

 **Visualize Your Work**

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Glassnotes Business Plan

Investment Proposal & Social Impact

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# Executive Summary

Since dedicated Personal Information Management (PIM) devices and digital cameras converged with mobile phones to create the smartphone market in the late ‘90s, the applications most frequently demanded by users have been for note-taking and recording daily events. The recent explosion of the wearable computing and Point-of-View (POV) camera markets, now drives demand for both new user experiences and new applications for these technologies. Hands-free personal POV cameras and “smart eyeware” enable users to record video and photographs. Smartphone and tablet devices enable users to record audio and text, and share this data across multiple platforms via internet and Cloud services. A space now exists to converge these new wearable and handheld devices into more captivating and powerful applications.

By integrating Google Glass with handheld smartphones and tablets and the Google Drive cloud storage platform, Glassnotes LLC delivers a better mousetrap. Glassnotes enables Google Glass users to create a visual notebook, combining POV video with the ability to insert photographs, audio and text into the video log. These notebooks can form a permanent record of an activity, can be replayed upon demand, and shared freely with others. Using the network access capabilities of a tethered handheld, the Glassnotes user can request and display information in their field of view – without using their hands or interfering with their vision. – to create an augmented reality. Additionally, real time POV video captured by the Google Glass can be shared in real time over a network connection.

The Glassnotes notebooks can be used to:

* Train new workers in the tasks performed and recorded;
* Verify proper task completion as documents of record;
* Provide BI back to managers and consumers of the tasks performed in the recordings; and,
* Communicate with other workers in real-time via remote viewing of the user's POV.

Glassnotes addresses all four of these business problems. Consider the following scenarios:

* a surgeon recording an operation for training new doctors, providing real-time POV to specialists in remote locations (i.e., remote viewing);
* a forensic engineer inspecting construction of a nuclear power plant verifying pipe welds, while identifying sources of leaks and corrosion, visually records the inspection process and augments the recording with dictated notes;
* a factory worker assembling a complex and expensive component provided with a checklist and real-time, step-by-step assembly instructions, while quality assurance inspectors observe the operation and provide real-time feedback through the worker's POV.

Glassnotes LLC presents its flagship product, Glassnotes, to the investment community. The business plan for Glassnotes projects ROI in its first year of operation with a forecasted 10% penetration of the Google Glass smart-eyeware market after one year. These estimates are based on demand for note-taking and augmented reality applications in the two major app stores (Apple iTunes and Google Play), as well as analysts forecasts for wearable sales and Google Glass sales figures.

To achieve ROI following the Minimum Viable Product (MVP) release, Glassnotes will be marketed in three tiers:

1. **Basic** available through the online app stores for $1.99 per installed device, this tier includes all Glassnotes functionality except those specified in the second and third tiers.
2. **Upgrade** available through inline app purchase and through the online app store for $9.99 per installed device, will provide import of CAD/CAM files for use in location-sensitive search and visual prompts.
3. **Custom** available through customer support, the third tier provides import of domain-specific information sources customized to each customer (e.g., for a manufacturer, component assembly instructions, checklists, visual prompts and cues). These services will be priced on an hourly rate to be negotiated with each customer.

These prices are comparable to basic and premium services offered by the major note-taking apps today (e.g., Evernote and Microsoft OneNote). Based on conservative Google Glass sales forecasts of over 1MM units sold per year, and a 10% market penetration for Glassnotes, sales of Tier 1 (Basic) products should return nearly $200,000 the first year following commercial release.

Currently based in Arlington, VA, Glassnotes LLC is a wholly-owned subsidiary of Groupendium LLC, owned and managed by Doug Marder, President/CEO (sole proprietor). Mr. Marder has more than 30 years of application development and management consulting experience. Glassnotes LLC is his third successful start-up.

Our mission is to help users to visualize their work, capturing the user experience so that all may share and all may benefit. Our products and services are intended to improve performance, enhance the educational experience, and enrich product and process quality.

# Description of Business

Glassnotes LLC is a software development company for the smart-glass, wearables, and virtual reality industries. We deliver unique and innovative solutions using state-of-the-art tools and Lean | Agile methods.

## Objectives

Glassnotes will deliver ROI in its first year of operation with a target of 10% penetration of the smart-glass market. Year-over-year growth will track with the expected exponential growth of the wearables market.

