

The theme of this thesis is a description of the history, current state and the future development of the semantic web and its technologies within the assumptions of World Wide Web Consortium – W3C. It mainly covers the principles of this concept in correlation with an unfulfilled potential of World Wide Web in the area of information retrieval using machine-readable data. The first part of the text provides deeper information about logical basis and technological aspects of the semantic web. Above all it deals with the basic data model for most of the semantic languages and applications – the RDF (Resource Description Framework) and the URI (Uniform Resource Identifier) used for the identification of web-based or even non-web-based resources.

The second part of the thesis deals with some basic facts of the problems of the semantic web to gain mass support for its development. Among this there is a broader description of the most important contemporary semantic applications, including the leading one – the DBpedia knowledge base created by several German universities.

In the last part the philosophical connotations linked to the transformation of user experience within the semantic web are mentioned, so as is the overall impact on the web community and the global society.