MIMOSA/MINAmI: Building mobile-centric ambient intelligence

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Abstract

The goal of the MIMOSA project has been to build an open technology platform for mobile-centric ambient intelligence applications. The mobile phone is a trusted personal device and works as a user interface to ubiquitous smart services. The MIMOSA platform facilitates mobile applications that utilise wireless connections to RFID tags and sensors. The MIMOSA architecture enables integrating different types of sensor measurements on a single platform and analysing the measurements with a context engine. Another noticeable point is that the MIMOSA design approach has been strongly human-centred in that dozens of potential end-users have participated in the evaluations of the architecture-based scenarios and proof-of-concepts. The mobile-centric approach to ambient intelligence appears to be well accepted among users, and one of the main reasons to this is that in the approach the user feels being and really is in control of the ambient intelligence systems.

The MINAmI project will carry on the work made in MIMOSA and further develop mobile-centric ambient intelligence applications. In addition to everyday applications, health care has been selected as a central application field in MINAmI, since health care was one of the best accepted application fields based on the results of the MIMOSA user evaluations. The main technology objectives of MINAmI are to further develop short-range low-power low-cost wireless connectivity, mass storage and event-sensitive radio frequency tags, and nano/micro-sized sensors. The human-centred approach of MIMOSA will be continued with within MINAmI, added with ethical assessment work. Tackling with ethical issues and challenges is vital especially to the health care field, in which violating the users' sense of privacy, security, and trust on the services and application would particularly decrease the user acceptance of ambient intelligence systems with very high risk.