Introduction to the Minitrack Human-Computer Interaction: Informing Design Utilizing Behavioral, Neurophysiological, and Design Science Methods

Christoph Schneider
City University of Hong Kong
christoph.schneider@cityu.edu.hk

Joseph S. Valacich
University of Arizona
valacich@arizona.edu

Angelika Dimoka
Temple University
dimoka@temple.edu

As the Human-Computer Interaction (HCI) minitrack continues to grow we have witnessed new and exciting avenues for exploration. Eight years ago, this minitrack was developed to provide an outlet for a variety of HCI research streams from a variety of disciplines. For the third year in a row we are including the disciplines neuroscience and design science, with the aim of *Informing Design Utilizing Behavioral, Neurophysiological, and Design Science Methods*. Our plan is to get a truly cross-disciplinary understanding of HCI that informs contemporary research and impacts design practices. The papers selected for the competitive HCI minitrack draw on this rich cross-disciplinary tradition. Given that HCI continues to grow and change, we aim to provide a forum for the exchange of novel thoughts and ideas. We believe that the ten papers presented in the three sessions of this minitrack will provide interesting and thought provoking discussions that will be relevant for both research and practitioners.

The first session contains papers related to the use of psychophysiological tools in HCI research. In the first paper, titled "You Said What? Assessing the Impact of Collaboration Technologies and Message Characteristics using Physiological Measures," Taylor Wells and Alan Dennis use physiological measures to test a theoretical model explaining the influence of different technologies and message characteristics on the emotional responses of recipients. In the next paper, titled "The Applicability of Neurally-Controlled Devices in Business: A Student Perspective," Adriane Randolph examines the perceptions of our future contributors to society about the advances of neurophysiological tools and their applicability to business. The third paper in this session, titled "Can Fixation on Main Images Predict Visual Appeal of Homepages?" by Soussan Djamasbi, Marisa Siegel, and Thomas Tullis, examines the role of main images in forming user experience of a webpage. In the fourth paper of this session, "Dissecting the Process of Knowledge Filtering in Electronic Networks of Practice," Kelly Fadel, Thomas Meservy, and Matthew Jensen examine the influence of constancy and directionality of search patterns employed by knowledge seekers on performance on a knowledge filtering task.

The second session focuses on design science and HCI. In the first paper, titled "A Design Science Approach to Collective Intelligence Systems," Alexander Kornrumpf and Ulrike Baumöl propose a design science approach to designing a collective intelligence system that is fit to overcome a given challenge. In the second paper, titled "Transitions: A Crossmedia Interaction Relevant Aspect," João Paulo Delgado Preti examines mechanisms for supporting transitions in cross-media interactions. The third paper, "Towards Fully Declarative High-level Interaction Models: An Approach Facilitating Automated GUI Generation," by Filip Kis, Christian Bogdan, Hermann Kaindl, and Jürgen Falb, presents a framework for the automated generation of GUIs from declarative representations.

The final session contains papers related to HCI and organizational information systems. In the first paper, "Management Support Systems on Different Devices—A Business Perspective Accommodating Managers' Growing Range of Use Situations," Jörg H. Mayer, Robert Winter, Daniel Stock, and Nadja Scholl-Steinepreis propose a model for selecting end-user devices to support the growing range of managers' working styles in an MSS context. In the second paper, titled "(Re-)Evaluating User Interface Aspects in ERP Systems—An Empirical User Study," Christian Lambeck, Corinna Fohrholz, Christian Leyh, and Romy Müller demonstrate that current ERP systems are still suffering from a lack of usability. In the final paper, "When Form and Function Combine: Hedonizing Business Information Systems for Enhanced Ease of Use," Adarsh Kumar Kakar empirically examines the impacts of hedonic and utilitarian attributes of an organizational information system on users' ease of use perceptions.

We would like to sincerely thank the researchers who contributed to this minitrack. Also, we would like to express our thanks for the outstanding efforts put forth by the many reviewers who helped ensure that the papers presented in this minitrack are both interesting and relevant to the HCI field.

978-1-4799-2504-9/14 $31.00 © 2014 IEEE
DOI 10.1109/HICSS.2014.52