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The Semantic Web – ISWC 2004

Third International Semantic Web Conference
Hiroshima, Japan, November 7-11, 2004
Proceedings



Springer

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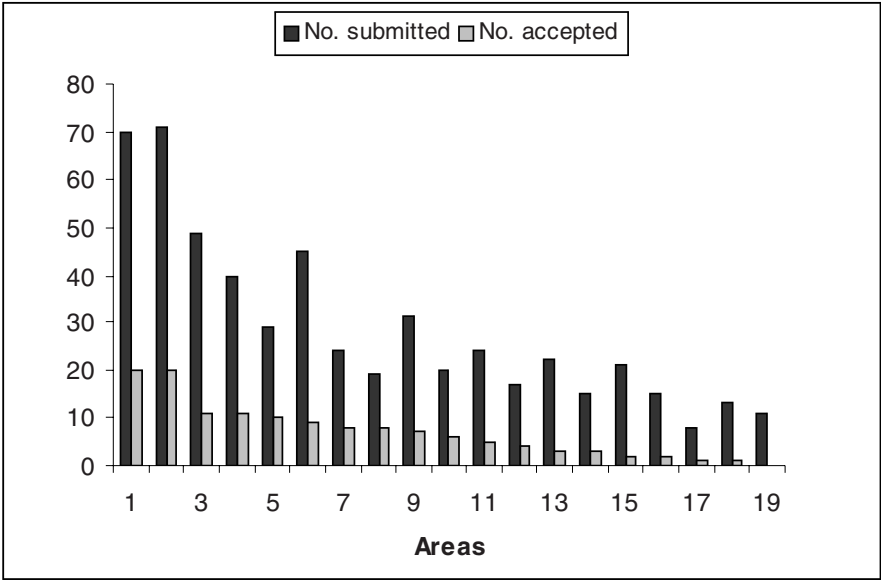
Preface

The 3rd International Semantic Web Conference (ISWC 2004) was held November 7–11, 2004 in Hiroshima, Japan. If it is true what the proverb says: “Once by accident, twice by habit, three times by tradition,” then this third ISWC did indeed firmly establish a tradition. After the overwhelming interest in last year’s conference at Sanibel Island, Florida, this year’s conference showed that the Semantic Web is not just a one-day wonder, but has established itself firmly on the research agenda. At a time when special interest meetings with a Semantic Web theme are springing up at major conferences in numerous areas (ACL, VLDB, ECAI, AAAI, ECML, WWW, to name but a few), the ISWC series has established itself as the primary venue for Semantic Web research.

Response to the call for papers for the conference continued to be strong. We solicited submissions to three tracks of the conference: the research track, the industrial track, and the poster track. The research track, the premier venue for basic research on the Semantic Web, received 205 submissions, of which 48 were accepted for publication. Each submission was evaluated by three program committee members whose reviews were coordinated by members of the senior program committee. Final decisions were made by the program co-chairs in consultation with the conference chair and the senior program committee. The industrial track, soliciting papers describing industrial research on the Semantic Web, received 22 submissions, of which 7 were accepted for publication. These papers were reviewed by three members of the industrial track program committee, and final decisions were made by the industrial track co-chairs. Finally, the poster track, designed for late-breaking results and work in progress, received 68 submissions, of which 47 were accepted, following two reviews of poster summaries by the conference program committee. Final decisions were made by the poster track chair. Results of the poster track are reproduced in a separate volume.

One of the Chairs’ prerogatives is to make some sense out of these submission statistics. First of all, ISWC 2004 was a truly international forum, with accepted contributions from over 20 countries worldwide. It is also instructive to look at the distribution of papers across different areas. The chart on the next page shows the number of papers submitted and accepted in the different areas. (NB: most papers were classified in multiple areas.) We see that two of the more “traditional” Semantic Web topics continue to dominate the conference: languages/tools/methodologies and ontologies. Other core topics are also strongly represented: interoperability, Web services, middleware and searching/querying. Together, these six core topics already account for 60% of the accepted papers. Some topics, although central to the Semantic Web, are surprisingly small in number, for example database technologies (5%) and inference/rules (4%). Some other topics are already “hot” in smaller workshops, but apparently haven’t

made it to the big conference scene yet, such as peer-to-peer and trust (each at a modest 2%).



