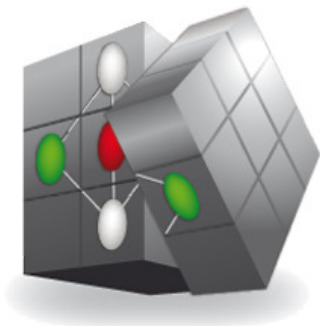|	
Combining and Uniting Business Intelligence with Semantic Technologies	
Acronym: CUBIST Project No: 257403	
Small or Medium-scale Focused Research Project FP7-ICT-2009-5 Duration: 2010/10/01-2013/09/30	

Initial Press Release

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Version	Description	Contributors
0.1	Draft with screenshots	Frithjof Dau (SAP)
0.2	Added text about press activities	Frithjof Dau (SAP)
0.3	Corrections	Simon Andrews (SHU)
1.0	Final reviewed version	Frithjof Dau (SAP)

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1 Press Release

1.1 CUBIST on partner websites

A majority of CUBIST partners have introduced CUBIST on their websites. In the following, a list of links to these announcements is given.

- Ontotext: http://www.ontotext.com/news.html
- SHU: http://www.shu.ac.uk/news/release.html?ID=704 and http://www3.shu.ac.uk/c3ri/NewsDownloads/CCRC%20Newsletter%20May%202010 .pdf
- HWU: http://www.macs.hw.ac.uk/bisel/cubist.html
- Innovantage: http://www.mas.ecp.fr/new/bi-projects
- Space Application Services: http://www.spaceapplications.com/index.php?option=com_content&task=view&id=5 8&Itemid=114

1.2 Pushing information to the press

Actively pushing information about CUBIST to the press has been carried out by Sheffield Hallam University (SHU). SHU has utilized its contact to RTC North[1], an independent company –originally a spin-out of the University of Newcastle- delivering initiatives and business services to a variety of customers. RTC North's activities span from SMEs, over regional development agencies and local government, to schools, colleges and universities.

RTC North's press release prompted V3 magazine, Semantic Web.com and IET to contact RTC North who put them in touch with SHU for interviews (phone interviews with Phil Muncatster from V3 and James Hayes from IET, and an email correspondence with Jennifer Zaino from semanticweb.com. The interview with semanticweb.com, in turn, spawned numerous mentions on other IT news web sites.

In addition to these activities, an article about CUBIST has been published in *Headline,* a print magazine from SHU.

In the following two sections, a brief overview of articles about CUBIST in the press is provided, including screenshots. The list is not exhaustive. Particularly, there are more websites reporting on CUBIST, but some of them copied text from the articles given below and are therefore omitted.

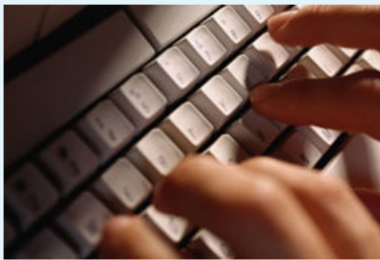[1] http://www.rtcnorth.co.uk/

1.3 Articles in the net:

2010-09: "CUBIST project aims at better Semantic Web search". Article on kntheiet.org.

CUBIST project aims at better Semantic Web search

Published on 3 September 2010

You are here: Knowledge Network home > News

James Hayes - Editor, IT section

IT researchers from Sheffield Hallam University (SHU) have joined a €4m three-year EC initiative aiming at creating new Internet search tools that will enable enterprises to extract better business intelligence from the Semantic Web.

A team from SHU's Communication and Computing Research Centre (CCRC) will contribute to the CUBIST (Combining and Uniting Business Intelligence with Semantic Technologies) project to develop methodologies and a platform that combines features of semantic techniques with those of standard business intelligence (BI).

The Semantic Web describes methods and technologies to allow machines to understand the meaning – or 'semantics' – of data and information resources that exist on the World Wide Web.

