

# Application Oriented Research on Leisure- and Work-Activities in a Truly Mobile Setting

Mattias Esbjörnsson

Mobility, The Interactive Institute

P.O. Box 24081, SE-104 50 Stockholm, Sweden

[mattias.esbjornsson@tii.se](mailto:mattias.esbjornsson@tii.se) <http://www.tii.se/mobility>

## BIOGRAPHICAL SKETCH

Mattias graduated from the Department of Informatics, Umeå University with a master's degree. He is a Ph. D. student at the Department of Informatics at Göteborg University, Sweden, and currently a member of the mobility studio, Interactive Institute.

## ABSTRACT

This work explores today's practice regarding collaborative activities among selected groups of road-users, and the possibilities to support them with mobile IT. Up to recently research in this setting has focused mainly on logistics, based on a centralized view on traffic. However, this paper introduces three field-studies on road-users, which all present a decentralized view on the activities taking place in this setting.

## Keywords

Mobile CSCW, ethnography, roads, simultaneous activities, contingent meetings, prototypes.

## INTRODUCTION

The broadened scope of the CSCW-conference, to embrace not only *work* but also other activities taking place in our *world*, is suitable for research on road use. In the road context, a variety of activities take place, both work as well as recreational ones. The research projects, which I am involved in, are tied together by this specific setting, and in their joint focus on mobile coordination and collaboration.

Traditional CSCW-research almost exclusively focuses on stationary work settings, i.e. control rooms, offices or factories. A sample of these studies contains limited movement of objects or people, necessary to reach certain equipment or to meet other people [2, 7]. More recent work, such as Laurier [6] explores the complexity in mobility, i.e. the performance of simultaneous tasks such as handling 'office work' while driving.

In my thesis work I investigate today's practice regarding mobile collaboration in a road setting. The clusters investigated consist of occupational groups working on the roads

and people using the roads as an arena for social activities. The fieldwork reveals a current practice where the objects of our studies conduct truly mobile activities [8]. It is not a fact of movement between different places, seeing that the continuous movement could be understood as the primary activity itself.

## THE PROJECTS

Three projects constitute the base of my empirical work:

*Guarding the roads* – In this project we are investigating the practices of road inspectors. This is a truly mobile work, which includes the identification, reporting and repair of defects on the road infrastructure. The primary focus is to gain knowledge of the working situation and competence of the road inspectors as well as evaluate current technical support. Secondly, we identify services and applications that could be used to develop the work at the maintenance contractor. The project is based on the assumptions that the inspectors *cooperate* with others in order to solve their tasks and that they hold valuable *local knowledge* about the roads and their use. The empirical fieldwork resulted in design implications for the PlaceMemo-prototype [3]. The project is in the late stages of completing the prototype for final testing and evaluation. It is built to support mobile articulation in a vast working area.

*Biketalk* – The motorcyclists are selected because they are so explicit on their road use as a *social activity*. Much could be learned from their practices and use of information technology, which possibly could illuminate future road use. The bikers are a special form of road users whereas they often travel as a group of vehicles. They also travel to meet other bikers at specific events. Since, these activities comprise extensive collaboration it is of interest, from a CSCW perspective, to study their interaction practices and what tools they use to coordinate their activities. The fieldwork reveals the importance of the *visual practice* (i.e. to be seen and to observe likeminded). Based on the empirical data the Hocman-prototype [4] has been built. It elaborates with the possibilities to support the interaction between acquainted and unacquainted bikers during *contingent meetings*. Currently a prototype system is being evaluated.

*Office drivers* – A project in its initial phase. The planned empirical fieldwork will start in September 2002. Focus is

set on salespeople spending most of their time in the car, using it as an office while traveling to, and from, meetings with customers. Our aim is to investigate the user's handling of *simultaneous collaborative activities*, i.e. how they use their mobile phones while driving. This study of 'extreme' users may shed some light on future behavior in other user groups. We plan to record the mobile phone conversations and the activities taking place in the car. Hopefully we will receive an indication on how they handle the driving while speaking in a mobile phone, and vice versa.

## RESEARCH THEMES

The general topic of my research focus on mobile IT-applications supporting collaboration. Except from methodological issues concerning the fieldwork, the formulation of design requirements and the evaluations, I have an interest in the following themes:

### Collaborative use of places

The fieldwork reveals the complexity of collaboration in a widespread working area, especially when being geographically separated. In the case of the road inspectors [3] we investigate the common understanding, and marking of locations in a mobile workgroup dispersed in a vast geographical area [5]. Remarkably little has been said about the environment as perceived through motion, even in the research areas studying mobility. As an alternative, we have turned to the theories and methodologies developed within the field of architecture and city planning [1].

### The handling of contingent meetings

Several research projects focus on the development of active badges [2] supporting meetings within groups, in a predefined setting and limited time scope. The situations are far from being natural. In the case of the motorcyclists [4], the fieldwork reveals the importance of the visual practice when handling the contingent meetings. The activities on the roads are of great importance to maintain the virtual community on the web, even when clearly separated in time and space. There are also observable situations where they attempt to create a feeling of presence by recording and publishing movie-clips on the Internet.

### Simultaneous activities

A recurring topic in the empirical fieldwork is the handling of simultaneous activities while being mobile. The motorcyclists try to solve the problem by postponing a selection of collaborative activities in time and space. The road inspectors encounter breakdowns in their work since their technical equipment provides insufficient support. In the case of the salespeople we will explicitly study their handling of simultaneous activities, the mobile phone conversations and the traffic. The work of Laurier [6] will form a basis in our work and we will put additional effort in the mobile phone conversations.

## MOTIVATION OF MY RESEARCH

I have chosen to explore a vast environment containing a plethora of user groups, performing different collaborative activities. Research on IT-use in this setting, the roads, has almost exclusively focused on logistical matters, and neither has it been an ordinary object of studies in the field of CSCW. My combination of research themes, the context and the selected groups of users, compose a case that differs from existing studies. Except from providing empirical data, my research also results in prototypes, which is beneficial when testing hypothesis. Initial findings from the evaluation indicate promising results to strengthen the possibilities to maintain, and move between, different social formations, thus supporting collaborative activities. The discussion on how to use ethnographical methods to inform the design is a recurring topic. The evaluation of the prototypes in this complex setting is also a subject of interest for the CSCW-community. Overall, the research reveals the importance of further studies on collaborative aspects in a road setting.

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