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Task Models and Diagrams for User Interface Design

8th International Workshop, TAMODIA 2009
Brussels, Belgium, September 23-25, 2009
Revised Selected Papers

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Foreword

TAMODIA 2009 was the 8th International Workshop in the series looking at TAsk MOdels and DIAGrams for User Interface Development. Over the years the submissions have looked at a variety of perspectives for modeling and annotating the user interface development process. The eighth workshop continued that approach and was combined with the IFIP Working Conference on Human Error, Safety and Systems Development, HESSD 2009. There is an obvious synergy between the two workshops, as a rigorous, engineering approach to user interface development can help in the prevention of human error and the maintenance of safety in critical interactive systems.

The 12 papers presented here take a variety of approaches and cover different domains of the application of task modeling. We begin with higher-level perspectives on business processes that enable us to drive user interface development. Aspects of the general design process are also considered and applied to service-oriented and augmented reality interaction. Formal methods are also investigated for more rigorous development. Model-driven development is also recognized for its contribution to high-level interface design, and continuing the software engineering theme, approaches based on UML are presented.

Sousa et al. propose a model-driven approach to linking business processes with user interface models. Their approach is demonstrated in the context of a large financial institution and they show how the alignment between UI models and business can be managed, taking advantage of the traceability provided by model-driven design. Neubauer et al. also consider a flow-oriented modeling of business processes as a more open approach to capturing the dynamics of process modeling and understanding. Fritscher and Pigneur consider a more creative approach to business modeling with their ontology canvas that aims to provide a template for the interactive modeling of business processes very early in the development life cycle.

Looking at the design process itself, Media et al. take a service-oriented approach to supporting user interface developers at the operational, organizational and intentional levels of design abstraction. Octavia et al. look at the context of virtual and augmented reality environments and consider how adaption can be supported in design, where the adaptations of the interface are driven by context changes. Moving on to more formal considerations of development, Randles et al. consider the situation calculus as the basis for interaction modeling. They investigate their proposal for the situation calculus in the context of a complex medical system and also draw on lessons from autonomic computing in providing system self-management. Caffiau et al. consider current limitations in the description of objects in user interface specification. They examine the K-MADe tool and consider modifications that balance the needs of free expression by developers with the need for rigorous description of the objects.

Though model-driven development has been touched on earlier, it is considered in more depth by our next set of contributions. Van den Bergh et al. consider an approach where the task model is the central control point for the adaptation of the interface development. They consider not just synchronization at design-time but also the configuration of user interface models and application logic. Fleischmann et al. discuss subject-oriented business process management, which ensures coherence between modeling and execution through focusing on the communication flow among process participants (subjects) in the course of work-task accomplishment. They use Hoares CSP as the basis for model coherence checking. Martinez-Ruiz et al. consider the requirements for modeling for zoomable, multimedia interfaces. They propose weighted task hierarchies as a method for overcoming some of the complexities of modeling more complex interfaces.

In our final selection of papers the role of UML is examined. Nunes describes an approach to adapt the use-case point estimation method to fit the requirements of agile development of interactive software. The paper aims to further close the gap between HCI and software engineering, particularly at the earliest stages of development. Finally, Tran et al. present an agent-based framework to support automatic database user interface design and code generation where agents link the task model, context model and domain model of the system.

These 12 papers represent 50% of those submitted. Each paper was reviewed by three members of the Program Committee and their judgments were then reviewed by the Co-chairs. We trust the reader will find the papers useful in their work. This is the final TAMODIA event. In future it will be part of the ACM Symposium on Engineering Interactive Computer Systems.

We acknowledge the work of the reviewers in reviewing and giving feedback to the authors to improve their submissions. We thank the organizers of HESSD for cohosting TAMODIA 2009: Jean Vanderdonckt, Philippe Palanque and Marco Winckler. We would also like to thank Jean Vanderdonckt and his colleagues at UC Louvain for their hospitality and help in organizing activities during the workshops.

November 2009

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