Abstract

With the increasing number of Web services available on the web, looking for a particular service has become very difficult, especially with the evolution of the clients’ needs. In this context, we have previously proposed the CBR-based system for semantic Web service discovery (CBR4WSD) which benefits from the advantages of CBR to address the limitations of existing approaches in terms of efficiency of the Web service selection. This paper is devoted to the study of the Retrieval phase, which is the core of our CBR4WSD system. First, we expose the stage of Retrieval preparation which is performed in the Offline discovery process. Then, we present the discoverability checking-rules that help our system to detect the feasibility of the discovery process for a given query. We also present our Retrieval algorithm that calculates the functional and the non-functional similarities before generating the global similarity measure.

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**Index Terms**

Computer Science  
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**Keywords**

Semantic Web Service Discovery, Matchmaking, CBR, Formalization, Retrieval, Functional properties, Non-Functional properties