John Carmack's prototype head mounted display May 30, 2012, 10:02 AM AST

https://www.theverge.com/2012/5/30/3052191/doom-3-bfg-edition-announced-for-the-fall-we-try-it-with-john

- While the images themselves are relatively low-resolution, the immersion factor is pretty fantastic. That's due to the Rift's 90 degree field-of-view, something you won't find in most other HMD's (including Sony's recentlylaunched 3D head mounted display, which Carmack praised for its high quality and relatively low price
- The Rift also helps by being surprisingly thin and light, even in this prototype form. The framerate was also a smooth 60fps — something that Carmack focused on almost as much as the latency issue itself.
- The main knock against Rift at this stage is the aforementioned low resolution screen.
- So why bring *Doom 3* back now? Carmack said virtual reality has been pitched since the *Wolfenstein* 3D days, but now it's finally hitting a reasonable price point with technology capable of lowering latency to the point where it's a viable option. Carmack's big contribution has been the algorithms used to optimize the code for HMDs and lower latency, some specially designed for Rift, but he acknowledges it's the early days.

ZeniMax Sues Oculus and Its Founder Over Virtual-Reality Technology -- Court Filing

https://www.wsj.com/articles/SB10001424052702303749904579576293667865608 Updated May 21, 2014 5:32 pm ET

- ZeniMax Media Inc. said Oculus improperly used computer code and "technical know-how" belonging to ZeniMax to create its Rift headset, which puts users inside virtual worlds and can double as a computer monitor. ZeniMax, maker of the popular "Doom" and "Elder Scrolls" videogame series, is seeking compensation.
- ZeniMax's claims center on John Carmack, a ZeniMax programmer who began consulting with Mr. Luckey in early 2012, according to the court filing. Mr. Carmack, who isn't named in the lawsuit, made improvements to Mr. Luckey's prototype while working at ZeniMax, according to the court filing.

Facebook to Buy Virtual Reality Firm Oculus for \$2 Billion

https://www.wsj.com/articles/SB10001424052702303949704579461812019189626 Updated March 25, 2014 10:52 pm ET

- Facebook made its second blockbuster acquisition of the year, agreeing Tuesday to acquire Oculus VR Inc., a 20month-old maker of virtual-reality goggles, for \$2 billion in cash and stock.
- Oculus's headset, called Rift, today is a visual device for playing videogames. But Facebook Chief Executive Officer Mark Zuckerbergsaid on Tuesday that the social network has bigger plans for it
- Brian Blau, an analyst at Gartner Inc. who previously developed virtual-reality technology, predicted it will still take Oculus several years to create "really compelling" virtual-reality experiences.
- Oculus, of Irvine, Calif., was founded in 2012 by Palmer Luckey, now 21 years old, who was home schooled and got his start in tech repairing old Apple Inc. iPhones. He later worked as an engineer at the University of Southern California's Institute for Creative Technologies.
- Mr. Luckey raised more than \$2.4 million from a Kickstarter campaign to help fund development of the company's first product.
- Unlike WhatsApp, which has 450 million users, Oculus isn't yet available to consumers, and the company hasn't said when it will be available. It currently sells prototype units to developers for \$350.
- The deal puts Facebook, which until now has existed only in software code, into the hardware business.
- Chief Executive Brendan Iribe previously worked at Gaikai, a company that offered customers a technology called "cloud gaming," which streamed videogames over the Internet much in the same way Netflixstreams movies.
- Facebook said Oculus will operate independently, similar to how it has managed photo-sharing app Instagram and its plans for WhatsApp.
- While Facebook brings great resources, it also may worry some developers. Markus Persson, creator of the immensely popular videogame Minecraft, said that it was in talks to bring the game to Oculus before the

Facebook deal. "I just cancelled that deal. Facebook creeps me out," said Mr. Persson on his verified Twitter account.

- Oculus isn't alone attempting to build virtual-reality technology. <u>Sony</u>recently unveiled its "Project Morpheus," a competing headset built to work with its PlayStation 4 videogame console.
- Even if Oculus solves its technical challenges, Michael Pachter, a Wedbush Securities analyst, said, it will also need to recruit more game developers to get a broader user base.

How Oculus Goggles Became More Than a Virtual Reality

https://www.wsj.com/articles/SB10001424052702304688104579463860528654336

• Tells the history of how Oculus started.

Virtual Reality Is Taking Its Time Becoming a Consumer Reality

https://www.wsj.com/articles/virtual-reality-is-taking-its-time-becoming-a-consumer-reality-1420561894?page=1