Design and Rapid Evaluation of Interactive Systems in Theory and Practice

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Abstract. In this half-day tutorial Jochen Denzinger, partner at the design studio ma ma Interactive System Design, and Tom Gross, full professor and chair of the Human-Computer Interaction at the University of Bamberg, present methodologies for understanding users, tasks, and contexts, for designing interactive systems beyond the desktop, and for evaluating them in novel domains.

Keywords: User centred design · Design thinking · Usability and user experience · Evaluation · Development processes · Cyber-Physical systems

1 Objectives and Contents

Recent trends such as the increasing convergence of the digital and the physical realm expand the scope of Human-Computer Interaction (HCI) to exciting new fields of application. However, they also entail new challenges for understanding users, tasks, and contexts, for designing interactive systems beyond the desktop, and for evaluating them in novel domains and sometimes with limited resources.

This tutorial aims to address those developments and to present paradigms and basic concepts of HCI as well as its design principles supporting development processes. The primary focus is on concepts, methods, and tools for the design, the implementation, and the evaluation of interactive systems for changing tasks and contexts in emerging technological landscapes—with a special focus on rapid and agile approaches.

In particular, this tutorial includes an introduction of the theoretical foundations of interaction design, interface design, and user experience design. It presents practical methods for the analysis of contexts, stakeholders, and goals; for generating ideas and design thinking; for managing and selecting ideas; for generating fast and graspable results by low-fidelity prototyping; as well as for the fast and effective evaluation of interactive systems in the lab and in the field.

The tutorial lasts half and is planned to proceed as follows: a short introduction of presenters and participants; a theoretical block with foundations; an open discussion on participants' personal questions and current challenges; a tour of practical methods (incl. practical exercise of the participants); and a wrap up and outlook [1–10].

2 Intended Audience

The intended audience are people from academia and industry, and beginners and experts with diverse and cross-disciplinary backgrounds.

3 Instructors

Jochen Denzinger is managing partner of the design studio ma ma Interactive System Design, in Frankfurt, Germany. For further information refer to http://www.ma-ma.net.

Dr. Tom Gross is full professor and chair of Human-Computer Interaction at the University of Bamberg, Germany. Further information can be found at: http://www.tomgross.net.

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