Keynote Speaker

Near-Eye Displays - a Look into the Christmas Ball

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ABSTRACT

We first have a look at the development of AR in the recent 15 years and its current state. Given recent advances in computing and micro system technologies, it is hardly conceivable why AR technology should not finally be entering into mass market applications, the only way to amortize the development of such a complex technology. Nevertheless, achieving a ‘critical mass’ of working detail solutions for a complete product will still be a paramount effort, especially concerning hardware. Addressing this central issue, the current status of hardware technologies is reviewed, including micro systems, micro mechanics and special optics, the requirements and components needed for a complete system, and possible solutions providing successful applications that could catalyze the evolution towards full fledged, imperceptible, private near eye display and sensorial interface systems, allowing for the everyday use of virtual objects and devices greatly exceeding the capabilities of any physical archetypes.

BIO

Rolf R. Hainich is an experienced researcher with a focus on AR and related fields. Currently he works as a technology consultant. His career covers academic and industrial R&D (real time computer networks and -processing, media technology, optics, sensors). He was chief consultant in public R&D funding programs, engaged in venture capital, supervised several high tech companies. Beginning in the early 90’s, he developed his ideas on augmented reality with emphasis on virtual devices, wrote papers and studies (e.g. “Integrative 3D Visualization”, 1994, already outlining the full spectrum of AR), helped to start projects in related fields. In 2006, he published “The End of Hardware - A Novel Approach to Augmented Reality”, a book centered about the ubiquitous application of near-eye displays, required technologies, possible solutions.