Engineering Service-Oriented Applications

6th International Workshop WESOA 2010

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Abstract. Many of today's large-scale software projects in the area of distributed systems and especially enterprise IT adopt service-oriented software architecture and technologies. For these projects, availability of sound software engineering principles, methodology and tool support is of utmost importance. However, traditional software engineering approaches are not fully appropriate for the development of service-oriented applications. The limitations of traditional methods in the context of service-oriented computing have led to the emergence of Software Service Engineering (SSE) as a specialist discipline, but research in this area is still immature and many open issues remain. The WESOA workshop series brings together research community and industry practitioners in order to develop comprehensive engineering principles, methodologies and tool support for the entire software development lifecycle (SDLC) of service-oriented applications.

Keywords: Service Computing, Software Engineering.

1 Aims and Scope

The WESOA series addresses challenges of SSE that arise from specific characteristics of service-oriented applications that are often process-driven, loosely coupled, composed from autonomous services within complex IT landscapes and closely related to diverse socio-economic contexts. Service-oriented Computing (SOC) enables the materialization of organizational processes as flexible compositions of autonomous service components. Stakeholders, domain experts, software architects and engineers instrument Service-Oriented Architectures (SOA) to drive constant organizational change by means of agile reengineering of software services, system landscapes and applications. In particular, service-oriented applications need to provide multiple, flexible and sometimes situational interaction channels within and beyond

organizational structures and processes. Engineering of such software systems requires continuous, collaborative and cross-disciplinary development processes, methodologies and tools that synchronize multiple SDLCs of various SOA artifacts with organizational innovation processes.

Service-oriented applications closely resemble the organizational principles of their application domains that are often dynamic, collaborative and process-driven networks. They are compositions of service system components that are provided by autonomous stakeholders based on unique assets and capabilities. Thus, SSE is a complex undertaking that spans multiple distributed yet collaborative development processes of interrelated SOA components. Additionally, service-oriented applications often have a socio-economic as well as political dimension. It is the challenge of SSE not only to cope with these specific circumstances but also to capitalize on them with radically new approaches. The WESOA series addresses these challenges and particularly concentrates on principles, methodologies and tool support that consider the holistic scope of the service-oriented SDLC.

2 Workshop Event

The 6th WESOA event was held in San Francisco on December 7, 2010. The workshop opened with a keynote presentation by Greg Pavlik from Oracle giving an industry perspective on SOA platforms, standards, and applications and exploring current trends in service-oriented computing.

The technical sessions consisted of eight high-quality papers representing a rich variety of topics revolving around principles, methods and application of SSE.

The first session included contributions by Ian Gorton et al. on *Engineering High Performance Service-Oriented Pipeline Applications with MeDICI*, Rosa Alarcon et al. on *Hypermedia-driven RESTful service composition*, and Lukasz Juszczak et al. on *CAGE: Customizable Large-scale SOA Testbeds in the Cloud*.

The next session included contributions by Soudip Roy Chowdhury et al. on *Wisdom-Aware Computing: On the Interactive Recommendation of Composition Knowledge*, Marcus Roy et al. on *Facilitating Enterprise Service Discovery for Non-Technical Business Users*, and Thomas Heinze et al. on *Process Restructuring in the Presence of Message-Dependent Variables*.

The final session included contributions by George Feuerlicht on a *Simple Metric for Assessing the Quality of Service Design*, and Seyed Hossein Siadat, et al. on *Adaptation of Web Services based on QoS Satisfaction*.

3 Workshop Co-organizers

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