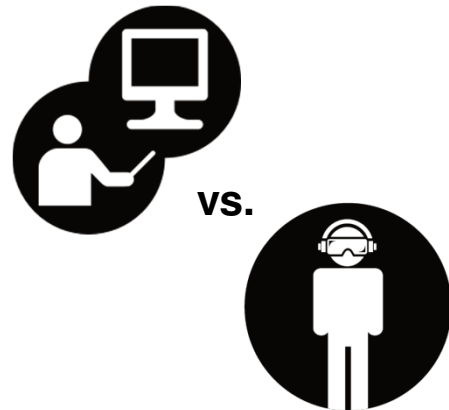

Learning Behaviour in Virtual Reality – Influence of Locomotion Metaphors

Keywords: Learning, VR Locomotion, VR Design

Overview

It was shown years ago that real walking is the best kind of locomotion for virtual reality (VR) applications to achieve a maximum immersive experience. Besides providing a nice engulfing feeling, researchers have also found a correlation between cognitive spatial mapping and the perceived presence of test subjects. Accordingly, the more the test subjects felt immersed in the virtual environment (VE), the better they performed in a test on spatial memorisation.

In this thesis, you will focus on this observation and test a similar hypothesis for learned interactions and memorisation of objects.



Tasks

Your task is to research on learning behaviour and VR locomotion. You design, implement and conduct a user study, in which you compare learning tasks or objects in a real environment, a VE using on one hand a simple locomotion metaphor like teleporting and a second VE which supports real walking. For a pilot study, you design a generic environment and tasks to test. In the main study, you adapt your pilot setup for a specific machine tool and implement a tutorial which explains the main functionalities of the machine tool.

You present your work in an intermediate and a final presentation to the ICVR lab. Finally, you summarise your results in a written report.

Workpackages

- Literature research on the state-of-the-art of learning behaviour and VR locomotion
- Design and Implementation of a pilot and a main study
- Realisation of the studies
- Intermediate and final presentation
- Written report

Skills

- Programming skills, preferably in C#/C++
- VR and Unity experience is a plus
- Strong communication and interpersonal skills

Results

The results of this thesis need to be summarised in a written report and will be presented to the ICVR in a 20min talk.

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