

Exact Functional Context Matching for Web Services

Islam Elgedawy Zahir Tari Michael Winikoff
RMIT University
School of Computer Science and Information Technology
Melbourne, Australia
{elgedawy, zahirt, winikoff}@cs.rmit.edu.au

ABSTRACT

Service discovery approaches, which mainly use keyword matching of service descriptions, have a low matching precision. This paper proposes an approach to increasing the matching precision by using services' functional contexts during the matching process. To enable a precise functional context matching, both the services' goals and the domain semantics are considered. For that purpose, we introduce the concept of *functional substitutability* and the proposed context matching technique uses this concept to match the underlying constraints of the functional contexts. Compared to the keyword-based context matching approach, simulation experiments showed that the (context retrieval) precision using the devised matching approach is much better and more stable against query semantic mutations.