Problem of Services Selection in Ubiquitous Systems

Authors : Malika Yaici, Assia Arab, Betitra Yakouben, Samia Zermani

Abstract : Ubiquitous computing is nowadays a reality through the networking of a growing number of computing devices. It allows providing users with context aware information and services in a heterogeneous environment, anywhere and anytime. Selection of the best context-aware service, between many available services and providers, is a tedious problem. In this paper, a service selection method based on Constraint Satisfaction Problem (CSP) formalism is proposed. The services are considered as variables and domains; and the user context, preferences and providers characteristics are considered as constraints. The Backtrack algorithm is used to solve the problem to find the best service and provider which matches the user requirements. Even though this algorithm has an exponential complexity, but its use guarantees that the service, that best matches the user requirements, will be found. A comparison of the proposed method with the existing solutions finishes the paper.