The initial product release will deliver all core features and enable in-app purchase of upgraded capabilities. Future releases will deliver consulting services for domain-specific data sources, bringing additional revenue streams.

## Mission Statement

Visualize your work! Glassnotes is dedicated to capturing the user experience so that all may share and all may benefit. Our products and services are intended to improve performance, enhance the educational experience, and enrich product and process quality.

## Keys to Success

Glassnotes LLC believes it can achieve its mission and objectives by being:

* **First-to-market** – bring a new paradigm to the note-taking app space.
* **Market disrupter** – do what no one else can, providing an innovative product delivering an integrated set of training, task validation, business intelligence, and communication capabilities.
* **In-demand** – leverage the exponential growth of the smart-glass and wearables market, and the ongoing demand for note-taking applications.
* **Cross-Platform** **Delivery**–release implementations for the major wearables platforms, including Android, iOS and Windows

## Company Ownership/Legal Entity

Glassnotes LLC is a wholly-owned subsidiary of Groupendium LLC (sole proprietorship) registered in the Commonwealth of Virginia (Business License Number SCC-38655-1). The company is 100% owned and managed by Douglas B. Marder, Chief Executive Officer and President.

## Location

Glassnotes LLC is currently based within the Groupendium LLC headquarters in Arlington, VA. As a sole proprietorship and software development business, Glassnotes has no need of a permanent facility until Minimum Viable Product (MVP) is ready for investor review. At that time, Glassnotes LLC will seek workspace to house a small staff (6-12) for continued development, testing, multiple platform deployment and operations support. Selection of this future location will be based on financial support, tax incentives, and software engineering resources available in the area. Locations under consideration include Arlington, VA; Bethesda, MD; Washington, DC; Salt Lake City, UT; Sedona, AZ; and San Diego, CA.

Glassnotes LLC will minimize facility overhead expenses by hiring telework staff until a commercially-viable product is in the final stages prior to release. A 500 to 600 square foot space should be sufficient until that time.

## Hours of Operation

Hours of operation until commercial release of the Tier 3 product (see below) will be 9:00am-6:00pm local time. Following commercial release of the Tier 3 product, Glassnotes will extend operations from 8:00am ET to 6:00pm PT (9:00pm ET). As localizations of Glassnotes are delivered, hours of operation will be further extended to provide coverage for these locations.

## Products and Services

According to Steve Willinger, business development manager at Google, like the heads-up displays (HUD) used by fighter pilots, wearable computing technologies enable “hands-free computing for hands-on work.” By introducing task-related information into the workspace, without interfering with or distracting from the work being performed, these technologies increase the capability and effectiveness of workers. In his keynote address at the October 2014 Google Glass Development Conference, Willinger highlighted four business problems Google Glass can solve: training, task completion verification, business intelligence (BI), and communication.

Glassnotes addresses all four of these business problems. Consider the following scenarios:

* a surgeon recording an operation for training new doctors, providing real-time POV to specialists in remote locations (i.e., remote viewing);
* a forensic engineer inspecting construction of a nuclear power plant verifying pipe welds, while identifying sources of leaks and corrosion, visually records the inspection process and augments the recording with dictated notes;
* a factory worker assembling a complex and expensive component provided with a checklist and real-time, step-by-step assembly instructions, while quality assurance inspectors observe the operation and provide real-time feedback through the worker's POV.

Glassnotes enables Google Glass users to create a visual notebook, combining POV video with the ability to insert photographs, audio and text into the video log. These notebooks can form a permanent record of an activity, can be replayed upon demand, and shared freely with others. Using the network access capabilities of a tethered handheld, the Glassnotes user can request and display information in their field of view – without using their hands or interfering with their vision. – to create an augmented reality. Additionally, real time POV video captured by the Google Glass can be shared in real time over a network connection.

The Glassnotes notebooks can be used to:

* Train new workers in the tasks performed and recorded;
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* Provide BI back to managers and consumers of the tasks performed in the recordings; and,
* Communicate with other workers in real-time via remote viewing of the user's POV.

Glassnotes enables the user to create a visual, audio, and text-enhanced notebook to record what the user sees and does while performing a task. Through voice commands, and occasional taps and swipes to the side of the Glass device, a Glassnotes user may record POV video, take a photograph, and record a voice note to record some specific detail. Glassnotes manages and sequences the A/V files and merges them into a single notebook for playback and editing.

