article will proceed to address how these Glass recordings may be used in litigation and the potential legal obstacles to admitting these recordings as evidence in court. It will conclude by briefly recognizing how Glass could have been influential in prior cases.

II. BACKGROUND

A. An Introduction to Google Glass

[4] Developing out of Google[x]’s Project Glass,⁴ Google Glass is a wearable computer device featuring an optical head-mounted display.⁵

² See *Google Glass: What It Does*, GOOGLE, <http://www.google.com/glass/start/what-it-does/> (last visited Mar. 6, 2014) [hereinafter *What It Does*].

³ See Kashmir Hill, *Google Glass Will Be Incredible for the Courtroom*, FORBES (Mar. 15, 2013, 5:02 PM), <http://www.forbes.com/sites/kashmirhill/2013/15/google-glass-will-be-incredible-for-the-courtroom/>.

⁴ See Babak Parviz, Steve Lee, & Sebastian Thrun, *Google Glass*, GOOGLE+ (Apr. 4, 2012), <https://plus.google.com/+GoogleGlass/posts/aKymsANgWBD>.

⁵ See *Google Glass*, *supra* note 1.

The glasses are lens-free with a rectangular display sitting directly above one's right eye, next to an embedded camera, with a touchpad and microphone on the right arm of the frame.⁶ The latest version is compatible with prescription eyeglasses or sunglasses, and includes a removable ear-bud.⁷ These augmented reality⁸ glasses will allow wearers to send messages, take photos and record videos, run Google searches and translations, look up directions and the weather forecast, and more—all with simple voice commands or a light finger tap or swipe.⁹ According to Google Co-founder Sergey Brin in a TEDTalk¹⁰ in early 2013, Project Glass was motivated by an interest in improving the connections between

⁶ See *id.*; see also Scott Torborg & Star Simpson, *What's Inside Google Glass?*, CATWIG, <http://www.catwig.com/google-glass-teardown/> (last visited May 30, 2014).

⁷ See *Google Glass: How it Looks*, GOOGLE, <http://www.google.com/glass/start/how-it-looks/> (last visited Mar. 18, 2014); Salvador Rodriguez, *Google Unveils New Glass Frames; Wide Consumer Launch Set for Year End*, L.A. TIMES (Jan. 28, 2014, 8:28 AM), <http://www.latimes.com/business/technology/la-fi-tn-google-glass-new-frames-consumer-launch-2014-20140128,0,6115730.story>.

⁸ Augmented reality is “[a] technology that superimposes a computer-generated image on a user’s view of the real world, thus providing a composite view.” *Augmented Reality*, OXFORD DICTIONARIES, <http://www.oxforddictionaries.com/us/definition/english/augmented-reality>, (last visited Mar. 6, 2014).

⁹ See *What It Does*, *supra* note 2. This author had the opportunity to try out Glass in June 2013 and was amazed by the simplicity of the device. A simple voice command of “ok glass” would prepare the device for other instructions like “take a picture,” “make a call to Mike Smith,” “Google how tall is the Statue of Liberty.” Taking the latter as an example, Glass then displayed a picture of the Statue of Liberty and the search results, while the speaker just behind my ear responded “305 feet.” With a light swipe of the touchpad (on the right side), I could even scroll through the list of search results.

¹⁰ “TED is a nonprofit devoted to spreading ideas, usually in the form of short, powerful talks (18 minutes or less).” *Our Organization*, TED, <http://www.ted.com/pages/about> (last visited Mar. 6, 2014). The goal of the organization “is to make great ideas accessible and spark conversation.” *Id.*

people, freeing one's eyes and hands to reduce social isolation.¹¹ In this way, Glass is meant to minimize the moments individuals miss by virtue of having their heads down and hands occupied by cell phones, cameras, and other devices.¹² Glass is meant to, instead, overlap digital information and reality. Babak Parviz, one of the creators of Google Glass, expanded on this concept, emphasizing the importance of rapid access to information and expressing a hope that Glass would be “the major next thing in computing and communication.”¹³

[5] Google Glass was initially introduced to the public through a limited release called the Explorer Program.¹⁴ In February 2013, Google accepted applications for the Explorer Program, in which those interested in testing out Glass submitted a short statement of what they would do if

¹¹ See Sergey Brin, *Why Google Glass?*, TED, http://www.ted.com/talks/sergey_brin_why_google_glass.html (last visited Mar. 6, 2014) (featuring the seven minute video from Brin's February 2013 talk and “call[ing] for a new way of seeing our relationship with our mobile computers—not hunched over a screen but meeting the world heads-up”).

¹² This is evident from comments from Product Director Steve Lee at Google's I/O conference in 2012. See Joshua Topolsky, *I Used Google Glass: The Future, but with Monthly Updates*, THE VERGE (Feb. 22, 2013, 11:39 AM), <http://www.theverge.com/2013/2/22/4013406/i-used-google-glass-its-the-future-with-monthly-updates> (“We wondered, what if we brought technology closer to your senses? Would that allow you to more quickly get information and connect with other people but do so in a way—with a design—that gets out of your way when you're not interacting with technology? That's sort of what led us to Glass.”).

¹³ Dean Takahashi, *How Google Designed its Wearable Glass Gadget (and Why)*, VENTUREBEAT (Aug. 23, 2013, 3:21 PM), <http://venturebeat.com/2013/08/26/how-and-why-google-designed-its-wearable-glass-gadget/> (quoting Babak Parviz).

¹⁴ See *Google Glass: How to Get One*, GOOGLE, <http://www.google.com/glass/start/how-to-get-one/> (last visited Mar. 6, 2014).

they had the device.¹⁵ Those selected to participate—roughly 8,000 individuals—were invited to purchase Glass for \$1,500.¹⁶ Since this initial round of production, in October 2013 Google expanded its consumer base by allowing all Explorers to invite three friends to join the Explorer Program, essentially quadrupling the size of the Program.¹⁷ It also held a single-day public sale of Glass in mid-April 2014.¹⁸

B. The “Tech” Behind Google Glass

[6] To best contemplate the utility of Google Glass it is important to have a sense of its capabilities and reliability, and, accordingly, this Article will address some of Glass’s relevant specifications and known security vulnerabilities.¹⁹ Glass can function without being connected to a network, but many of its features are only supported when connected to a

¹⁵ See Claire Cain Miller, *Google Searches for Style*, N.Y. TIMES (Feb. 20, 2013), <http://www.nytimes.com/2013/02/21/technology/google-looks-to-make-its-computer-glasses-stylish.html?pagewanted=all>.

¹⁶ See *Google Search Over for Pool of 8,000 to Test ‘Glass’*, USA TODAY (Mar. 26, 2013 8:52 PM), <http://www.usatoday.com/story/tech/2013/03/26/google-glass-testers/2023277/>.

¹⁷ Google Glass, *With a Little Help From Our Friends*, GOOGLE+ (Oct. 28, 2013), <https://plus.google.com/+GoogleGlass/posts/PVioN5i3jiY>.

¹⁸ Stan Schroder, *Google Glass Is Available to Everyone Today: How to Buy It*, MASHABLE (Apr. 15, 2014, 4:00 PM), http://mashable.com/2014/04/15/google-glass-how-to-buy/?utm_cid=mash-com-fb-tech-link.

¹⁹ What individuals or companies consider a security vulnerability may vary, but as a common example, Microsoft defines a vulnerability as “a security exposure that results from a product weakness that the product developer did not intend to introduce and should fix once it is discovered.” *Definition of a Security Vulnerability*, MICROSOFT, <http://technet.microsoft.com/en-us/library/cc751383.aspx> (last visited Mar. 4, 2014).

cell phone or home network via Wi-Fi and/or Bluetooth.²⁰ The device can store up to twelve gigabytes of information.²¹ In terms of images and video, Glass has a 5MP (five megapixel) camera situated right above the right side of the user's right eye that can film video up to 720p (high definition).²² By default, videos will record for ten seconds, but this duration can be extended for as long as the user would like.²³ After recording videos and other media, users can upload and share instantly over Google+ or YouTube, as well as manually transfer the media through the Micro-USB port.²⁴

[7] Despite its limited availability, some vulnerabilities have already been discovered. For example, during the summer of 2013 a security company discovered a threat to Glass from the malicious use of Quick Response (“QR”)²⁵ codes.²⁶ As Glass had been set to automatically

²⁰ See, e.g., *Using Your Android's Data Connection*, GOOGLE GLASS, https://support.google.com/glass/answer/3056780?hl=en&ref_topic=3063380 (last visited Apr. 16, 2014).

²¹ See *Tech Specs: Google Glass Help*, GOOGLE, <https://support.google.com/glass/answer/3064128?hl=en> (last visited Mar. 4, 2014).

²² See *id.*

²³ See Jessica Dolcourt, *Everything You Need to Know About Google Glass (FAQ)*, CNET (May 6, 2013, 3:26 PM), http://reviews.cnet.com/8301-34900_7-57583052/everything-you-need-to-know-about-google-glass-faq/.

²⁴ See *id.*; Thomas Tamblyn, *Google Glass Price, Release Date, Specs and Info*, T3 (May 24, 2013, 4:09 PM), <http://www.t3.com/news/google-glass-price-release-date-specs-and-info>.

