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Stefano Spaccapietra (Ed.)

Journal on Data Semantics VII

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Volume Editor

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The LNCS Journal on Data Semantics

Computerized information handling has changed its focus from centralized data management systems to decentralized data exchange facilities. Modern distribution channels, such as high-speed Internet networks and wireless communication infrastructure, provide reliable technical support for data distribution and data access, materializing the new, popular idea that data may be available to anybody, anywhere, anytime. However, providing huge amounts of data on request often turns into a counterproductive service, making the data useless because of poor relevance or inappropriate level of detail. Semantic knowledge is the essential missing piece that allows the delivery of information that matches user requirements. Semantic agreement, in particular, is essential to meaningful data exchange.

Semantic issues have long been open issues in data and knowledge management. However, the boom in semantically poor technologies, such as the Web and XML, has boosted renewed interest in semantics. Conferences on the Semantic Web, for instance, attract crowds of participants, while ontologies on their own have become a hot and popular topic in the database and artificial intelligence communities.

Springer's LNCS *Journal on Data Semantics* aims at providing a highly visible dissemination channel for most remarkable work that in one way or another addresses research and development on issues related to the semantics of data. The target domain ranges from theories supporting the formal definition of semantic content to innovative domain-specific application of semantic knowledge. This publication channel should be of the 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.

Topics of relevance to this journal include:

- Semantic interoperability, semantic mediators
- Ontologies
- Ontology, schema and data integration, reconciliation and alignment
- Multiple representations, alternative representations
- Knowledge representation and reasoning
- Conceptualization and representation
- Multi-model and multi-paradigm approaches
- Mappings, transformations, reverse engineering
- Metadata
- Conceptual data modeling
- Integrity description and handling
- Evolution and change
- Web semantics and semi-structured data
- Semantic caching

- Data warehousing and semantic data mining
- Spatial, temporal, multimedia and multimodal semantics
- Semantics in data visualization
- Semantic services for mobile users
- Supporting tools
- Applications of semantic-driven approaches

These topics are to be understood as specifically related to semantic issues. Contributions submitted to the journal and dealing with semantics of data will be considered even if they are not within the topics in the list.

While the physical appearance of the journal issues looks like the books from the well-known Springer LNCS series, the mode of operation is that of a journal. Contributions can be freely submitted by authors and are reviewed by the Editorial Board. Contributions may also be invited, and nevertheless carefully reviewed, as in the case for issues that contain extended versions of best papers from major conferences addressing data semantics issues. Special issues, focusing on a specific topic, are coordinated by guest editors once the proposal for a special issue is accepted by the Editorial Board. Finally, it is also possible that a journal issue be devoted to a single text.

The journal published its first volume in 2003 (LNCS 2800). That initial volume, as well as volumes II (LNCS 3360), III (LNCS 3534), V (LNCS 3870), and coming volume VIII represent the annual occurrence of a special issue devoted to publication of selected extended versions of best conference papers from previous year conferences. Volumes III and VI are annual special issues on a dedicated topic. Volume III, coordinated by guest editor Esteban Zimányi, addressed Semantic-based Geographical Information Systems, while volume VI, coordinated by guest editors Karl Aberer and Philippe Cudre-Mauroux, addressed Emergent Semantics. The fourth volume was the first "normal" volume, built from spontaneous submissions on any of the topics of interest to the Journal. This volume VII is the second of this type.

The Editorial Board comprises one Editor-in-Chief (with overall responsibility), a co-editor-in-chief, and several members. The Editor-in-Chief has a four-year mandate. Members of the board have a three-year mandate. Mandates are renewable. New members may be elected anytime.

We are happy to welcome you to our readership and authorship, and hope we will share this privileged contact for a long time.

<div align="right">

Stefano Spaccapietra
Editor-in-Chief
http://lbdwww.epfl.ch/e/Springer/

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JoDS Volume VII – Preface

This JoDS volume results from a rigorous selection among 35 abstract/paper submissions received in response to a call for contributions issued July 2005.

After two rounds of reviews, nine papers, spanning a wide variety of topics, were eventually accepted for publication. They are listed in the table of contents herein.

We would like to thank authors of all submitted papers as well as all reviewers who contributed to improving the papers through their detailed comments.

Forthcoming volume VIII will contain extended versions of best papers from 2005 conferences covering semantics aspects. Its publication is expected towards the end of 2006.

We hope you'll enjoy reading this volume.

Stefano Spaccapietra
Editor-in-Chief

Reviewers

We are very grateful to the external reviewers listed below who helped the editorial board in the reviewing task:

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