

# User Experience – Recent approaches to intuitive use and hedonic aspects in human-technology interaction

MARTIN CHRISTOF KINDSMÜLLER<sup>1</sup> & SASCHA MAHLKE<sup>2</sup>

<sup>1</sup> *Institute for Multimedia and Interactive Systems, University of Lübeck, Germany*

<sup>2</sup> *Prospective Interaction Design Group, Berlin University of Technology, Germany*

Over the last decade, user experience has become a buzz-word in the field of interactive system design. Although the term promised change, it was never very specific about its definite meaning. Recently, more and more scientific contributions can be found that try to better understand of what is meant by ‘the user experience’. In this special issue, we focus on two areas of research that relate to the user experience: intuitive use and hedonic aspects of human-technology interaction.

The first three original contributions to this special issue present research on intuitive use in human-technology interaction. Intuitive use – while being widely used by marketing departments to ballyhoo their products or services – was almost always regarded as ill defined or even meaningless by the scientific community (i.e. Raskin, 1994). This has only recently changed with the appearance of two new approaches – independently developed by a group in Australia (i.e. Blackler et al., 2006) and the Germany based IUUI Research Group (i.e. Naumann et al., 2007). Both groups are aiming for a definite concept of *intuitive use* and *intuitive interaction* respectively that is applicable for the design as well as the evaluation of human-machine interaction.

This special issue starts with a presentation of the “Australian way”. Blackler, Popovic, and Mahar describe novel approaches and techniques for studying intuitive use of interfaces, and show that intuitive interaction is based on past experience with similar things. They report three experiments on intuitive interaction and discuss principles and tools for designers to assist them in making interfaces more intuitive.

Mohs, Naumann, and Kindsmüller from the IUUI Research Group (“the European approach”) discuss similarities and differences in between *intuitiveness*, *familiarity*, and *conformity with user expectations* (DIN EN ISO 9241-110, 2006). Based on this for the time being theoretical discrimination they derive specific recommendations

on how to design technical systems that either conform with the users' expectations or allow for intuitive use.

In the last contribution to the "intuitive use" section of this special issue Blackler and Hurtienne present first steps towards a unified view of intuitive interaction. The two previously independent approaches to investigating intuitive interaction in Australia and Germany are described and compared. Definitions, models and tools like design methodologies, design principles, questionnaires, and an online database are presented.

In his keynote speech at CHI2007 on reaching for the intuitive, Bill Moggridge suggested that intuitive use does not only improve performance but also leads to a more positive emotional experience of the interaction. Hedonic aspects are another group of qualities that are associated with positive emotional experiences during human-technology interaction (Mahlke & Thüring, 2007). They can be seen as qualities of interactive system that go beyond the system's mere instrumental value (Hassenzahl & Tractinsky, 2006). The remaining three original articles of this special issue present research on hedonic aspects in human-technology interaction.

Mahlke, Lemke, and Thüring describe an approach to the measurement of non-instrumental qualities that defines aesthetic and symbolic aspects as main sub-categories and discuss further relevant sub-dimensions. An exemplary study on mobile phones is presented to describe the application of the approach.

Sen, Lindgaard, and Patrick present an exploratory study to examine potential cross-cultural differences in the relevance of symbolic aspects for the overall appeal of university website. The study tries to identify cultural markers guided by Hofstede's approach (1980) to cultural differences.

Schrepp, Held, and Fischer discuss the application of different scaling procedures to assess visual aesthetic aspects of interface designs. They describe the procedures of BTL-scaling and conjoint analysis and demonstrate their application to the assessment of aesthetic qualities of form designs describing two empirical studies.

In the community section of this special issue, a contribution by Hartmut Ginnow-Merkert to intuitive interaction from a designer's perspective discusses the relevance of animation and continuity in interaction. An interview with Gitte Lindgaard is presented by Sascha Mahlke that focuses on her research on visual appeal and aesthetics in human-technology interaction. Furthermore, John Maedas' new book *Laws of Simplicity* is reviewed by Thomas Winkler.

Finally, a compilation of the abstracts of the accepted submissions for the 7. Berliner Werkstatt Mensch-Maschine-Systeme (7<sup>th</sup> Berlin Workshop Human-Machine-Systems) is added to give an outlook to the conference that will be held in Berlin from October 10<sup>th</sup> to 12<sup>th</sup>.

In the process of reviewing and editing the articles for this special issue it turned out, that the concept of intuitive use as well as hedonic aspects as a subject matter of human-machine interaction research are still very controversial within the scientific community. We therefore asked protagonists of different disciplines to comment on this approaches and we are able to announce that there will be at least two peer commentaries on the concept of intuitive use included in the next issue of MMI-interaktiv. To widen the scope we would like to ask you to join this discussion.

Please send your peer commentaries on the concept of intuitive use or on hedonic aspects to [artikel@mmi-interaktiv.de](mailto:artikel@mmi-interaktiv.de). Deadline for your commentaries is October, 15<sup>th</sup> 2007.

Concluding, the guest editors would like to thank the publishers of MMI-Interaktiv for the opportunity to fill a whole issue with contributions about user experience research in human-technology interaction that, so we hope, will be interesting for many readers. A cordial thank you is owed to the authors of the individual contributions for their good co-operation and the submission of their papers in a timely manner and according to our requirements. Last not least, we would like to thank all our reviewers for helping us to improve and assure the quality of this special issue.

Lübeck and Berlin, July 2007

Martin Christof Kindsmüller and Sascha Mahlke

## References

- Blackler, A. L., Popovic, V. & Mahar, D. P. (2006). Towards a Design Methodology for Applying Intuitive Interaction. In: K. Friedman, T. Love, E. Côté-Real & C. Rust (eds.), *Proceedings WonderGround: 2006 Design Research Society International Conference*, Lisbon.
- DIN EN ISO 9241-110 (2006). *Ergonomics of human-system interaction – Part 110: Dialogue principles*. Berlin: Beuth.
- Hassenzahl, M. & Tractinsky, N. (2006). User experience - a research agenda. *Behaviour & Information Technology*, 25, 91–97.
- Hofstede, G.H. (1980). *Culture's Consequences*. Beverly Hills, CA: Sage.
- Mahlke, S. & Thüring, M. (2007). Studying Antecedents of Emotional Experiences in Interactive Contexts. In: *CHI 2007 Proceedings*, 915–918. New York: ACM Press.
- Naumann, A., Hurtienne, J., Israel, J.H., Mohs, C., Kindsmüller, M.C., Meyer, H.A. & Husslein, S. (2007). Intuitive Use of User Interfaces: Defining a Vague Concept. In: D. Harris (ed.), *Engineering Psychology and Cognitive Ergonomics, HCII 2007*, Vol. 13, 128–136. Heidelberg: Springer.
- Raskin, J. (1994). Intuitive equals Familiar. *Communications of the ACM*, 37, (9) 17–18.