

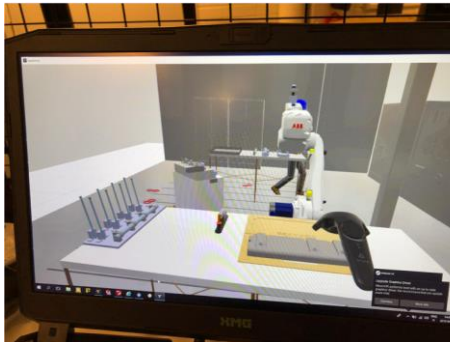
TOPIC FOR BACHELOR- OR MASTER THESIS

DEVELOPMENT OF A VIRTUAL REALITY INTERFACE FOR HUMAN-ROBOT INTERACTION

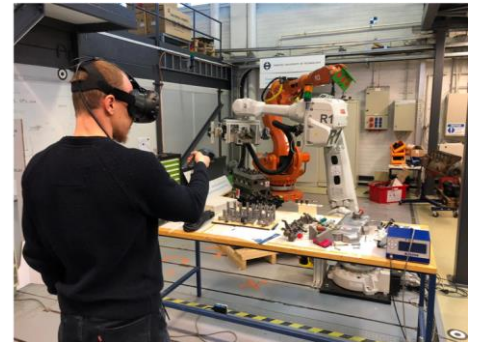
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<http://news.mit.edu/2017/mit-csail-new-system-teleoperating-robots-virtual-reality-1009>



<https://research.tuni.fi/productionsystems/theme-3-collaborative-robotics/>



Motivation

Cognitive assistance systems offer a variety of possible use cases especially in the context of learning environments in artificial reality (AR/VR) scenarios. In our project **it's OWL AWARE**, we are researching new application scenarios, development methods, and new forms of interaction to support the development of novel assistance systems.

In this subject area, we are especially interested in the topic of human-robot collaboration. With the means of virtual reality interfaces it is possible to control robots remotely, i.e., to teleoperate them. The teleoperation of robots with virtual reality brings lots of advantages regarding safety, supervision from distance etc.

The main goal of this thesis is to design and implement a virtual reality environment which supports remote control of the Dobot Magician system (<https://www.dobot.de>).

Task

- Systematic literature survey on VR interfaces for remote control
- Prototypical development of a VR application for remote control of Dobot Arms
- Usability evaluation of VR application in terms of efficiency, effectiveness, and user satisfaction