

Designing for mobile interaction: looking for a pragmatic middleground

Elena Nazzi
IT University - Innovative Communication
2300 Copenhagen DK
elna@itu.dk

1. RESEARCH THEME

The theme of this PhD project is designing for mobile interaction with devices and services, for the accessing, making, and sharing of information, taking into account the dynamic physical and social settings that embrace this interaction. To narrow down this theme, the whole project focuses on the exploitation of social interaction – in particular among senior citizens – to enhance and support mobile interaction.

The diffusion of mobile technologies, able to play along with the user in his dynamic environment, is opening new challenges for the design of new services for mobile interaction. Before the first stance over Ubiquitous computing, the importance of understanding not just the individual but the relations among individuals, artifacts, and social groups that surround him was already evident. The research on context-aware computing has vastly investigated the concept of context over different perspective and philosophical assumption, generating an enormous number of applications with different forms of awareness (e.g.: location awareness). The differences and contrasts among these approaches, models and interpretations of the concept of context (its role and usage), state clearly the need for a refocus. A refocus on the goals, the foundations and the assumptions of the field.

This project is an attempt to renew the discussion and to participate in the scientific discourse within ubicomp, mobile HCI, and mobile IR. Moving beyond a mere critique, this project wants to suggest a new approach to design for context-aware computing restarting from its fundamental assumptions and then looking for a pragmatic middle ground between the current perspectives within the field.

2. RESEARCH METHODOLOGY

The research methodology follows two phases characterized by an explorative and design oriented approach¹: analysis and synthesis.

The analysis phase is also composed of two parts: a more classical but design oriented review of current approaches and an explorative design part where these approaches are

¹with explorative and design oriented it is understood an approach aimed to, and based on, iterative design, sketching and prototyping activities focused on the exploration and understanding of current design perspective within context-aware computing.

practically implemented. The first looks for the foundations and assumptions of context-aware computing and aims to identify the current dominant and alternative approaches in the field. The second part completes the analysis by practically building mobile applications following these approaches to fully understand the implications of each of them, both for design and usage. The whole analysis phase is the base for the synthesis phase. This synthesis aims for a pragmatic middle ground between the opposing system-centred and human-centred perspective in context-aware computing. This phase develops in parallel a conceptual framework and a software architecture – infrastructure for the development of a list of mobile applications. The practical examples serve as demonstrators for the suggestion of a new approach for mobile interaction supported by the exploitation of its social aspects. This new approach, based on the pragmatic middle ground, is then built and demonstrated through design and development.

3. OUTCOMES

The expected outcome of this PhD project will be the suggestion of a new approach for designing for mobile interaction, based on a pragmatic middle ground and argued by a conceptual framework, a software architecture for the design of context-enabled mobile services, and the examples implemented – practical descriptors and demonstrators of the middle ground approach. Besides, the review of the foundations of context-aware computing is expected to give advantages to software developers in ubicomp, mobile HCI, and mobile IR to move a step forward their work.

4. CONCLUSION

This PhD project is at his first stage of literature analysis aimed at understanding the underlying approaches towards the concept of context [1, 2]. Even in its early stage of development, the basic assumptions of this project are a human-centered focus, the belief on the dynamic nature of physical and social settings, and the consideration that physical and virtual spaces belong to the same space.

5. REFERENCES

- [1] Human computer interaction - special issue on context-aware computing.
- [2] P. Dourish. What we talk about when we talk about context. *Personal Ubiquitous Comput.*, 8(1):19–30, February 2004.