Glassnotes exploits native Glass video, photograph, and audio recording features, along with location, elevation, direction (compass) sensors, links the Glass to another Android OS-based device for short-term storage and playback, and utilizes the user's Google Drive account for long-term file storage. A web browser-based application provides access to the user's saved notebooks for playback and basic editing functions. Additionally, a server based component acts as an intermediary between the Android and web apps to provide file management, merging and time sequencing of the separate video, photo and audio files into a single Glassnotes notebook, and, if the user desires, voice-to-text conversion of all recorded audio.

Additional functionality that will be delivered with the completed Glassnotes project include:

* Providing location-sensitive information to the user based on objects in the user's POV (on-demand or automatically); and
* Intake and processing of CAD/CAM schematics to provide detailed location-specific information to the user. For instance, a building inspector may find it useful to receive information about a particular structural component as specified in the building design.

## Suppliers & Manufacturing

In order to produce and deliver the products and services described above, Glassnotes LLC depends on agreements with several suppliers and manufacturers. Glassnotes LLC neither has nor requires supplier agreements for products currently in development, with the exception of Amazon AWS for scalable server resources. All other application components, Google Glass, Android phones and tablets, laptop computers, and development tools (software) are acquired as needed for each Glassnotes team member at lowest available cost. Small monthly expenditures for business licensing, domain registration, office communications, advertising, and artwork will be incurred and will grow minimally once a commercial product is released (to accommodate new staff). Network and telecommunications service is provided through a small business contract with Comcast.

For manufacturing and delivery, Glassnotes LLC will release its products through the Google Play, Apple App Store and other platform-specific online app stores. Small registration fees may be required for each store. Additional manufacturing costs include scalable server resources from Amazon AWS or Microsoft Azure or other platform-as-a-service (PaaS) provider.

Following release of the Tier 1 and Tier 2 products, a small team (6-12) software development, test, and operational support staff will be hired to complete and support the Tier 3 products and services. Computing hardware, software, Google Glass and handheld devices, and networking resources will be acquired or licensed at that time. No other manufacturing costs are expected.

## Management

The remainder of this section of the Business Plan describe the Glassnotes LLC management approach, including corporate governance, project, risk and financial management. While most new software startups are led by recent college graduates with little to no business experience, Glassnotes is being developed by an IT project management and strategy consultant with more than 30 years of experience, including startups, small businesses, Fortune 100, and US and foreign governments. Doug Marder successfully led large-scale development projects on three continents, and dozens of small team projects using Lean | Agile methods. Mr. Marder is a Scrum Alliance Certified Scrum Master (CSM), Scaled Agile Framework (SAFe) Agilist (SA), and Capability Maturity Model Integration (CMMI) Associate. He was previously certified as a Project Management Institute Program Management Professional (PMP) and Lean Six Sigma Green Belt (IT Management). As a business analyst, Mr. Marder’s work recent work for the U.S. Postal Service has been cited in *The Washington Post* and *Wall Street Journal*. Mr. Marder’s design of the USPS Mobile Point of Sale (mPOS) application for iOS went from requirements to release in 6 months, increasing revenue and reducing wait times at every Post Office the system has been deployed. Mr. Marder spent 14 years as a technical manager, enterprise architect and IT strategist for Booz Allen Hamilton, and, most recently, 2.5 years as a business analyst for Agilex Technologies, one of the fastest growing small companies in Virginia. Prior to his work at Booz Allen, Mr. Marder spent 14 years as a software developer, analyst and team lead at Battelle, the Washington Consulting Group, and Andersen Consulting (now Accenture).

All Glassnotes LLC development projects employ Lean | Agile, SAFe, and CMMI Level 3 methods and best-practices, including: small, self-organizing project teams; incremental and iterative development; Agile user stories; daily scrums; Lean Kanban and Kaizen techniques; test- and behavior-driven development; and peer programming. Development tools include the latest versions of Android Studio and Microsoft Visual Studio.

