

HUMAN INTERACTION WITH ADVANCED MOBILE SERVICES AND INTELLIGENT ENVIRONMENTS (INTERACT)

Professor Kari Kuutti and Professor Netta Iivari
Department of Information Processing Science, University of Oulu
kari.kuutti@oulu.fi, netta.iivari@oulu.fi
<http://www.infotech.oulu.fi/interact>

Background and Mission

The research area of the INTERACT group is information technology in its various forms embedded in everyday human practices. The roots of the group are in Human-Computer Interaction, European Computer-Supported Cooperative Work, Participatory Design, and Activity Theory research communities. The research group focuses on understanding and supporting participatory design, user-centred design, user innovation and human interaction with technology in divergent everyday life contexts. Generally, the research group acknowledges that information technology has become intertwined and embedded in almost all parts of our everyday life, including leisure and civic activity, thereby establishing new forms of participation and design. Hence, “users” cannot be considered as passive consumers anymore; they are at least content producers, sometimes even (co-)designers and innovators. This calls for reconsidering the traditional understandings of the roles of users and designers, as well as for different development approaches that place emphasis on user empowerment and inclusion in designing, shaping, innovating and co-creating information technology in their everyday life.

The INTERACT research group has a strong background in multidisciplinary research, combining perspectives from both humanities and information technology oriented disciplines. The group relies mainly on qualitative, participatory, and constructive research approaches; in many cases, developing novel pilot IT applications, and then experimenting with them in the field has an important role in research.

INTERACT has close cooperation in two directions: towards humanities and social sciences within the EveLINE (everyday life in technology-rich neo-communities) group, and towards computer engineering within the iUBI (Ubiquitous Interaction) group.

Human interfaces and experience with advanced mobile services and intelligent environments will be one of the major design challenges when the systems are moved from research laboratories towards everyday use. The INTERACT research group is addressing this problem area on a number of levels which support each other. On the level of basic research, the group is modelling the use context of advanced services and intelligent environments, and correspondingly envisioning and constructing *novel technology architectures* needed to provide the *optimal user experience* in those environments, in a controlled way. The group is also developing and experimenting with novel

forms of *enhanced multimodal interaction* for devices and environments. Additionally, the group is developing *new methods and techniques for design interaction in intelligent environments*, and constructing *test environments* where both the interaction techniques and design methods can be tested and validated. Finally, the group is developing *methods for the evaluation and improvement of HCI design processes* in product development organisations.

Scientific Progress

During 2013 the main scientific results were: Studies on 3D user experience (Minna Pakanen, Leena Arhippainen), studies on an interactive kiosk interface (Anna-Liisa Syrjänen and team), and the introduction of a practice-based approach to HCI research (Kari Kuutti)

Exploitation of Results

Dissemination of results - The group has been publishing actively, and additionally the members of the group have been giving talks, presentations and demonstrations on a number of occasions, both in Finland and abroad, in both academic and industry led events. Several short visits from other groups have also been hosted.

Industrial cooperation - A number of Master's theses have been supervised in cooperation with industry.

Personnel

professors, doctors	8
doctoral students	11
total	19
person years	9

External Funding

Source	EUR
Academy of Finland	200 000
Ministry of Education and Culture	30 000
domestic private	30 000
total	260 000

Selected Publications

Pakanen, Minna; Arhippainen, Leena; Hickey, Seamus (2013) Designing for 3D user experience in tablet context-design and early phase user evaluation of four 3D GUIs. *International Journal on Advances in Intelligent Systems* 6(3-4): 266-278.

Syrjänen, Anna-Liisa; Kinnula, Marianne; Kuutti, Kari; Sihvola, Vesa (2013) Configuration of human-facilitated remote service: a vmc-based kiosk interface for information systems. *IADIS International Journal on WWW/Internet* 11(2): 114-128.

Blomberg, Jeanette; Karasti, Helena (2013) Reflections on 25 Years of Ethnography in CSCW. *Computer Supported Cooperative Work - The Journal of Collaborative Computing* vol. 22, 373-423.

Iivari, Netta (2013) 'Configuring the user and the designer' – a critical inquiry on usability work in the company open source software development context. – In Aanestad, Margunn; Bratteteig, Tone.(eds.) *Nordic Contributions in IS Research: 4th Scandinavian Conference on Information Systems, SCIS 2013*, Oslo, Norway, August 11-14, 2013. *Lecture Notes in Business Information Processing* 156. Berlin Heidelberg, Springer. 1-17.