Only a limited proportion of data posted to the public Internet can be 'read' intelligently by current-generation search tools, leaving users having to visit multiple websites to track-down required information, explains Dr Simon Andrews, SHU CCRC senior lecturer in software engineering: "Classic BI is not good at extracting meaning from unstructured data online – but that's often where the most valuable data is. We are aiming at developing new ways to interrogate not only the massive volume data on the Internet, but also analyse the different formats it exist in – such as blogs, wikis, and video."

The CCRC's contribution is focused primarily in Formal Concept Analysis (FCA), a way of deriving an ontology from groups of objects and their properties, as Andrews explains: "We will be developing software and analysis techniques based on FCA, and working closely with the visualisation experts in the consortium to develop visual analytics based on the FCA concept lattice, and also with the data warehousing/triple-store experts in the consortium in developing a data preparation system for FCA."

The Sheffield group will also supply an 80-core computer platform for the CUBIST system that gives the data capacity and computational processing required for large-scale data analysis. Funding for the SHU's work was secured with help from regional development enabler Enterprise Europe Yorkshire. The CUBIST initiative itself is led by German software giant SAP.

CUBIST is part of the Seventh Framework Programme for research and technological development (FP7), the EU's programme for funding research to 2013 for research aimed at supporting business growth within its borders. Other CUBIST participants include space technology company Space Applications Services, semantic technology developer Ontotext, and visual analystic specialist Centrale Recherche SA. The project will use data from the Edinburgh Mouse Atlas Project (a digital Atlas of mouse embryonic development) at Heriot-Watt University Edinburgh.

More information:
www3.shu.ac.uk/C3RI/CCRC.cfm

2010-08: "Semantic Web Meets BI In New Project Whose Partners Include SAP, Sheffield Hallam University, Ontotext". Article on semanticweb.com.

semanticweb.com | Semantic Technology Conference: Jun. 5-9 | more >>

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Semantic Web Meets BI In New Project Whose Partners Include SAP, Sheffield Hallam University, Ontotext

By Jennifer Zaino on August 26, 2010 8:57 AM

CUBIST Your Business Intelligence

SAP, which we've labeled one of the gorillas in the semantic web space, not surprisingly is involved in a lot of research work in Europe relating to this realm, including the Monnet (Multilingual Ontologies for Networked Knowledge) Project. One of the legs of that project has to do with cross-lingual business intelligence â€" using semantic technology to support search, query and information extraction of XBRL-based financial reports in a user's native language, regardless of what language those reports are filed in.

News came this week about another effort that the software giant is coordinating in the semantic web-BI space. As part of a Â£4 million collaborative project for which SAP is the managing partner — dubbed Combining and Uniting Business Intelligence With Semantic Technologies (CUBIST) — the U.K.'s Sheffield Hallam University was awarded nearly Â£400,000 from the European Commission's 7th Framework Programme to create new visual tools to help businesses make sense of tons of data.

CUBIST in a nutshell is about developing an approach for semantic and easily understandable business intelligence by augmenting semantic technologies with BI capabilities, and providing responsive and intuitive visual analytics, says Dr. Simon Andrews, one of the two academics leading the research at the University. "CUBIST aims to use a semantic technology called Formal Concept Analysis (FCA)," he says, with which Sheffield Hallam has expertise. The university will work with the data warehousing/RDF triple-store experts in the project consortium in preparing data for FCA, and with the visualization experts in the consortium in developing the FCA-based visual analytics, he says.

FCA, to explain it further, is a way of constructing a hierarchy of data, and is emerging as a data analysis technology for business intelligence, Andrews says. A key element of FCA is a visualization called the concept lattice, which portrays relational attribute/object data as a hierarchy of related groupings called Formal Concepts. The basis for FCA is a simple cross-table called a Formal Context that describes the relationships between objects and attributes. "Our aim is to allow the end business user to interact with the concept lattice and other elements of a GUI to perform semantic analyses of their data and to mine their data for hidden meaning," Andrews says.

