Presenting semantically-enabled knowledge technologies

Only nine months after its launch, SEKT, a key European semantic Web research project, has had no fewer than eight submissions to a premier international conference accepted.

"What is particularly pleasing is that the SEKT work to be presented at the 3rd International Semantic Web 2004 conference [in Hiroshima, Japan from 7-12 November 2004] covers the full range of SEKT's activities, from foundational research through technological developments to real-world applications and is from a range of partners," comments SEKT's project director, Dr John Davies from BT Exact, the coordinating organisation.

"What we are trying to do is to equip European industry for a future of more effective knowledge management in the emerging knowledge economy," says Davies. "Knowledge workers will be more productive, as they will have relevant information delivered proactively to them, allowing them to spend more time on their core role, and thus making a significant contribution to European competitiveness."

Despite its explosive growth over the last decade, the Web remains essentially a tool to allow people to access information. The Semantic Web will extend this by using semantically-annotated data to enable the creation and publication of machine-interpretable information. This will enable firstly more dynamic and flexible e-commerce, based on the deployment of next-generation Web services, which will offer a far greater degree of automation than is possible with current Web service technology; and, secondly, enhance knowledge discovery, organisation and sharing, principally by the use of ontologies: this is the focus of the SEKT project.

Much of the basic research will be carried out by the universities that form part of the SEKT consortium. Their work will concentrate on three specific areas: ontology and metadata management, through which new ways of annotating information will provide the foundations for knowledge-based searching; human language technology, which will aid the automated extraction of relevant metadata in a number of European languages; and knowledge discovery, which will help to deliver only the most relevant knowledge to users, as well as playing a key role in metadata extraction.

Meanwhile, the industrial partners within SEKT will take the results of this basic research and develop a range of software tools. These could include context-aware search engines, knowledge sharing systems, and tools that enable the semi-automated extraction of metadata, vital in order to integrate into the semantic Web the vast amount of knowledge that already exists. "We also envisage software agents that will work for you, carrying out searches and delivering only relevant results based on your specific criteria," Davies adds.

The technologies developed during the project will be put to the test during large-scale case studies in the UK, Germany and Spain. The aim is to analyse how well these tools work in practice, and feed the lessons learned back into the tool development process.

Over the next three years, the semantically-enabled knowledge technologies (SEKT) project will receive 8.33 million euro of funding under the Information Society Technologies (IST) strand of the Sixth Framework Programme (FP6). The project brings together 12 public and private partners from Austria, Bulgaria, Germany, Netherlands, Slovenia, Spain, Switzerland and the UK.

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