Feature Analysis for Service-Oriented Reengineering

12th Asia-Pacific Software Engineering Conference (APSEC'05) (2005)
Taipei, Taiwan
Dec. 15, 2005 to Dec. 17, 2005
ISSN: 1530-1362
ISBN: 0-7695-2465-6
pp: 201-208
DOI Bookmark: http://doi.ieeecomputersociety.org/10.1109/APSEC.2005.67

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ABSTRACT
Web Services together with Service-Oriented Architectures (SOA) are playing an important role in the future of distributed computing, significantly impacting software development and evolution. With the adoption to Web Services technology, more and more existing non-service-oriented software systems turn to be legacy systems. They require a service-oriented reengineering process in order to survive in service-oriented computing environment. If the reengineering goal is to expose the services of a single object or any underlying function-oriented middleware, many problems will arise including semantic mismatches, service granularity issues and state management. Attempting to masquerade software assets from a lower level of abstraction can often cause significant mismatch and exposure problems. In this paper, by using feature analysis, an approach to supporting service-oriented reengineering is presented. Service identification and packaging process are performed and resulted into a service delegation.

INDEX TERMS
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CITATION
doi:10.1109/APSEC.2005.67
Service-Oriented Computing (SOC) enables the development and design of loosely coupled software components for integration with other software systems. Since most legacy systems were not designed and developed with services components, current legacy software systems require modernization (reengineered) into a target system made up of a set of loosely coupled services. A methodology for service-oriented software reengineering (SoSR) is proposed for applying SOC to legacy systems. The SoSR methodology, a synthesis of best practices, is architecture-centric, service-oriented, role-specific, and mo Service-oriented architecture (SOA) is a new way of developing systems that promotes a shift from writing software to assembling and integrating services. By adopting an SOA approach and implementing it using supporting technologies, companies can build flexible systems that implement changing business processes quickly, and make extensive use of reusable components. In this paper we describe the approach we followed in adopting an SOA in an autarchy with regard to the implementation of a process of public procurement integrated with the existing systems. Feature analysis for service-oriented reengineering. Software Engineering Conference, 2005.APSEC'05. 12th Asia-Pacific, 15-17, 8 p. [8]. Chung, Davalos, 2007. Service-Oriented Software Reengineering: SoSR. Umar, A., Zordan, A.: Reengineering for service oriented architectures: A strategic decision model for integration versus migration. Journal of Systems and Software 82(3), 448–462 (2009) CrossRefGoogle Scholar. 16. del Castillo, R.P., García-Rodríguez, I., Caballero, I.: PRECISO: a reengineering process and a tool for database modernisation through web services. Chen, F., Li, S., Yang, H., Wang, C.H., Cheng-Chung Chu, W.: Feature analysis for service-oriented reengineering. In: Software Engineering Conference (2005)Google Scholar. 21. Canfora, G., Fasolino, A.R., Frattolillo, G., Tramontana, P.: A wrapping approach for migrating legacy system interactive functionalities to service oriented architectures.