²⁵ A QR code is a square-shaped barcode that can store data—like a website's URL or email addresses—and be scanned by cell phones, tablets, and the like. See Scott Matteson, *Address Google Glass Vulnerabilities with These Best Practices*, TECH REPUBLIC (Sept. 16, 2013, 11:36 AM), <http://www.techrepublic.com/blog/google-in-the-enterprise/address-google-glass-vulnerabilities-with-these-best-practices/>.

²⁶ See *id.* Google patched the vulnerability within weeks. See *id.*

execute QR codes when the camera feature was in use, a QR code could force the device to connect to a designated Bluetooth device or Wi-Fi network, or to view a particular website.²⁷ In addition, as with computers, it may be possible for third parties to “root” a device—obtaining total control over the device’s system—to plant code or spy on the stored data.²⁸ This said, at this time photos and videos cannot be substantively altered from the device itself (aside from deleting), though once uploaded to the cloud or a computer hard drive these materials function no differently than other digital media.²⁹ All things considered, Glass is a relatively secure device that produces decent quality recordings.³⁰

C. Counterparts to Google Glass

[8] Although this Article will focus on Google Glass, it is important to recognize that Glass is not the only wearable computer that may appear in the market over the coming years. Unsurprisingly, Google’s primary

²⁷ *See id.*

²⁸ *See id.*

²⁹ *See Google Glass: Help*, GOOGLE, https://support.google.com/glass/answer/3079691?hl=en&ref_topic=3079640 (last visited Mar. 18, 2014). This author was also present during a demonstration by Google Glass employees at the Berkman Center, in Cambridge, Mass. (June 19, 2013).

³⁰ *Cf.* Jeremy Hsu, *How Google Glass Can Improve ATM Banking Security*, IEEE SPECTRUM (Mar. 10, 2014, 3:10 PM), <http://spectrum.ieee.org/tech-talk/consumer-electronics/gadgets/how-google-glass-can-improve-atm-banking-security> (discussing a process by which customers could enter their pin code one time, then use a QR code on the ATM screen to sign in, protecting against “ATM skimming”); Joshua Pramis, *Google Glass Explorer Edition Is Too Secure to Make Easy Repairs*, DIGITAL TRENDS (May 15, 2013), <http://www.digitaltrends.com/mobile/google-glass-explorer-edition-repairs/> (discussing the “super secure casing” on early Glass models). *But see Hacker Tells Google How to Secure Glass*, INFOSECURITY (May 3, 2013), <http://www.infosecurity-magazine.com/view/32227/hacker-tells-google-how-to-secure-glass/> (noting that Glass is “eminently hackable” because it is not password pin protected).

competitors in this market will likely be Apple, Samsung, and Microsoft. As of May 2014, Microsoft was reportedly testing prototypes for eyewear similar to Glass,³¹ and Samsung has applied for two patents in Korea for an electronic type of sports glasses with integrated earphones and the “Earphone,” an ear-mounted computing device strikingly similar to Glass.³² Apple holds a patent for “peripheral treatment for head-mounted displays,” but has not made any announcements regarding its particular device.³³ Google even faces competition overseas from French startup Optinvent, whose digital eyewear platform, ORA-1, is already available for pre-order.³⁴ Other devices may also operate similarly to Glass, but

³¹ See Lorraine Luk & Shira Ovide, *Microsoft Tests Eyewear Similar to Rival Google Glass*, WALL ST. J. (Oct. 22, 2013, 8:34 AM), <http://online.wsj.com/news/articles/SB20001424052702304402104579150952302814782> (“Microsoft Corp. is testing prototypes for Web-connected eyewear similar to the Google Glass device, people familiar with the matter said A person familiar with Microsoft’s project said the company has asked several component makers in Asia to supply cameras and other key components for eyewear prototypes.”).

³² See Min-Jeong Lee, *Patent Filing Shows Samsung Preps Electronic Eyewear*, WALL ST. J. (Oct. 24, 2013, 4:01 AM), <http://blogs.wsj.com/digits/2013/10/24/patent-filing-shows-samsung-preps-electronic-eyewear/> (“From what the drawings and the memo suggest, it doesn’t look much different from what Google has potentially offered in terms of functionality with its Google Glass which is currently under development. A pool of selected users is currently testing the device.”); Kevin C. Tofel, *Samsung Applies to Patent a Google Glass Lookalike: Hello “Earphone”*, GIGAOM (Apr. 15, 2014, 8:12 AM), <http://gigaom.com/2014/04/15/samsung-applies-to-patent-a-google-glass-lookalike-hello-earphone/>.

³³ Gary Marshall, *Apple iGlass: The Augmented Reality Glasses to Kill Casual Conversation*, TECH RADAR (Nov. 4, 2012), <http://www.techradar.com/us/news/computing/apple/apple-iglass-the-augmented-reality-glasses-to-kill-casual-conversation-1108905>.

³⁴ See *ORA-1 Digital Eyewear Platform*, OPTINVENT, <http://optinvent.com/see-through-glasses-ORA> (last visited Mar. 26, 2014); *Order Now*, OPTINVENT, (last visited Apr. 16, 2014).

have a specialty purpose such as athletic performance or business use.³⁵ The exact specifications for most of these devices have not yet been revealed, so it is difficult to project precisely how similar they will be to Glass. Nevertheless, all appear to include some point of view recording feature on a hands-free device, such that the arguments and projections made in this Article should be applicable to all.

D. Popularity of Glass

[9] There has been much speculation over the prospective popularity of Glass, and whether the mass interest in the device that continues to build online will translate into Glass sales and use. Some suggest that it may more or less disappear from popular culture within a decade.³⁶ Apple CEO Tim Cook is among these skeptics, believing that consumers want wearable devices to be light, unobtrusive, and fashionable, and that Google Glass may be targeting the wrong part of the body.³⁷ This is

³⁵ See, e.g., *M100, Smart Glasses*, VUZIX, http://www.vuzix.com/consumer/products_m100/ (last visited Mar. 18, 2014) (describing M100 glasses from Vuzix used to connect to smart phones that can remain in a user's briefcase); *Recon Jet*, RECON INSTRUMENTS, <http://jet.reconinstruments.com/triathlon/> (last visited Mar. 18, 2014) (describing Jet glasses from Recon for use by cyclists); see also Anne Eisenberg, *Seeking a Stare-down With Google Glass*, N.Y. TIMES (Oct. 12, 2013), http://www.nytimes.com/2013/10/13/business/seeking-a-stare-down-with-google-glass.html?_r=0.

³⁶ Cf. Michael Liedtke, *Is Google Glass the Next (Slow-selling) Segway?*, BOSTON GLOBE (Aug. 28, 2013), <http://www.bostonglobe.com/business/2013/08/27/exploring-google-glass-through-eyes-early-users/rGMiZBj26qNQI5jEKEaCwJ/story.html> (questioning whether Glass will have mass appeal, or whether it will "be remembered as a geeky curiosity that never lived up to its hype, similar to the Segway, the two-wheeled, self-balancing scooters that remain an anomaly more than a decade after they first went on sale").

³⁷ See John Paczkowski, *Tim Cook on Wearables: "I Think the Wrist Is Interesting"* (Video), ALL THINGS D (May 28, 2013, 7:01 PM), <http://allthingsd.com/20130528/tim-cook-wearable-computing-has-promise-but-must-be-compelling/> (discussing Cook's

supported by a survey conducted by Bite Interactive suggesting that only ten percent (10%) of Americans would definitely purchase and wear Glass.³⁸ Alternatively, Robert S. Peck, a financial analyst of SunTrust Robinson Humphrey, projected that the business would be worth over three billion dollars a year by 2017.³⁹ In a similar vein, Google Glass was ranked as the United Kingdom's most anticipated gadget of 2014 in a survey conducted by the *Gadget Show*.⁴⁰ Which side of this debate will prevail is impossible to predict, though there appears to be more support for the proposition that Glass will catch on and have a significant impact on society, particularly if the price falls in a reasonable range, potentially comparable to that of a tablet.⁴¹ We will have to wait until late 2014 for an

belief that wearables for the wrist are more natural and hold a wider appeal, and including a video of his remarks from All Things D's D11 conference).

³⁸ See Chris Matyszczyk, *90 Percent of Americans Won't Wear Google Glass, Survey Says*, CNET (May 15, 2013, 10:02 AM), http://news.cnet.com/8301-17852_3-57584611-71/90-percent-of-americans-wont-wear-google-glass-survey-says/ (discussing the results of the survey and noting that of the 1,000 people surveyed, other than the price concern, many were hesitant to use Glass because of the "social awkwardness"). Glass Almanac conducted a similar survey in August 2013, and found that only twelve percent (12%) of their 1,003 respondents were likely to purchase Glass if they cost around \$300 and are integrated with designer frames. See Josh Braaten, *12 Percent of US Likely to Buy \$300 Designer Google Glass*, GLASS ALMANAC (Sept. 6, 2013), <http://glassalmanac.com/12-percent-us-likely-buy-300-glass-study/754/#sthash.liRsf8dP.dpuf>.

