Three-dimensional audio makes virtual reality so much better it's crazy

Dave Smith Apr 3, 2015, 1:06 PM

One week ago, I finally understood why Facebook spent $2 billion on a virtual reality company. It was all thanks to AltSpaceVR, which gave me an immersive demonstration of their virtual social spaces with an Oculus Rift headset and a pair of headphones.

Get immersed. Tim P. Whitby/Getty Images for Westfield

It was inspiring: I'm now a believer in social being the "killer app" for virtual reality, the aspect that's going to make people want to drop hundreds of dollars on goofy-looking headsets to put in their living rooms and wear on airplanes.

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But the most important and probably most overlooked facet of this experience was the 3D sound. I'd experienced this before, when I got to see "Guardians of the Galaxy" at a Dolby Atmos theatre last year.

Have you ever listened to an old song through a pair of headphones and noticed how the sound is the same in both ears? That's 2D, or "monaural" sound. You experience 3D, or "binaural" sound when you take those headphones off and notice that every sound in your environment has its own position and orientation: You hear birds chirping out the window to your right, a couple of co-workers talking quietly behind you, the hissing sound of the radiator to your back left, and so on.

Here's an idea of what it's like — just throw on a pair of headphones and start listening at the 0:40 mark.

The Interrogation Chamber - Amazing Binaural 3D Sound Play

This kind of positional sound is what makes virtual reality experiences so convincing and immersive, according to "Cymatic" Bruce Wooden, AltspaceVR's head of developer and community relations.

Wooden explained it all to me as he was rigging up the headset last Friday:

“It’s extremely important. It’s crucial to the experience actually,” he told me. “If I’m far away, just like in real life, my voice fades in AltSpace; and if I’m close, my voice is going to be louder.

"If you’re on my left or right I can tell who’s talking. If we’re 5 or 6 people in a circle, I can tell this person is talking because I can see they’re blinking and their sound’s coming from there.”

AltspaceVR

As I would later see in my demo — where I was standing in a giant mansion highlighted by an enormous television and a half-moon couch, as well as a balcony off to the side — the sound is what brought everything together.

“If you’re near to that screen, it’s loud, you hear everything,” Wooden said. “But if you’re at the balcony, you can’t hear that screen at all. So it’s just like a real party, where you’ll have two people at the screen, you’ll have French guys over there in a circle talking about whatever French guys talk about, there’s a few people on the balcony doing their thing, and it’s just like a house party. You’ll have these natural social interactions, which is exactly what we’re shooting for.”

said it best: ‘It’s not an addition — it’s a multiplier.’ It’s a force multiplier when you have 3D positional sound in VR. It’s just one of those things that’s just so important. You buy into what you’re seeing.”

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