## Risk Management

At this stage of product development, several key risks have been identified:

| Risk Description | Severity | Probability | Mitigation Strategy |
| --- | --- | --- | --- |
| Not First-to-Market | High | Medium | Deadline to MVP is May 2015. Prototypes will be developed incrementally and delivered monthly in 2015. With the recent release of Google Glass to universities, there is a high-probability of other developers working on a similar solution. Marketing strategies and press releases must be in-place before the end of the academic year to ensure first-to-market announcements. Ideally, prototypes will be presented to industry insiders in order to create pre-release market attention in mass media. |
| Inability to deliver CAD/CAM import and processing (Tier 3) services | Medium | Medium | Research into CAD/CAM file import and processing will begin in December 2014. Due to the complexity of interpreting a CAD/CAM blueprint of a structure against a user’s actual physical location, it is possible that implementation of Tier 3 product services may be deferred to a future release. |
| No video playback and editing libraries or widgets available | Medium | Low | In order to edit recorded notebooks, Glassnotes requires A/V editing tools. Libraries and widgets for these applications exist on all platforms, but may not be freely distributed. Licensing costs may make integration of the editing features cost- and time-prohibitive. Research into the availability of these libraries began in November 2014 and should be completed in December. Should freely distributed libraries not be available for Android (the MVP target platform), Glassnotes will attempt to integrate with free or low-cost third-party applications for A/V editing. |
| Inability to deliver localized versions for foreign language markets | Low | Low | Current development plans do not include releases for foreign languages. However, should investors see an opportunity in foreign markets, development of Glassnotes using Android Studio will expedite localized releases due to the use of resource files for each supported language (and device UI). |

## Financial Management

Glassnotes LLC relies on Intuit Quicken for Home and Small Business for all bookkeeping and Intuit TurboTax for local, state, and Federal tax payments. All licenses and taxes have been paid in full up to and including fiscal year 2013. Payment for FY 2014 will be made by April 15, 2015. Financial and tax statements are audited by Intuit.

## Start-Up/Acquisition Summary

Development costs up to and including release of the MVP will be borne by Glassnotes LLC as out-of-pocket expenses. Commercial release of Tier 1 and Tier 2 products is expected to provide sufficient revenue to begin hiring staff for Tier 3 development and operations support in late 2015. Additional investment is required to hire and equip development and test engineers to successfully deliver Tier 3.

# Marketing

## Market Analysis

On June 4, 2014, Al Sacco wrote for *CIO Magazine* that “nobody outside of Mountain View [Google Inc. headquarters] really knows how many Glass units Google sold since its release in the summer of 2012” (<http://www.cio.com/article/2369965/consumer-technology/how-many-people-actually-own-google-glass-.html>). He points out that:

On the final day of 2013, [*Business Intelligence*](https://intelligence.businessinsider.com/), the research arm of BusinessInsider.com, [suggested that at the start of Q2 2014](http://www.businessinsider.com/google-glass-sales-projections-2013-11#ixzz33gSxesBX), Google would have sold 894,189 Glass units. That number seems very (very) aggressive to me, and I wish I knew where the organization got its numbers. The same group also predicts that Glass sales will "climb sharply in the years after its official launch, to 21 million units in annual sales by year-end 2018." Make of that what you will.

The *CIO Magazine* article reproduced the following Google Glass sales estimates projected by *Business Intelligence:*


Using even the most conservative of estimates, Google Glass sales are in excess of one million units per year. Note-taking applications are among the most frequently downloaded from the major app stores. CNet analysts estimate owners install approximately two note-taking and personal information management applications per device. Therefore, should Glassnotes achieve first-to-market release, even a highly conservative estimate of 10% market penetration corresponds to 100,000 new users year over year. Assuming first year sales are limited to the Base Tier version, this corresponds to $200,000 in revenue. Future sales growth is expected to follow the exponential growth in wearable sales (as forecast in the *Business Intelligence* and *CIO Magazine* reports). Year-over-year revenue growth will also be enhanced by sales of Tier 2 (Upgrade) and Tier 3 (Custom) products and services.

## Competition

As of November 23, 2014, there are currently 41 Google approved and recommended Glassware apps in the Google Play store (<https://glass.google.com/u/0/glassware> ). None of these apps deliver the services of Glassnotes. With MVP to be delivered by May 2015, Glassnotes should be first-to-market in its category.

