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# CHI 2013 Human Work Interaction Design (HWID) SIG: Past History and Future Challenges

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**Abstract**

In this SIG we aim to introduce the IFIP 13.6 Human Work Interaction Design (HWID) approach to the CHI audience. The HWID working group aims at establishing relationships between extensive empirical work-domain studies and HCI design. We invite participants from industry and academia with an interest on empirical work analysis, HCI, interaction design and usability and user experience in work situations and in the workplace. This SIG is a vital step towards creating a CHI2014 workshop on this topic.

**Author Keywords**

contextual analysis; human work analysis; human work interaction design; interaction design; work analysis; work-domain based empirical studies

**ACM Classification Keywords**

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

**Introduction and Motivation**

This SIG group meeting is intended to introduce the IFIP 13.6 Human Work Interaction Design (HWID) approach to the CHI audience. Our idea is to run a participatory affinity diagramming exercise that

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involves all participants in reflecting on the history and future challenges in connecting work analysis and interaction design. Whereas the IFIP 13.6 HWID working group has a small number of active members, we, with this SIG, aim at engaging CHI participants broadly.

### **Human Work Interaction Design**

The HWID working group aims at establishing relationships between extensive empirical work-domain studies and HCI design, see at IFIP's website: <http://csmobile.upe.ac.za/ifip/working-groups-of-tc.13/working-group-13-6-human-work-interaction-design-group-hwid>.

- To encourage empirical studies and conceptualizations of the interaction among humans, their variegated social contexts and the technology they use both within and across these contexts.
- Promote the use of knowledge, concepts, methods and techniques that enables user studies to procure a better apprehension of the complex interplay between individual, social and organizational contexts and thereby a better understanding of how and why people work in the ways they do.
- Promote a better understanding of the relationship between work-domain based empirical studies and iterative design of prototypes and new technologies.
- Establish a network of researchers, practitioners and domain/subject matter experts working within this field

Previously there have been a number of HWID activities and events under the heading of the IFIP TC 13.6 working group, see [3, 4, 6]. The most recent was a HWID working conference on the theme of work analysis and HCI, and was held in Copenhagen, Denmark on 5-6 December 2012. In this SIG, we will start by sharing our experiences and insights from this event.

### **Our special focus in this CHI-HWID SIG**

The aim of this SIG is explore the possibilities for having a CHI2014 workshop on HWID. Although there is a long tradition in CHI for studying the work context, the world of work has become much more digital in recent years. Thus the relations between interaction design including usability and user experience (UX) on the one hand, and on the other hand human work in organizations have gained new significance.

Human work analysis involves investigating user goals, user requirements, tasks and procedures, human factors, cognitive and physical processes, and the contexts (organizational, social, cultural). In particular in the HCI and human factors tradition, work is analyzed as end-user tasks are performed within a work domain. The focus is on the user's experience of tasks (procedures) and the artifact environment (constraints in the work domain). Hierarchical Task Analysis [1] and Work Domain Analysis [7] are among the methods that can be used to analyze the goal-directed tasks, and map the work environmental constraints and opportunities for behavior. In addition, there is a strong tradition in HCI for studying work with ethnographic methods [2] and from socio-technical perspectives (e.g., [5]). These approaches focus on work as end-user actions performed together with other

people in a field setting, that is, the user's experience of using systems are social and organizational experiences. UX, usability and interaction design are influenced by these approaches and techniques for analyzing and interpreting the human work, which eventually manifests in the design of technological products, systems and applications.

### Topics that participants may explore

We will choose a subset of topics from this list to focus on in the breakout activities during the SIG session:

- Techniques and methods for mapping the relations between work analysis and interaction design
- Translating work analysis to interaction design
- How work analysis can feed into HCI evaluation
- Work analysis and HCI in medical and safety critical ICT
- Work analysis and HCI in business contexts
- Work analysis and HCI in enterprise-level systems
- Work analysis and HCI in e-government services
- Work analysis and HCI in mobile devices
- Work analysis and HCI in cultural contexts
- UX in work situations and in the workplace
- Design cases bridging the gap between work analysis and interaction design
- Synergies between work analysis and model-driven interface development
- Impact of emerging interaction technologies in human work practice

Timing	Activity
15 mins	Introduction from organizers about HWID and the aims for the SIG session.
Up to 10 mins	Moderated discussion via questions from the audience
30 mins	Break into working groups to focus on key topics.
Up to 20 mins	Affinity diagramming
5 mins	Closing remarks

### Participants and structure of the SIG

We expect the participants will be from industry and academia with an interest in empirical work analysis, HCI, interaction design and usability and UX in work situations and in the workplace. The SIG will be conducted in an inviting, open and social atmosphere. We aim to provide time for reflection and discussion.

We expect the output of the SIG to summarize and conclude on discussions of the aforementioned aspects of work analysis and how the results of these manifest in the design of technological products, systems and applications. Also, today, generic designs are applied to use-situations with very different purposes, as using the same social software or game for work and leisure situations. Thus, design shifts from design of a technology to design of various use-situations encompassing the same technological design, and we find that there is a need to discuss the relationship between work analysis and design for various situations.

The SIG will be chaired by Torkil Clemmensen and one or more of the authors of this proposal and will follow the structure set out in Table 1. First we introduce HWID and spend some time discussing it (moderated). Then we break out into groups facilitated by the SIG proposers. In each group participants discuss how and under what headings their work may be part of HWID. The groups will use material provided by us to prepare for an affinity diagramming exercise in plenum. At the end of the collective affinity diagramming exercise, we will ask participants each to vote for three of the HWID headings identified by the affinity diagramming as possible topics for a CHI2014 HWID workshop. The results of the affinity diagramming and of the voting for

key topics for the CHI2014 HWID workshop proposal will be reviewed and analyzed afterwards by the SIG proposers, and shared on a website. The SIG activities and a participant email list created during the session will help building a group for getting a CHI2014 HWID workshop proposal together.

The aim with the HWID SIG is to engage as many participants as possible in presenting diverse aspects of the relations between human work and interaction design. Depending on the size of the group of participants, we plan to work during the session on drafting the first versions of a call for papers for a CHI2014 workshop on HWID. Should the group be quite large, we will take responsibility for presenting some initial thoughts on the topic. Establishing a small network of CHI participants with an interest in HWID will mean that we can have a good basis for a workshop in 2014.

### Conclusions

Combining interaction design with work analysis while taking broad social, cultural, organizational and technical contexts into consideration is something CHI is not always strong at. The aim of this CHI 2013 HWID SIG is to provide a research outlet that will help the HCI community at large and in the particular the UX community, to explore ways to connect interaction design and UX with empirical work analysis. This SIG is a vital step towards creating such an outlet in the form of a CHI2014 workshop, and aim to discuss the history and future challenges.

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