EDITORIAL PREFACE

Dear readers:

Semantics brings information closer to human thinking and decision making. WWW suddenly forces us to simultaneously deal with the complexity of modeling, reasoning and perceptions to support semantics, with the huge scale and heterogeneity of all imaginable kind needed to deal with resources on the WWW. Semantic Web promises to allow programs/agents to automatically understand what data is about, and act upon this understanding to better meet the needs of humans. What and how much of “semantic, perceptual and experiential” activities can be automated? The above thoughts were expressed by me at the Amicalola Workshop on Database and Information Systems Research for Semantic Web and Enterprises (April 2002). Much emphasis has been given in the Semantic Web research to augmenting data and resources with machine-processable descriptions. How about capturing human requirements? What about using descriptions (semantic metadata) to make data easier to process by humans?

In the first paper in this issue with the exciting title of “The Human Semantic Web—Shifting from knowledge push to knowledge pull,” Ambjörn Naeve argues that it is not at all evident that machine-readable semantic descriptions, which is the basis of mainstream Semantic Web research, will be clear and effective for human interpretation. Hence the author argues for a need for a human-understandable semantics for web resource. He goes on to discuss techniques and tools that serve as a human-understandable front-end that connects to the “machine-understandable” back-end of the (machine) Semantic Web.

Our regular papers focus on technical contribution with new methods and/or discoveries, supported when appropriate by demonstration of new capabilities or experimentation. In contrast, we seek to occasionally present papers that present vision, provocative or alternate views, or otherwise lead to discussions and debate that could help shape or enrich our emerging field. The paper by Ambjörn Naeve is one such occasional offering.

The second paper in this issue “General Adaptation Framework: Enabling Interoperability for Industrial Web Resources” by Kaykova and colleague focuses on interoperability of smart industrial resources. The objective of this work is to develop an architecture, where distributed human experts and learning Web-services are utilized by various devices for self-monitoring and self-diagnostics. One aspect of the
technical approach is the Resource State/Condition Description Framework (RSCDF), which with contextual and temporal extensions to RDF, is argued to facilitate adoption of the Semantic Web technology industrial adoption.

The third paper by Hädrich and Priebe titled “A Context-based Approach for Supporting Knowledge Work with Semantic Portals,” focuses on the requirements for supporting knowledge work in the context of business processes, especially the knowledge-oriented actions connected to the tasks accomplished in business processes. It presents the concept of knowledge stance which is a class of recurring situations in knowledge work defined by occasion, context, and mode resulting in knowledge-oriented actions. Further on, the paper discusses how knowledge stances can help in dealing with various types of contexts related to knowledge work, divided into several types—user, working, interaction, environmental and transitional. Experiences from developing a prototype that applies Semantic Web technologies in this work are also presented.

This issue also bring a review of a book that is especially relevant to our Information Systems readership. Rahul Singh has presented a review of “Adaptive information: improving business through semantic interoperability, grid computing and enterprise integration” authored by Jeffrey T. Pollock and Ralph Hodgson. Finally, we bring an event report which summarizes the Semantic Technology conference that was held in March 2005. The report is written by the event’s organizers, Dave McComb and Tony Shaw. We have had a number of successful Semantic Web conferences targeted at researchers. However, this was the first conference targeted at industry and practitioners. Success of this conference was key evidence that Semantic Web is not simply a vision for distant future or a playground for academic researchers interested in revisiting favorite synthetic and pedagogical problems, but has identified business value and hence will have a staying power. I especially encourage readers interested in gauging the state of adoption to go to the conference web site (http://www.semantic-conference.com/) and check out the links from “the Buzz from the Conference”, as well as see Eric Miller’s keynote (http://www.w3.org/2005/TALKS/0308-SEMWEB-EM) which outlined several case studies of currently deployment of Semantic Web technologies.

We hope the readers will find that this journal is providing an attractive mix of material spanning academic research to issues of practical importance, and helps increase mutual understanding of Semantic Web as seen by both computer science and information systems communities. Looking forward, we are working on the forth issue of this volume as well as a couple of special issues. With increased submissions, we are well set to progress in the right direction.

Amit Sheth
University of Georgia and Semagix, Inc.
Athens, GA, USA
http://lsdis.cs.uga.edu/~amit

The reference for SWRL in the paper was incorrect. Instead of (Straccia 2004), the correct reference should be (Horrocks et al., 2004).


We regret this oversight. Furthermore, we would like to add the following reference for the Ontology Web Language (OWL): (Horrocks et al., 2003)


Sincerely,

Authors (Amit Sheth, Cartic Ramakrishnan, and Christopher Thomas)