

Master Thesis

Usability Evaluation for Adaptive UIs

Background

Interactive systems are an integral part of our daily lives today. The simple and intuitive operation of the user interface (UI) of interactive systems is critical for user acceptance. However, the user interfaces (UIs) of interactive systems become increasingly complex since many heterogeneous and dynamically changing contexts of use (platform, user, environment) have to be supported. It is no longer sufficient to provide a single “one-size-fits-all” user interface.

Together with its partner, Diebold Nixdorf, the s-lab has developed a model-driven approach to support the efficient development of adaptive UIs. Adaptive UIs enable a solution for context variability by automatically adapting the UI to the needed context of use at runtime. After establishing a model-driven development approach for adaptive UIs, it is important to analyze the usability of the resulting UIs and to compare them against classical “non-adaptive” UIs. Therefore, a usability study with potential end-users can help to further investigate the acceptance and user-friendliness of adaptive UIs.

Task

As there are different techniques for evaluating the usability of user interfaces, the first goal is to collect relevant techniques for usability evaluation of adaptive UIs and to create a taxonomy of evaluation criteria for analyzing adaptive UIs. Based on this taxonomy, a systematic usability evaluation method for adaptive UIs should be developed. The Usability evaluation method shall be applied and achieved results have to be analyzed regarding acceptance and user-friendliness of adaptive UIs.

Helpful Knowledge

- Model-driven Software Development
- Programming Experience
- Usability Evaluation techniques

Supervision

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