A Systematic RDF-based Approach for Structuring Government Open Data to Enhance Accessibility

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Abstract

Open government data publishing is considered complete when the data is machine-readable, which is achieved through the Linked Open Data Standards. Although most governments around the world are launching e-government systems for better service delivery, most developing countries are yet to implement the use of the semantic web in their knowledge sharing approaches and Kenyan isn’t an exception. This research presents an approach that employs Resource Description Framework to generate structured data from open government data. This paper details the systematic steps followed from data selection to the development of an ontology and user interfacing modes of access using a case study of the Kenyan government open data portal. The approach makes use of ontology to structure some domain of the government data in the open data portal for easy, access and retrieval. Software evaluation metrics (precision, recall, and f-measure) for retrieval systems was employed as the evaluation approach. A set of sample queries are designed together with their expected outputs, then the queries are run and the outcomes are compared. Results of the evaluation indicate that the
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The systematic approach thus described fosters a bidirectional flow of knowledge by using state of the art Semantic Web technologies and allows for a wider scope of knowledge contributors.

References


Index Terms

Computer Science
Information Sciences

Keywords