³⁹ See Liz Gannes, *Google Glass Could Be \$3-Billion-a-Year Business, Says Analyst*, ALL THINGS D (Sept. 4, 2013, 11:14 AM), <http://allthingsd.com/20130904/google-glass-could-be-3-billion-a-year-business-says-analyst/?mod=atdtweet>. Peck based this value off of a unit price of \$349 for new units and an installed base of 64,500 by 2017. See *id.*

⁴⁰ See Ben Furfie, *Google Glass Is the UK's Most Wanted Gadget*, T3 (Sept. 26, 2013, 7:59 PM), <http://www.t3.com/news/google-glass-is-the-uks-most-wanted-gadget> ("The show polled 3,900 UK gadget fans to find out what their most anticipated gadget of next year is" and "Google's high tech glasses racked up [twenty four percent] of the vote.").

⁴¹ For example, a search of "Google Glass 'is a big deal'" conducted on Google on October 31, 2013, yielded about 23,500,000 results, and an overwhelming number of tech bloggers have predicted its significant impact. See, e.g., Dylan Love, *SCOBLE: Here's*

answer, once Glass is actually released into the market for the general public.⁴²

III. THE UTILITY OF GLASS RECORDINGS

[10] Over the last several decades, the inherent weaknesses of witness credibility have come to increasing light. Google Glass recordings, if used to supplement eyewitness testimony, could help to resolve many of these intrinsic concerns about memory and bias that undermine the reliability of witness testimony. Though other video recordings may do the same, the design and function of Glass makes this device uniquely situated with respect to other videos—namely its first person perspective, inconspicuousness, and accessibility.

A. Witness Credibility

[11] Though we now point to scientific studies for such a proposition, recognition of the faultiness and limitations of witness testimony was pervasive in court decisions that predated such studies. Many people, even judges, can simply invoke common sense, intuition, and hindsight to acknowledge that eyewitness accounts are not—and cannot be—perfect. This point has been enunciated in statements made by Supreme Court justices. To offer just a sample:

How I Know Google Glass Is a Big Deal, BUSINESS INSIDER (May 3, 2013, 12:43 PM), <http://www.businessinsider.com/robert-scoble-on-google-glass-2013-5#ixzz2jLRBpjtt>; see also *supra* notes 39-40 and accompanying text.

⁴² See *Glass Press: FAQ*, GOOGLE, <https://sites.google.com/site/glasscomms/faqs> (last visited Mar. 18, 2014); Salvador Rodriguez, *Google Unveils New Glass Frames; Wide Consumer Launch Set for Year End*, L.A. TIMES (Jan. 28, 2014, 8:28 AM), <http://www.latimes.com/business/technology/la-fi-tn-google-glass-new-frames-consumer-launch-2014-20140128,0,6115730.story#ixzz2t8sGsbR6>.

- “The vagaries of eyewitness identification are well-known; the annals of criminal law are rife with instances of mistaken identification.”⁴³
- “The crux of the *Wade* decisions, however, was the unusual threat to the truth-seeking process posed by the frequent untrustworthiness of eyewitness identification testimony. This, combined with the fact that juries unfortunately are often unduly receptive to such evidence, is the fundamental fact of judicial experience ignored by the Court today.”⁴⁴
- “What is the worth of identification testimony even when uncontradicted? The identification of strangers is proverbially untrustworthy. The hazards of such testimony are established by a formidable number of instances in the records of English and American trials. These instances are recent-not due to the brutalities of ancient criminal procedure.”⁴⁵

[12] The limitations of eyewitness testimony, as recognized by these justices and many others, primarily fall into two categories: (1) the natural fallibility of an individual’s perception and memory; and (2) the mind’s vulnerability with respect to suggestive influences.⁴⁶ This is particularly clear when considering the work of psychologist Elizabeth Loftus.⁴⁷ She

⁴³ United States v. *Wade*, 388 U.S. 218, 228 (1967).

⁴⁴ *Manson v. Brathwaite*, 432 U.S. 98, 119-20 (1977) (Marshall, J., dissenting).

⁴⁵ FELIX FRANKFURTER, *THE CASE OF SACCO AND VANZETTI* 30 (1927) (published while Frankfurter was a prominent scholar and professor at Harvard Law School, 12 years before he was appointed to the Supreme Court).

⁴⁶ See *supra* notes 43-45 and accompanying text.

⁴⁷ ELIZABETH F. LOFTUS, *EYEWITNESS TESTIMONY* (1st ed. 1979).

has studied the human mind, noting how one's memory functions from perception through reconstruction:

Early on . . . the observer must decide to which aspects of the visual stimulus he should attend. Our visual environment typically contains a vast amount of information, and the proportion of information that is actually perceived is very small. . . . Once the information associated with an event has been encoded or stored in memory, some of it may remain there unchanged while some may not. Many things can happen to a witness during this crucial retention stage.⁴⁸

In this way, Loftus recognizes some prominent weaknesses in a witness' memory which would affect the strength of his testimony, supported by countless other empirical studies:⁴⁹ (1) an observer cannot possibly take in all of the information available in a scene; and (2) an observer's memory may shift over time, including what may naturally be forgotten and what may be reconstructed from suggestive procedures.⁵⁰

⁴⁸ *Id.* at 21.

⁴⁹ For just a sampling of studies and commentary on these witness reliability problems, see PATRICK M. WALL, *EYE-WITNESS IDENTIFICATION IN CRIMINAL CASES* (3rd prtg. 1975); Laura Engelhardt, *The Problem with Eyewitness Testimony: Commentary on a Talk by George Fisher and Barbara Tversky*, 1 STAN. J. LEGAL STUD. 25 (1999), available at <http://agora.stanford.edu/sjls/images/pdf/engelhardt.pdf>; Muriel D. Lezak, *Some Psychological Limitations on Witness Reliability*, 20 WAYNE L. REV. 117 (1973); Gary L. Wells & Deah S. Quinlivan, *Suggestive Eyewitness Identification Procedures and the Supreme Court's Reliability Test in Light of Eyewitness Science: 30 Years Later*, 33 LAW & HUM. BEHAV. 1 (2009), available at https://www.psychology.iastate.edu/~glwells/Wells_articles_pdf/Manson_article_in_LH_B_Wells.pdf; Fredric D. Woocher, Note, *Did Your Eyes Deceive You? Expert Psychological Testimony on the Unreliability of Eyewitness Identification*, 29 STAN. L. REV. 969 (1977).

⁵⁰ LOFTUS, *supra* note 47, at xii-xiii. It should be noted that this is particularly influenced by race, as cross-racial identifications are notoriously less reliable, but this Article will

[13] Such reliability problems can be significant, particularly given the great deal of weight juries place on witness testimony. Recent studies have shown that mistaken witness identification was involved in over seventy-five percent (75%) of some hundreds of exonerations (based on DNA testing after a conviction).⁵¹ Although the use of Glass cannot resolve all of these problems in every case that comes before a court, increased availability and pervasive use of Glass will produce recordings by witnesses that will address these memory limitations. Glass recordings will be able to corroborate an individual's testimony, and the availability of such a recording—which can presumably be accessed and viewed at any time—may eliminate a witness' susceptibility to other suggestive influences.

B. Distinctiveness of Google Glass

[14] In addition to the corroborative value of the unbiased recordings, Glass, as a device and for the recordings it produces, is distinctively useful. Certainly, cameras, cell phones, and tablets are mobile and can record videos. However, Glass features unique qualities that will produce superior evidence to these other electronics—Glass has a point-of-view camera on a headset and is a relatively inconspicuous and accessible device.⁵²

not address such. For a relatively early, thorough study of this topic, see Sheri Lynn Johnson, *Cross-Racial Identification Errors in Criminal Cases*, 69 CORNELL L. REV. 934 (1984).

⁵¹ See Wells & Quinlivan, *supra* note 49 at 1 (citing three studies from 1995–2000); see also Profiles, INNOCENCE PROJECT, <http://www.innocenceproject.org/know/Browse-Profiles.php> (last visited Mar. 5, 2014) (profiling hundreds of wrongfully-convicted people and their exonerations, noting any causes that contributed to their conviction, including “eyewitness misidentification”) (click on any one of the names listed on the original site to see what causes contributed to conviction).

⁵² See, e.g., *Google Glass: How it Looks*, *supra* note 7; Darren Orf, *Google Glass, Now with Prescription Lenses and Hipper Frames*, POPULAR MECHANICS (Jan. 28, 2014,

[15] First, Glass's camera is fixed on the right side of the glasses, just above the wearer's right eye. This allows for simple mobility and a first person perspective. As technology journalist Kashmir Hill noted when considering the possible use of Glass in capturing the traffic signals in a felony vehicular manslaughter case: "Despite the fact that there seem to be surveillance cameras everywhere, they often seem not to capture all that we wish they would. But humans wearing cameras would have an advantage over surveillance cameras: the innate ability to turn their heads to look at something important or interesting."⁵³ As these cameras are effectively headgear, they are as mobile as any witness and more stable than a cell phone.⁵⁴ They can capture any incident on film as quickly as the wearer can adjust his head, unlike stable, pre-programmed surveillance cameras. In addition, the footage allows viewers later on to literally see the witness' point of view. Such a first-person point of view will place the jury—or judge—in the witness' shoes, seeing as much as the witness did. These jury members may notice things the witness never did, or things he has since forgotten. They will experience the scene for themselves, allowing them to rely less on oral testimony, which may be biased, altered,

11:08 AM), <http://www.popularmechanics.com/technology/gadgets/tech-news/google-glass-now-available-for-prescription-lenses-16430656>.

