USING SEMANTIC WEB AND ONTOLOGIES TO CREATE INTELLIGENT AND PERSONALIZED SYSTEMS FOR LEARNING PURPOSES

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Abstract

There was a time when it was thought that the more information someone has, the better it is. Nowadays, there has been a change in the mindset of people where what they want is meaningful and personalized information. The semantic web is an advancement of the current web that is being used, the web 2.0, which comprises mainly of metadata i.e. data about data. The semantic web is a new technology which is being developed and it is seen as the future web where everything will be much more accurate as per our needs. Semantic Web technologies and applications are getting increasingly popular and adopted in different fields, including education. Research on software and education has already shown some of the features expected to be embedded in the next generation of learning support systems. Such features include: more adaptive and personalized learning environment, a better use of pedagogies to enhance instruction/learning, effective information sharing, storage and retrieval, new forms of collaboration with peers, and many other characteristics that enable the realization of AAAL: Anytime, Anywhere, Anybody Learning. Information on the Web is commonly represented in natural-language for human understanding. However, in order for the computer to understand its meaning, it is necessary to represent the information in a form that can be interpreted syntactically and semantically. Such representation helps the process of analyzing, extracting, and integrating information on the Web, making it easier the creation of solid knowledge bases that intelligent services can rely on to support users' needs. Nowadays, research on ontologies has been considered as one of the keys to provide information in a computer-understandable way. This paper focuses on the different Semantic Web Technologies that play an important role in education and learning.

Keywords: Semantic Web, Personalized Learning, Intelligent Systems, Ontologies, Education