

POPULAR SCIENTIFIC ABSTRACT

[Patricia Bianca Lyk]

[Mixed Reality – Experiential learning using 360-degree video and gamification]

Virtual Reality (VR) has become more popular in recent years and has shown great potential in experiential learning. One of VR's most prominent strengths is the ability to make the user feel like they are actually in the virtual world. This state is called presence and is associated with better learning outcomes. Realistic characters and environments increase the chance of achieving presence, but with the current technology, modeling such 3D models can be difficult and time consuming. 360-degree video is video recorded in all directions simultaneously. These videos can subsequently, as with VR, be played in a VR headset, where the user is in control of the viewing direction and can achieve presence. However, traditional 360-degree video applications offer limited user interaction and no influence on the narrative, as everything is pre-recorded. This significantly limits the possibilities of experiential learning.

This project explores how the user's role in 360-degree video applications can be changed from passive to active and participation, thereby creating better conditions for experiential learning. This is done through the development of the application VR PartyLab, which is a simulated party, aimed at adolescents aged 15-17 years. In the application, users make choices on an ongoing basis, which affect the experience. This allows adolescents to experiment with alcohol in a safe environment. Alcohol prevention is relevant in Denmark, as Danish adolescents are among those in Europe who consume the most alcohol. It is known that alcohol increases the risk of traffic accidents, suicides, and a wide range of diseases. At the same time, early alcohol onset is associated with a greater risk of later developing alcohol and other substance abuse.

The application was developed using the living lab method, where users participated throughout the development process as co-creators together with researchers and other stakeholders. The development team involved 11 adolescents, two researchers from health promotion, an Australian researcher and developer who has previously developed a 360-degree application for alcohol prevention, two VR and game designers, one from SSP (a crime prevention collaboration between school, social administration and police) and two folk high school teachers with expertise in game development and film production, respectively.

The developed application ended up containing a high number of realistic video sequences, a high degree of branching, and gamification. This combination proved to give users enough influence for experimental learning to take place.