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Press release

The Easy Way to Integrate Eye Tracking into XR glasses

Viewpointsystem to Showcase New Module Series, Digital Iris Inside, at AWE USA 2021

- **Digital Iris Inside, the all-in-one modules from Viewpointsystem, will offer professional eye tracking to other technology providers - for the first time in a standardized, ready-to-use format.**
- **The first product in this series, the eye sensor module ESM 22 (to be released in March 2022), is designed as a snap-in nose pad that can be integrated almost invisibly into existing XR glasses or other smart glasses.**
- **The module is pre-configured, calibrated and ready to use. Its design as a nose pad guarantees a comfortable fit of the glasses.**

Santa Clara, CA – Nov. 8, 2021. Eye tracking is considered to be one of the most effective and promising technologies to advance augmented, mixed and virtual reality. By letting the device know where the user is looking and where their attention is, eye tracking can make interaction with AR/MR devices more natural and intuitive, paving the way for mainstream AR and everyday consumer applications.

Integrating high-performance eye tracking into devices will become easy with Digital Iris Inside, a series of pre-configured, robust modules. The first product in this series, the eye sensor module ESM 22, comes in a 3D-printed housing that can be adapted to the mechanics of the glasses without much effort. For customized adaptations, Viewpointsystem offers integration support.

Another advantage is the design of the ESM 22 as a nosepad: Available in different sizes, the module perfectly adapts to the anatomical diversity of the users. A perfect fit is guaranteed, whereas the architecture of the existing glasses does not have to be changed.

“Integrating eye tracking technology is challenging, mainly due to the size of the components and the complexity of the technology,” explains Nils Berger, CEO and Founder of Viewpointsystem. “Using our modules, manufacturers and suppliers of AR, MR and VR glasses get access to the enormous potential of our professional, patented eye tracking technology and eye data in a very quick and easy way. There is no production effort for the manufacturer.”

The applications of eye tracking in XR and smart glasses are versatile. Eye data are, for example, essential for displaying information exactly where the wearer’s attention is, in the right place and at the right depth, without interrupting the immersive experience. Another future application is the operation of smart glasses using so-called eye gestures, replacing or complementing interface technologies such as touch and voice command. Providers gain access to the

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most intuitive human-machine interface and can take their XR experiences to a new level. Other applications, amongst others, are iris recognition, fatigue analysis, drug testing and the detection of eye diseases. In VR/gaming, eye tracking helps to optimize the processing power by massively reducing the image quality in the peripheral vision (foveated rendering).

The next generations of the Digital Iris Inside series will combine more and more functions in a smaller and smaller form factor. The modules will also be suitable for eye-tracking applications in devices other than smart glasses, such as microscopes, binoculars or riflescopes. The next upcoming products are:

Pupil Tracking Module (PTM, in development): The PTM will include a processor to perform pupil detection directly in the module to measure attention and reactions.

Gaze Tracking Module (GTM, in planning): This complete module will additionally have a front camera, so that with a single module the full functionality of gaze tracking will be possible, i.e., the spatial mapping of gaze on eye tracking basis.

Here are the key features and technical specifications of the ESM 22:

- Patented snap-in sensor for eye data and eye tracking.
- Preconfigured, calibrated and ready to use
- Integration support for fast system integration and custom solutions
- Independent of ambient light (IR LEDs), accurate in all light conditions
- 3D sensor acquisition for data display in three-dimensional space
- Fulfills eye safety standards
- Positioned almost invisibly on the inside of the glasses
- 2-cam architecture (IR eye cams)
- 240 fps / binocular
- Low-power image signal processor
- Micro controller and flash memory for camera calibration data and bidirectional communication
- Electrical interface (18 pin connector or USB type C) for power supply, communication with the module and control of image data and LEDs
- Minimal energy consumption (15 mW)

More information:
https://viewpointsystem.com/en/products/modules-patents/modules/

At AWE USA 2021, visitors will get an exclusive preview of the new modules. ESM 22 can be tested before the official release planned in March 2022.

Meet Viewpointsystem at AWE, Nov. 9 - 11, 2021: Sponsors area, booth #518

Nils Berger, CEO and Founder of Viewpointsystem, will headline the session "Digital Iris Inside: The easy way to unlock the potential of the eyes" on Nov. 9, 2021, from 4:35 - 5:00 pm. Location: Grand Ballroom H

https://www.awexr.com/usa-2021/agenda/2575-digital-iris-inside-the-easy-way-to-unlock-the-pot

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We are Viewpointsystem

Viewpointsystem combines pioneering technology development with scientific expertise in vision research. The Vienna-based deep-tech company develops and produces internationally awarded smart glasses based on eye tracking, and sensor technology for eye tracking and eye data. The smart glasses are used by B2B customers worldwide for remote support and maintenance, for training and documentation, as well as for research and analysis, among other things. As the inventor of Eye Hyper-Tracking and pioneer of Digital Iris technology, Viewpointsystem's goal is to deepen the interaction between people and the digital world and to make Mixed Reality more intuitive. **Viewpointsystem.com**

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