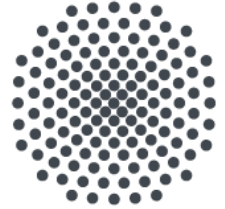Seminar

Haptic-Interaction
in Virtual Reality

Virtual Reality (VR) has rapidly evolved as a transformative technology, enabling immersive experiences that merge the boundaries between the physical and virtual worlds. While VR technologies have achieved advancements in visual and auditory fidelity, the sense of touch—known as haptics—remains underexplored and underutilized. Haptic interaction is essential for creating an immersive and interactive VR environment, as it enhances realism, facilitates better user engagement, and enables complex interactions within virtual spaces. Haptic feedback can simulate sensations such as texture, pressure, force, and temperature, allowing users to interact with virtual objects more intuitively. These interactions are particularly important in applications like training simulations, rehabilitation, virtual prototyping, and gaming.

In this seminar, we will discuss various approaches to simulating haptic feedback and explore the current devices available. We will focus on devices that simulate tactile feedback, which involves sensations felt on the skin, as well as kinesthetic devices that simulate forces. We will evaluate the potential applications of these devices and identify existing research gaps. Students will select one type of haptic feedback type to focus on.

The tasks of the seminar participants include researching relevant works on a given topic within the specified area, preparing a presentation on the respective subject, presenting it during the seminar, and writing a detailed report on the topic.

Target Group:
Bachelor's students in the field of Computer Science

Language:
German or English (will be decided in the first lecture)

Room/Location:
The seminar takes place in Seminarraum 00.012 in Allmandring 19 (VISUS-Building). The topics will be assigned to the participants at the beginning of the seminar.

Contact Person:
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