Lecture Notes in Computer Science 3532

Asunción Gómez-Pérez
Jérôme Euzenat (Eds.)

The Semantic Web: Research and Applications

Springer

Volume Editors

Asunción Gómez-Pérez
Universidad Politécnica de Madrid
Campus de Montegancedo sn, 28660 Boadilla del Monte, Madrid, Spain
E-mail: asun@fi.upm.es

Jérôme Euzenat
INRIA Rhône-Alpes
655 avenue de l'Europe, 38330 Montbonnot Saint-Martin, France
E-mail: Jerome.Euzenat@inrialpes.fr

Preface

This volume contains the papers presented at the 2nd European Semantic Web Conference (ESWC 2005) held in Heraklion, Crete, Greece, from 29th May to 1st June, 2005.

The vision of the Semantic Web is to enhance today's Web via the exploitation of machine-processable metadata. The explicit representation of the semantics of data, accompanied with domain theories (ontologies), will enable a web that provides a qualitatively new level of service. It will weave together an incredibly large network of human knowledge and will complement it with machine processability. Various automated services will help the user to achieve goals by accessing and providing information in a machine-understandable form. This process may ultimately create extremely knowledgeable systems with various specialized reasoning services systems. Many technologies and methodologies are being developed within artificial intelligence, human language technology, machine learning, databases, software engineering and information systems that can contribute to the realization of this vision.

The 2nd Annual European Semantic Web Conference presented the latest results in research and applications of Semantic Web technologies. Following the success of the first edition, ESWC showed a significant increase in participation. With 148 submissions, the number of papers doubled that of the previous edition. Each submission was evaluated by at least three reviewers. The selection process resulted in the acceptance of 48 papers for publication and presentation at the conference (an acceptance rate of 32%). Papers did not come only from Europe but also from other continents.

The selected papers broadly cover the following main topics:

- Semantic Web services
- Semantic Web languages
- ontologies
- reasoning and querying
- search and information retrieval
- user involvement and communities
- natural language for the Semantic Web
- annotation tools
- Semantic Web applications

In addition, ESWC 2005 also featured a special industry forum providing European industry with an opportunity to become more familiar with these technologies. In addition to the main conference, ESWC 2005 included 6 workshops, 5 tutorials, demo and poster sessions. Several European projects had meetings collocated with the main conference.

ESWC 2005 was sponsored by SDK — a group of three European Commission 6th Framework Programme projects known as SEKT, DIP and Knowledge Web.

Together these projects aim to improve world-wide research and standardization in the area of the Semantic Web. The conference also received precious sponsorship from British Telecommunications, DERI Galway and Innsbruck, Ontoprise, AKT and Collexis. Their help was greatly appreciated. We are also grateful to Springer which accepted again this year to publish the proceedings in its Lecture Notes in Computer Science series.

We would like to thank the International Program Committee for its enormous effort in the reviewing process (many reviewers had to evaluate up to 10 papers). In all, 115 additional reviewers were called upon to complete the review process in time.

We owe inexpressible thanks to Miguel Esteban, the Web submission master. Our gratitude also goes to the entire Conference Organization Committee and especially to Christen Ensor for holding things together.

April 2005   Asunción Gómez-Pérez
                                                          Jérôme Euzenat

Conference Organization

General Chair   Jérôme Euzenat (INRIA Rhône-Alpes, France)
Program Chair   Asunción Gómez Pérez (UPM, Spain)
Workshops Chair   Wolfgang Nejdl (L3S and Univ. of Hannover,
                         Germany)
Posters Chair   Heiner Stuckenschmidt (Vrije Univ. Amsterdam,
                         The Netherlands)
Demos Chair   Stefan Decker (DERI Galway, Ireland)
Tutorials Chair   Jos de Bruijn (DERI Innsbruck, Austria)
Industry Event   Alain Leger (France Télécom, France)
Publicity Chair   York Sure (Universität Karlsruhe, Germany)
Sponsors Chair   Christen Ensor (DERI Galway, Ireland)
Local Organizer   Christen Ensor (DERI Galway, Ireland)
Local Correspondent   Martin Doerr (FORTH, Greece)
Webmaster   Johannes Breitfuss (DERI Innsbruck, Austria)
Submissions Webmaster Miguel Esteban Gutiérrez (UPM, Spain)

Program Committee

Dean Allemang (TopQuadrant, Inc., USA)
Jrgen Angele (Ontoprise, Germany)
Sean Bechhofer (University of Manchester, UK)
Richard Benjamins (iSOCO, Spain)
Walter Binder (EPFL, Switzerland)
Paul Buitelaar (DFKI, Germany)
Christoph Bussler (DERI Galway, Ireland)
Fabio Ciravegna (University Sheffield, UK)
Oscar Corcho (iSOCO, Spain)
Hamish Cunningham (University Sheffield, UK)
John Davies (BT, UK)
Ying Ding (DERI Innsbruck, Austria)
John Domingue (The Open University, UK)
Stefan Decker (DERI Galway, Ireland)
Andreas Eberhart (University of Karlsruhe, Germany)
Dieter Fensel (DERI Galway, Ireland and DERI Innsbruck, Austria)
Mariano Fernández-López (CEU, Spain)
Natasha Fridman Noy (Stanford University, USA)
Aldo Gangemi (CNR, Italy)
Mari Georges (ILOG, France)
Fausto Giunchiglia (University of Trento, Italy)

