



Proceedings of the Combined workshop on
Self-organizing, Adaptive, and Context-Sensitive
Distributed Systems
and
Self-organized Communication in Disaster Scenarios
(SACS/SoCoDiS 2013)

Preface

2 pages

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This is a joint workshop of two closely related research areas. The **SACS** workshop, as its preceding SAKS workshops of the years 2006-2011, is intentionally directed at a multidisciplinary audience. The main topics of SACS are, as in the previous years, targeted at technical, legal, and social implications of the new world of self-organized systems, adaptive systems, and many other challenges we meet in Ubiquitous Computing.

Ubiquitous computing has been a strong vision of contemporary computer science for the last decade, initially with respect to its potential for innovative services. From a technical point of view the management of highly complex, heterogeneous and distributed systems still rises many interesting questions. Self-organization, autonomous behavior, and adaptation are important keywords, and the numerous theoretical and prototypical approaches to these challenges still have to prove their value in everyday applications.

However, the conception and realization of these autonomous, adaptive systems cannot be constrained to technical challenges only. Can we handle applications with an autonomous, adaptive behavior not only within our prototypes, but at our hands, in our real environment? Will they provide new chances for improving life quality in various societal environments? Do we have to put a special focus on societal and also legal implications when these system are deployed on a broad scale? How do we ensure trust in a complex system that is working outside of our direct influence?

The **SoCoDiS** workshop addresses self-organized communication systems tailored to support rescue teams in disaster scenarios. Research goals comprise developing mechanisms for the autonomous, dynamic, and distributed coordination (self-organization) of mobile communication systems, for instance, for communication systems based on UAVs (unmanned aerial vehicles) than can be brought into the scene easily. Such devices are able to fly over affected areas, carry network equipment to create an ad-hoc communication network infrastructure among all UAVs, and can be used to assist the teams in arbitrary large-scale disaster scenarios. However, as each disaster scenario is different and each deployment poses different challenges, it must be possible to adapt such a communication system to the specific needs of arbitrary disaster scenarios.

This is the first SoCoDiS workshop, and the idea to organize this workshop emerged in the context of the “International Graduate School on Mobile Communications” (MOBICOM) of the Technische Universität Ilmenau. In MOBICOM, self-organization is applied to the radio systems, to protocols, and to the network as a whole, with a specific view on disaster scenarios, for example, to support the localization of individuals or to provide emergency communications.

Michael Zapf
Florian Evers
March 2013



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