The demand for note-taking applications remains very strong, especially for those that deliver multiple input stream (e.g., voice, photograph, and pen) and cross-platform (e.g., Windows, Android and iOS) capabilities such as Evernote. According to recent reviews, Microsoft OneNote is considered best-of-breed on Windows platforms and is growing in popularity on Android and iOS. Evernote and OneNote are included on virtually every “must have” set of basic applications for smartphones and tables. However, neither Evernote nor OneNote, nor any other note-taking application currently available on any platform, delivers the full, integrated set of capabilities as Glassnotes.

Like Evernote with its premium Jot digital ink (pen) input device and Moleskin notebooks, Glassnotes will be a market disrupter in the note-taking app space. No other app currently available provides these Glassnotes features:

* Integrated, hands-free video, audio (with voice-to-text conversion), and photo recording;
* location-aware information prompting; and,
* remote-viewing capabilities.

Glassnotes is unique in the note-taking app space due to its implementation on Google Glass. While the native A/V recording features of Glass are core components, Glassnotes provides additional value by integrating these features into a single output and adds location- and domain-specific information display.

Glassnotes LLC will monitor the wearables market place and move aggressively to support new smart-glass/goggle devices as they ready for production. By releasing for both Android KitKat (4.4) and above and Apple iOS 8.1.1 and later, Glassnotes will support over 80% of the smartphone and tablet market. As most smart-watches entering the market are Android-based, porting the Android device component of Glassnotes should be trivial (but will wait until smart-watches offer direct internet connectivity; i.e., do not rely on a Bluetooth connection to a smartphone or tablet for network access).

## Pricing

The competition among note-taking apps is very strong, especially between the two market leaders Evernote and OneNote which command roughly 75% of the note-taking app market. Both of these apps offer multiple input stream (voice, type, and photo) support and are available on all three major platforms: Android, iOS and Windows. Evernote is offered on all platforms either for free, or with a premium subscription service of $5.00 per month per user. The premium service offers increased storage space and an Adobe PDF annotation tool. An Evernote for Teams offering collaboration services is also available for corporate use at $10 per user per month. OneNote is available for free download, is included in all Microsoft Windows 7 and higher installations, and comes with every Microsoft Office purchase since Office 2003. It became available on Mac OS and iOS in early 2014 and most recently on Android; however, full functionality is only available on Windows devices. OneNote is linked to the Microsoft OneDrive storage service, so storage is initially limited to 15GB. Additional storage is available beginning at $1.99 per month for 100GB.

Glassnotes will be offered in three tiers:

1. **Basic** available through the online app stores for $1.99 per installed device, this tier includes all Glassnotes functionality except those specified in the second and third tiers.
2. **Upgrade** available through inline app purchase and through the online app store for $9.99 per installed device, will provide import of CAD/CAM files for use in location-sensitive search and visual prompts.
3. **Custom** available through customer support, the third tier provides import of domain-specific information sources customized to each customer (e.g., for a manufacturer, component assembly instructions, checklists, visual prompts and cues). These services will be priced on an hourly rate to be negotiated with each customer.

This pricing structure is based on comparisons with key competitors in the note-taking app market, including those with premium service offerings (e.g., Evernote, Microsoft, Papyrus, SimpleNote). Pricing is affected by the elite niche created by Google with their limited distribution of the Glass device.

Based on the expected growth of the wearables market (as evidenced in the *Business Intelligence* report cited above), conservative estimates for cash flow are 6,000-8,000 new Tier 1 and 1,000-2,000 new Tier 2 device installations per month within one year of commercial release, generating between $22,000 and $36,000 per month. Distribution through the Google Play and Apple App stores will reduce this by 30%.

### Advertising and Promotion

While first-to-market remains the primary goal of the Glassnotes team, Glassnotes LLC will take advantage of the business contacts of its founder (32 years of IT consulting experience) to reach out to popular technology bloggers. Announcements on the Google Play and Apple App Store, along with mentions among technology bloggers should be sufficient to create initial market penetration. Glassnotes LLC will aggressively pursue inclusion on Google Glassware’s list of recommended apps, and will work through its media contacts to achieve mentions in key popular technology blogs such as *Ars Technica*, *The Verge,* and *Mashable*, and in mass market publications such as *WIRED* magazine. Glassnotes LLC will also actively pursue social media outlets on Facebook, Instagram, LinkedIn, and others.

