

Preface

“Evolve or perish” – this is the motto for living systems. Judging by this saying, the Web is alive and well: new sites and business ideas are coming online almost daily and are able to attract millions of users often. The more recently coined term “Web 2.0” summarizes many of the new developments, capturing efforts making the Web more interactive (like Ajax), more collaborative (like Wikis), or more relationship oriented (like online social networks), aiming to partially fulfill the original promise of the Web.

These new Web developments offer an opportunity and challenge for the Semantic Web: what previously manifested itself mostly in “dry” specifications is now becoming the foundation for information exchange on the Web, creating a shared semantic information space. These and other challenges have been picked up by several hundred computer scientists, developers, vendors, government workers, venture capitalists, students, and users, gathered in Athens, Atlanta, USA, November 5–9, 2006, for the Fifth International Semantic Web Conference (ISWC 2006). Building on previous successful meetings in Sardinia, Sanibel Island, Hiroshima, and Galway, this sixth annual conference demonstrates new research results, technology, and applications that show current incarnations of the Semantic Web. Especially encouraging is the shift towards more applications—whereas the Research Track attracted roughly as many papers as in the previous year, the contributions submitted to the In-Use Track doubled.

This volume contains the main proceedings of ISWC 2006, which we are excited to offer 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 33 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. Through an unprecedented agreement with Springer, the papers in these proceedings will also be freely available online to all interested parties. In addition, several online applications will provide access to semantically annotated information about the papers and the conference itself.

The Research Track attracted 215 submissions, comparable to the number of papers submitted to ISWC 2005, which shows the robustness of the research base in this area. The review process included three distinct phases. First, all papers were evaluated by three members of the Research Track Program Committee. Then, each paper and associated reviews provided the basis for the meta-review phase, led by an experienced member of the Program Committee who had not participated in the first phase. This strategy produced a joint recommendation from reviewers and the meta-reviewer to the Research Track Program Co-chairs, who, in a final review phase, analyzed each recommendation in detail, in some cases commissioning additional reviews and initiating further discussions. The Program Chairs then made a definitive decision regarding each paper. Such a structured process, which required a great deal

of effort from the members of the Program Committee, ensured a thorough review while attesting to the health of our community. In total, 52 papers were accepted, out of 215 submissions, a 24% acceptance rate.

The In-Use Track replaces the Industrial Track of former years. This change was prompted by the observation that many deployed applications of the Semantic Web come from diverse sectors including government, public health, and academia, in addition to industry. Since the goal of this track is to provide exposure to Semantic Web deployments, the ISWC 2006 Organizing Committee felt that a change of name was in order. The In-Use Track received 42 submissions. As part of the process in which each paper received three reviews from the In-Use Track Program Committee, three papers were determined to be more appropriate to the Research Track. Of the remaining papers, 14 were selected for acceptance, exactly one third of the submissions. Three themes dominated both the submissions and the accepted papers: Knowledge Management, Semantic Integration, and Semantic Search. The decision process was particularly difficult this year, as there were many fine papers. Consequently, the chairs had to make a number of difficult decisions for the final cut.

A unique aspect of the International Semantic Web Conferences is the Semantic Web Challenge. This is a 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. In the four years since this competition was first organized, we have seen more than 30 integrated applications built around distributed data sources, which use some kind of semantic descriptions to handle the data. This year we had 18 submissions, double the number of the previous year, making the selection process harder. The topics range from multimedia retrieval to music recommendation, from emergency management to traditional Chinese medicine. Keeping with the broad international appeal, there were submissions from Europe US, China, Singapore, Japan and New Zealand, from both industry and academia. The winners of the challenge were announced at the ISWC Conference and received €1.000 travel support plus a €250 voucher to purchase books from Springer.

This was the second year offering a Doctoral Consortium, which also showed an increase in submissions, 23, of which 6 full presentations and 8 poster presentations were accepted. Each paper was reviewed by senior members of the ISWC community, providing detailed feedback on how to structure, justify and present their work. The topics of the submissions cover a broad range from ontology engineering, reasoning, security, trust, multi-agent systems, and bioinformatics to cultural heritage. Submissions came in from the US, Austria, China, UK, the Czech Republic, Brazil, Italy, Turkey, the Netherlands, Portugal, Germany and Switzerland. Hoppers@KWeb, which is part of the Knowledge Web Network of Excellence, provided grants to support participation of PhD students in this event.

Keynote Talks from prominent scientists further enriched IWSC 2006: Tom Gruber presented his vision of the Semantic Web as a substrate for collective intelligence, and in particular for the Social Web; Jane Fountain, discussed the mutual influences of the Semantic Web and Digital Government, and, more generally, between information technologies and society; finally, Rudi Studer examined the extent to which interdisciplinary work has played and can play a role in Semantic Web research.

A Panel provided the setting for discussions about the relationship between the Semantic Web and Web 2.0. In addition, the conference was enlivened by a large Poster and Demo Session, and a Tutorial Program. Another sign of vitality was the large number, 20, of high quality proposals to the Workshop Program, of which 13 were selected. Some workshops are almost as old as the conference itself, with topics ranging from Semantic Desktop, User Interaction, Trust and Policies to Geospatial Data and Uncertainty Reasoning. We are grateful to Mark Greaves (Web 2.0 Panel Moderator), Max Wilson, Daniel A. Smith, m.c. schraefel, and Libby Miller (Poster and Demo Co-chairs), Wolfgang Nejdl (Tutorial Chair), and Vipul Kashyap (Workshop Chair) for ensuring the success of these events.

We are indebted to Jen Golbeck, Proceedings Chair, who provided invaluable support in compiling both the printed proceedings and the CD-ROM with additional material. We also offer many thanks to Eric Miller, Meta Data Chair, for his expert coordination of the production of the semantic mark-up associated with each contribution to the conference.

The meeting would not have been possible without the tireless work of the Local Organizer Chair, Budak Arpinar. We thank him and his team for providing excellent local arrangements. We would also like to thank the generous contribution from our sponsors and the fine work of the Sponsorship Chairs, Amit Sheth and Steffen Staab. We are thankful to Manos Papagelis, for providing timely support for the Confious Conference Management System, which was used to manage the review process.

Finally, we would like to acknowledge the Semantic Web Science Association for providing the organizational oversight for ISWC 2006.

In conclusion, ISWC 2006 was an exciting event, reflecting the high level of energy, creativity, and productivity that permeates the Semantic Web community. This is a great time to be involved in all sorts of booming and stimulating activities associated with the Semantic Web.

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