HOW MEDICAL DOCTORS AND DEVELOPERS COLLABORATE TO DEVELOP EDUCATIONAL XR APPLICATIONS

ONLINE SEMINAR || 20 APRIL 2023

Recording available **HERE**

Moderated by Mathy Vanbuel, Media & Learning Association

XR technology is a developing field and this session provides a sneak peek into what training and research could look like in various domains. It's an exciting and challenging field for developers, professionals, and researchers trying to find innovative approaches to learning and teaching about the human body. This session explored how medical professionals collaborate with developers to create educational XR applications. Additionally, we showcased examples of XR applications being developed in a Latvian university to support innovative research, such as a mixed-reality solution for whole-body rehabilitation.

Presenters

Stéphanie Vanneste, KU Leuven, Belgium (**PRESENTATION)**

The Smart Collaboration Tutor (SCoT) is a Multi User Virtual Reality solution that enables medical students to practice their Collaborative Problem Skills in emergency training. During this immersive and interactive learning experience, real-time feedback is provided and guides the medical students as they communicate and collaborate to diagnose. The SCoT also permits trainers to monitor the progress of their students and trigger learning processes with the use of the dashboard and coach view.

Summary of the presentation:
In order to provide additional simulation training on collaboration and communication skills, research groups of imec (itec and mict) have developed the Smart Collaboration Tutor, in collaboration with the Department of Medicine. In this multi user virtual reality application students enhance their soft skills to diagnose together more efficiently. In this immersive experience, the students get support of nudges and real time feedback, as for the coaches a dashboard to trigger learning processes and a coach view are provided. During the presentation I focus on how we developed the application in consultation with the Medicine Department, show the experiment and advantages in VR and finally I'll give a few first results.

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Two main lessons:

- XR as an addition to other simulation training (never a replacement)
- Nudging as an added value to an XR learning experience

Links:

- **"Smart collaboration tutor"** video on YouTube
- Connect with **Stéphanie Vanneste** on LinkedIn
- **Smart collaboration assistant for medical training** website
- "Enhancing Medical Proficiency: exploring the benefits of communication training in Virtual Reality" **article**

Linda Lancere, Vidzeme University of Applied Sciences, Latvia **(PRESENTATION)**

Linda presented 2 scientific projects with the ambition for practical implementation in the clinical environment. Both of them (**ARehab** & **Virtual-Gym**) focus on physical activity guidance in the virtual environment, the guidance is based on integrated sensors for real-time feedback during exercise.

Sven Graindor, KU Leuven, Belgium (**PRESENTATION**)

Collaboration among devs and medics can be a challenge when developing an XR application since both speak a different language. With a good preparation, the right people in your team and some best practices regarding communication and testing, you will end up with a great experience for all project members and last but not least, a terrific XR application that meets the needs of your audience.

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Links to applications:

- The **Viskilab** application is an immersive technology built using a 360° video recorded in the authentic laboratories. During academic year 2021-2022, about 400 students experienced the full ViSkiLab app using VR glasses.
- **Crimehouse VR** application looks a lot like a computer game, including a 3D environment, a VR headset and two hand controllers. Students find themselves in one of three possible scenarios: a double murder and robbery, a double crime of passion, and a suspicious death that could be a murder or a suicide.
- **Dental Prosthesis Simulator** is a 3D application developed by KU Leuven that won the MEDEA Audience Favourite Prize in 2021.