Preface

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The importance of studying "knowledge" from different viewpoints like science, engineering and management has been widely acknowledged. The accelerating pace of the "internet age" challenges organizations to compress communication and innovation cycles to achieve a faster return on investment for knowledge. Thus, next generation business solutions must be focused on supporting the creation of value by adding knowledge-rich components as an integral part to the work process. Therefore, an integrated approach is needed, which combines issues from a large array of knowledge fields like science, engineering and management.

In line with the idea above the Third International Conference on Knowledge Science, Management and Engineering (KSEM2009) provided a communication platform and meeting ground for research on knowledge science, engineering and management, thus having attracted high-quality, state-of-the-art publications from all over the world. It was an opportunity for researchers and practitioners for presenting their original work, technological advances, practical problems and concerns to this topic. The conference was held in Vienna, Austria from November 25th to 27th. From the 42 papers accepted for the conference 6 have been selected for the IJSI Journal. This special edition contains the extended versions of the selected papers.

The best papers selected for publication in IJSI mirror the broad and complex topics the Knowledge Science, Engineering and Management is working with, thus presenting a cross-over in different disciplines and technologies.

In "Computational Complexity and Anytime Algorithm for Inconsistency Measurement" Yue Ma, Guilin Qi, Guohui Xiao, Pascal Hitzler, Zuoquan Lin discuss how to measure inconsistency degrees of inconsistent knowledge bases in order to facilitate inconsistency handling. The authors consider the computational aspects of inconsistency degrees of propositional knowledge bases under 4-valued semantics. As it turns out that computing the exact inconsistency degree is intractable, an algorithm which provides tractable approximations of inconsistency degrees from above and below is given. Experimental results of the implementation of the aforementioned algorithm are also presented.

In "Mapping Relational Databases to the Semantic Web with Original Meaning" Dmitry V. Levshin presents an approach to translation of data, schema and the most

constraints from relational databases into the Semantic Web without any extensions to the Semantic Web languages. This is considered to be necessary as nowadays the Web content is stored in relational databases but software agents need this information in the Semantic Web in order to be able to process it intelligently, thus appropriate ways for information representation are crucial.

In "Web-based Semantic Similarity: An Evaluation in the Biomedical Domain" David S'anchez, Motserrat Batet and Aida Valls discuss whether the Web is as reliable as the structured knowledge available in domain ontologies and corpora such as clinical data, given that semantic similarity between concepts is a very common problem in many language related tasks and knowledge domains. Using the Web as a background corpus for measuring the similarity of biomedical concepts against a benchmark composed of biomedical terms the authors show the suitability of the Web as information corpus for the biomedical domain.

In "A Conceptual Approach for Data Integration in Business Analytics" Wilfried Grossmann discusses the basic concepts of a modeling environment for data integration in business analytics. Embedded into an open model framework the process model is based on a combination of knowledge and techniques from statistical metadata management and from workflow processes. The process model focuses on activities occurring in connection with data integration, which then allow assessing the quality of the data.

In "The Online Market Observatory: A Domain Model Approach" Karl Anton Froeschl, Norbert Walchhofer and Milan Hronsky focus on the need for companies and institutions to use online market observation. Based on the "Semantic Market Monitoring (SEMAMO)" project the authors discuss the prototypical implementation of a generic online market observatory which provides a flexible empirical instrument for the continuous collection of data about products and services through www-portals. SEMAMO exploits formalized domain structures to adaptively optimize data quality and observation efficiency. The framework is currently evaluated in practice in an on-line tourism application.

In "Exploiting Ontology for Software License Agreements" Muhammad Asfand-e-yar, Amin Anjomshoaa, Edgar R. Weippl and A Min Tjoa discuss the ever expanding issue of license agreements between software end-users and product providers. Their in-depth analysis develops an ontological model containing features found in different license agreements. Then the authors go on extending the ontology to real world license agreements, thus providing a tool appropriate for querying specific license agreements or checking the license terms and conditions with user requirements.

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