

# SuperAssist:

## Personal Assistants for Distributed Supervision of Complex Task Environments

*Keywords:* Human-computer interaction, personalization, supervision, ambient intelligence, health care, personal assistants, cooperative problem-solving

**Goal.** The overall project goal is to develop guidelines, models and methods for joint user-assistant supervision of complex task environments, which is effective and efficient, which is trustworthy for the user, and for which the interaction takes place in a socially approved manner. The models capture the mutual relationships between personalisation, users' system knowledge, roles, trust, autonomy and social acceptability.

**Results.** The SuperAssist project will provide a personal assistants' framework for distributed supervision of information and equipment. Specific *innovative* project results are: communication and interaction model for these assistants; methods for *joint* human-computer supervision; improved test methods, tools and criteria for systematic assessment of user experience; "best practice" implementation-method and guidelines; and a "proof of concept" in the transmurial health care domain.

**Motivation.** Living and working environments contain more and more networked information compilations and technical equipment. Although it is often stated that these environments will be more-and-more distributed and mixed, the distributed management of critical equipment and information within such combined environments has hardly received attention. The SuperAssist project will provide valuable knowledge about how to create innovative intelligent user interfaces that utilise information technology and improve this management. For the medical application domain, the SuperAssist framework will reduce costs by improving the local, self-care capacity of people by efficient employment of remote, distributed expertise (incl. personal medical care).

**Approach.** The SuperAssist project will apply a recently developed cognitive engineering approach in which practical theories, communication and interaction models, and prototypes are being developed in a structured iterative process. To test and improve these models, we systematically investigate the following design parameters in a series of experiments in the health care domain: task allocation, joint anomaly management, and assistants' "look & feel". The project is divided in three major activities: anomaly detection & communication, personalised interaction, and prototyping. The SuperAssist research takes place in the medical domain, but it aims at a generic solution for the distributed supervision of complex environments. In *workshops* with representatives from other domains, we will assess the "generality" of SuperAssist.

### Partners

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