



Validity of Driver State Measures Across Simulators

Open Bachelor/Master Thesis

Background

Various dimensions characterize the driver's state, such as emotion, mental workload, distraction, or drowsiness. These are measured in driving simulators in experimental settings (e.g., to test a novel user interface). However, such simulators vary regarding their visual and motion fidelity to a great extent. Therefore, it is unclear which visual, and motion fidelity levels are required to induce driver states that resemble a real-world measurement (e.g., in a real vehicle) and if there are different fidelity requirements for different driver states.

Research Goal

The aim of this thesis is to compare the measurement of driver states in different driving simulator setups varying in fidelity. A related work research should be conducted, and existing simulators (see images) should be used. Finally, the defined hypothesis should be evaluated by conducting a study that was replicated from previous work.

Based on bachelor/master level
the scope is adapted.

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Images:

<https://www.youtube.com/watch?v=61MD3bv1qeQ>