Journal on Data Semantics
Special Issue on "Semantic Data Warehouses"

Call for Contributions

Theme Description

Data warehouses have been established as a fundamental and essential component of current decision-support systems. Many organizations have successfully used data warehouses to collect essential indicators that help them to improve their business processes. Furthermore, the combination of data warehouses and data mining has allowed these organizations to extract strategic knowledge from raw data, which allow them to design new ways to perform their operations.

In recent years, research in data warehouses have addressed many topics ranging from physical-level issues, aiming at increasing the performance of data warehouses in order to deal with vast amounts of data, to conceptual-level and methodological issues, which help designers to build effective data warehouse applications that better answer the needs of decision makers.

Nevertheless, globalization and increased competition pose new challenges to organizations, which need to dynamically and promptly adapt themselves to new situations. This brings up new requirements to their data warehouse and decision-support systems, in particular with respect to (1) heterogeneity, autonomy, distribution, and evolution of data sources, (2) integration of data from these data sources while ensuring consistency and data quality, (3) adaptability of the data warehouse to multiple users with multiple and conflicting requirements, (4) integration of the data warehouse with the business processes of the organization, and (5) providing innovative ways to interact with the data warehouse, including advanced visualization mechanisms that help to reveal strategic knowledge. In addition, data warehouses are increasingly being used in non-traditional application domains, such as biological, multimedia, and spatio-temporal applications, which raise new requirements for dealing with the particular semantics of these application domains.

Therefore, building next-generation data warehouse systems and applications requires enriching with semantics the overall data warehouse lifecycle in order to support a wide variety of tasks including interoperability, knowledge reuse, knowledge acquisition, knowledge management, reasoning, etc.

Suggested Topics

The objective of this special issue is to raise awareness and understanding of semantic issues in data warehouses, by presenting and discussing innovative research and advanced applications leading to the next generation of semantic-based data warehouses. The relevant topics of this special issue include, but are not limited to the following:

- Definition, extraction, elicitation, and capture of data warehouses semantics
- Semantic integration of data sources
- Integrating legacy data sources
- Semantic interoperability for data warehouses
- Semantics for extraction-transformation-loading (ETL) processes
- Data warehouse consistency and quality
- Evolution and versioning of data warehouses
- Lineage tracing and metadata management
- Semantics for web warehousing
- Semantics for XML data warehouses
- Semantics for text data warehouses
- Semantics for multimedia data warehouses
- Semantics for biomedical data warehouses
- Semantics for spatio-temporal data warehouses
- Conceptual modeling and data warehouses
- Integration of data warehouses and Business Process Management (BPM)
- Security and privacy in data warehouses
- Personalization and preferences
- Visualization, analytics, and decision support
- Semantics for data warehouse design

Guest Editors

Esteban Zimányi
Department of Computer & Decision Engineering
Université Libre de Bruxelles
ezimanyi@ulb.ac.be

Il-Yeol Song
College of Information Science & Technology
Drexel University
song@drexel.edu

Schedule

December 20, 2007: Call for papers
April 1st, 2008: Paper abstracts (1 page max.)
April 15, 2008: Full papers (approx. 25 pages)
July 1st, 2008: preliminary notification of acceptance/rejection
September 1st, 2008: submission of revised version
October 15, 2008: final acceptance/rejection notification
November 1st, 2008: camera-ready copy
December 15, 2008: Publication of the special number

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Submissions, in pdf format, must be sent by e-mail to ezimanyi@ulb.ac.be. Final camera-ready copy must follow Springer guidelines for LNCS papers. These guidelines are available at: http://www.springeronline.com/sgw/cda/frontpage/0,10735,5-164-2-72376-0,00.html

About the Journal
The Journal on Data Semantics (Springer LNCS series) aims to provide a highly visible dissemination channel for remarkable work that in one way or another addresses research and development on issues related to data semantics. The target domain ranges from theories supporting the formal definition of semantic content to innovative domain-specific applications of semantic knowledge. We expect such a publication channel to be of highest interest to researchers and advanced practitioners working on the Semantic Web, interoperability, mobile information services, data warehousing, knowledge representation and reasoning, conceptual database modeling, ontologies, and artificial intelligence.

More information on the journal may be found at: http://lbdwww.epfl.ch/e/Springer/