



Human-Robot Interaction in Virtual Reality



Open Bachelor Thesis

Background

In the near future, service robots in public and private spaces will be omnipresent. Sharing action space with human users can potentially lead to conflicts when the robot is hindered by humans in its task execution. This can happen without malintent from the human side but can also include robot bullying. Hence, for correct task execution, it will be necessary for the robot to be assertive and tries to also achieve its own goals instead of always waiting for the human user to step aside/pass/stop. At the same time users will not accept a machine that is rude or too dominant. Hence, the robot needs to be equipped with negotiation strategies with which it can reach its goals in a cooperative, accepted and trusted manner. Such strategies have been developed in two online studies. In order to test the application of this strategies not only via an online description of robot behaviour but to actually show robot behaviour and assess the participants reaction, a VR study is planned.

Research Goal

In this study the effect of various negotiation strategies (e.g. verbal utterances like explanations) of the robot will be explored in VR with different robots in two different settings (train station, household). It will be looked at whether the user does accept the shown robot behaviour and complies to the behaviour the robot indicates (e.g. step aside).



Contact

Philipp Hock
Institut für Medieninformatik
philipp.hock@uni-ulm.de