



Bachelor-, Master- und Doktorandenseminar
des Instituts für Informatik

Checking and visualization of tracing information in the RED requirements specification tool

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Traceability is part of requirements engineering and describes the degree to which relationships between products of the development process can be established. This information can be used for example to check in advance the impact of changes in requirements during the software development process or to validate the developed code against the software architecture. Current concepts from the research on the traceability of requirements address various topics, from the traceability meta model to generation of relationship links between requirements to the validation of system components against the system architecture or high-level requirements such as goals or stakeholders.

The goal of this work is to develop and implement a comprehensive concept, which enables the generation, validation, and visualization of traceability information. Generation describes the process of automatically deriving new trace links from the results of a traceability information analysis. Validation describes the process of ensuring that a product suits the needs of a customer or stakeholder. Visualization means the displaying of traceability information for appraisal, analysis or simply better understanding of the data. To ensure the usability of the developed concept, the OpenSource application *RED*, developed at the Technical University of Denmark (DTU), is used for concept validation. This tool has been designed for the creation and maintenance of software system specifications, and is mainly used by students in the course “Requirements Engineering” at DTU.

To reach this goal, the initial requirements, which are given by the application area, are defined. From these requirements, the concepts that are implemented have been derived, with strong alignment to the research work in the literature. By including known technology and approaches into the conceptual work the comprehensibility of the result can be ensured and it can be used for further development of the traceability concept in the RED requirements editor. Therefore, beside the already described tasks, the work will cover the optimization of the RED meta model to improve the suitability for the application of the selected traceability concepts. The developed concepts will then be implemented and tested in the RED environment and finally evaluated using a set of defined personas for a case study. An important part of the design discussion will be about the degree of possible automation of the designed concepts and how it can be integrated into the RED tool landscape.

Montag, den 06.03.2017, 13:30 Uhr im
Besprechungsraum 2.04, IPSSE, Wallstraße 6, Goslar