

Motivation

The vision of ambient intelligence is among today's most challenging topics for information technology. Realizing the vision means that consumers will be provided with universal and immediate access to available content and services, together with ways of effectively exploiting them. However, while base networking and hardware technologies are here to enable the vision to become a reality, there is still a long way to go before its full, robust realization. Open issues include provisioning: multi-modal user interfaces, software environments so that applications deployed in the computing space work effectively independently of the consumer's profile and location, network protocols for improved connectivity in any situation, and hardware for, e.g., enhanced autonomy of tiny-scale devices such as wearable computers. Our work concentrates on one such issue that is offering a core middleware infrastructure for supporting the development of ambient intelligence software systems.

Research

As part of our early research on pervasive service-oriented computing, we have developed, from design to prototype implementation, the WSAMI service-oriented middleware, WSAMI enables the abstract specification of Ambient Intelligence applications in the form of software architectures, together with their dynamic composition according to the environment. The proposed middleware builds on the Web services architecture, whose pervasiveness enables service availability in most environments. In addition, dynamic composition of applications is dealt with in a way that enforces quality of service for deployed applications in terms of security and performance through the systematic customization of connectors that dynamically integrates relevant middleware-related services.

Contributors

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Related Grants

- [OZONE](#) -- IST FP5 - New Technologies and Services for Emerging Nomadic Societies

Related Software

- [WSAMI](#) service-oriented middleware

Follow-up

- [Service-oriented middleware for ubiquitous networks](#)
- [Semantic services for ambient intelligence](#)
- [Interoperable middleware for ambient intelligence](#)

Publications

- Titre [Developing Ambient Intelligence Systems: A Solution based on Web Services](#)
Auteurs Issarny Valérie; Sacchetti Daniele; Tartanoglu Ferda; Sailhan Françoise; Chibout Rafik;
Lévy Nicole; Talamona Angel
Automated Software Engineering
12-1, (2005) 101-137 [Accès au texte intégral](#)
- Titre [Software Architecture for Mobile Distributed Computing](#) Auteurs Issarny Valérie;
Tartanoglu Ferda; Liu Jinshan; Sailhan Françoise
Détail
4th Working IEEE / IFIP Conference on Software Architecture : WICSA 2004
(2004) 201-210 [Accès au texte intégral](#)