IFIP 13.6 HWID Human Work Interaction Design

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IFIP TC13 Open Symposium on HCI, Tampere, Finland

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IFIP 13.6 HWID Human Work Interaction Design
Challenges and Future Directions
WG 13.6 HWID Officers

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HWID*: Human Work Interaction Design

Focuses on the integration of work analysis and interaction design methods for pervasive and smart workplaces

*danish for “White”
HWID*: Human Work Interaction Design

Establishing relationships between extensive empirical work-domain studies and HCI design

Addressing the concept of Work in HCI;
Empowering users by designing smarter workplace;
Integrating work analysis and interaction design methods for pervasive and smart workplaces.
Work
Theories, Concepts, Frameworks, Models and Perspectives
Methods, Techniques and Tools
Field Studies

Human Work

Demographic characteristics, Education, Profession, Values, Subjective preferences, Skills, Knowledge, Cognitive Resources, Emotions
Work Contents, Goals, Functions, Tools

Interaction Design

Sketches
Prototypes
Templates
Current Systems

Design Goals
Usability and User Experience Evaluation
Involvement of Workers and Stakeholders
Access to the design process

Environment and Context: National, Geographic, Cultural, Social, Organizational
Theories, Concepts, Frameworks, Models and Perspectives
Methods, Techniques and Tools
Field Studies

Examples

Human Work
Demographic characteristics, Education, Profession, Values, Subjective preferences, Skills, Knowledge, Cognitive Resources, Emotions
Swatch, Apple
Work Contents, Goals, Functions, Tools
ATM

Interaction Design
Design Goals
Usability and User Experience Evaluation
Involvement of Workers and Stakeholders
Access to the design process

Google
Environment and Context: National, Geographic, Cultural, Social, Organizational
Problems with HWID

1. **How to explain what HWID is and does?**
   a. History: cognitive work analysis and ecological design
   b. The definition of work is very broad and includes everything, so how to scope the HWID group?
   c. How to sustain a HWID focus over many years
   e. How to cross all these different domains that HWID cover..archeology, game based learning, eGov, ERP systems...

2. **Still looking for a theory**
   a. …Theory: semiotics engineering, sociotechnical frames, distributed cognition, situated cognition, ecological psychology, cultural psychology, speech processing…

3. **How to combine work analysis and measurement and design?**
   Method: e.g. situated cognition vs UX measurement – how to combine these?

4. **Results:** ? HWID designs (pedro’s, effies, barbaras, arminda’), HWID frameworks/concepts (torkil), HWID context issues (jose’s),

5. **Impact on society:** improve quality of life, inexpensive technology, empower people
I. Exploring UX and Designs for Smart Places in Work Environments

II. Improved Qualities in Health and Support in Work Design

III. Supporting Human Collaborative Work and Cognitive Strategies in a Global World

IV. HCI and Usability Research in Educational, Cultural and Public

V. Exploring Scenarios to Create Design Ideas

VI. Applications and Evaluations
Theories, Concepts, Frameworks, Models and Perspectives  
Methods, Techniques and Tools  
Field Studies

Human Work

I  
Demographic characteristics, Education, Profession, Values, Subjective preferences, Skills, Knowledge, Cognitive Resources, Emotions  
Work Contents, Goals, Functions, Tools

II

Environment and Context: National, Geographic, Cultural, Social, Organizational

Interaction Design

V

Design Goals  
Usability and User Experience Evaluation  
Involvement of Workers and Stakeholders  
Access to the design process

VI

Current Systems  
Sketches  
Prototypes  
Templates

IV
We do have theoretical work for different aspects of HWID, e.g. Burn’s (2012) paper on social aspect of work analysis, but we need more papers that account for HWID as a holistic phenomenon that covers both work analysis and interaction design.

Clemmensen (2011) suggested a specific way to use a combination of the HWID framework and grounded theory with digital qualitative analysis software (such as atlas.ti), and we need more HWID-specific methods.

The Figure also indicates that we need more work explicitly dedicated to the relations (the lines in the framework figure).
When distributing the papers into the HWID framework, we can see that most of the papers are about human work and less about interaction design, and also, that there has been more studies of very early phases in system development (sketches) or, at the other end, late phases (studying implemented systems). There has been few studies of late prototypes or early stages of implementation (content templates for use).

The work in this field has just started, and during the period that we analyzed, we had 38 empirical papers and 16 theoretical papers in order to explore concepts for the emerging area in HWID.

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>Number of papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Denmark, India, Japan, UK</td>
<td>9</td>
</tr>
<tr>
<td>2011</td>
<td>Australia, Austria, Denmark, India, Portugal, Spain, UK</td>
<td>7</td>
</tr>
<tr>
<td>2012</td>
<td>Australia, Canada, Denmark, Finland, Iceland, India, Japan, Portugal, Sweden, UK</td>
<td>17</td>
</tr>
<tr>
<td>2013</td>
<td>Brazil, Canada, China, Denmark, Germany, Japan, Sweden, Switzerland, USA, UK.</td>
<td>11</td>
</tr>
<tr>
<td>2014</td>
<td>Austria, Denmark, Finland, Germany, Greece, India, Netherlands, Norway, Portugal, UK</td>
<td>10</td>
</tr>
</tbody>
</table>
Researchers have developed the understanding of the HWID notion by **experiencing** and **testing** the **contextualization of the concepts and framework**.

**Empirical or theoretically.**

This is a good basis for future research in this area and focus on new challenging topics such as **smart workplaces**.
Vision

Content / Identity: Address the concept of Work in HCI. Empower users by designing smarter workplaces.

Brand: A modern, lightweight version of CWA.

Ambition: To have equal impact as Contextual Design Applicable to many different work domains.
IFIP 13.6 HWID 2014

New Website:
http://hwid.m-iti.org
HWID Goals for 2014-2017:

Increase visibility in the CHI community
- increase by 20%/year the citation count for HWID - reach 50+ citations
- host at least two HWID events involving the SIGCHI community
- at least two HWID full papers at CHI

Propose new research projects involving HWID
- ICT / EU H2020 calls
- National and regional funding
- reach 2017 with at least 2 major ongoing projects involving HWID

IFIP-related goals
- attract more IFIP national representatives into TC13.6 as active members
- at least two HWID full papers at Interact
- host at least two HWID working conferences

Reach developing countries through IFIP
- bring more representatives from developing countries into TC13.6
- reinforce HWID projects and collaborations in developing countries
HWID Planned Events for 2015:

1. IFIP-backed HWID Working Conference 2015 in London (UWL)!

2. SIG proposal for CHI 2015, “Pervasive and Smart Workplaces”.


4. any other suggestions?
   ICT 30-2015
ACM ITS 2015
Interactive Tabletops and Surfaces
November 15-18, 2015 | Madeira, Portugal

ACM ITS 2015
10th birthday

Pool party in November!
HWID Conference 2015
Deadline for submissions: 15 February 2015
Notification of acceptance will be provided by 1 April 2015
Conference dates: 25 and 26 June 2015