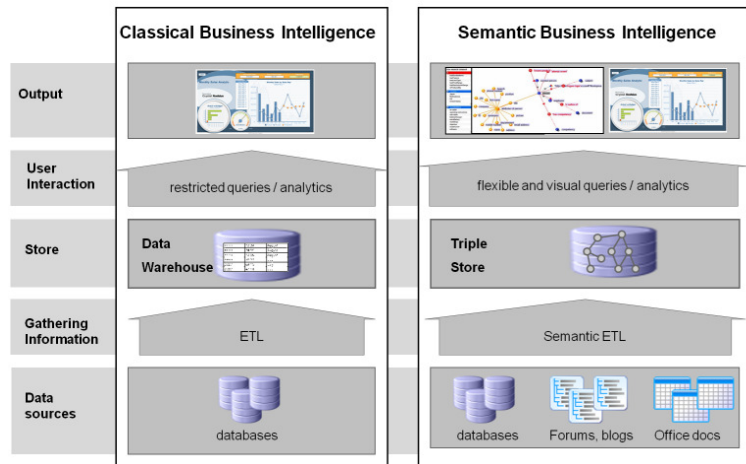


Combining and Uniting Business Intelligence with Semantic Technologies

Main Objectives

The constantly growing amounts of data and an emerging trend of incorporating unstructured data into analytics is bringing new challenges to Business Intelligence (BI). Contemporary BI solutions fall short in the following aspects: Firstly, they focus only on structured data and disregard the increasing amount of information hidden in unstructured data. Next, BI users are dealing with increasingly complex analyses, but the complexity of BI tools becomes the biggest barrier for their success.



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CUBIST is an EU-funded research project which envisions to leverage BI to a new level of precise and user-friendly analytics of data. CUBIST follows a best-of-breed approach that combines essential features of Semantic Technologies, Business Intelligence and Visual Analytics. It aims to

- support federation of data from unstructured and structured sources,
- persist the data in an Information Warehouse; an approach based on a BI enabled triple store,
- provide novel kinds of Visual Analytics based on meaningful diagrammatic representations.

Use Cases

The research results will be demonstrated in three innovative use cases:

Biomedical informatics: CUBIST will combine and explore the semantic representation of spatial temporal biomedical data from two biomedical atlases and three gene expression databases.

Control centre operations: In mission control rooms in space control centres very large volumes of data are obtained from heterogeneous sources. CUBIST targets to reveal hitherto undiscovered information and to provide support for taking better decisions.

Market and competitive intelligence: This job market use case combines information from crawled job advertisements and an existing firmographic database which enables insights about recruitment activities.

Expected Impact

CUBIST is based on Semantic Technologies, particularly on RDF for data representation and triple stores for federating and persisting the data, and Formal Concept Analysis (FCA) for conceptually clustering the data. These clusters will be used for the Visual Analytics. We expect the following impact:

Semantic Technologies: CUBIST aims to bring semantic technologies to a level where they can be successfully applied in industrial settings using huge data sets, comparable to established technologies such as relational databases and BI.

Business Intelligence: Incorporating unstructured data will be very important for future BI systems. CUBIST takes an essential step in this direction. From a technological perspective, CUBIST will propose new architectures which can be used for future BI systems. From a business perspective, CUBIST will help overcome the barrier of complexity of current BI tools and apply BI functionalities to new scenarios.

Visual Analytics: From a technological perspective, CUBIST will help using FCA in real business settings. From a user perspective, using FCA has a solid mathematical foundation and a close link to the human perception of concepts, thus FCA will drive visual analytics to a new level of theoretically precise and humanly comprehensible visualizations.

At a glance

Partners

SAP AG
Ontotext
Sheffield Hallam University
Centrale Recherche S.A.
Heriot-Watt University
Space Applications Services
Innovantage

Core Information

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Project Coordinator

Dr. Frithjof Dau
SAP AG
SAP Research Center Dresden
Tel: +49 (0)351 4811 6152
frithjof.dau[at]sap.com

