

## **Supporting people's awareness of others' availability and activities using mobile technology, sensor technology, notification systems, and information systems**

### **Background**

For several years, researchers in a variety of communities have been engaged with questions of organisational knowledge. One strand to this interest is the prime resource of people's knowledge and skills and how it can be managed and used in the organisation. Several attempts have been made to design knowledge systems with the aim of supporting members of an organisation to exchange knowledge. Many of these have been built using common information spaces where information is stored, with the purpose of being used in another situation at another time, either in direct interaction with another person or to identify a person to ask.

### **Earlier results**

In an ethnographic study of knowledge exchange at a consultancy firm (Groth & Bowers 2001) we identified the importance of awareness information, for example of others' availability and activities, when searching for others to ask for solutions when problems occur. How people act when searching for knowledge to solve problems is variable with respect to the character of the problem, but also depends on the nature of the situation. Who is available at the moment, and who are able to answer the questions are the two prime questions persons consciously or unconsciously ask themselves when they encounter a problem. The results also point to a direction of using light-weight technology when designing support for exchange of knowledge and information in organisations.

### **ASK-ME**

In the ASK-ME project we focus on developing technical support for people's awareness of others' availability and activities in order to investigate whether this can support knowledge and information exchange within an organisation. To achieve this, one goal is to combine technology of awareness systems and information systems with sensor technology and mobile technology.

One part of the ASK-ME project focus on sensor technology and how information about people's availability and activities can be captured through different cues in the environment (cf. Bogdan & Sundblad 1998). Using sensor technology for this purpose gives the possibility to avoid extra effort on the user.

In addition to the work with sensor technology we have started to investigate how Bluetooth technology can be used for this purpose. Many mobile phones use Bluetooth technology today, as well as many computers. Mobile phones are also a device that people usually bring with them wherever they go. There exist several examples of applications that detect whether the mobile phone is nearby the computer (which could indicate that the person is working by the computer) and whether the person is talking on the mobile phone.

Another part of the ASK-ME project focus on notification systems. We have selected the Elvin system (Fitzpatrick, Kaplan, Mansfield, Arnold & Segall 2001) to work with, much because of its simplicity. Today Elvin includes several small awareness applications running on a number of different platforms. Examples of applications are Tickertape, Tickerchat and Coffebiff. As part of the ASK-ME project a group of students has successfully implemented

## Position paper for Kristina Groth

an Elvin client running on a Sony Ericsson P800 mobile phone and communicating with the server through a GPRS connection. The mobile Elvin client can receive and send notifications using the Elvin system.

A third part of the ASK-ME project, which we also believe contribute to people being aware others activities, are the use of information systems. This part includes using already existing documentation to create a structured and searchable information system using metadata models and XML.

### References

Bogdan, C. & Sundblad, O. A Cue-based (1998) Integrated System for Supporting Social Awareness, Technical report TRITA-NA-D9904, CID.

Fitzpatrick, G., Kaplan, S., Mansfield, T., Arnold, D. & Segall, B. (2001) Supporting Public Availability and Accessibility with Elvin: Experiences and Reflections, to appear in *Journal of Computer Supported Cooperative Work*.

Groth, K. & Bowers, J. (2001) On Knowing Who Knows: Situating Organisational Knowledge in CSCW, *Proceedings of ECSCW'01*, Kluwer, Dordrecht.