OMICS International
conferenceseries.com

International Conference and Exhibition on
Automobile Engineering

September 01-02, 2015   Valencia, Spain

Measuring user experience during a driving simulation with MINARGUS

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Advanced Driver Assistance Systems play a leading role in this revolution; it has become a high priority for the automotive industry and now is no longer reserved for only premium cars. An example is the Ford Focus, which in the compact class currently has the most assistance systems on board. Today's systems, however, still lack robustness and error free capabilities which negatively influence customer satisfaction. The errors vary from either compatibility problems between different systems to general runtime errors. However, one can also recognize dissatisfaction within different assistance systems. It may influence usability or even User Experience (UX) for various reasons (e.g., symbolic aspects, subjective feelings and habits). Within the development of Advanced Driver Assistance Systems, these motivations are tested continuously. The validation starts with a model-in-the-Loop (MiL) and ends with the Vehicle-in-the-loop (ViL), shortly after the physical testing process begins (driving tests, field tests etc.). In this paper, a new tool (MINARGUS) is to be introduced which allows capturing the UX already on MiL level to be fed back directly into the development process. It allows a connection between a simulation model and the measurement of physiological data in one environment and for a more efficient work relationship between system development engineers and test & validation engineers. The Advanced Active Cruise Control (Advanced ACC) system is used as a continuous example to support the paper.

Biography

Maik Auricht has completed his studies from Technische Universitaet Berlin. Currently he is the Chief Engineer at the Chair of Industrial Information Technology. His major research fields are Automotive Engineering, User Experience and Driving Simulation.

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Adv Automob Eng 2015
ISSN: 2167-7670, AAE an open access journal

Automobile 2015
September 01-02, 2015

Volume 4 Issue 1

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