

Review of the Dissertation Thesis

Code Characterization for Automated User Interface Creation

submitted by

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Content of the Dissertation

The dissertation is concerned with automated user interface creation based on data and code characterization. The dissertation is written in English on 142 pages incl. appendices and structured in 6 chapters. References include 142 bibliographic entries. The main results were published in 4 refereed papers with candidate authorship or co-authorship.

In chapter 2, various user interface issues, factors and devices are described in general. Chapters 3-5 define the scope of research and provide motivation for automated UI design.

In part 6.2, the candidate proposes the new method based on code characterization. On 12 pages, the candidate introduces taxonomy of 5 main code categories. In chapter 7, the method for generating interface is suggested. In appendices, 3 simple examples illustrate the usage of the new method. Chapter 8 concludes and offers issues for future research.

Evaluation of the Dissertation

As claimed in chapter 8, the dissertation aims at automation of user interface design at early stage of development. The goal is very important and the candidate distinctly states the main objective of research. The similar methods based on precise or less formal descriptions have been studied extensively in past decades. The problem is interesting from theoretical point of view and relevant in practice. Unfortunately, up to now the comprehensive and reliable solution that would work in practice, was not published. In my opinion, the formal methods do not fit well in early stages of development where users capabilities have to be taken into account with respect of usability.

The results of research include taxonomy (part 6.2) and method of generating UI from characterized code (part 7). The taxonomy itself is well described. However, it is based more on "computer point of view" (what is typically used in common interfaces) than on "user task's point of view" (what are typical steps when a task is being done). Eg. drag and drop technique relies on computer literacy and may not be recognized by common users. That is one of the reason why this method should be considered not for early stages but for late stages of development. The code of designed interface may be categorized and the characterization will help during maintenance. Chapter 7 describes the process of using the data and code characterization in practise. For readers it is very difficult to extract the working scenario that would distinguish designer steps, involvement of users, verification, evaluation and usage of tools (parsers, screen designs etc.). The context of method is not clearly defined. Reviewer would appreciate a clearly sketched examples of GUI development referring the steps of the proposed method.

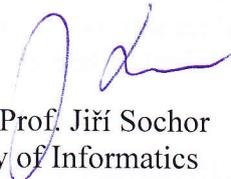
Contribution

The dissertation offers a new approach to UI design and it offers several small steps towards the main goal that the candidate has set. It provides a background for future research and it is worth to continue. With properly described and validated methodology it could play the important role in interface design and maintenance.

Conclusions

The Dissertation addresses an important and relevant problem in the areas of user interface design. The candidate has formulated the problem and proposed promising solution. The usage of the method is illustrated with 3 examples. Though I doubt the usage of the results for practise in near future, I am convinced that the research topic is important and the thesis brings new outcomes. I conclude that the author proved his ability to solve nontrivial problems but he fell short of converting the results into a well formed methodology. I recommend the thesis for defense and I postpone the final decision to the defense meeting.

Brno, October 22, 2010



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