

CONTEXT AWARE WEB SERVICE COMPOSITION: A SURVEY AND RESEARCH CHALLENGES

ABDULLAH ABDULLAH AND XINING LI

School of Computer Science, University of Guelph,
Guelph, ON, Canada, N1G 2W1

Abstract

Web Service Composition (WSC) is a technique to gather and connect existing Web services together to build a high-level business process and has gained a great attention in the past few years. At the same time, context awareness has also attracted many researchers due to its high level of convenience to meet user's satisfaction. Certainly, the combination of both paradigms will provide more intelligent, convenient, customisable services to end users. However, such a combination process is not a trivial task. In this paper, we present a comprehensive overview of applying context awareness to the WSC domain. Previous research efforts are reviewed and then main research challenges, namely, scalability, heterogeneity, mobility, adaptability and security, are highlighted. This survey shows that the majority of existing approaches are either directed to only a subset of user context information or to a specific phase of service composition. Based upon our investigation, we propose a set of research suggestions in the design of a hybrid context aware WSC system in order to provide better services and fulfill user's growing needs.