Knowledge Maturing at Workplaces of Knowledge Workers: Results of an Ethnographically Informed Study

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http://mature-ip.eu
Agenda

1. Goals
2. Ethnography
3. Personas
4. Results & Conclusion
Workplace Studies of Knowledge Work

- **System design** with anthropological argument that human action is constantly (re-) constructed from dynamic interactions with material and social worlds. *Suchman 1987*

- *lack of workplace studies*, generally in organization science and information systems *Barley/Kunda 2001*

- Example result: four **informing practices** ex-pressing, translating, monitoring, networking *Schultze 2000*

- goals:
  - to investigate workplaces of knowledge workers in order to inform IS design and
  - to learn about how Personas can be applied for user-centered design activities
Ethnography

- investigation of the **state-of-practice** at MATURE partner organizations from knowledge maturing perspective

- in contrast to field observation describing *what happens*, ethnography focuses also on *why and how*

- researcher tries to become a **member** of **community**

- **ethnography** becomes more **popular** in other disciplines, e.g., in computer science ethnography is key approach for designing CSCW-systems *Harper 2000*

- but: ethnographical studies are too **time-intensive, costly and unfocused** for fast changing world of IS

- modified versions, **rapid ethnography**, seem to be more suitable *Millen 2000*
<table>
<thead>
<tr>
<th>organization</th>
<th>size (employees)</th>
<th>sector</th>
<th>IT intensity</th>
<th>country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Careers Scotland</td>
<td>large (&gt;1,000 employees)</td>
<td>professional services</td>
<td>medium</td>
<td>United Kingdom</td>
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<tr>
<td>Connexions Kent</td>
<td>large (&gt; 300 employees)</td>
<td>professional services</td>
<td>medium</td>
<td>United Kingdom</td>
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<tr>
<td>GISA GmbH Halle</td>
<td>large (400 employees, in group &gt;10,000)</td>
<td>IT services (group: utilities)</td>
<td>high</td>
<td>Germany</td>
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<tr>
<td>Städtisches Klinikum Karlsruhe</td>
<td>large (4,000 employees)</td>
<td>health care</td>
<td>medium</td>
<td>Germany</td>
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<tr>
<td>Structuralia</td>
<td>small (30 employees)</td>
<td>professional services</td>
<td>medium</td>
<td>Spain</td>
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<td>Swisscom</td>
<td>large (20,000 employees)</td>
<td>telecommunication</td>
<td>high</td>
<td>Switzerland</td>
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<td>Synaxon AG</td>
<td>medium (130 employees)</td>
<td>IT</td>
<td>high</td>
<td>Germany</td>
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### Study at Gisa Halle (UIBK)

**Sector:** IT services (utilities), app. 400 employees  
**Studied cases:** portal development, DWH consultancy at the client, software development  
**Ethnographers:** Andreas Kaschig, Ronald Maier, Stefan Thalmann  
**Time frame:** 19.05-23.05 and 16.06-20.06  
**# of closely studied persons:** 8 persons  
**# of interviews:** 6  
**Identified personas:** Sally, Igor, Aisha  
**Process instances:** new solution development (portal), idea management, adoption of ESOA, creation of system proposal (business blueprint)
Timeline

Preparation
- Kick-off meeting: Jan. 08
- Study: Apr. 08
- GISA GmbH

Realization
- 1st ethnographers meeting: May/Jun. 08
- GISA®
- 2nd ethnographers meeting: Jun. 08
- Connexions
- Structuralia
- Synaxon AG
- Swisscom

Analysis
- 3rd ethnographers meeting: Sep. 08
- 4th consortium meeting: Oct. 08
- Jan. 09
Personas

- psychology: social role of people in a specific context  Storr 1997
- hypothetical archetypes of a described user  Cooper 1999
- fictitious, specific, concrete representations of target users  Pruitt & Adlin 2006
- large companies have included personas into their software and workflow design processes  Pruitt & Adlin 2006
- usually built around goals, we emphasize practices
- work practices: on what people do  Blackler, Reed & Whitaker 1993
### Personas II

