Understanding the Academic Environments: Developing Personas from Field-Studies

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ABSTRACT
Ethnographic methods have been widely used for requirements elicitation purposes in systems design, especially when the focus is on understanding users' social, cultural and political contexts. Designing an on-line search engine for peer-reviewed papers could be a challenge considering the diversity of its end users coming from different educational and professional disciplines. This poster describes our exploration of academic research environments based on different *in situ* methods such as contextual interviews, diary-keeping, job-shadowing, etc. The data generated from these methods is analysed using a qualitative data analysis software and subsequently is used for developing 'personas' that could be used as a requirements specification tool.

Keywords
Persona, Requirement Specifications, Ethnography, Online Search Engine, *in situ* approaches

INTRODUCTION
In this poster we describe our work carried out on understanding academic environments and setting up the requirements specifications by developing set of personas. Reed-Elsevier provides online products such as Scopus™, Scirus™, ScienceDirect™, and many other – that allow researchers and other professionals to search for peer-reviewed research papers. The User Centered Design (UCD) groups of Reed-Elsevier were responsible for carrying out different design activities, using qualitative and quantitative research methods for understanding different academic and corporate research environments. We provide details of a project carried out in collaboration with the UCD group, Amsterdam. In the project we only focused on the researchers from Biology, Chemistry and Medical sciences. In this poster we will especially focus on how we dealt with the huge amount of qualitative data to develop structured and usable information to support design. First, we will briefly describe the methods used by the UCD group and then discuss how the data was analysed and given the form of a persona.

METHODS
The UCD group mainly used contextual interviews in their explorations, where users were interviewed in a one-to-one session for about an hour. The questions were focused on understanding participants' research activities, their use of different tools, likes and dislikes of work or non-work related websites, etc. These interviews were carried out mainly on-site but in certain cases also remotely using the WebEx tool. In addition to the contextual interviews, at certain stages, the UCD group used methods such as 10-day diary keeping and job-shadowing. Over a period of 10 days several participants were given a diary (paper based as well as the online version) in which the participants were asked to log in the details about their daily habits and main activities. In the diary a set of questions were also provided in order to collect specific information. In the job-shadowing session the UCD group spent a half or a full day with the participants, in which they could *look over the participants' shoulders* to observe their daily activities. This allowed the researchers to observe participants' work flow and everyday interactions.

The overall intention of this exploration was to gather the basic requirements for software development as well as to take into account the holistic nature of academic organization-culture, work practises, social needs and users' overall experiences.

PERSONAS
One of the challenges posed by the immense amount of rich data gathered from these different qualitative and contextual studies was to justify how the data can be used to further design activity. Focusing on a specific set of user data, we proposed to develop a set of personas to structure and aggregate the results from these studies. Persona (Cooper 1999) is a well-known interaction design technique that contains 1-2 page description of a user archetype. It is usually based on real data and represents the most relevant and important user characteristics. Our personas were based on two types of information: a) users' demography, and b) users' behaviour (Goodwin 2002). Based on this data we developed a framework of personas (as shown in figure 1). This framework was then represented as a coding scheme in the MAXqda (Maxqda) software. The coding scheme was iteratively refined when new data were captured.

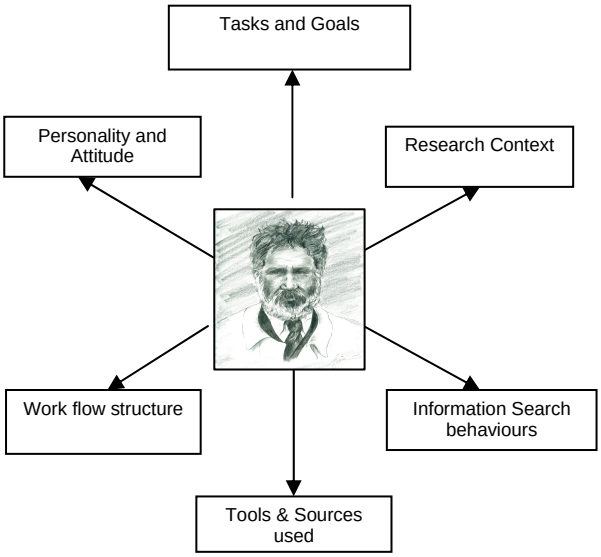

Figure 1. The Persona Framework

In the demographical data, we found information about users' personality, their job description and information about the research field, their overall aims, their attitude and familiarity with different technologies. We encountered some rich details of their work environments: their office settings, different tools used at work, their collaborative activities with other colleagues, different work flow structures at different stages in a year and their work dependencies.

In the behavioural data, we found patterns about participants' different work activities – how and what they write, teach and research, how they carry out their practical works (e.g. experiments, testing, etc.) and how often they do it. We also found patterns in their work organization: how they organize their work and what sources they use for this, etc. Here special focus was on their searching behaviours, especially how they search information, their searching patterns, when and where they search for specific information, etc. We also coded the data about their information use: what they do after getting the right information, when they print, read and store on the disk, etc.

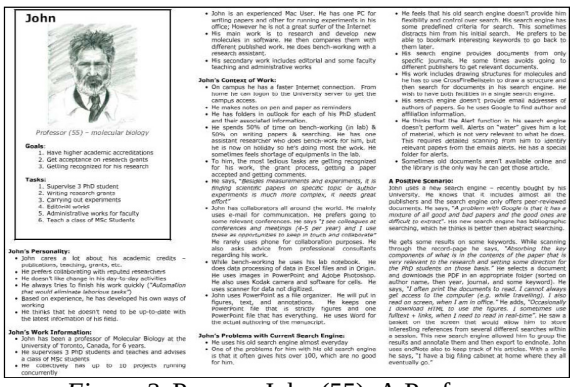

Figure 2. Persona John (55), A Professor

The data gave us indications about their likes and dislikes, frequently faced problems, pleasure and frustration during their work. Figure 2 shows an example persona (a professor in Molecular Biology) that was developed using the MAXqda tool.

DISCUSSION

Depending on their job title and type of discipline, academic researchers differ in many organizational and individual aspects. Our work was focused on translating the huge amount of raw data derived from different contextual and user studies into usable and structured requirements that can be easily used for design purposes. From this work we discovered specific patterns of data, in the form of users' personality and attitude towards the technology, their tasks & goals, tools and sources used during their work, their searching patterns and behaviours, their context of work and their work flow structure.

The use of ethnographic methods has become common in the field of HCI and CSCW to emphasize the implications of users' social, political and cultural contexts in the use of interactive systems. These methods provide insight into the complexity of real-world settings that could be apprehended for generating the requirements for system design. Dourish (2006) recently pointed out that the evaluation of ethnographic methods should not be seen as the implications they provide for designing systems. The value of ethnographic methods is in the models they provide and the thinking they support.

There are certainly some misconceptions about the usefulness of personas in design activity. However, the goal of this research was not about "developing personas", but setting up a retrievable, usable and communicatable form of the user data. The personas that are created using the coding system, developed on the MAXqda tool, may not have all the features or attributes of a traditional persona, but they provide an analysis of the rich, qualitative information gathered during different in situ methods and still resemble the qualities of a real user since they are based on the real data collected from different field studies.

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