

Mixed emotions, mixed methods

Conceptualising experiences of we-centric context-aware adaptive mobile services

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Abstract. Our project studies “experience of people who communicate and collaborate supported by we-centric context-aware adaptive mobile services”. In the current article we describe the scope of our research, and present a conceptual framework on socially constructed and contextualised experience. This framework is leading in developing methods and instruments to assess experiences. For this latter, logging and experience sampling methods on mobile devices are investigated, which offer a platform of new challenges to study experience in an unobtrusive way. Put differently, these new devices are used for research as well as design purposes.

1 Introduction

The work reported here is part of the Freeband User eXperience project – FRUX – in which we-centric context-aware adaptive mobile ICT services are developed and evaluated. More specifically, the experience of people who communicate and collaborate supported by such services is emphasised. We-centric services seem to be of particular added value for groups of people that work together when work is event-driven (or emergency-driven), such as police officers who need to cooperate with other police officers or with ambulance personnel. The project runs from 2004 until 2007 and is set-up interdisciplinary, including end-user, business and technology perspectives. Many projects aim to put end-users central and to combine multiple perspectives, but very often this ambition is not completely realised. More often than not a technological perspective is leading. For example: end-users may be invited to react to prototypes only after they are finished; and there may be interdisciplinary discussions about system requirements, but often not to everyone’s satisfaction. By articulating what we-centric, context-aware adaptive services are from the perspective of end-users, it becomes clear that such services can have benefits – and that their nature poses a range of delicate questions about:

1. Dynamics within a group and social appropriateness (*we-centric*);
2. Dynamic contexts, tasks and ubiquitous computing (*context-aware*);
3. Sensitivity of user-data, control and self-management (*adaptive*).

2 Experience and we-centric services

Dealing with experiences of people using we-centric services to communicate and cooperate is quite different from dealing with the experience of one person using one machine. Therefore we propose to speak of “human-to-human” experience – in line with the shift from *user* centred to *human* centred design; also in keeping with Koskinen and Battarbee [4] who state that “we co-experience things with others in situ, and in elaborating experiences in stories afterwards” (p. 44). In the study reported here *in situ* means the police officers that interact using pervasive computing and context sensitive systems. For this, we use a participatory or emphatic design approach [7]. An example of studying the experience of police officers when they communicate and collaborate is concentrating on a feeling of safety. For instance, an experience offered by police officers might be a safety bundle for retailers. In case retailers collaborate and get their criminality problems organised, police force could award their initiative and offer these retailers a special telephone number for direct help (retailer is identified, and trust relation confirms that such a call involves a serious a robbery) or appropriate forms that ease reporting a crime, or prosecuting the shoplifting. Roughly, we distinguish three levels of experience in we-centric context-aware adaptive mobile services (see Fig.1).



Fig. 1. Three levels of experience (from bottom to top). A micro-level that refers to people’s experiences of using ICT products and services, the meso-level of we-centric experience of communication and cooperation supported by ICT; and a macro-level experience of the service provided by people (meso) with support of ICT (micro).

In our work, we derive from the notion that experiences which people have when they use we-centric services to communicate and cooperate are social experiences, happening in a social context; and that such experiences are social constructions, because these experiences are constructed while people are interacting with each other. “Experience is a very dynamic, complex and subjective phenomenon. [...] The experience of even simple artefacts does not exist in a vacuum but, rather, in dynamic relationship with other people, places and objects. Additionally, the quality of

people's experience changes over time as it is influenced by variations in these multiple contextual factors" [1]. Although, the emphasis on the meso-level, we touch upon the macro-level of experience as an (economic) offering [6] – in the case of police officers: how network partners and citizens with whom the police officers cooperate experience safety; and upon the micro-level of the experience of using ICT [3] – in the case of police officers: how a police officer experiences the using of a specific piece of hardware or service element. In other words, the meso-level represents the social interaction in we-centric services our project is about.

3 Conceptualising experience

In an earlier study [5] we elaborated upon the concept of experience in order to better understand how we could move on our study on experience in we-centric context-aware adaptive mobile services. We introduced experience as socially constructed and socially contextualised. Figure 2 presents our conceptual framework on socially constructed and contextualised experience, which includes feelings and thoughts, intentions and motivation, and (motivated) action and behaviour.

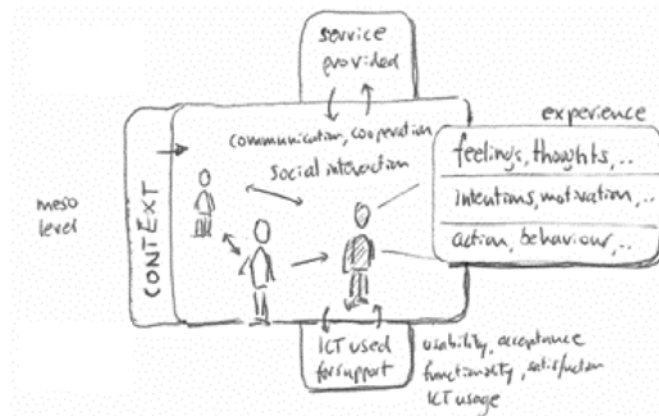


Fig. 2. Conceptual framework on experience. Experience on the meso-level happens when people communicate and cooperate with one another, supported by ICT, and with the goal of providing a service. This we-centric experience consists of: feelings and thoughts; intentions and motivation; and (motivated) action and behaviour; and is influenced by context.

Several definitions from literature were presented, and in this, special attention was devoted to those studies that tried to make experience as a concept operational. Concentrating on what experience is and what the constituting elements are, it can be concluded that experience is related with several factors. Although most authors agree that such factors influence experience some way or another, it is still unclear how these factors relate to one another, and how these can be assessed. Currently, we are elaborating upon that.

Other interesting questions relate to the different methods with which experience can be studied. Experience sampling methods seem to be more appropriate to capture here-and-now or momentary user experience (e.g., “I feel safe here and now”), whereas methods as storytelling and experience diaries seem to be appropriate to capture the memories and interpretations of experiences (afterwards). Context-aware adaptive services measure certain aspects of experience in order to better adapt to people’s needs – e.g., when you are in a hurry, the service filters-out non-urgent messages. Currently, we are studying the concept of experience in a more in-depth way. For example, we study how several factors of experience can be assessed and evaluated in we-centric context-aware adaptive mobile services. Fieldwork has been carried out to measure experience *in situ*, *real time* and translate these into meaningful system parameters. Interestingly, mobile devices are used to assess experiences in the field [2]. Put differently, we-centric context-aware adaptive mobile services offer also a platform of new challenges to study experience in an unobtrusive way.

Acknowledgements

This paper has been written in the FRUX project, which is part of the research program Freeband Communication (www.freeband.nl), which aims at the generation of public knowledge in advanced telecommunication technology and applications in the Netherlands. Freeband FRUX is a joint effort of Delft University of Technology, Dutch Police/ICS, Ericsson, Free University, Telematica Instituut, TNO Information & Communication Technology, Waag Society, and Web Integration.

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