Why Canon should kill its mixed reality glasses product

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Canon is debuting their Mixed Reality Glasses—just in case you suddenly have the desire to totally throw off your entire vestibular system and sense of reality. You know, like at a fun weekend party.

The goggles fall somewhere between Google Glass [1] and RED Classic ViewMaster 3D Viewer and Collector Reel [2] . If you're still not experiencing a vivid mental image, they look awful, heavy, and awkward—not to mention they make you look like a human platypus.

It's an interesting concept and might serve some sort of industrial purpose, but I'm not entirely sold on the idea.

Think of the children

The main hardware for this creation is the Head Mounted Display (HMD), which contains a CCD camera and display device. The camera records real-life footage at about 30 frames per second while the display device overlays CG images onto the video. The HMD then uses freeform prisms—similar to a magnifying glass—to make all objects appear the size they would be with the naked eye.

Right now, about 30 percent of the human field of vision is visible on the display -- any more than that and the already off-putting image becomes distorted.

The designers claim the "viewer isn't really aware of [3]" the combination of real and fake, but I beg to differ. Even watching the video of someone using the HMD is enough to make the viewer grab at her desk for something tangible to touch. We use objects to orient ourselves and develop our spatial reasoning. So what happens when those objects don't really exist?

Here's a kicker for you: If the images aren't correctly colored and adjusted with regards to brightness, it throws off the viewer's sense of reality. Currently, the

designers have to manually fix that problem because the technology to correct them automatically doesn't exist. So, if everything isn't calibrated just right, you're in trouble. In this case, trouble means tripping over things you can't see and falling down.

The designers also note a key aspect is getting the images to line up with reality. Imagine you're using the goggles to view a table (real) with a vase (fake) on it. Everything has to line up perfectly or the vase will appear to be floating over the table or sitting in it.

At the risk of sounding like Chicken Little—the sky could be falling—if this technology is something that eventually makes its way into the home, will it affect the development of motor skills in children and adults alike? This concern has been raised with the advent of tablets in homes. The way a toddle learns about spatial relationships is by experiencing them. It's how we learn that a glass must be placed on a table with the correct amount of force, not slammed into the delicate top. But what if the glass to table relationship didn't exist? How does a child learn that lesson? It's not great technology to park your kid in front of.

A place in design

The most sensible home for the mixed reality display—and indeed the technology was designed with this purpose in mind—is the design world. As noted in the video, this could be used to design cars in a different—if debatably efficient—way. With just two real car seats, designers could work on the look and feel of the dashboard of the car.

That being said, if designers are forced to wear this cumbersome, awkward headgear in order to do work, wouldn't it be easier to just give them a touch tablet where they could easily manipulate the design without the literal headache of mixed reality? If the purpose is to streamline the process of design—not junk it up with technology—it seems infinitely more efficient to not invest in this system. A rule of design: the fewer barriers between designer and design, the better the creative and industrial thought pattern.

I've been a little tough on this product, but the one aspect where it may be viable is designing architecture. The designers say it would be like being IN the building before it's built, which is an interesting option for people building houses or office buildings. But 3D design services on tablets and computers have come so far that it seems like this might be obsolete before it's useful.

I like the *idea* of Canon's new product. But the reality is that it's unsafe to cover both eyes with a bulky helmet and try to function on a normal level. Sometimes "welcome to the future" products are better left in the pages of a book.

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