#### Pro

- create a unified base for communication
- rich contextual model of a group of targeted users (Aoyama 2006)
- tangible solidity that puts all design assumptions in perspective and aim at ending feature debates
- programmers can identify with personas (Cooper 2004)
- talk much easier about needs and routines of a persona than about abstract requirements (Blomquist & Arvola 2002)

#### Con

- compete with information about users from many sources (Pruitt & Adlin 2006)
- it is difficult or impossible to verify their accuracy (Chapman & Milham 2006)
- distinguish between indicative and irrelevant characteristics nearly impossible (Chapman & Milham 2006)
<table>
<thead>
<tr>
<th>dimension</th>
<th>criterion</th>
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<td>identifying details</td>
<td>name</td>
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<td></td>
<td>motto</td>
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<td>roles and tasks</td>
<td>role / degree of standardization</td>
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<td>workplace / colleagues</td>
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<td>task management</td>
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<td>education and professional background</td>
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<td>context and environment</td>
<td>reaction to requests from colleagues</td>
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<td>communication strategy / approach to knowledge sharing</td>
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<td>important tools</td>
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<td>goals and motivations</td>
<td>motivation / drives / interests</td>
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<td>problem solving and other knowledge routines</td>
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<td>attitude towards technology</td>
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# Clustering Personas

## Create, aggregate & combine
- Raquel
- Carolina
- Fiona
- Colin

## Moderator, continuous improvement and perfectionism
- Aisha
- Silke
- Heather

## Communicative catalyst, digesting and networking
- Thomas
- Igor
- Gina
- Becky
- Axel
- Otto
- Kurt

## Serendipitous and innovator
- Edward
- Andrew
- Debora

## Isolationist and routinized
- Sally
- Harry
- Stella
- Kevin

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**Clustering by FZI**

**Clustering by UPB**

**Clustering by UIBK**
Primary Personas

Andrew: serendipitous & innovation
- careers advisor, works in a school helping young people or in central office with laptop “hot-desking”
- likes to learn and is keen to find websites that are a valuable resource for developing his knowledge
- motto: “No idea how I learned that - it just happened!”

Colin: create, aggregate & combine
- specialist in labour market information, works in a small team
- He is very structured, likes applying his knowledge and putting it into practice
- motto: “Everything is learned according to plan!”

Igor: communicative catalyst, digesting & network
- IT consultant, works in several project teams and offices
- he is known all over the place, is well informed about ongoing activities
- motto: “There are no stupid questions, only stupid answers.”

Sally: isolationist & routinized
- system developer, shares office with five co-workers
- dislikes verbal interactions, likes to show solutions directly on the affected systems
- motto: “If I have not seen it working, I do not believe it anyways.”

Silke: moderator, continuous improvement & perfectionism
- responsible for a vocational training program, shares office with three colleagues
- has very high personal standards and is committed to improving her work practice
- motto: “Always well organized.”
Take Up

- Ethnographic study
  - Knowledge maturing practices
    - Codes
    - Code areas
  - Knowledge base (D5.1)
- Personas
  - Knowledge maturing cases
    - Frequently used KM routines
    - Scenarios useful to be supported
    - Hot knowledge maturing areas
    - Long running KM cases
    - Change in knowledge maturity stories
  - Use cases (D2.1 and D3.1)
  - Design studies (D6.1)
  - Requirements (D2.1, D3.1)
  - Indicators for knowledge maturing
  - Maturing services (D4.1)
  - Refined maturing model (v2)
- State of the art
- Literature review
- Demonstrators
Conclusions

- Workplace studies are needed to investigate knowledge work and elicit contextual factors of IS usage.
- Personas seem well suited for user-centered design.
- Personas enable team members to share a specific, consistent understanding.
- Personas provide a human „face“ to support empathy on people.
- Personas stress the importance of being aware and master complexity of diverse styles of learning and handling knowledge.
- Groups identified with their Personas:
  - “Igor would never do that, he would rather …”
  - “Sally would think this is great, because …”
  - “Silke just would not find that useful in her way of organizing things due to …”
- Initial assumption strengthened that knowledge work is sufficiently similar across domains and industries.