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SMART GLASSES – THE FUTURE OF AUGMENTED REALITY

The Reality

Virtual Reality (VR) and Augmented Reality (AR) have been buzzwords for quite some time. The idea that you can strap on a VR headset, however clumsy it may appear, and totally immerse yourself in a virtual world makes great headlines and appeals to tech fans and gamers everywhere.

Augmented Reality is quite a different proposition. While VR has tended to dominate the news, AR has been quietly breaking new ground in the enterprise sector.

Where VR lets users escape into a totally different reality, AR is proving highly effective in our own world, as it overlays digital imagery onto the reality we are experiencing. When used with wearable technology such as smart glasses, this blending of digital information with the physical world allows hands-free operation in such environments as healthcare, logistics, maintenance, and construction, where the ability to devote both hands to the specific task is critical. Operators can benefit from remote work assistance and projected instruction manuals, saving time, increasing productivity and enhancing safety.

Adoption of Augmented Reality

The market opportunity for Augmented Reality is clearly not just for gamers or consumers. It directly targets the enterprise market of technical and skilled workers, from engineers to architects to healthcare professionals.

The potential for the technology is perhaps best underlined by the fact that major tech industry players are committed to developing AR marketing. Apple, Microsoft, Google, and Facebook all are providing deep toolsets for developers to create apps for this approach. All have quietly adopted the implicit assumption that a persistent, wearable artificial reality is the next big thing.[1]

Indeed, as AR adoption gains momentum with an increasing number of industrial applications being launched, some businesses are expected to soon place smart glasses at the core of their IoT systems, as they look to enhance worker productivity and streamline their backend operations.[2]

According to Amy Kwa, Regional Manager, Visual Products, “Deploying AR will enable more efficient processes by enhancing the reality of the user, so they’ll be able for example to maintain an engine or a complex electrical board in an intuitive and easy way. They’ll be able to see inside the device and act on the information there and then.”

Epson launched their first Moverio smart glasses model in Southeast Asia in 2012 and have continued to expand their product range. Their latest models, the BT-350 and BT-2200, offer video and access to new AR experiences for a variety of commercial and industrial market applications respectively.

Augmented Reality through Smart Glasses

These include healthcare, where Moverio smart glasses are helping surgeons and clinicians concentrate fully on their patients by freeing them from manually handling data, allowing them to focus on their often complex tasks. Dentists, too, find their work is greatly aided by Moverio, using the smart glasses to provide a precise heads-up overlay of their patient's teeth. This enables better hand-eye coordination and a more

precise treatment time.

As smart glasses evolve to become a truly seamless experience that users interact with as a daily routine, one of the most important issues for developers of AR wearables to address is form factor. Future generations of glasses are expected to offer wifi, stereo 3D graphics and enhanced processing of images and audio.

The user's choice of smart glasses will depend on their purpose. Key considerations include their ability to deliver digital information crisply and legibly, but also on their weight and comfort.

For use in applications such as healthcare or at museums, galleries and tourist destinations where they can provide background data on whatever the visitor is viewing, the components must be packaged into a lightweight and compact format. Operational management is also a consideration for such environments, where a multiple-device management dock or admin software could be ideal.

But when operators are using the glasses in a heavy industrial job site that may also be hot and cramped, it is crucial that they are not a distraction. The glasses need to be in a headset format secured with a firm headband, or even adjustable to fit over a safety helmet, for workplaces where these are mandatory.

Smart glasses, of course, do not have prescription lenses, so it is important that they can fit comfortably over the wearer's normal glasses in every environment.

It is likely that adoption of AR technology will reach a tipping point this year. Developers will be launching innovative new apps to grow the commercial and consumer markets, and working to overcome issues with smart glasses such as predictive head motion tracking to reduce 'motion to photon' latency, as well as the constraints on power and thermal factors necessary to keep the glasses cool.

As smart glasses become more common, will we perhaps see them being worn by style leaders as sleek fashion accessories? Whether smart glasses appear on the catwalks of Paris and Milan or not, the potential for AR combined with wearables is huge. Following the personal computer, the Internet and the smartphone, AR and smart glasses are likely to be the world's next transformative technology.

[1] https://www.wired.com/story/future-of-augmented-reality-2018/

[2] http://www.eurekamagazine.co.uk/design-engineering-features/technology/augmented-reality-is-increasingly-finding-implementation-among-workforces/167020/#.WlTMxT9k1kY

About Epson

Epson is a global technology leader dedicated to connecting people, things and information with its original efficient, compact and precision technologies. With a lineup that ranges from inkjet printers and digital printing systems to 3LCD projectors, watches and industrial robots, the company is focused on driving innovations and exceeding customer expectations in inkjet, visual communications, wearables and robotics.

Led by the Japan-based Seiko Epson Corporation, the Epson Group comprises more than 76,000 employees in 87 companies around the world, and is proud of its contributions to the communities in which it operates and its ongoing efforts to reduce environmental impacts.

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About Epson Philippines

Epson's corporate presence in the Philippines commenced in 1998. It grew rapidly into a billion-peso company in a span of a few years from its establishment due to its client-oriented approach in its business management style by its dedicated and innovative staff members and officers. Epson Philippines has an extensive network of 77 Authorized Service Centers nationwide with more than 200 dealers and more than 800 shops across the Country. For more details, please visit our website: www.epson.com.ph or our Facebook page: http://www.facebook.com/EpsonPhilippines

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