⁵³ Kashmir Hill, *Google Glass Will Be Incredible for the Courtroom*, FORBES (March 15, 2013, 5:02 PM), <http://www.forbes.com/sites/kashmirhill/2013/03/15/google-glass-will-be-incredible-for-the-courtroom/>. A recent car accident in Kingston, N.Y. has already been captured by Glass in photos—video is hardly a stretch. See Ivan Lajara, *Google Glass and Journalism*, MEDIUM, <https://medium.com/this-happened-to-me/4c24f8bb5b3a> (last visited Mar. 5, 2014).

⁵⁴ Photographer Trey Ratcliff highlighted this, saying, "Here's the X Factor for the Glass camera that no one ever mentions. It's head-mounted, which means it is a thousand times more steady than holding a mobile phone camera." Jim Edwards, *These Astonishing Images Convinced Us That Google Glass Will Change Photography Forever*, BUS. INSIDER (Nov. 14, 2013, 9:31 PM), <http://www.businessinsider.com/google-glass-photos-by-trey-ratcliff-2013-11?op=1#ixzz2mS53bcYy>.

or incomplete. As such, Glass recordings will be more helpful, reliable, and satisfying than witness testimony or other recordings.⁵⁵

[16] Second, Glass is more accessible than other electronic devices that may record video. As mentioned above, the camera is built into a headset. In this manner, it is already out and available for immediate use. In addition, it can start recording nearly instantaneously; a voice command of, “Ok glass, record a video” will start the recording process.⁵⁶ This ready placement and voice activation means that recording can start in a matter of seconds, providing almost instant footage depending on the wearer’s reaction time.⁵⁷ Even someone with a cell phone or camera relatively

⁵⁵ This author recognizes that this conclusion assumes some degree of pervasiveness such that enough people who own Glass will be “on the streets,” so to speak, and that those Glass owners will be wearing the device. This Article has already addressed the debate over the popularity of Glass once it hits the market, *supra* Part II.D, but it does seem that many of those Explorers who own a pair of Glass wear them regularly. See Matt McGee, *Poll Results: Most Explorers Wear Glass Every Day*, GLASS ALMANAC (Oct. 24, 2013), <http://glassalmanac.com/poll-results-explorers-wear-glass-every-day/1307/>.

⁵⁶ See *Voice Actions*, GOOGLE GLASS, http://support.google.com/glass/answer/3079305?hl=en&ref_topic=3063233&rd=1 (last visited Mar. 18, 2014). Applications are also being developed to make this even simpler and faster. For example, the Winky App would allow users to capture a photo with a simple slow wink, instead of saying “ok, glass, take a picture.” See Adario Strange, *Google Glass 'Winky' App Lets You Snap Photos by Winking*, PC MAG (May 2, 2013, 9:33 AM), <http://www.pcmag.com/article2/0,2817,2418451,00.asp>.

⁵⁷ For one projection of the impact of this, see Michael Ham, *Boston: A Preview of Crime in the Google Glass Era*, HUFFINGTON POST (Apr. 19, 2013, 12:08 PM), http://www.huffingtonpost.com/michael-ham/boston-a-preview-of-crime_b_3109392.html (“Today, a person about to witness an attack or tragedy must have already removed a device from their pocket to capture the scene. This severely limits the number of image and video accounts of the actual act and person(s) who set the attack in motion. As technologies like Google Glass are adopted by the general public, the amount of eyewitness accounts will surge and likely include complete coverage from the time the person drops off a device, to the time it goes off. It may even be possible to follow the suspect through a trail of personal video streams, all the way back to where they reside.”).

available in his or her pocket or purse cannot begin to record video with such speed. In addition to how quickly recording can begin, Glass is uniquely accessible because it is hands-free. Indeed, this is one of the selling points for Glass—you can “[r]ecord what you see. Hands free.”⁵⁸ Their promotional video and website suggest how useful this can be when engaging in sports, dancing, playing instruments, and doing construction.⁵⁹ The key is that Glass frees up the wearer’s hands for other uses. As the Glass wearer may be in the center of the action or even just moving quickly, it may simply be challenging to hold and use a phone or camera. Furthermore, Glass will encourage people to record a video in situations during which they may otherwise have felt unsafe or uncomfortable to do so, because they will still have full mobility.⁶⁰

⁵⁸ *What It Does*, *supra* note 2.

⁵⁹ *See id.* Users have been highlighting all of the potential that may come from this hands-free aspect of Glass. *See, e.g.*, Sarah Hill, *How Google Glass Can Evolve as a Tool for Journalists*, NEXT WEB (July 13, 2013, 3:30 PM), <http://thenextweb.com/google/2013/07/13/how-google-glass-can-evolve-as-a-tool-for-journalists/> (describing journalists conducting interviews); Tom Simonite, *Google Glass as a Hands-Free Instruction Manual*, MIT TECH. REV. (Sept. 17, 2013), <http://www.technologyreview.com/view/519386/google-glass-as-a-hands-free-instruction-manual/> (describing use for car maintenance).

⁶⁰ *See, e.g.*, Elise Hu, *Arrest Caught on Google Glass Reignites Privacy Debate*, NPR (July 8, 2013, 2:45 PM), <http://www.npr.org/blogs/alltechconsidered/2013/07/09/200030825/arrest-caught-on-google-glass-reignites-privacy-debate>. One Explorer who used Glass to record an arrest said,

What is interesting with Glass is that in tense situations, like, say, war reporting, your hands are free while you're shooting. You can use your hands to protect yourself. If I wanted to back away, I could do it without dropping my camera or stopping the recording. That's a big step in wearable computing.

Id.

[17] Lastly, the recording feature on Google Glass is relatively inconspicuous. Though wearing Glass will likely catch the eye, the difference between when Glass is off and when Glass is on and recording is fairly subtle. Though there are some rumors of an infrared light, in its current edition, there are two main ways for someone to tell if Glass is recording: (1) the small screen is illuminated when it is in use, such as when the user is taking a picture or recording a video, though it does not distinguish such activity from simply looking up directions or running a Google search; and (2) users have to either speak a command or press the touch pad on the side of the frame in order to record a video.⁶¹ Particularly when Glass first enters the market, it seems unlikely that the general public will be attuned to these fine details. In addition, depending on lighting, it may be difficult to tell if the screen is illuminated, and it is fairly simple to pass off a tap of the touchpad as scratching one's head or tucking some hair beyond your ear. In these ways, someone wearing Glass could simply record a scene without the immediate awareness of those present. In this way, using Glass as a recording device is less likely to draw attention than using a camera, or even a cell phone. Chris Barrett, a filmmaker and Explorer who captured the first arrest on Glass, has already experienced this.⁶² At the Jersey Shore to watch a fireworks show, he was able to record a fight that broke out, through to the eventual arrest of the participants.⁶³ Barrett acknowledged the crucial role Glass—as opposed to a cell phone—played in recording this break out, saying, “I think if I had a bigger camera there, the kid would probably have punched me. . . . But I was able to capture the action with Glass and I didn't have to hold up a cell phone and press record.”⁶⁴ This precise inconspicuousness

⁶¹ See Kate Solomon, *How Do You Know if Someone's Recording with Google Glass?*, TECH RADAR (July 3, 2013), <http://www.techradar.com/us/news/portable-devices/other-devices/how-do-you-know-if-someone-s-recording-with-google-glass--1163374>.

⁶² See Hu, *supra* note 60.

⁶³ See *id.*

will lead to more recordings, which—privacy concerns aside—will provide evidence that has previously been unobtainable.

C. Prospective Uses

[18] The uses for Google Glass in general are endless, and countless of these uses may involve activity that will be the subject of litigation. The most predictable scenarios involve physical activities that may [at least appear to] occur more or less spontaneously—rioting, fights, trespass, robberies, and even sexual violence. In fact, Glass has already been used to capture an instance of domestic violence.⁶⁵ Glass recordings may also be especially useful in handling traffic violations; using Glass allows for immediate coverage of traffic accidents—from those involved and onlookers alike—speedy documentation of license plates during hit-and-runs, and more. Glass could also be used by responders in documentation of an emergency; for example, as one fire chief who is part of the Explorer program noted with respect to using Glass while responding to a fire, “[p]hoto evidence is more reliable” than relying on memory or digging

⁶⁴ John Koetsier, *I Filmed the First Fight and Arrest Through Google Glass*, VENTUREBEAT (July 5, 2013, 9:59 AM), <http://venturebeat.com/2013/07/05/i-filmed-the-first-fight-and-arrest-through-google-glass/#f004ucFeCPhM1b5.99>. Thomson Reuters’s head of editorial solutions, Christophe Gevrey, went further to reflect that,

More notable than the video itself is the ease at which it was captured without the knowledge of those in the middle of the melee. His footage foreshadows the rapidly approaching future where everything can be filmed serendipitously by folks wearing devices like Google Glass without the knowledge of the parties involved.

