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Semantic Web Modelling Centre of Excellence

HTML version - <http://www.cems.uwe.ac.uk/amrc/seeds/semanticwebmodellingconcept.htm>

Introduction

Semantic Web Development and dealing with complexity is a tricky issue. Representing information is a problem where complexity can preclude any single approach. In order to find our way around large quantities of information it needs to be structured. But the information already exists and is still being created, so this makes it a moving target.

I'm sure such matters will be covered at the www2006 conference at Edinburgh 23-26 May <http://www2006.org/>. Kurt Cagle refers to this in his article on complexity on his Understanding XML blog at <http://www.understandingxml.com/> - Understanding XML.

The structuring of ontologies from the top down can be useful, but can only be achieved where the ontology developers have some control over the information. Much of web development and other creation of information is bottom up, in that there is no controlling authority. This is good for inclusiveness and speed of development, and something that encourages community, and encourages individuals to create their own content, which is a good thing. In his interview with the British Computer Society Tim Berners-Lee <http://dig.csail.mit.edu/breadcrumbs/blog/4> answers a question on ontologies. He talks of a top-level ontology that can be created to hold certain terms and the need to find out who is using these terms, so that other web pages and databases can be categorised. This would be achieved using URIs (Universal Resource Identifier) and RDF (Resource Description Framework). In answer to what Tim Berners-Lee hopes to achieve, he talks of this bottom up development that is going on, using blogs, and wikis etc and a possible approach of 'web science' - 'the science and engineering of web based things that have a bottom up Web-like structure'.

I think this approach is highly relevant to my PhD research on user-driven programming, with University of the West of England (UWE - Bristol). Not everyone has the time to learn programming especially if their main expertise is elsewhere. They then have to ask others to do the development for them and this leads to delays and mis-understandings. The approach advocated here could enable visual creation of software by members of a community. Members of this community would not need advanced programming skills if other members with more advanced development skills could create a suitable interface for the creation of software. This could be achieved in a similar way to that used in visual web page creation tools, or word processor and spreadsheet software. Also the members who do possess advanced skills could provide ways of sorting, searching and navigating the programs created using the visual development tools. Members could work with either or both groups, according to their skills and interests.

A good first step would be to link communities and sites that have a mix of those with advanced software skills who want to encourage and enable others to learn to program, and of new starters who want to learn. This could involve those who are willing to try out new techniques to make it easier for new starters to train learn and gain experience.

Tim-Berners-Lee's interview - <http://www.bcs.org/server.php?show=ConWebDoc.3337> - British Computer Society - Isn't it Semantic.

This talk by Nigel Shadbolt explains research about coping with diverse sources of information - <http://www.bcs.org/server.php?show=ConWebDoc.3043> - Web Intelligence - Nigel Shadbolt.

This article by Bill Thompson for the BBC technology site examines new developments in Web 2.0 technologies - <http://news.bbc.co.uk/1/hi/technology/4842498.stm> - Learning to love Web 2.0 - Bill Thompson.