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# The Semantic Web

6th International Semantic Web Conference  
2nd Asian Semantic Web Conference  
ISWC 2007 + ASWC 2007  
Busan, Korea, November 11-15, 2007  
Proceedings

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# Preface

The World-Wide Web continues to grow and new technologies, modes of interactions, and applications are being developed. Building on this growth, Semantic Web technologies aim at providing a shared semantic information space, changing qualitatively our experiences on the Web. As Semantic Web technologies mature and permeate more and more application areas, new research challenges are coming to the fore and some unsolved ones are becoming more acute. These issues include creating and managing Semantic Web content, making Semantic Web applications robust and scalable, organizing and integrating information from different sources for novel uses, making semantics explicit in order to improve our overall experience with information technologies, and thus enabling us to use the wealth of information that is currently available in digital form for addressing our everyday tasks.

These and other challenges brought several hundred of researchers, developers, government workers, venture capitalists, students, and users to Busan, Korea for the Sixth International Semantic Web Conference which was held jointly with the 2nd Asian Semantic Web Conference (ISWC 2007 + ASWC 2007).

We are excited to offer this volume with the main proceedings of ISWC 2007 + ASWC 2007 to the growing community of researchers and practitioners of the Semantic Web. The tremendous response to our Call for Papers from a truly international community of researchers and practitioners from 30 countries, the careful nature of the review process, and the breadth and scope of the papers finally selected for inclusion in this volume all speak to the quality of the conference and to the contributions made by the papers in these proceedings. This year, all papers will again be freely available online to all interested parties through an unprecedented agreement with Springer. In addition, several online applications will provide access to semantically annotated information about the papers and the conference itself.

The Research Track attracted 257 submissions, an 18% increase over ISWC 2006, which shows a robust growth of interest in the field. The review process was conducted by a large international Program Committee and headed by 20 Vice-Chairs, along with Program Chairs. Each Vice-Chair was responsible for papers in a particular research area. The review process consisted of three distinct phases. First, each paper was evaluated by at least three members of the Program Committee. Second, Vice-Chairs led a discussion among the reviewers on each of the papers and generated a meta-review and a final recommendation, soliciting additional reviews in some cases. Finally, the Program Chairs made

the definitive decisions on the papers. This year, we also took an unusual step of accepting a small number of papers conditionally: these were papers with very strong technical content, but problems in presentation. The revision process for these papers was supervised by a Vice-Chair, who then made the final decision on the acceptance. Such a structured process ensured a high-quality review, but of course required a great deal of effort from the members of the Program Committee and the Vice-Chairs. In total, 50 papers were accepted out of 257 submissions, a 19% acceptance rate.

The Semantic Web In-Use track accepted 12 papers this year, out of 29 submissions, which were reviewed by three referees each. The submissions came from industry primarily and demonstrate the continuing interest in Semantic Web technologies from companies. Submissions came both from applications in industrial sectors, such as healthcare and the public sector, and from research work applicable to industry, such as supporting data integration and migration from legacy systems. Hence, two critical aspects of the Semantic Web research in industry were covered: real-world experiences from using semantics in business scenarios and bringing fundamental research to maturity for application in industry. Bringing these two aspects together, as promoted by the Semantic Web In-Use track, is an important contribution to establishing a strong basis for Semantic technology use in the business of the future.

A unique aspect of the International Semantic Web Conference is the Semantic Web Challenge. This is an international competition in which participants from both academia and industry are encouraged to show how Semantic Web techniques can provide useful or interesting applications to end-users. Over the last five years, the Semantic Web Challenge has seen more than 50 integrated applications built around distributed data sources using semantic descriptions to handle data. The challenge received 23 submissions this year, a large increase over the previous year, making the selection process harder. The topics ranged from expertise location to cultural heritage, and from television to climate change. Keeping with the broad international appeal, there were submissions from Europe, North America, and Asia, from both industry and academia. The winner of the challenge was announced at the ISWC Conference and received 1,000 Euro in travel support and a 250-Euro voucher to purchase books from Springer.

This year ISWC 2007 + ASWC 2007 hosted, for the third year running, a doctoral consortium for PhD students within the Semantic Web community, giving them the opportunity to discuss in detail their research topics and plans and to get extensive feedback from leading scientists in the field. A most interesting invited talk was also given by Fabio Ciravegna from the University of Sheffield, who discussed the challenges and requirements for Semantic Web technologies when confronted with the task of knowledge acquisition and sharing in large,

complex distributed environments. Submissions were reviewed by a panel of experienced researchers. The acceptances comprised Six papers and Six posters, which were presented in a full-day session. Each student was also assigned a mentor who led the discussions following the presentation of the work, and provided more detailed feedback and comments, focusing on the PhD proposal itself and presentation style, as well as on the actual work presented. The mentors were drawn from the set of reviewers and comprised some leading researchers in the field – both from academia and from industry.

Keynote talks from eminent scientists and practitioners punctuated the conference. The founder of the Internet Archive, Brewster Kahle, discussed the use of Semantic Web technologies in providing universal access to human knowledge. Ronald M. Kaplan, Chief Technology and Science Officer at Powerset Inc., examined how Natural Language techniques can complement Semantic Web technologies, both from data consumer and from service supplier perspectives. Christopher Welty, from the IBM T.J. Watson Research Center, discussed scalable information management techniques based on ontologies and the Semantic Web.

Workshops and tutorials are a vital part of the conference program. This year, we received a record number of workshop proposals, ranging in topics from ontology matching, the lexicon/ontology interface, or service matchmaking, to applications of Semantic Web technologies in the domain of cultural heritage. In addition to a strong selection of tutorials chosen from the submitted tutorial proposals, the conference included an invited tutorial, in which key researchers in the area of the Semantic Web provided a comprehensive introduction to the field. We are grateful to Mike Dean and Young-Tack Park (Poster and Demo Co-chairs), John Domingue and David Martin (Tutorial Co-chairs), and Harith Alani and Geert-Jan Houben (Workshop Co-chair) for ensuring the success of these events.

We offer many thanks to Tom Heath and Knud Möller, Metadata Co-chairs, for their expert coordination of the production of the semantic mark-up associated with each contribution to the conference and the applications and exhibits that use that mark-up.

The meeting would not have been possible without the tireless work of the Local Chair, Sung-Kook Han. We thank him and his team for providing excellent local arrangements and for making everyone feel welcome in Busan. The superb work of Masahiro Hori (Publicity Chair), York Sure and Young-Sik Jeong (Sponsor Co-chairs), Noboru Shimizu and Myung-Hwan Koo (Exhibition Co-chair) was critical to the conference success.

Finally, we would like to acknowledge the Semantic Web Science Association for providing the organizational oversight for ISWC 2007 + ASWC 2007 and the conference sponsors for their generous support.

In conclusion, ISWC 2007 + ASWC 2007 was an exciting event, reflecting the high level of energy, creativity, and productivity in the Semantic Web community.

November 2007

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