Due to the huge volume of information and knowledge derived from IoT devices, it will be hard to explore all knowledge coming from these devices. The semantic ontology-based descriptions with the semantic web are one of the most interesting ways to extract the required knowledge. However, the information retrieval typically made by the SPARQL querying language stills hard to write correct queries from what the users need as knowledge to extract. It needs a deep knowledge of the semantic information system structure.

In this paper, we have developed a new correction and relaxation approach based on structural semantic similarity measure to overcome the semantic errors in SPARQL queries. This approach is applied to semantic information systems using OWL and RDF ontologies which are related to IoT applications. To achieve the efficiency of our proposal, we have developed a SPARQL querying tools. According to the queries made on IoT applications, our approach performs best results regarding the precision of the answer to these queries.
References


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Index Terms

Computer Science

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Keywords

Ontology, Garden Smart Park, Sensor