Christophe Gevrey, *First Arrest Captured by Google Glass, Foreshadows ‘Everything Recorded’ Future*, TECH. WATCH (July 7, 2013), <http://cri.ch/p1603>.

⁶⁵ See Ron Dicker, *You Need to Watch This Video, but Its Ending Will Disturb You*, HUFFINGTON POST (Mar. 7, 2014, 4:09 PM), http://www.huffingtonpost.com/2014/03/07/google-glass-domestic-violence_n_4920840.html.

through ashes.⁶⁶ On the other side, any individual may use Glass to record officers and other government officials who respond to emergencies and crimes, essentially monitoring their conduct—particularly police searches and arrests.⁶⁷ Glass has already made its way into operating rooms, and the recordings taken by the attending surgeon would surely be invaluable in medical malpractice cases.⁶⁸ It is even foreseeable that the increased production of family “home” videos, which one of Google’s founders expressed delight in,⁶⁹ could be later used as evidence in custody battles.

⁶⁶ Wes Blankenship, *Gray Fire Chief Using Google Glass*, 13 WMAZ (Sept. 27, 2013, 2:31 PM), <http://www.13wmaz.com/story/news/local/gray-jones/2013/11/03/3424151/>.

⁶⁷ The ACLU advocates for a similar technology—lapel cameras to be worn by police and turned on during all interactions with the public in order to reduce and monitor police misconduct; Google Glass could be used the same way. See Timothy B. Lee, *Here’s Why Cops Should Be Required to Wear a Lapel Camera While on Duty*, WASH. POST (Oct. 10, 2013 9:17 AM), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/10/10/heres-why-cops-should-be-required-to-wear-a-lapel-camera-while-on-duty/?tid=rssfeed>. In February 2014, the New York Police Department bought a few pairs, so perhaps we will see such use soon. See Natasha Lennard, *Of Course the NYPD Is Testing Google Glass*, SALON (Feb. 7, 2014, 3:29 PM), http://www.salon.com/2014/02/07/of_course_the_nypd_are_testing_out_google_glass/.

⁶⁸ See Zina Moukheiber, *Philips Wants to Bring Google Glass to the Operating Room*, FORBES (Oct. 3, 2013, 1:06 PM), <http://www.forbes.com/sites/zinamoukheiber/2013/10/03/philips-wants-to-bring-google-glass-to-the-operating-room/> (describing a proposed use for patient monitoring during surgery); Rachael Rettner, *Google Glass Used To Livestream ACL Surgery*, HUFFINGTON POST (Aug. 27, 2013, 1:51 PM), http://www.huffingtonpost.com/2013/08/27/google-glass-surgery-ohio-state-university_n_3824455.html (describing one of the first uses of Glass to live-stream an operation, with video); see also Murray Carpenter, *Doctors Foresee a Google Glass View of Surgeries*, BOSTON GLOBE (Sept. 30, 2013), <http://www.bostonglobe.com/business/2013/09/29/doctors-see-many-uses-for-google-glass-operating-room/LpuqiKpGACCLAXIO9Ttq2M/story.html>.

⁶⁹ See Brin, *supra* note 11.

IV. USING GLASS RECORDINGS IN LITIGATION

[19] In addition to addressing the utility of Glass recordings in litigation, it is important to recognize any hurdles that may complicate or obstruct the introduction of these recordings as evidence in a trial or hearing. Overall, it is unlikely that any federal evidentiary rules or their state equivalents will prevent the admission of Glass photos or recordings into evidence during litigation.⁷⁰ Some rules may ultimately serve as obstacles to admission, though these rules would not be unique to records produced by Glass or other wearable computers. In addition, individual state recording laws may limit the introduction of some Glass-produced videos, and efforts to address privacy concerns surrounding Glass may prevent the production of these videos for litigation in the first place.

A. Introduction of Glass Recordings as Evidence

[20] The introduction of a Glass recording as evidence would be simple—much like the introduction of another video during trial. Having prepared the video as any other exhibit, during the testimony of the relevant witness an attorney need only play the video recording—at an appropriate time during the questioning—have the witness authenticate the video clip by acknowledging its accuracy, and then offer the video into evidence.

[21] At a demonstration trial at the Court Technology Conference 2013 in Baltimore, Maryland, the Center for Legal and Court Technology (CLCT) contemplated this use, through a Glass-like wearable recording device that is based on the shoulder rather than the face.⁷¹ In this personal

⁷⁰ This section will hereafter use the term “recordings” to primarily refer to videos as they will likely be the most relevant evidence to be introduced, but photos would survive the same inquiry.

⁷¹ See Fredric Lederer, *Technology-Enhanced Trial and Appellate Courtrooms: A Primer and an Update*, CLTC 2013, <http://www.ctc2013.com/Education-Program/Tuesday-Sept->

injury case, the two parties were pulled over on the side of the road, and as the defendant exited her vehicle, she turned on the device and began recording the altercation that would later become the subject of litigation.⁷² As the CLCT's script contemplated, the relevant portion of the direct examination and introduction of evidence may proceed as follows:

Q: Did you have occasion to record that attack?

A: Yes

Q: How and why?

A: I work for a company, Miracle Vision, that is making a personal video communicator a bit like Google Glass. I was wearing a unit on my right shoulder, and I turned it on when I got out of my car. I knew that I should make a record of what happened.

Q: And did you record it?

A: Yes, but it failed after a few seconds. I think that I hadn't kept it fully charged.

Counsel, with judge's permission, plays Defense Exhibit A.

Q: Was that an accurate recording?

A: Yes.

Counsel offers Exhibit A into evidence.⁷³

17/Morning/Session-1/Courtroom-21.aspx (last visited Mar. 6, 2014) (script on file with the CLCT and author).

⁷² *Id.*

⁷³ *See id.*

The video clip depicted the plaintiff exiting her own vehicle and approaching the defendant while raising a baseball bat—valuable evidence to support the defendant’s claim of self-defense. With no other evidence other than oral testimony to indicate who initiated the fight, the video recording in this “he said, she said” scenario—as presented in much litigation—becomes a central piece of evidence in an unclear case. Glass recordings will be able to provide this same insight and clarity.

B. Evidentiary Hurdles

1. ESI and Existing Evidence Rules

[22] As Glass recordings are stored in the cloud, they will likely be treated as electronically stored information (ESI) and after meeting basic evidentiary requirements would be admissible.⁷⁴ There are surprisingly few decisions dealing with the admissibility of ESI, but of those that exist, Judge Grimm’s opinion in *Lorraine v. Markel American Insurance Co.*⁷⁵ before the United States District Court for the District of Maryland best articulates the relevant rules for evaluating ESI.⁷⁶ Noting that whether ESI is admissible involves a series of inquiries, Judge Grimm set forth:

⁷⁴ It should be noted that under current evidentiary rules, “there is nothing ‘magical’ about the admission of electronic evidence,” such that ESI is not treated significantly differently than traditional evidence. Jonathan D. Frieden & Leigh M. Murray, *The Admissibility of Electronic Evidence Under the Federal Rules of Evidence*, 17 RICH. J.L. & TECH. 5, ¶2 (2011), <http://jolt.richmond.edu/v17i2/article5.pdf>.

⁷⁵ *Lorraine v. Markel Am. Ins. Co.*, 241 F.R.D. 534, 538 (D. Md. 2007).

⁷⁶ For a more thorough study of the admissibility of ESI than will be offered by this Article, see Sheldon M. Finkelstein & Evelyn R. Storch, *Admissibility of Electronically Stored Information: It’s Still the Same Old Story*, 23 J. AM. ACAD. MATRIM. LAW. 45 (2010); see also THE FUTURE OF EVIDENCE: HOW SCIENCE & TECHNOLOGY WILL CHANGE THE PRACTICE OF LAW 93-97, 114-15 (Carol Henderson & Jules Epstein eds., 2011) (discussing digital recording evidence and augmented reality evidence presentation).

Whenever ESI is offered as evidence, either at trial or in summary judgment, the following evidence rules must be considered: (1) is the ESI *relevant* as determined by Rule 401 (does it have any tendency to make some fact that is of consequence to the litigation more or less probable than it otherwise would be); (2) if relevant under 401, is it *authentic* as required by Rule 901(a) (can the proponent show that the ESI is what it purports to be); (3) if the ESI is offered for its substantive truth, is it *hearsay* as defined by Rule 801, and if so, is it covered by an applicable exception (Rules 803, 804 and 807); (4) is the form of the ESI that is being offered as evidence an *original* or *duplicate* under the original writing rule, of [sic] if not, is there admissible secondary evidence to prove the content of the ESI (Rules 1001-1008); and (5) is the probative value of the ESI substantially outweighed by the danger of *unfair prejudice* or one of the other factors identified by Rule 403, such that it should be excluded despite its relevance.⁷⁷

Most of these rules would not be any more challenging to satisfy using recordings from Glass as opposed to other evidentiary materials. As such, relevance under Rule 401⁷⁸ and probative value versus prejudicial risk under Rule 403⁷⁹ will not be addressed by this Article.

