

IEEE Intelligent Systems

Call for Papers: Context-Aware Middleware and Intelligent Agents for Smart Environments

Smart environments—smart homes, smart offices, smart schools, and so on—represent advanced communication and computing environments featuring everyday objects that continuously involve and focus on nonexpert users. Smart environments have rapidly emerged as an exciting new paradigm that tends to include different research fields such as ubiquitous, pervasive, and grid computing. They aim to provide computing and communication services in a much more convenient, seamless, and pleasurable way. That is, users will be able to remotely access and control all information and appliances in their environment, easily and conveniently utilizing various services resulting from the integrated cooperation of possibly heterogeneous communication-enabled objects. To realize the services' advantages, we need proper and novel middleware support that simplifies the provisioning of context-dependent intelligent agents, thus leveraging the cost-effective design and implementation of smart-environment applications.

This special issue seeks both original research papers and review articles that enhance the state of the art in context-aware middlewares, frameworks, and intelligent agents for smart environments. Possible topics include, but aren't limited to, the following areas as they relate to smart environments:

- effective communication and coordination of heterogeneous components,
- effective context gathering and inference techniques from low-level sensor data,
- context-dependent dynamic discovery of components and services,
- frameworks for integrating AI and data mining,
- middleware-based development of applications and services,
- intelligent agents in applications and services,
- data mining and the Semantic Web,
- security and privacy, and
- commercial or industrial business models and applications.

Important Dates

Submissions due for review: 4 Sept. 2009

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Submission Guidelines

Submissions should be 3,000 to 7,500 words (counting a standard figure or table as 200 words) and should follow the magazine's style and presentation guidelines (see www.computer.org/portal/pages/intelligent/mc/author.html). References should be limited to 10 citations. To submit a manuscript, access the IEEE Computer Society Web-based system, Manuscript Central, at <https://mc.manuscriptcentral.com/cs-ieee>.