	Latin America	Europe	Canada	Asia Pacific	Middle East	Africa	Mexico	Caribbean	United States
Air Canada	X	X	X	X	X		X	X	X
Air New Zealand	X		X						
All Nippon Airways	X		X						
Ansett Australia			X						
The Austrian Airlines Group	X	X	X	X	X				X

The table here shows a Formal Context representing destinations of five airlines where the elements on the left are formal objects and the elements at the top are formal attributes. In a document describing FCA it is explained that if an object has a specific attribute, it is indicated by placing a cross in the corresponding cell of the table. An empty cell indicates that the corresponding object does not have the corresponding attribute. For example, Air Canada performs flights to Latin America but does not perform flights to Africa. Formal Concepts are maximal rectangles of crosses in the table — Asia Pacific, for instance, is flown to by all the airlines and there are no other destinations flown to by all the airlines, so the column of crosses under Asia Pacific is a maximal rectangle. If USA is added, airline Ansett Australia is lost, and note that Europe is also flown to by the remaining four airlines. So adding Europe makes this rectangle of crosses maximal. A hierarchy of Formal Concepts becomes apparent and can be visualized as a lattice.

"Existing BI systems are poor at federating data from unstructured and structured sources and at extracting explicit meaning of data and explicit relations and links in data," Andrews says. "CUBIST aims to address these problems by the use of semantic technologies which are better at this. End business users can find new and hidden meaning in their disparate data sources, and the concept lattice provides a new, conceptual view of their data." Expected impacts are in three different areas of business intelligence â€" very large databases, bringing semantic enrichments to an industrial level, and visual analytics. "These are serious impacts at an international level," Andrews says.

SAP provides the bulk of the project management and assumes an R&D role in this effort. Ontotext is tasked with providing the data warehousing/triple-store expertise and innovations in federating data from large-scale structured and unstructured sources, including the semantic web, wikis, and blogs. Centrale Rechereche S.A. is providing visualization and visual analytics expertise. Andrews explains that CUBIST also has three use-case partners providing large-scale data and analysis scenarios: The U.K.'s Heriot-Watt University, with data from the Edinburgh Mouse Atlas Project; the Space Applications Services (Belgium), with data from its space-satellite services systems; and the U.K.'s Innovantage, with web-based market intelligence data.

The project milestones include creating requirements and mock-ups by month 6; completing architecture and implementation plans by month 12; deploying the first integrated prototype system and verifying core technologies by month 21; and evaluating and deploying the final integrated system at the three-year mark.

There was strong competition for the funding, Andrews says, with only the top eigh evaluated bids being funded from several hundred applications for the call for projects in Intelligent Information Management. The bid was a joint effort of all of the partners but successful elements that apply strongly to Sheffield Hallam, he says, included high-quality objectives and a very convincing concept that builds on well-defined and established technology, where the partners have very strong expertise.

"The proposal represents progress beyond the state-of-the-art in developing a semantic incorporated business intelligence platform dealing with large amount of data and offering interactive visualization," he says. "The goal of the project is ambitious: it will develop the first framework for enriching Business Intelligence with Semantic Web technologies."

• Don't forget to propose your startup for our Semantic Web Impact Awards. The deadline is Sept. 15.

2010-08: "Researchers win funds for semantic business intelligence". Article on www.zdnet.co.uk.
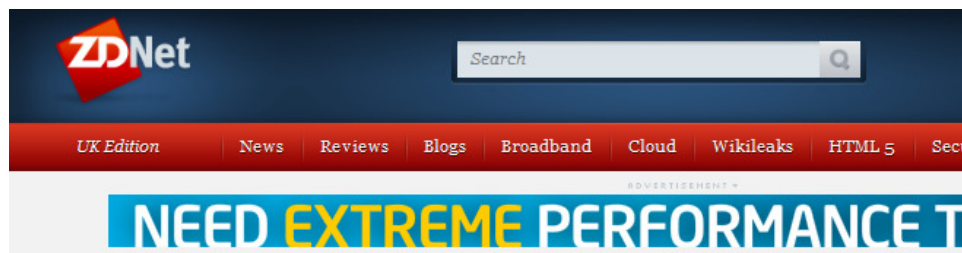
ZDNet UK / News and Analysis / Emerging Tech