[23] With respect to authenticity, Glass recordings seem like a hybrid. Because of the way Glass functions with automatic uploading, these recordings may be viewed as a more traditional video recording or more like electronic information. Under Rule 901(a), “[t]o satisfy the requirement of authenticating or identifying an item of evidence, the

⁷⁷ *Lorraine*, 241 F.R.D. at 538.

⁷⁸ FED. R. EVID. 401.

⁷⁹ FED. R. EVID. 403.

proponent must produce evidence sufficient to support a finding that the item is what the proponent claims it is.”⁸⁰ Rule 901(b) goes on to give examples of evidence that satisfies this 901(a) requirement.⁸¹ As ESI, it may be possible that the metadata automatically attached to the Glass recordings would be sufficient to prove its authenticity, though it may be necessary to secure testimony from a witness with knowledge—presumably the wearer—to secure this.⁸² The easiest way for the party introducing the Glass recording to satisfy Rule 901 is to produce a witness with knowledge—one who recognizes the scene (and sound) depicted by the Glass recording—to attest that the recording is what it is claimed to be.⁸³ Based on the fact that Glass is a head-mounted device, it is likely that this will be easy to arrange as the creator of the video would also be an eye witness, probably already solicited to testify.

[24] Glass recordings would also need to satisfy the original writing requirement, more commonly referred to as the “best evidence” rule. Rule 1002 states that “[a]n original writing, recording, or photograph is required in order to prove its content unless these rules or a federal statute provides otherwise.”⁸⁴ With recordings automatically synched with Google cloud storage, it may be difficult to determine what is “original” in the colloquial sense. In all likelihood the initial data or “original” is the recording existing on the Glass device itself, which is effectively useless in that form it cannot be viewed by anyone other than the wearer. Fortunately, the Federal Rules of Evidence take a broader approach, defining original as “the writing or recording itself or any counterpart intended to have the

⁸⁰ FED. R. EVID. 901(a).

⁸¹ FED. R. EVID. 901(b).

⁸² See Finkelstein & Storch, *supra* note 76, at 49.

⁸³ See FED. R. EVID. 901(b)(1).

⁸⁴ FED. R. EVID. 1002.

same effect by the person who executed or issued it. For electronically stored information, ‘original’ means any printout—or other output readable by sight—if it accurately reflects the information,” including the negative.⁸⁵ As this Rule is primarily concerned with the alteration of evidence, the copy of the recording that is automatically uploaded to the cloud would be considered such a “counterpart.” If courts are unwilling to consider this more accessible video recording as an original, it should qualify as a duplicate.⁸⁶ Pursuant to Rule 1003, “A duplicate is admissible to the same extent as the original unless a genuine question is raised about the original’s authenticity or the circumstances make it unfair to admit the duplicate.”⁸⁷ As an identical copy of the recording is uploaded with no opportunity for alteration, it would certainly reflect the original recording accurately, and there is nothing about the Glass synching process that would invite skepticism.

2. The Inadequacy of Existing Hearsay Rules

[25] Though some of the recordings taken by Google Glass will present no hearsay problems, there will inevitably be recordings captured by Glass with that are highly probative yet may amount to inadmissible hearsay. Though these recordings, like cell phone recordings, may fit into any number of the twenty-plus hearsay exceptions provided for in the Federal Rules of Evidence, this piecemeal application instead highlights a need for a hearsay rule that better accommodates digital photos and videos captured by mobile and wearable recording devices.

[26] Hearsay means “a statement that: (1) the declarant does not make while testifying at the current trial or hearing; and (2) a party offers in

⁸⁵ FED. R. EVID. 1001(d).

⁸⁶ See FED. R. EVID. 1001(e) (“A ‘duplicate’ means a counterpart produced by a mechanical, photographic, chemical, electronic, or other equivalent process or technique that accurately reproduces the original.”).

⁸⁷ FED. R. EVID. 1003.

evidence to prove the truth of the matter asserted in the statement.”⁸⁸ In other words, hearsay is an out-of-court statement offered to prove the truth of the matter asserted in the statement, and it is inadmissible in court.⁸⁹ As a preliminary matter, then, there must be a statement made by a person. Many photos and recordings taken by Glass will not meet these preliminary requirements, and as non-hearsay they will not be susceptible to exclusion under Rules 801 and 802. Furthermore, they may be admissible as a declarant-witness’ prior statement, an opposing party’s statement, a present sense impression, a record of regularly conducted activity, or under one of the other numerous hearsay exceptions.⁹⁰ However, not every recording will be covered by these exceptions, and therefore this otherwise valuable evidence may be excluded.

[27] Hearsay rules are based on a concern over reliability.⁹¹ Law Professor Laurence Tribe noted that out-of-court statements are considered suspect because of “the four testimonial infirmities of ambiguity, insincerity, faulty perception, and erroneous memory.”⁹² Importantly, we are concerned with the in-court witness’ inability to and potential disinterest in providing a faithful account of the out-of-court statement. Admission of Glass recordings, however, is likely to be faithful to this purpose, encouraging truth-seeking. Glass recordings greatly reduce issues of ambiguity, insecurity, perception, and memory.⁹³ The statements

⁸⁸ FED. R. EVID. 801(c).

⁸⁹ See FED. R. EVID. 802; see also 29 AM. JUR. 2d *Evidence* § 671.

⁹⁰ See FED. R. EVID. 801-803.

⁹¹ See, e.g., Ronald J. Allen, *A Response to Professor Friedman: The Evolution of the Hearsay Rule to a Rule of Admission*, 76 MINN. L. REV. 797, 797, 801 (1992); David Alan Sklansky, *Hearsay’s Last Hurrah*, 2009 SUP. CT. REV. 1, 3 (2009).

⁹² Laurence H. Tribe, *Triangulating Hearsay*, 87 HARV. L. REV. 957, 958 (1974).

⁹³ As this Article argues in Part III, the particular value of Glass recordings is that they counteract witness testimony credibility and reliability concerns.

are preserved in these recordings, capturing them accurately and including context as well inflection, mannerisms, and other indicators of sincerity and meaning.⁹⁴ In this way, the exclusion of Google Glass recordings under the existing hearsay rules may be illogical, or at least inconsistent with hearsay's goal.

[28] Law Professor Jeffrey Bellin's proposal for an eHearsay (also called an eSRP) rule captures the need for hearsay rules to adjust to a world in which more social interactions and communications are recorded digitally, which will only increase as wearable technology becomes increasingly ubiquitous.⁹⁵ In particular, he proposes to add another hearsay exception, stating that the following type of statements are not excluded as hearsay where a declarant is not available as a witness:

Recorded Statement of Recent Perception. A recorded communication that describes or explains an event or condition recently perceived by the declarant, but not including: (A) a statement made in contemplation of litigation, or to a person who is investigating, litigating, or settling a potential or existing claim; or (B) an anonymous statement.⁹⁶

⁹⁴ This author recognizes that Glass recordings are not infallible. For example, they may be limited by the duration of the clip or amount of a scene that is captured in the frame. These issues, however, are better dealt with by Rule 403 or the rule of completeness (pursuant to Rules 106 and 611).

⁹⁵ See Jeffrey Bellin, *eHearsay*, 98 MINN. L. REV. 7, 35 (2013).

⁹⁶ *Id.* at 36. The language of this section is to be added under Rule 804 when the declarant is unavailable as a witness, and a similar exemption is included in Rule 801 which defines itself in reference to this section. See *id.* It should be noted that the applicability of an eHearsay exception to both present and unavailable witnesses is already a point of contention. See Colin Miller, *No Explanation Required? A Reply to Jeffrey Bellin's eHearsay*, 98 MINN. L. REV. HEADNOTES 34, 71-72 (2013). This said, a rule accommodating both testifying witnesses and those unavailable to testify would best suit Glass recordings. It is certainly possible to imagine a situation in which the Glass

With respect to a “recorded conversation,” Bellin proceeds to clarify that “[a]nything memorialized by mechanical or electronic means as the speaker communicates counts as ‘recorded’ for purposes of the eSRP exception.”⁹⁷ On its face, Glass recordings would appear to fit—they electronically memorialize communications. However, as the article focuses on textual digital statements rather than statements recorded in an audiovisual form, it is not entirely clear whether this exception as proposed would extend to Glass recordings. Considering the increased prevalence of audiovisual recordings—from short Vine video clips to extended Glass recordings—it should. Such an inclusive eHearsay rule would go a long way in addressing the reliability of Glass recordings.

C. Relevance of State Recording Laws

[29] Beyond these evidentiary rules, other considerations may affect the introduction of these recordings as evidence, including the legality of the acquisition of the recording. For example, state recording laws will play a role in the recordings captured by Google Glass. As of May 2014, eleven states are two-party consent states, which means that all parties to a communication must consent to being recorded, while the remainder are one-party consent states in which the consent of a single party to the conversation is generally sufficient to make recording lawful.⁹⁸

video recording exists but the witness who recorded the video is unavailable to testify (for example, someone suffering from a serious bodily injury, perhaps from that activity which he recorded), and the reliability interests served by the hearsay rules are still protected. In other words, so long as the recording can still be authenticated, its reliability does not really depend on the witness’ presence in court.

