The Blue Room: How Virtual Environments Can Enhance the User Journey for People with Autism

Mada Center

According to Autism Speaks, an internationally recognized advocacy and research organization based in the United States, "Autism, or autism spectrum disorder (ASD), refers to a broad range of conditions characterized by challenges with social skills, repetitive behaviors, speech and nonverbal communication."

Image Caption: These images from the Blue Room showcase virtual bus ride and supermarket scenarios to help people with Autism improve their real life user journeys. (Image credit: Third Eye NeuroTech and Newcastle University; https://www.eurekalert.org/multimedia/pub/192948.php*)*

In addition to affecting a child's learning and development, social and communication skills, many children living with Autism also have fears or phobias, which can be very distressing but are often overlooked. The latter poses a specific challenge for children with Autism who are about to embark on distressing user journeys; such as air travel or attending a sporting event at a large stadium, both of which can be very overwhelming to the senses.

This also applies to adults on the ASD spectrum.

Herein comes the potential of Virtual Reality (VR) to improve the ability of both children and adults with ASD to navigate real life situations that might seem distressful. Through the creation of these virtual environments, people with ASD can carefully navigate and explore settings in a controlled manner that is free of phobia inducing triggers.

An example of this has been developed by the University of Newcastle, in the United Kingdom, where specialists at the University partnered with a technology firm to create the "Blue Room", which offers people with Autism a personalized 360-degree environment involving the fear which may debilitate the person with autism in real life.

Within this virtual environment, which requires no goggles, the user can comfortably investigate various scenarios working with a therapist using iPad controls but remain in full control of the situation.

Upon entering the Blue Room, the user with Autism embarks on the virtual experience alongside a psychologist. They sit together in a small room, which is

composed of four walls that have a VR animation projected upon them. Once the projection begins, the subject is immersed into a 360-degree interactive setting, without the need for VR goggles, a task that most children with Autism do not feel comfortable with.

The psychologists subsequently guide the subjects with Autism using an iPad which controls the VR experience on the screen. In specific, the user with Autism is taken through distressful experiences while different coping experiences, such as breathing exercises, are deployed.

This entire experience is monitored by parents and others from the subject's wider social network to observe what kind of coping strategies are working, and which are not. The experience is then adjusted in terms of complexity and noise so that simulations become more realistic as the subject gains more confidence, until the simulation matches a real-life scenario.

Initial clinical studies from the Blue Room have been very positive with a wider study about to take place.

This pioneering initiative is set to be the norm in the future because it enables people with Autism to learn how to manage their fears in a real-life setting, knowing that imagining difficult scenarios can be quite difficult.