PREFACE

International Workshop on Usability Evaluation and Software Development (I-USED 2008)
24 September 2008, Pisa, Italy

MOTIVATION

Software development is highly challenging. Despite many significant successes, several software development projects fail completely or produce software with serious limitations, including (1) lack of usefulness, i.e. the system does not adequately support the core tasks of the user, (2) unsuitable designs of user interactions and interfaces, (3) lack of productivity gains or even reduced productivity despite heavy investments in information.

Broadly speaking, two approaches have been taken to address these limitations. The first approach is to employ evaluation activities in a software development project in order to determine and improve the usability of the software, i.e. the effectiveness, efficiency and satisfaction with which users achieve their goals. To help software developers' work with usability within this approach, more than 20 years of research in Human-Computer Interaction (HCI) has created and compared techniques for evaluating usability. The second approach is based on the significant advances in techniques and methodologies for user interface design, which have been achieved in the last decades. In particular, researchers in user interface design have worked on improving the usefulness of information technology by focusing on a deeper understanding on how to extract and understand user needs. Their results today constitute the areas of participatory design and user-centered design.

In addition, the Software Engineering (SE) community has recognized that usability does not only affect the design of user interfaces but the software system development as a whole. In particular, efforts are focused on explaining the implications of usability for requirements gathering, software architecture design, and the selection of software components.

However, the interplay between these two fields and between the activities they advocate to be undertaken in software development, have been limited. Integrating usability evaluation at relevant points in software development (and in particular to the user interface design) with successful and to-the-point results has proved difficult. In addition, research in Human-Computer Interaction (HCI) and Software Engineering (SE) has been done mainly independently of each other with no in substantial exchange of results and sparse efforts to combine the techniques of the two approaches. Larry Constantine, a prominent software development researcher, and his colleagues express it this way: "Integrating usability into the software development process is not easy or obvious" (Juristo et al. 2001, p. 21).

THEME AND GOALS

The goal of this workshop is to bring together researchers and practitioners from the HCI and SE fields to determine the state-of-the-art in the interplay between usability evaluation and software development and to generate ideas for new and improved relations between these activities. The aim is to base the determination of the current state on empirical studies. Presentations of new ideas on how to improve the interplay between HCI & SE to the design of usable software systems should also be based on empirical studies. Within this focus, topics of discussion include, but are not limited to:

- Which artifacts of software development are useful as the basis for usability evaluations?
- How do the specific artifacts obtained during software development influence the techniques that are relevant for the usability evaluation?
- In which forms are the results of usability evaluations supplied back into software development (including the UI design)?
- What are the characteristics of usability evaluation results that are needed in software development?
- Do existing usability evaluation methods deliver the results that are needed in user interface design?
- How can usability evaluation be integrated more directly in user interface design?
- How can usability evaluation methods be applied in emerging techniques for user interface design?
- How can usability evaluation methods be integrated to novel approaches for software development (e.g., model-driven development, agile development).

RELEVANCE TO THE FIELD

The main contribution is the determination of state-of-the-art and the identification of areas for improvement and further research. The HCI field includes a rich variety of techniques for either usability evaluation or user interface design. But there are very few methodological guidelines for the interplay between these key activities; and more important, there are few guidelines on how to properly integrate these two activities in a software development process.

PARTICIPANTS

The authors of 15 accepted papers come from eight European countries (Denmark, Finland, Germany, Italy, Norway, Spain, Sweden, and UK) as well as from India and the USA. The workshop brings together these authors with diverse cultural and academic backgrounds and research interests to explore a very relevant topic in HCI from different perspectives. Discussions in the workshop will be very stimulating. Emerging issues thus identified will be addressed in the future work.

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