⁹⁷ Bellin, *supra* note 95, at 39.

⁹⁸ See *Recording Phone Calls and Conversations*, DIGITAL MEDIA L. PROJECT, <http://www.dmlp.org/legal-guide/recording-phone-calls-and-conversations> (last updated Aug. 15, 2012) (including California, Connecticut, Florida, Illinois, Maryland, Massachusetts, Montana, New Hampshire, Pennsylvania and Washington). Some of these states recognize a limited exception when the parties have no reasonable expectation of privacy. See, e.g., *Flanagan v. Flanagan*, 41 P.3d 575, 582 (Cal. 2002)

[30] It is certainly foreseeable that some recordings captured by Glass will violate these recording laws—though many will not be illegally obtained. If an individual’s recording violates one of these laws, however, it can often still be admitted as evidence (though to some degree this may be a question of the judge’s discretion when considering relevance and prejudice under Rule 403).⁹⁹ More likely, a state may have a law on point involving the admission of recordings taken without the parties’ knowledge. This varies by state, but both one- and two- party consent states have codified provisions limiting the use of recordings of conversations as evidence.¹⁰⁰

[31] In terms of particular subject matter, individuals may proceed, with caution, when using Glass to record officers. Though the issue will not be addressed in depth here, it is likely that Glass will be used to record officers.¹⁰¹ It is important to note that four federal circuits have recognized a First Amendment right to record police officers performing their duties, though this right is typically qualified as an individual cannot interfere with the officer’s performance of their duties or violate generally

(limiting the state’s statute to communications in which one party has an objectively reasonable expectation that no one is listening in or overhearing the conversation); *State v. Townsend*, 57 P.3d 255, 259 (Wash. 2002) (recognizing that whether a conversation is protected depends in part on the reasonableness of the speaker’s expectation of privacy). For state-by-state details, the Digital Media Law Project’s legal guide is a useful resource. *See State Law: Recordings*, DIGITAL MEDIA L. PROJECT, <http://www.dmlp.org/legal-guide/state-law-recording> (last visited April 23, 2014).

⁹⁹ Individuals should also remember that these wiretapping/recording statutes may allow for a private civil suit or involve criminal penalties. For a state-by-state table, see REPORTERS COMM. FOR FREEDOM OF THE PRESS, REPORTERS’ RECORDING GUIDE 3 (2012), <http://www.rcfp.org/rcfp/orders/docs/RECORDING.pdf>.

¹⁰⁰ *See, e.g.*, CAL. PENAL CODE § 632(d) (West 2010); OR. REV. STAT. ANN. § 41.910 (West 2003); VA. CODE ANN. § 8.01-420.2 (West 1992).

¹⁰¹ Indeed it already has been—one of the earliest Glass recordings was of a public arrest. *See Hu, supra* note 60.

applicable laws.¹⁰² Overall, though not the most prominent issue, the lawfulness of these Glass recordings cannot be ignored when considering the ability to admit—and the frequency of admitting—these recordings as evidence in litigation proceedings.

D. Legal Concerns Involving Availability

[32] As with much technological innovation when first introduced, Glass and other wearable computers are subject to criticism and concern. Most of the concerns that have arisen to date relate to privacy and safety, and how they are addressed may affect the availability and prevalence of Glass recordings.

[33] Those privacy concerns raised relate to both traditional vertical notions of privacy, from the government and corporate bodies, as well as a more horizontal notion of privacy from one's peers.¹⁰³ These anxieties center around the great amount of conduct that may be preserved in photos or film, often without the knowledge of the actors, as well as the government's and Google's access to these materials. Three primary

¹⁰² See *ACLU v. Alvarez*, 679 F.3d 583, 594-95 (7th Cir. 2012); *Glik v. Cunniffe*, 655 F.3d 78, 85 (1st Cir. 2011); *Smith v. City of Cumming*, 212 F.3d 1332, 1333 (11th Cir. 2000); *Fordyce v. City of Seattle*, 55 F.3d 436, 439 (9th Cir. 1995). The Department of Justice has concurred with these decisions, recognizing "important First, Fourth and Fourteenth Amendment rights at stake when individuals record police officers in the public discharge of their duties." Letter from Jonathan M. Smith, Chief, Special Litig. Section, United States DOJ, to Mark H. Grimes, Office of Legal Affairs, Balt. Police Dep't (May 14, 2012), *available at* http://www.justice.gov/crt/about/spl/documents/Sharp_ltr_5-14-12.pdf.

¹⁰³ For more on this distinction, see JONATHAN ZITTRAIN, *THE FUTURE OF THE INTERNET—AND HOW TO STOP IT*, ch. 9 (2008), *available at* <http://yupnet.org/zittrain/archives/20> (distinguishing "Privacy 1.0" as that associated with government and corporate databases from "Privacy 2.0," associated with peer production). For a broader account of technology and privacy in what is likely the first book to substantially address Google Glass, see ROBERT SCOBLE & SHEL ISRAEL, *AGE OF CONTEXT: MOBILE, SENSORS, DATA AND THE FUTURE OF PRIVACY* 38-40 (2014).

general concerns have been raised. First, because the recording feature on Glass is rather inconspicuous, this may threaten an individual's ability to have anonymous interactions, not to mention the unauthorized recording considerations.¹⁰⁴ Second, without legislation to secure safeguards, it may be possible for government agents to access the Glass data without being held accountable for this privacy invasion.¹⁰⁵ Lastly, because this data is stored on Google's cloud servers, Google has complete access to much personal data.¹⁰⁶ Many others have expressed a fear that Glass will employ a facial recognition feature, but Google has firmly renounced such an attribute.¹⁰⁷ Congress¹⁰⁸ and authorities from several nations around

¹⁰⁴ See *Google Glass and Privacy*, EPIC, <http://epic.org/privacy/google/glass/default.html> (last visited Mar. 5, 2014); see also *Privacy Risks of Google Glass and Similar Devices*, 21 S.C. EMPL. L. LETTER 10 (2013). Thirty-nine states have published this article (in respective state editions of *Employment Law Letter*) under the aforementioned title, or as "Are high-tech glasses blurring the lines of privacy?"

¹⁰⁵ See *Google Glass and Privacy*, *supra* note 103. For example, with all of the data stored on Google's cloud, it is susceptible to collection by government agents. See, e.g., Barton Gellman & Ashkan Soltani, *NSA Infiltrates Links to Yahoo, Google Data Centers Worldwide, Snowden Documents Say*, WASH. POST (Oct. 30, 2013), http://www.washingtonpost.com/world/national-security/nsa-infiltrates-links-to-yahoo-google-data-centers-worldwide-snowden-documents-say/2013/10/30/e51d661e-4166-11e3-8b74-d89d714ca4dd_story.html. At the symposium, *Where There Is No Darkness: Technology and the Future of Privacy*, Jeffrey Rosen also acknowledged the potential use of Glass in government surveillance and the limitations of the Fourth Amendment in protecting individual's privacy. See Jeffrey Rosen, Keynote Address, Symposium, *Where There Is No Darkness: Technology and the Future of Privacy*, 65 RUTGERS L. REV. 965, 968 (2013).

¹⁰⁶ See *Google Glass and Privacy*, *supra* note 104.

¹⁰⁷ *Google Glass: Glass and Facial Recognition*, GOOGLE+ (May 31, 2013), <https://plus.google.com/111626127367496192147/posts/fAe5vo4ZEcE>. But see *Press Release: Facialnetwork.com Announces Beta Release of "Nametag" the First Real-Time Facial Recognition App for Google Glass*, NAME TAG, <http://www.nametag.ws/> (last visited Mar. 18, 2014) (explaining that apps allowing for real-time facial recognition for Google Glass are currently under development).

the globe¹⁰⁹ have expressed their concerns to Google, but legislation addressing these fears has been minimal. More action has been taken locally, where businesses have banned customers from wearing Glass on their premises, including banks, bars, casinos, and more, primarily based on privacy, safety, and security grounds.¹¹⁰

[34] Legislatures have been less hesitant to respond to the debate over the use of Glass while driving, concerned that Glass poses the same safety hazards as cell phones.¹¹¹ New Jersey, New York, and West Virginia—

¹⁰⁸ See Letter from Sen. Joe Barton et al. to Mr. Larry Page, Chief Exec. Officer, Google, available at http://www.scribd.com/fullscreen/142042403?access_key=key-vty16tj03c2fbrz4bk1&allow_share=true&escape=false&view_mode=scroll; see also Claire Cain Miller, *Lawmakers Show Concerns About Google's New Glasses*, N.Y. TIMES (May 17, 2013), http://www.nytimes.com/2013/05/17/technology/lawmakers-pose-questions-on-google-glass.html?_r=2&.