Expenditure for advertising costs will be minimized by using small business consultants for artwork and media development. Electronic communication outlets and media will be exploited in lieu of traditional media; e.g.., radio, television, newspaper, magazine and other traditional print advertising. This strategy will be reexamined as Tier 3 products and services reach commercial release.

# Social Impact

In addition to the financial benefits (and risks) incurred by the investor, Glassnotes also provides an attractive set of non-monetary benefits to both the investor and the user community. The social impact of Glassnotes products and services is discussed below.

### Benefits

If a picture is worth a thousand words, and Glassnotes can deliver more than 32 pictures per second; then, the thousands of pictures in a Glassnotes notebook can tell a very powerful story. As a teaching and training tool, Glassnotes can deliver unsurpassed benefits to the classroom. In less wealthy countries and school districts where specialized instruction is too expensive, students can be immersed in Glassnotes’ “you are there” experience. Students can repeat the learning experience as many times as desired through Glassnotes notebook playback (which does not require purchase of the expensive Google Glass device) via any web browser.

Surgeons working in remote locations and emergency medical first responders will benefit enormously from Glassnotes. In addition to the training capabilities of Glassnotes, the app’s ability to provide remote viewing enables more experienced professionals to deliver real-time guidance and expertise to workers in the field. Emergency medical technicians and battlefield medics are required to triage patients quickly and often in dangerous settings. Sometimes they are faced with patients or victims presenting highly complex symptoms or massive traumas beyond their medical training. With the remote-viewing capabilities of Glassnotes, medical professionals with the necessary training can look through the eyes of the EMT and direct the treatment of these patients in the most critical minutes of their care.

In less developed countries where advanced medical care is rarely available outside of major population centers, Glassnotes can be used for both assisting doctors and surgeons in the field, and for training medical staff in remote locations. As with the EMT scenario described above, the remote-viewing and augmented reality features of Glassnotes can be utilized by doctors and surgeons at the advanced treatment centers to guide medical staff in remote areas (presuming an internet connection can be maintained, possibly by satellite) through treatment of complex cases. Similarly, Glassnotes could be used by local emergency aid workers in quarantine areas (e.g., Sierra Leone and Liberia districts with massive Ebola-infected populations) and war zones (e.g., Syria and Iraq) to treat patients using human resources already in the area assisted by more highly-trained professionals online.

In man-made disaster areas, such as Fukushima and Chernobyl, and in natural disasters such as hurricanes and tsunamis, emergency workers can be assisted by specialists located anywhere in the world (with an internet connection). First responders in these areas are often untrained or ill-equipped to deal with the situations they encounter. Radiation, gas leaks, fires, debris, and complex medical emergencies may all be beyond the training of a first responder, but could be mitigated through Glassnotes with real-time specialized guidance. Likewise, soldiers encountering improvised explosive devices (IEDs) could be assisted remotely when bomb disposal technicians cannot reach the site.

Google Glass is already being used as a documentation and training tool. Glassnotes expands the capabilities of Google Glass through the visual notebook. Anyone with access to a web browser will have the capacity to replay a Glassnotes notebook on-demand. The user can speed-up, slow-down and repeat playback as often as needed to learn an activity or procedure. Workers and students equipped with Glassnotes could be required to playback A/V instructions while performing a task, both to ensure the user performs the process correctly, and to assist the user with the task itself.

Manufacturing in all industries, especially where complex and expensive components must be assembled under the most rigorous of quality controls, will see reduce production costs through use of Glassnotes. Workers will benefit from Glassnotes as a training and visual validation tool, while quality assurance will be enhanced through use of Glassnotes as a communication and oversight tool.

### Risks and Dangers

The same potential abuses of Google Glass devices apply to Glassnotes. Copyright infringement, industrial espionage, and child pornography can be facilitated through any video recording device. However, use of Glass is clearly visible in the workplace and international laws are in place against all of these potential abuses. Theft of the Google Glass and Android tablet or smartphone is the most likely risk to any organization fielding Glassnotes. In industrial settings, the devices could be tagged so that their locations could always be determined. For military and emergency first responders, as well as in academic settings, the potential for loss is higher, but could be mitigated by requiring some level of user responsibility for the safe return of the devices. No additional issues are created through the use of Glassnotes, and no additional regulations are expected (beyond those for Glass in general).