

ABSTRACT

Context-aware applications demand ways of retrieving context information from the environment. Based on the current context, such applications are able to self-adapt to provide the correct information and services to its users. The usual approach for supporting infrastructures for context-aware applications provides facilities for resource discovery using <key-value> pairs and discovery engines that perform syntactic matching. This approach does not consider the possible semantic relations between the keywords used. So its limited semantic expressiveness often leads to poor discovery results. This paper presents the use of a different approach for service discovery that uses ontologies to represent resources and capture the semantics of the user's query, improving the discovery process for self-adaptation of context-aware systems. The proposed approach also offers extension hooks to the client applications through the use of other ontologies. This approach is integrated into the CDRF framework and adds semantics to the services developed in that project. Example applications are also proposed to demonstrate the use of the new services.

Keywords: Ontology. Context-aware applications. Context and discovery services.