¹⁰⁹ “[A]uthorities across the globe have demanded clarification about the privacy implications of its new product Google Glass, which can take pictures and video without onlookers knowing.” Rebecca Lowe, *Head in the Cloud*, 9 IN-HOUSE PERSP., no. 4, 2013, at 9, 13 (2013). For their June 2013 letter to Google (signed by representatives from Mexico, Israel, Canada, New Zealand, Australia, Switzerland, and a Dutch representative from the European Commission) and Google’s response, see *Privacy Statements: Google Glass*, OIAC, available at <http://www.oaic.gov.au/news-and-events/statements/privacy-statements/google-glass/> (last visited Mar. 18, 2014).

¹¹⁰ See Albert Costill, *Top 10 Places that Have Banned Google Glass*, SEARCH ENGINE J. (Aug. 7, 2013), <http://www.searchenginejournal.com/top-10-places-that-have-banned-google-glass/66585/>; see also *Google Glasses Banned*, 5 POINT CAFÉ (Mar. 11, 2013), <http://the5pointcafe.com/google-glasses-banned/>.

¹¹¹ Compare Daniel J. Simons & Christopher F. Chabris, *Is Google Glass Dangerous?*, N.Y. TIMES (May 24, 2013) (noting the increased distraction when drivers are communicating, including with hands-free devices, and referencing studies of commercial airline pilots that suggest windshield displays reduce their awareness of their surroundings), with Ryan Warner, *What Is It Like to Drive With Google Glass?*, SLATE (Aug. 7, 2013, 12:24 PM), http://www.slate.com/blogs/quora/2013/08/07/google_glass_what_s_it_like_to_drive_wearing_glass.html (describing the ease of using Glass while driving for navigation purposes, without feeling distracted). Google’s take on this debate emphasizes

and even the United Kingdom—have all proposed legislation banning the use of wearable computers, such as Glass, by drivers.¹¹² With the first reported traffic violation for wearing Glass while driving in California in late October, 2013,¹¹³ it appears likely that more states will move towards proposing similar statutes.¹¹⁴

responsible individual use. See *Google Glass Help: FAQ*, GOOGLE GLASS, <https://support.google.com/glass/answer/3064131?hl> (last visited Oct. 31, 2013) (“As you probably know, most states have passed laws limiting the use of mobile devices while driving any motor vehicle, and most states post those rules on their department of motor vehicles websites. Read up and follow the law! Above all, even when you’re following the law, don’t hurt yourself or others by failing to pay attention to the road.”).

¹¹² See A.B. 4146, 215th Leg. 2d Sess. (N.J. 2013) (originally introduced June 6, 2013), available at http://www.njleg.state.nj.us/2012/Bills/A4500/4146_I1.PDF (“This bill prohibits the use of a wearable computer with head mounted display, such as Google Glass, by an operator of a moving motor vehicle on a public road or highway. . . . Any person who violates the provisions of the bill is subject to a \$100 fine, but shall not be assessed any motor vehicle points or automobile insurance eligibility points.”), reintroduced as A.B. 1802, 216th Leg., 1st Sess. (N.J. 2014); S.B. 6435, 237th Sess. (N.Y. 2014), available at http://assembly.state.ny.us/leg/?default_fld=&bn=S06435&term=2013&Text=Y; H.R. 3057 (amending New York’s vehicle and traffic law to those wearing head-mounted portable electronic devices while driving); H.B. 3057, 2013 Leg., Reg. Sess. (W.V. 2013), available at http://www.legis.state.wv.us/Bill_Status/bills_text.cfm?billdoc=hb3057%20intr.htm&yr=2013&sesstype=RS&i=3057 (amending Section 17C-14-15 of the Code of West Virginia prohibiting use of cell phones while driving to include “[u]sing a wearable computer with head mounted display”); Jemima Kiss, *UK Set to Ban Google Glass for Drivers*, GUARDIAN (July 31, 2013, 1:59 PM), <http://www.theguardian.com/technology/2013/jul/31/google-glass-drivers>; see also Erik Ortiz, *Driving While Wearing Google Glass*, N.Y. DAILY NEWS (July 13, 2013, 11:16 AM), <http://www.nydailynews.com/news/national/google-glass-wearable-computers-pose-driving-hazard-article-1.1397898>.

¹¹³ Glass Explorer Cecilia Abadie described and posted a picture of the ticket she received for “Driving with Monitor visible to Driver (Google Glass)” on her Google+ page. Cecilia Abadie, *A Cop Just Stopped Me and Gave Me a Ticket*, GOOGLE+ (Oct. 30, 2013), <https://plus.google.com/+CeciliaAbadie/posts/Kofr18UWLfc>. In early 2014, the San Diego traffic court cleared Abadie of the traffic citation as the police officer could

V. CONCLUSION

*We can expect an onslaught of new wearable computer product devices such as Google Glass and others that are still only rumors, including eyeglass-mounted computer systems, head-mounted computers, Apple's iWatch, and other smartwatch devices.*¹¹⁵

—Judge Herbert B. Dixon Jr.,
Superior Court of the District of Columbia

[35] Wearable computing is not going away—whether it takes the form of Google Glass or other head-mounted gear, smartwatches, or other devices we cannot yet imagine. Technology will keep developing, so rather than solely fearing these changes, the legal system and its participants should acknowledge their potential utility. Glass, as it becomes more available to the public, will expand the base of what individuals choose to and are able to record. Even more than cell phones,

not prove beyond a reasonable doubt that her Glass device was in operation. See Bill Chappell, *'Google Glass Driver' Is Cleared in San Diego Court*, NPR (Jan. 16, 2014 7:35 PM), <http://www.npr.org/blogs/thetwo-way/2014/01/16/263152869/-google-glass-driver-is-cleared-in-san-diego-court>.

¹¹⁴ It is unclear whether this will be addressed at a national level, as a spokesman for the Congressional Committee for Transportation and Infrastructure said the topic had not been discussed. Even if raised as a national issue, due to federalism and state sovereignty concerns, it is best left to individual state legislatures. See Jon M. Chang, *Wearing Google Glass While Driving Could Earn You a Ticket*, ABC NEWS (Oct. 30, 2013), <http://abcnews.go.com/Technology/google-glass-ticket-woman-san-diego-traffic-ticket/story?id=20729351>.

¹¹⁵ J. Herbert B. Dixon Jr., *Technology and the Courts: A Futurist View*, 52 JUDGES' J., Summer 2013, at 36, 37, available at http://www.americanbar.org/content/dam/aba/publications/judges_journal/2013_sum_jj_tech.authcheckdam.pdf.

Glass and its counterparts will enable photos and videos to be taken that could serve as invaluable evidence in many hearings and trials.

[36] This past summer, one blogger posited this question—what would have happened if Trayvon Martin was wearing Google Glasses?¹¹⁶ Though most responders recognized that it was unlikely that the expensive technology would have been available to Martin himself,¹¹⁷ it becomes more believable that George Zimmerman, or a potential onlooker in a similar situation, could have been wearing a pair. “If one of them said, ‘Ok, Glass, record a video’ at the start, the jury would have had irrefutable evidence of what happened – the key piece missing from the Zimmerman trial.”¹¹⁸ This may not be conceivable yet, but it is not difficult to imagine similar circumstances in the future wherein a Glass recording would be as influential in litigation and the pursuit of justice.¹¹⁹ In the meanwhile, let

¹¹⁶ See Eric Kuhn, *What If Trayvon Martin Was Wearing Google Glasses?*, MEDIUM, <https://medium.com/i-m-h-o/10d425badda8> (last visited Mar. 18, 2014).

¹¹⁷ See Andrew Leonard, *It Is Not Crazy to Wonder If Google Glass Would Have Saved Trayvon Martin*, SALON (July 15, 2013, 12:03 PM), http://www.salon.com/2013/07/15/it_is_not_crazy_to_wonder_if_google_glass_would_have_saved_trayvon_martin/ (“The idea that Google Glass, right now, with its high retail price, might offer any protection for the Trayvon Martins of the world is absurd. . . . [T]here’s no magic bullet against racism, injustice, and cold-blooded murder coming from Silicon Valley. But the cost of Google Glass-capable technology will fall. . . . It will be easier and easier and cheaper and cheaper to hit the record button when threatened or when seeing someone else threatened.”).

¹¹⁸ Andrew Coutts, *Google Glass Could Have Saved Trayvon Martin (and George Zimmerman)*, DIGITAL TRENDS (July 16, 2013), <http://www.digitaltrends.com/opinion/google-glass-could-have-saved-trayvon-martin-and-george-zimmerman/>.

¹¹⁹ See Leonard, *supra* note 117 (“[W]e’re already living in a society where we are being watched and recorded and surveilled by others all the time. We might as well be watching them back. And we clearly think there is value in doing so, or we wouldn’t be so quick to click record on our phones. Whatever we use in the future might not be called Google Glass, but there’s little doubt cheaper, easier-to-use, ubiquitously-available

us embrace this new technology, learn its features, capabilities, and limitations, thoughtfully consider privacy implications, and work with attorneys, judges, and technologists, to make its transition into the courtroom a smooth one.

video recording technology will continue to spread. It's not insane to think that someone's life might be saved by it.").