
This thesis contributes to our understanding of information technology use in emergency response work and how information technology could be designed to provide support in emergency response work. The work domain of operative emergency response has been studied by extensive ethnographic fieldwork at several different fire and rescue services in Sweden. Prototypes have been design and used by fire crews in field experiments in order to probe for potential future use of information technology and to study its consequences.

By using sensemaking as an analytical lens, new aspects in emergency response work have been identified that influence the design of information technology support. The results from the extensive fieldwork and the field experiments presented in this thesis suggest a new conceptualization of response work as patterns of practice where the collective efforts of making sense is fundamental for successful response work. The conceptualization makes visible the importance of carefully embedding the use of information technology in the situated time-critical response work.

Based on the patterns of practice, two general design dimensions have been formed, extending our current knowledge of how information technology should be designed for emergency response work. Current information technology has primarily been designed for a formal role or specific task. The results presented in this thesis suggest that the design of information technology should focus on the social interactions among the response actors involved in time-critical response work. In the collective efforts of making sense in emergency response, actors use a range of information technology artifacts that produce a range of digital traces that say something about the ongoing work. Future information technology should be designed to make use of such traces of actions in order to improve the visibility of the actors and their actions in ongoing the response work.

By designing for social interactions and designing for traces of actions, new improved features of information technology could be materialized that will make emergency responders better equipped for sensemaking activities in emergency response work.

KEYWORDS

Information technology, Emergency response, Field studies, Prototyping, Field experiments, Patterns of practice, Social interactions, Traces of actions

Language: English · Number of pages: 190

Gothenburg Studies of Informatics, Report 39, September 2007

ISSN 1400-741X(print), ISSN 1651-8225(online), ISBN 978-91-628-7231-1
