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Introduction

One aspect of mobility is local mobility (Belotti & Bly 1996). This less obvious and flamboyant form of mobility concerns how people move within a given area such as their work place. One common place where local mobility would appear is in the office. Office work has changed over the years from strictly individual work where interpersonal communication was perceived of as a distraction to be avoided or even punished to a climate where close co-operation and frequent communication are key factors for achieving success (Ljungberg 1997, pp. 1). In such a setting it is logical to support communication to as great an extent as possible. However, most IT support is stationary, tied to the desktop, making it unsuitable for supporting co-operation and communication between locally mobile people. Now, we can see an emerging trend in mobile technology, which would make such support feasible. But with new technology and new use situations come new problems and limitations, as well as new possibilities. It is obvious that the support needed when on the move differs from the support needed when sitting at a desk (Kristoffersen and Ljungberg, 1998). In order to investigate this we conducted an empirical field study of personnel engaged in knowledge work in a traditional office setting, as reported in “Walking away from the Meeting room: Exploring support for mobile meetings” (Bergqvist et al, 1999). We briefly summarize the concept of mobile meetings here, followed by a discussion on the social implications of introducing the proposed IT-support for Mobile Meetings.

The field study was conducted at a department in an IT company owned by a Swedish local government. The department has about 25 employees, mainly working with Lotus Notes development, deployment, administration and support. All of the employees are engaged in highly qualified tasks, i.e. knowledge work.

One thing that became abundantly clear during the study was that, even though they where not out of the office very often, they were constantly on the move, talking with colleagues, asking questions and so forth. This is clearly an example of local mobility. The rest of the study focussed on understanding their reasons for being locally mobile. What where they doing, and for what purpose?

Mobile Meetings

The main activity performed while being mobile was having small, short, ad-hoc meetings about emerging problems. These meetings can neither be characterized as informal communication (Whittaker et al. 1994) since they are directly concerned with work and are initiated with a specific, work related purpose in mind. Nor are they traditional meetings with predetermined agendas. They clearly share aspects of both but are neither. These ad-hoc, yet work related meetings, which we denote Mobile Meetings, seemed to play an important role in the day-to-day business at the department.

We observed three major characteristics of mobile meetings. (1) Establishing meetings is handled through being mobile and complex social negotiation between potential participants resolves whether a meeting will be initiated or not, (2) they typically concern a limited but diverse number of topics, that is, they handle multiple threads and finally (3) the most common activity during mobile meetings is briefing the other participants on past, current and future events.

Mobile meetings where commonly initiated in corridors, in the coffee room or in other open places ("Just the person I wanted to see..."), but mostly they were held in someone’s private office ("I want to know what you think of this."). When arriving at (for instance) an office with the intention to start a mobile meeting social negotiation takes place. Depending on what people are in the room, to what extent they are busy and the urgency and relevance of the initiators errand, a meeting is either established or not. If it is established while another meeting is in progress a reconfiguration of that meeting will take place. Thus the focus of the discussions in mobile meetings frequently shifts. Since meetings tended to be interrupted quite often, it was common that topics was re-introduced over and over again, sometimes over long periods of time.

Supporting Mobile Meetings

Several important design implications can be drawn from the mobile meeting characteristics. Establishing meetings can be supported by supplying (1) awareness of where other people are, (2) awareness of what other people are doing and (3) help for the negotiation phase. The dynamic nature of handling multiple threads implies that (4) any IT-support for mobile meetings must be very

flexible and allow effortless switching between different topics. Finally, (5) the large proportion of briefing activities should be supported by giving the user access to relevant material for any given topic or set of participants.

In order to satisfy as many of these implications as possible, we conceived of the dynamic to-do list concept. That is, a common to do list where each item represents a topic (or thread) and is related to a set of persons (representing the participants at a mobile meeting), as well as a set of relevant documents for supporting briefings.

When implemented on a 3Com PalmIII equipped with a radio transceiver (originally developed for the IPAD project at the Viktoria Institute, see (Holmquist et al. 1998)) the device can scan the environment and give priority to the to-do list items based on the proximity persons related to that item. This would support the establishing of meetings. Making the switching between items, as well as adding new ones easy would help the handling of multiple threads during and between meetings. Allowing the user to access documents related to the item (topic) in focus would also support briefing.

Discussion

The design implications from the study will be further discussed during the spring of 1999 and the prototype will be fully implemented the following summer. An extensive evaluation will follow. Even though we are enthusiastic about the support for mobile meetings, some questions do arise. We focus our discussion on the possible conflict between awareness and the integrity of individuals.

Awareness versus Integrity

By knowing where everybody is located at each moment, the mobile way of working can be supported, but how would the personnel react to being monitored this way? It is possible to build systems that monitor where people are located and store that information. By analyzing such databases, managers can find out how long coffee breaks the personnel have been taking, even at an individual level. People can, theoretically, monitor how often their colleagues are in the restroom or outside smoking.

While we believe that location is indeed a useful piece of information for supporting mobile meetings, we acknowledge the problems that may arise from an integrity point-of view. However, the location of other users is a crucial element in supporting mobile meetings. Hence, we believe that the advantages are greater than the potential integrity problems.

Responsibility versus Accountability

When there is a system that documents discussions as well as decisions taken during mobile meetings it implies that the commitments from discussions with colleagues will more explicit than before. Without a system to trace commitments and decisions, they are more based on the moral responsibility of each individual. Such a system will shift the focus from individual responsibility to accountability. Since colleagues can view each commitment and task, it will be evident if a task is ignored. Certainly, this is also the case without any system, but in a less explicit fashion.

The main question here is whether the shift from responsibility to accountability will change the atmosphere in the working place. Will it mean that the workers feel monitored and controlled? Will the informal discussions among colleagues change and be more defensive, since the employees know that discussions can result in commitments registered in the system? On the other hand, the explicit-making of his commitments can be something positive for an individual. It is not possible for colleagues to falsely accuse someone of not performing their duties.

Will the increased accountability be a problem? Maybe not. After all, the personnel are there to work. At work you are faced with tasks and commitments that you must complete if you promised to do so. Therefore, we believe that the workers may perceive it as a supporting tool, since getting help to track your commitments makes it is easier to plan your day.

Social Negotiation versus Automated Negotiation

The negotiation preceding each mobile meeting is indeed a complex social phenomenon. Based on our study we cannot fully understand the properties of the negotiation phase. It seems that more forward persons were able to interrupt meetings more successfully than the average person, but on the whole the reasons for succeeding in establishing a meeting appeared to vary from situation to situation. The reasons for this are probably organizationally and socially motivated.

It is indeed tempting to try to support the establishing of meetings with IT. It could mean that you do not have to go to a colleague's desk just to find out that she does not want to hold a mobile meeting with you. But, if the negotiation is as complex a task as it appears, it is obvious that it would be problematic to mediate it through some form of IT support. It would probably result in many persons not using the system, since it would most likely fail to represent the actual situation.

Conclusion

It is easy to find integrity problems when discussing new technology. It can for instance be argued that the possibility to wire telephones or to read other peoples' email is a sufficient integrity problem to argue against the use of telephones or email systems. Despite these risks, telephones and email are used by millions of people in every conceivable situation.

In the same manner is it of course possible to point out several potential problems that should be addressed when implementing new IT support for mobile meetings. Our position on this issue is that, even though it is possible to find integrity problems, the support suggested is mainly positive, both from an organizational point-of-view and an individual point-of-view. However, the design work is still in progress and a prototype will be evaluated in a real work setting during the autumn of 1999. Before the evaluation we can only speculate as to the effects of introducing IT support for mobile meetings.

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