
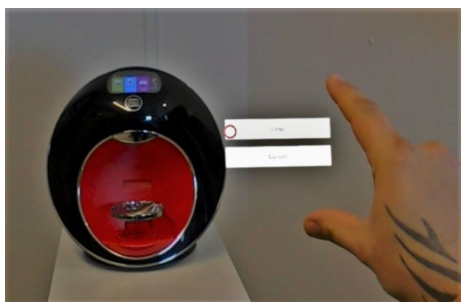


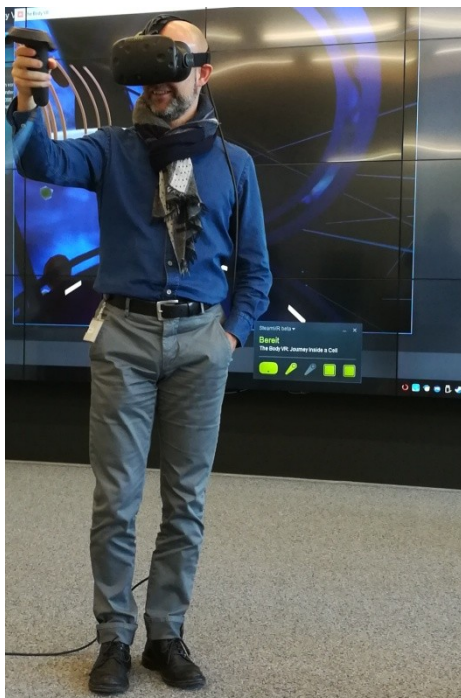
Interactive Virtual Corporate Visit through VR-Technology

An Evaluation of Augmented- and Virtual Reality (AR/VR) based Applications in the Contexts of Industrial Use at Helbling Technik AG and Conceptual Use at SIL (Service and Innovation Lab at HTW Chur).

	Student	Samuel Loepfe
	Supervisor	Prof. Martin Studer / HTW Chur
	Advisor	Christian Gärtner / Helbling Technik AG
	Master Research Unit	Software and Systems, HTW Chur



Holographic menu to trigger real coffee



User interacting with HTC VIVE @ SIL

The industry is more and more picking up the “Extended Reality” paradigms, like AR and VR. But every technology has its various advantages and flaws’, so choosing the appropriate one is difficult.

Helbling Technik AG, a leading Innovations- and Development partner with 500 employees, seeks an integration of an AR or VR application in their marketing procedure at the Analytica 2018, an important fair for medical technologies.

SIL (Service and Innovation Lab at HTW Chur) wants to evaluate how they can support their customer even further than with traditional methods. A VR application for example allows using the same physical space for countless different setups.

This coursework covers a short introduction of the basic idea of Mixed Reality, followed by the evaluation between AR and the VR. From both paradigms, two actual devices are presented, Microsoft’s Hololens and HTC’s VIVE.

For both contexts appropriate solutions have been found and two applications have been created using Unity, a game engine, and Vuforia, an image recognition package for Unity. An AR application, based on Microsoft Hololens for Helbling Technik AG and a VR application based on HTC VIVE, provided to SIL.

“Analytica App: Interactive Augmentation with Med-Tech Products” provides specially chosen CAD-Models, which have been animated and a physical coffee machine, which can be triggered by the Hololens.

“VR-Project SIL” provides three different setups, through which can be switched by an operator while a user wears the HTC Vive and gives feedback. This should mimic a typical use case.

TAGS: Helbling Technik AG, SIL, HTW Chur, Augmented Reality, Virtual Reality, HTC VIVE, Microsoft Hololens, Vuforia, Unity