

FOVE eye-tracking VR headset looks to marketplace reality

May 20 2015, by Nancy Owano



An eye-tracking virtual reality headset is in the works. Hands-free, you can play and interact with your digital environment. FOVE knows exactly where the user is looking. Its built-in technology allows for

precise control and significantly reduces simulation sickness.

The gains in speed and accuracy reduce the nausea that is often associated with wearing VR headsets. The company behind FOVE has launched a crowd-funding campaign on Kickstarter. They want to raise \$250,000 to get closer to the ultimate stages of manufacturing and delivery.

The FOVE team states their mission as unlocking the essence of reality in virtual worlds and their edge is that, with the headset, all it takes is a glance for the [digital environment](#) to react —at the speed of thought. They tout the product's advanced eye-tracking [technology](#) complemented with a high-resolution screen.

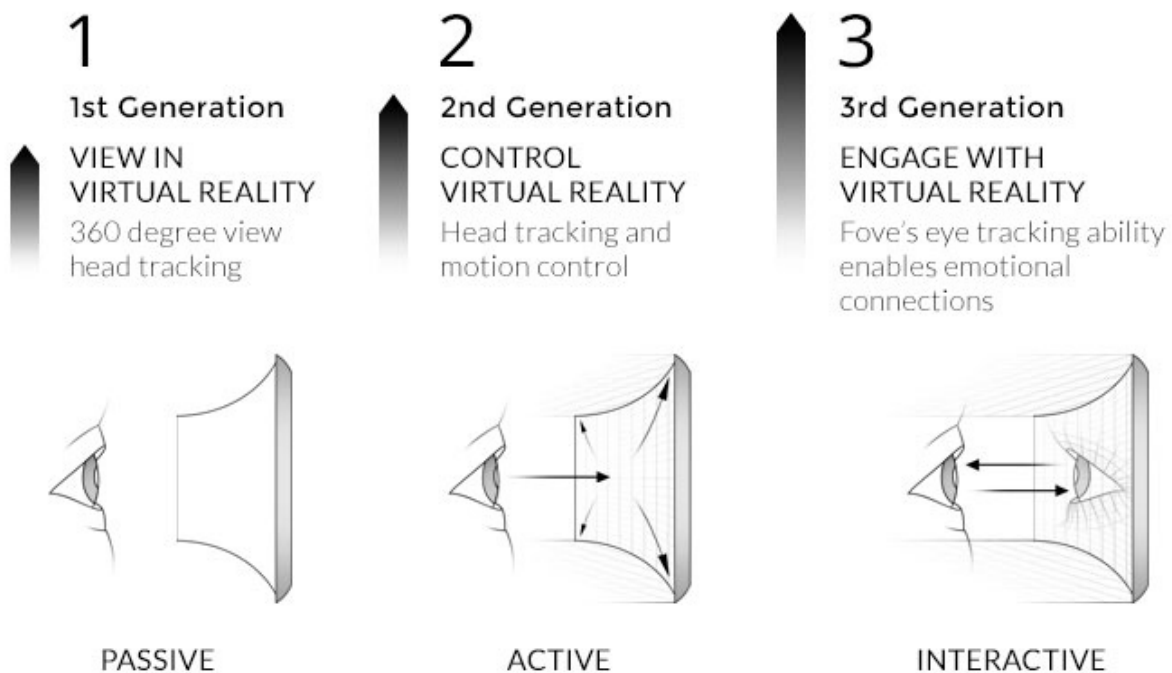
"As the user perceives the digital environment," said the promotional video, "FOVE's infrared cameras track their pupils and register the slightest movements."

The name FOVE resonates nicely with fovea, the eye's tiny area responsible for our sharpest vision. The device has a wide 100° field of view on a 5.6-inch display.

J.T. Quigley, writing in *Tech in Asia*, said, "Fove's [eye-tracking technology](#) recreates the depth of field that human eyes see naturally. For example, if a person holds his hand up to his [face](#) and focuses on his palm, everything behind the hand becomes blurry. This effect is achieved on Fove's 2560×1440 display thanks to a graphics engine that adjusts its focus based on where a user is gazing in real time." Quigley also said that the eye-tracking cameras are combined with an accelerometer for orientation sensing and head tracking.

The team has been staging demos of the prototype around the world. An

interesting application has emerged with FOVE as a useful piece of technology to support people with physical limitations, whether for typing, operating robots or playing music. A case in point is demonstrated with a student playing the piano with just his eyes. "Eye Play the Piano" is a collaborative project between FOVE and the University of Tsukuba's Special Needs Education School for the Physically Challenged. FOVE recognizes eye movement and blinks to trigger the selected chord, which is conveyed to the piano.



Philip Rosedale, founder, High Fidelity, said he thought FOVE was amazing. "We at High Fidelity are working on letting people interact as avatars." Interestingly, characters react when you make eye contact.

"Much more can be conveyed in a glance than ever possible before. See characters behave and react differently while they are being watched." said the Kickstarter page description. Commenting in *Tech in Asia*, Riley said that Fove's eye tracking would allow for deeper interaction with in-game characters.

"Fove opens a whole new word for content creation, especially when you can make [eye contact](#) with characters," Wilson said in *Tech in Asia*. "Now they will know if you're paying attention, and they'll also know where you're looking."

FOVE began from the University of Tokyo's academic collaboration facility in Tokyo, Japan. Yuka Kojima is the company's CEO and co-founder. As a game producer at Sony Computer Entertainment in Japan, she was team leader in creating games for Playstation 3, PSP, Playstation Vita, and the Move. Lochlainn Wilson, the company's CTO and co-founder, is an expert in [facial recognition technology](#).

At the time of this writing, the price for a FOVE VR headset and development kit with estimated delivery in May next year was \$375.

More information: Kickstarter: www.kickstarter.com/projects/f...king-virtual-reality

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