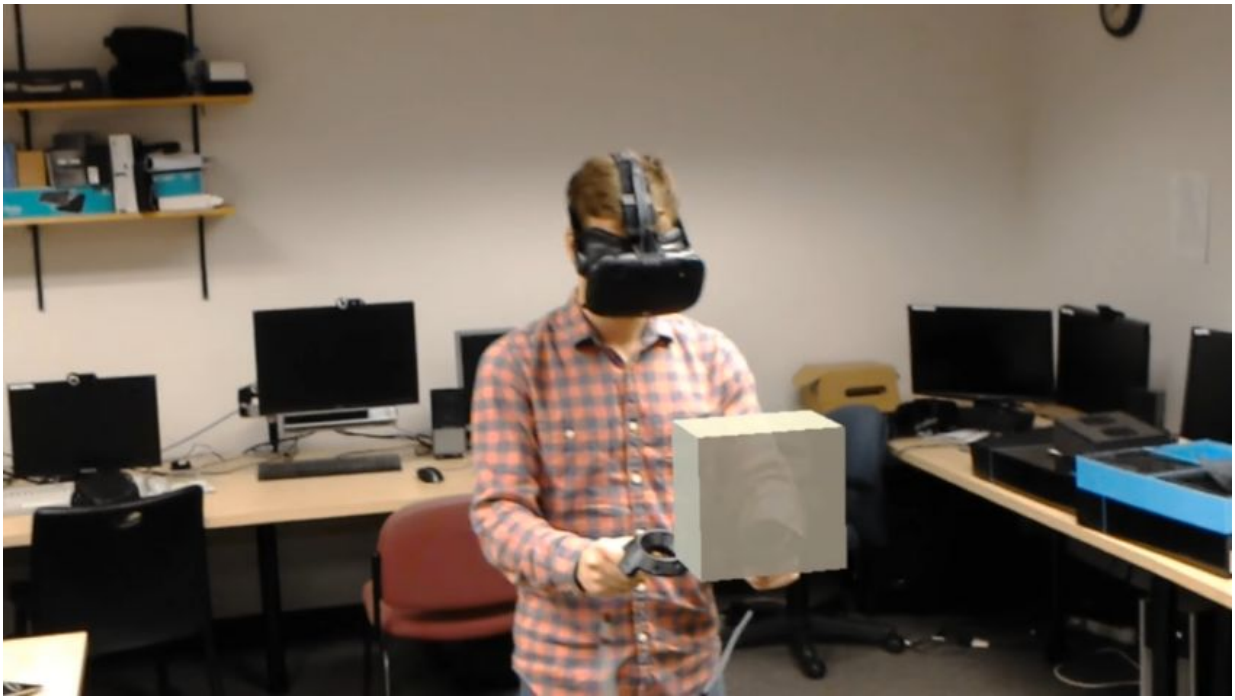
Two worlds are sharing in this proof of concept

February 5 2017, by Nancy Owano



(Tech Xplore)—Nice going: A video from Drew Gottlieb, a software developer studying at the Rochester Institute of Technology, is sparking off a lot of what-if imagination. The video is titled "Shared Reality: Vive + HoloLenses = Magic" That it is.

He said the video is about "A functional prototype showing how it feel

would if HoloLenses could participate in virtual reality sessions within the same space."

He blogged about his combination of mixed reality and virtual reality too.

"Virtual reality is a pretty magical experience when it comes to making art," he said. "However, if you have friends in the room watching you, the magic is lost on them. They can only see the experience by looking at a distorted preview of the player's perspective on a computer monitor."

Gottlieb thought maybe he could find an alternative. "Why do I have to get up off the couch to see what my friend is creating? Why can't I just lean back and see the art floating in the middle of the room?"

Until recently, such magic would have been impossible until Microsoft released development kits of their new mixed-reality HoloLens glasses, he wrote. "I'm fortunate to have access a couple units, and I really wanted to use mixed reality to share in a VR experience."

He proceeded to make a proof of concept to feel that out. It involves the HTC Vive, a VR system that includes two positionally-tracked controllers, he blogged. His app involves the VR player using a controller to draw cubes in the air.

Lesson to be learned: *MSPoweruser* item said "The Microsoft HoloLens is all about mixed reality while the HTC Vive is the leading virtual reality headset, but it does not mean they can't take part in a shared reality."

"The interesting part is that when the same app runs on a HoloLens, it automatically connects to the VR session using Unity's built-in networking and matchmaking service," said Gottlieb.

He said the challenge was not only getting the Vive and HoloLens to talk to each other, but to bring them to a shared understanding of space. And just how to pull that off?

Gottlieb explained.

"When the HoloLens app connects to the VR app, the game enters 'alignment mode'. The HoloLens speaks, prompting the wearer to pick up one of the Vive controllers and intersect it with a floating 'ghost' controller. Once the real and holographic controllers are aligned, the wearer pulls the trigger and the voice proudly announces, 'You are now aligned.'"

Gottlieb said he had no doubt this kind of mixed space will be a part of the future, "especially for creative industries. As virtual and mixed reality become stronger platforms for content creation, it's only inevitable that they'll be able to be interact on a whim."

Looking at his work, Andrew Dalton in *Engadget* said Gottlieb connected the Vive and the HoloLens over Unity's networking service. "Once the HoloLens was calibrated to track the Vive controller, the two worlds became synchronized."

For those who have Vive and a HoloLens, the project can be tried out. The source code is from GitHub.

Matthew Humphries, a *PCMag* editor and freelance video game designer, noted that this is just a proof of concept and therefore very simple.

Humphries added, though, that it shows potential for virtual and mixed reality to work together and create a collaborative environment. He wrote, "imagine this system scaled up to automatically detect an entire

room, supports multiple VR and HoloLens headsets, and gives them all tracked controllers to hold. There's a huge range of potential applications from entertainment right through to engineering and information sharing."

More information: drewgottlieb.net/2017/01/31/mi … reality-with-vr.html

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