Areas:

-
- 1 Languages, tools and methodologies for Semantic Web data
 - 2 Ontologies (creation, merging, linking and reconciliation)
 - 3 Semantic integration and interoperability
 - 4 Semantic Web services (description, discovery, invocation, composition)
 - 5 Semantic Web middleware
 - 6 Searching, querying and viewing the Semantic Web
 - 7 User interfaces
 - 8 Visualization and modelling
 - 9 Data semantics
 - 10 Database technologies for the Semantic Web
 - 11 Semantic Web inference schemes/rules
 - 12 Tools and methodologies for Web agents
 - 13 Large-scale knowledge management
 - 14 Peer-to-peer systems
 - 15 Semantic Web mining
 - 16 Semantic Web trust, privacy, security and intellectual property rights
 - 17 Semantic brokering
 - 18 Semantic Web for e-business and e-learning
 - 19 Knowledge portals
-

As with any conference, the quality of the accepted papers and the integrity of the review process reflect the hard work of the program committee. We thank

our senior program committee, members of both program committees, and our auxiliary reviewers for the tremendous effort they put into the task of evaluating submissions to the conference. Most importantly, we thank industrial track co-chairs Dean Allemang and Jun-Ichi Akahani, and poster track chair, Jeremy Carroll for the superb job they did, organizing and coordinating their tracks of the conference.

Invited talks constitute an integral part of the scientific program of an international conference. We were fortunate to have three excellent and diverse distinguished lectures as part of the ISWC 2004 technical program. Edward Feigenbaum, Kumagai Professor of Computer Science and Director Emeritus, Knowledge Systems Laboratory, Stanford University, communicated his views on the status and progress of Semantic Web research by speaking on “The Semantic Web Story – It’s already 2004. Where are we?”. Wolfgang Nejdl, Director of the Learning Lab Lower Saxony at the University of Hannover elaborated on the research issues involved in distributed search on the Semantic Web with his presentation entitled “How to Build Google2Google – An (Incomplete) Recipe –.” Marie-Christine Rousset, head of the Artificial Intelligence and Inference Systems Group in the Laboratory of Computer Science at the University of Paris-Sud, renewed an old knowledge representation theme by addressing the expressiveness/tractability trade-off in her talk entitled “Small Can be Beautiful in the Semantic Web.” This volume includes papers by Nejdl and Rousset that are associated with their lectures.

In addition to the paper and poster tracks, ISWC 2004 included 8 workshops, 6 tutorials, a demonstration session with 45 registered demonstrators, the Semantic Web Challenge with 18 participants, and an exhibition featuring industrial demonstrations. Large participation in these events reflects the broad interest in the Semantic Web, and how active the field is. Once again, we thank all the chairs for their dedicated efforts towards making the conference a success. The local organization of ISWC 2004 went smoothly through the extraordinary care and attention of those on the organizing committee. We are greatly indebted to Riichiro Mizoguchi, the local arrangements chair, for doing a meticulous job. His attention to detail, and the beautiful venue he selected for the conference contributed tremendously to the overall experience of the conference. John Mylopoulos and Katia Sycara, ISWC 2003 program co-chairs, also deserve our special thanks for their guidance and for sharing their experience with last year’s conference.

Electronic submission of papers and reviews was driven by the Confious Conference Management system, developed at ICS FORTH by Manos Papagelis. This was the first time Confious was used, and the system ran remarkably smoothly. We thank Manos for his around-the-clock support during the many months preceding the conference. We also owe a debt of gratitude to Akiko Inaba for her diligence and aesthetic sense in developing and supporting the ISWC 2004 Web page. Finally, we extend tremendous thanks to Jorge Baier for the fine job he did in preparing these proceedings.

We hope that the attendees found the conference both stimulating and enjoyable.

November, 2004

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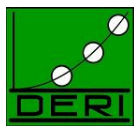


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