Researchers win funds for semantic business intelligence

By Jack Clark (@mappingbabel), ZDNet UK, 24 August, 2010 16:26

Topics

Semantic Web, European Commission, University, Funding, Sheffield Hallam University

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NEWS Sheffield Hallam University has been given European Commission funding to help develop a platform that combines features of semantic technologies with business intelligence to give companies visual tools to help them better understand their data.

The university has secured €370,000 (£302,252) of the €4m pot for the collaborative Cubist (Combining and Uniting Business Intelligence with Semantic Technologies) project, which is being led by the German enterprise software company SAP. The funding was announced on Monday.

Semantic technologies are built around concepts driven by the semantic web, which aims to make it easier for computers to extract and process data from objects online. The semantic web project is overseen by the World Wide Web Consortium (W3C).

Those involved in Cubist will use a technique called formal concept analysis (FCA) to scrape large amounts of online and offline data then visualise it in a form known as a concept lattice, which portrays object data as a hierarchy of related nodes and groupings.

"Cubist aims to provide visual analytics based on the concept lattice," Dr Simon Andrews, senior lecturer in software engineering at Sheffield Hallam University, told ZDNet UK on Tuesday. "The end user will interact with the lattice and other elements of the graphical user interface to conduct analyses and mine their data for hidden information."

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SAP leads businesses into augmented reality
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The funding will pay for a new research assistant post for the three-year term of the project, buy 50 percent of a senior lecturer's time, and provide an "80-core 'desk-side supercomputer' to provide one of the Cubist architectures", according to Andrews.

UK semantic web efforts took a hit in May, when the department for Business, Innovation and Skills (BIS) announced it was scrapping its proposed funding for the Institute of Web Science. The institute would have been focused on the development of the semantic web and would have been led by web inventor Tim Berners-Lee and professor Nigel Shadbolt.

Regional support network Enterprise Europe Yorkshire helped Sheffield Hallam with its bid for the Commission's funding.

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2010-08: Sheffield scientists lead £4m semantic web search project. Article on www.computerweekly.com

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Semantic Web

Sheffield scientists lead £4m semantic web search project

Ian Grant
Monday 23 August 2010 11:35

Researchers at **Sheffield Hallam University** are to develop **next-generation internet search tools** with a €370,000 grant from a €4m semantic web project led by German software house SAP.

The project will develop methodologies and a platform that combines essential features of semantic technologies and business intelligence.

Only some of the data posted on the internet can be read by computers. Business users usually have to visit multiple websites to find all the information they need.

The SAP-led Cubist project aims to provide a single interface to those multiple sources, and then to use formal concept analysis to capture and visualise the data's underlying meaning or semantics.

Formal concept analysis (FCA) adds conceptual structures or metadata to the data. Searching metadata speeds up discovery of key knowledge that can create competitive advantage, the researchers say.

Simon Polovina, senior lecturer in enterprise computing at the communication and computing research centre (CCRC) at SHU, said: "Semantic technology will be the next big breakthrough for the World Wide Web and will better enable computers and people to work together.

"Cubist will create new visual tools to help businesses make sense of the vast amounts of data that are out there."

2010-08: "Connecting To The Semantic Web"- Article on
www.businesscomputingworld.co.uk/.

<Confidential>

2010-08: "UK researchers tap semantic web for BI innovation". Article on www.c3.co.uk.

<Confidential>

1.4 Articles in the printed press:

2010-11: "€4m web project looks set to open up access to hidden knowledge". Article in Headlines 17 (print magazine from SHU, see www.shu.ac.uk/business/download)