Jinhong Xia

Prof. Ken Perlin

Computer Graphics

17 Oct. 2023

The Future of Computer Graphics/Virtual Reality

Assumption: “In 7-10 years everybody will be able to wear lightweight and inexpensive mixed reality glasses that connect with high bandwidth to computation in the Cloud. In Zoom meetings, participants will appear to be in the room with you. Machine learning algorithms will be able to immediately convert our speech and gesture into 3D animated objects and scenes that appear to be in our physical world, and will provide answers to our questions in any form we'd like”.

First of all, I’m a bit unsuitable for answering this question because I never tried VR/AR/MR before, and I seldom play video games. I’m fascinated by video games from time to time, especially when I see people playing them, and then I realize that I have to do my school work.. So much for my personal stuff, and partially related to what I want to say.

Today I watched some reviews on Meta Quest 3 on Youtube and I think this technology is so amazing that I want to purchase one. It gives you the ability to change a boring site to anything you want by adding some space rifts, animated enemies generated by computer graphics. Players will immerse into the virtual world easily and have a lot of fun. While in others’ point of view, things are really weird – why is that guy fighting, punching, or laughing at the air, or running in a strange posture? They don’t know what is rendered in the headset. Frankly speaking, if you don’t know the reason why the guy near you is so happy, you will feel very anxious. It will be much better if other people can see what is in your virtual reality. And if everyone in the same reality tears the reality into private worlds, we are not living together.

The problem raises a further question, should we share the virtual space we create? If not shared, how should we protect our virtual world from others, and also from big companies providing service? This is not just a line of data, a user name, and a password. This is a set of objects, assets we created. If shared, how can we share one virtual world to all the users in the same room? We need to consider everyone’s movements, view points, connections, etc. And if we want to maintain both these two systems, how should we design protocols, GUIs, to make it available for customers?

Nowadays, VR/XR/MR are incompleted technologies hatched in research centers, game stations, etc. When thinking about these concepts, we come up with an illustration that a person wears equipment alone in a single room, or a group of people with just few people immersed in their own world. When things are messed up, as the real world transforms from 3D space to 4D space by piling up more and more virtual worlds, how should we manage the whole system? Just like we discussed in a lecture about the iPhone's multiple functions. It is when many people use it that we realize how we can interact with it. We can hardly predict what is going to happen. There are already bad things, chaos on the Internet. We find it really hard to manage a system with so many people. What if virtual reality invades the real world? Can we control it?