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Semantic Web User Interfaces – A Model and a Review

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Abstract

In the introduction of the Semantic Web vision, the software agents seek information, perform transactions and interact with physical devices. However, the Semantic Web is not yet fully implemented nor the software agents are yet capable for this critical mission. The access of the Semantic Web is still a task mainly intended for the humans. This access is through the user interfaces and is practiced mostly for information seeking tasks. The goal of this work is to create a review for the issues related to the user interfaces, with respect to their application in the access of the Semantic Web. Therefore we build a model and a web application, to abstract the interaction between the humans and the Semantic Web and investigate the features of the user interfaces as far as the information seeking in the Semantic Web is concerned.

At first a study of related literature is performed, and in it are identified and analyzed those distinctive characteristics that a user interface needs to support. Then, it is conducted a field research in the World Wide Web, in order to discover and record Semantic Web's user interfaces. Based on the analysis of the reviewed literature, the model is devised, and the model's formalism is applied to the findings of the field research. After that, it is conducted an evaluation study and with the help of a dedicated application, comparative tables are outlined for reviewing user interfaces.

Keywords: SPARQL, Data structure, Data relation, Visualization, Exploration, Information Retrieval, Agents, Zotero, EasyRDF

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