ACM Transactions on Autonomous and Adaptive Systems

Special issue on

Adaptive Service Discovery and Composition Systems for Ubiquitous and Pervasive Computing
http://taas.acm.org/

Important Dates

Submission deadline: 30th June 2009
Notification date: 30th Dec. 2009
Expected publication: end 2010 (tentative)

Submission Guideline

Authors are invited to submit manuscripts reporting significant developments in the topics related to the special issue. The submitted papers must be written in English and describe original research not published nor currently under review by other journals or conferences. If an earlier version of the manuscript was published or accepted in conferences, authors should state so in the cover letter. The manuscript must be a substantial extension to the previously published or accepted work and a summary of changes and a copy of the previous conference paper must be submitted.

Authors are invited to submit their manuscripts to the guest editors through email at:
 bakhouya@gmail.com or
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The manuscripts should be formatted according to the ACM TAAS guidelines available from the journal homepage
 http://taas.acm.org/.

Guest Editor

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Aims and Scope

Ubiquitous and Pervasive Computing (UPC) are recent paradigms with a goal to provide computing and communication services anytime and everywhere. In UPC, automatic service composition requires dealing with several research issues: such as service matching and selection, coordination and management, scalability, fault-tolerance, and adaptation to users' contexts and network conditions. Current approaches and methodologies to address these issues are directed to different research orientations. For example, semantic languages are investigated to specify and describe application components, including complex planning mechanisms that utilize these descriptions to generate the whole application or composite service. In other words, this research direction is trying to define languages to formally specify services, invocation mechanisms and adaptive composite services. Another direction aims to develop architectures that enable scalable, fault tolerance, and adaptive applications in dynamic environments. These issues need to be addressed under joint efforts from different areas, such as networking, systems, software and agent-oriented engineering, bio-inspired systems, and others.

Topics

The special issue intended to focus on the above issues and solicited papers that address theoretical and experimental work related to service discovery and composition systems in UPC. Papers are solicited from, but are not limited to, the following topics:

- Service-oriented architecture and Web services
- Ontology-based approaches for service composition
- AI planning-based approaches for service composition Workflow-based approaches for service composition
- Bio-inspired middleware for Ubiquitous and Pervasive and Grid Applications
- User and context self-awareness techniques
- Peer-to-peer based protocols for service discovery and composition
- Agent-Oriented Software Engineering support for UPC
- Performance evaluation and analysis for service discovery and composition approaches
- Specification, validation and verification of systems for UPC

Guest editor will pre-screen submitted manuscripts for their suitability in the issue. Submissions passing the prescreen process will go through a rigorous peer-review process according to the standards of TAAS.