Carole Goble (University of Manchester, UK)
Christine Golbreich (University of Rennes, France)
Jeremy J. Carroll (HP, UK)
Vipul Kashyap (Partners HealthCare System, USA)
Atanas Kiryakov (Ontotext Lab, Sirma AI, Bulgaria)
Manolis Koubarakis (Technical University of Crete, Greece)
Manuel Lama Penin (Universidad de Santiago de Compostela, Spain)
Alain Léger (France Télécom, France)
Riichiro Mizoguchi (Osaka University, Japan)
Dunja Mladenic (J. Stefan Institute, Slovenia)
Enrico Motta (The Open University, UK)
Wolfgang Nejdl (LS3 and University of Hannover, Germany)
Natasha Noy (Stanford University, USA)
Leo Obrst (MITRE, USA)
Massimo Paolucci (Carnegie Mellon University, USA)
Peter Patel-Schneider (Bell Labs, USA)
Terry Payne (University of Southampton, UK)
Dimitris Plexousakis (University of Crete, Greece)
Alan Rector (University of Manchester, UK)
Marie-Christine Rousset (University of Paris-Sud, France)
Guus Schreiber (Vrije Universiteit Amsterdam, The Netherlands)
Daniel Schwabe (PUC-Rio, Brazil)
Nigel Shadbolt (University of Southampton, UK)
Steffen Staab (University of Koblenz, Germany)
Heiner Stuckenschmidt (Vrije Universiteit Amsterdam, The Netherlands)
Rudi Studer (University of Karlsruhe, Germany)
York Sure (University of Karlsruhe, Germany)
Katia Sycara (Carnegie Mellon University, USA)
Valentina Tamma (University of Liverpool, UK)
Sergio Tessaris (Free Univ. Bozen, Italy)
Frank van Harmelen (Vrije Universiteit Amsterdam, The Netherlands)
Steve Willmott (Universidad Politécnica de Cataluña, Spain)
Michael Wooldridge (University of Liverpool, UK)

Additional Referees

Sudhir Agarwal	Uldis Bojars	Sam Chapman
Pinar Alper	Kalina Bontcheva	Emilia Cimpian
Anupriya Ankolekar	Stefano Borgo	Paul Clough
Grigoris Antoniou	Amel Boustil	Jesus Contreras
Lora Arroyo	Janez Brank	Monica Crubezy
Alessandro Artale	Christopher Brewster	Olivier Dameron
Jesús Barrasa	Liliana Cabral	Martin Doerr

Alistair Duke

Martin Dzbor

Marc Ehrig

Michael Erdmann

Miguel EstebanGutiérrez

Cristina Feier

Pablo Fillottrani

Giorgos Flouris

Stefania Galizia

Raúl García-Castro

Birte Glimm

Francois Goasdoue

Juan Miguel Gomez

José Manuel
   Gómez-Pérez

Rafael González-Cabero

Stephan Grimm

Peter Haase

Armin Haller

Siegfried Handschuh

Andreas Harth

Jens Hartmann

Juan Heguiabehere

Jan Henke

Pascal Hitzler

Laura Hollink

Matthew Horridge

Uwe Keller

Michel Klein

Ioanna Koffina

George Kokkinidis

Jacek Kopecky

Kyriakos Kritikos

Reto Krummenacher

Vitaveska Lanfranchi

Ken Laskey

Holger Lausen

Andrei Lopatenko

Phillip Lord

Francisco
   Martin-Recuerda

Claudio Masolo

Peter Mika

Knud Moeller

Matthew Moran

Boris Motik

Benjamin Nguyen

Barry Norton

Daniel Oberle

Dameron Olivier

Eyal Oren

Jeff Z. Pan

Massimo Paoulicci

Antonio Pareja Lora

Nathalie Pernelle

Livia Predoiu

Irene Polikoff

Dnyanesh Rajpathak

Christophe Rey

Chantal Reynaud

Marc Richardson

Luis Rodrigo

Dumitru Roman

Sebastian Ryszard Kruk

Ken Samuel

E. Sanches

Francois Scharffe

James Scicluna

Naveen Srinivasan

Ljiljana Stojanovic

Nenad Stojanovic

Michael Stollberg

Umberto Straccia

Maria del Carmen
   Suárez-Figueroa

Martin Szomszor

Valentin Tablan

Merwyn Taylor

Christoph Tempich

Patkos Theodore

Ioan Toma

Farouk Toumani

Dmitry Tsarkov

Nikos Tsatsakis

Daniele Turi

Victoria Uren

Véronique Ventos

Laure Vieu

Johanna Voelker

Max Völkel

Miha Vuk

Holger Wache

Wolf Winkler

Jun Zhao

Anna V. Zhdanova

Kerstin Zimmermann

Conference Organizers

Conference Sponsors

Platinum

Gold

Silver

Table of Contents

Semantic Web Services

Languages

Ontologies

Reasoning and Querying

Search and Information Retrieval

Users and Communities

Natural Language for the Semantic Web

AnnotationTools

Semantic Web Applications

Invited Papers