

CALL FOR PAPERS

ACM Transactions on Internet Technology (TOIT)

Special Issue on

Context-Aware Web Services for the Future Internet



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Over the years, the Web has gone through many transformations, from traditional linking and sharing of computers and documents (i.e., “Web of Data”), to current connecting of people (i.e., “Web of People”). With the recent advances in radio-frequency identification (RFID) technology and Web services, the Web will continue the transformation and will be slowly evolving into the so-called “Web of Things and Services”. This future Web will provide an environment where everyday physical objects such as buildings, sidewalks, and commodities are readable, recognizable, addressable, and even controllable using services via the Web. The capability of integrating the information from both the physical world and the virtual one not only affects the way how we live, but also creates tremendous new Web-based business opportunities such as support of independent living of elderly persons, intelligent traffic management, efficient supply chains, and improved environmental monitoring.

Context-aware Web services are emerging as an important technology to underpin the new applications (user centric, highly personalized) on the future ubiquitous Web. However, realizing context-aware Web services raises a number of significant challenges, which have not been widely recognized or addressed in the community. One important issue is how to represent and manage contextual details that change over time and how to make Web services respond to these changes. How, when, and where to track the provenance of data and meta-data? Another issue is how to seamlessly bind context to Web services, given the fact that context is not supported by the current widely accepted building blocks of the Web services stack (e.g., UDDI, SOAP, and WSDL). In particular, how to define and use effective and practical metrics to manage adaptation? Finally, dealing with context also raises significant issues related to security and privacy.

This special issue aims at presenting the latest developments, trends, and research solutions of context-aware Web services. Topics of interests include, but are not limited to:

- Models and languages for formal specification of context and policies in SOA
- Middleware for dynamic and adaptive Web services and processes
- Visualization of context quality
- Light and flexible approaches to service and data integration
- Quality-aware framework for publishing and discovering Web services and sources
- Context-based semantic matching for Web services composition
- User context modeling, retrieval, and management
- Software agents and context-aware Web services

- Approximate query answering models for dynamic environments
- Context-aware Web services discovery
- Security and privacy in context-aware Web services development
- Web services personalization using context
- Model-driven development of adaptive Web services
- Context quality verification
- Context awareness and Web services standards

Important Dates

Paper submission deadline:	Dec 15, 2010
1 st round review due:	Mar 15, 2011
1 st revision due:	Apr 15, 2011
2 nd round review due:	May 15, 2011
2 nd revision due:	May 30, 2011
Final acceptance approved by EiC	Jun 31, 2011
Publication:	3rd quarter of 2011

Submission Guidelines

The submitted papers must describe original research which are not published nor currently under review by other journals or conferences. ACM Transactions on Internet Technology offers a web-enabled online manuscript submission and review system. Papers should be submitted from <http://mc.manuscriptcentral.com/acm/toit>. Authors should choose manuscript type: "Special Issue" when submitting their papers.

All papers must be submitted in electronic form (PDF preferred), must not exceed 40 double-spaced pages (all inclusive), and must be in English and set in 10 or 11 point font.

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