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Principles and Practice of Semantic Web Reasoning

4th International Workshop, PPSWR 2006
Budva, Montenegro, June 10-11, 2006
Revised Selected Papers

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Library of Congress Control Number: Applied for

CR Subject Classification (1998): H.4, H.3, I.2, F.4.1, D.2

LNCS Sublibrary: SL 3 – Information Systems and Application, incl. Internet/Web and HCI

ISSN	0302-9743
ISBN-10	3-540-39586-5 Springer Berlin Heidelberg New York
ISBN-13	978-3-540-39586-7 Springer Berlin Heidelberg New York

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springer.com

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Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 11853107 06/3142 5 4 3 2 1 0

Preface

The papers in this volume represent the technical program of the *4th Workshop on Principles and Practice of Semantic Web Reasoning*, PPSWR 2006, held on June 10-11, 2006 in Budva, Montenegro, co-located with the 3rd European Semantic Web Conference, in the young country of Montenegro after its independence on June 3, 2006.

The Semantic Web is a major endeavor aiming at enriching the existing Web with meta-data and processing methods so as to provide web-based systems with advanced, so-called “intelligent”, capabilities. These advanced capabilities, striven for in most Semantic Web application scenarios, primarily call for reasoning.

Specialized reasoning capabilities are already offered by Semantic Web languages currently being developed such as the OWL family together with Triple, SPARQL, or ontology-based application-specific languages and tools like BPEL. These languages, however, are developed mostly from functionality-centered (e.g. ontology reasoning or access validation) or application-centered (e.g. Web service retrieval and composition) perspectives. A perspective centered on the reasoning techniques complementing the above-mentioned activities appears desirable for Semantic Web systems and applications. Moreover, there is the general reasoning underlying the Semantic Web technologies, such as Description Logics, Hybrid Logics, and others like F-Logic and Logic Programming semantics.

The workshop series on “*Principles and Practice of Semantic Web Reasoning – PPSWR*” began in 2003 (cf. Springer LNCS 3208) in response to the need for a forum for the discussion of emerging work on various forms of reasoning that are or can be used on the Semantic Web, with a strong interest in rule-based languages and methods. The workshop addresses both reasoning methods for the Semantic Web, and Semantic Web applications relying upon various forms of reasoning. Since 2003, when the conference was held in Mumbai, India, co-located with ICLP, ASIAN, and FSTTCS, the workshop has been organized yearly: the second workshop (LNCS 3208) took place in 2004 in St. Malo, France, in conjunction with ICLP 2004; the third workshop took place in the Dagstuhl Conference Center in Germany, within a one week Dagstuhl Seminar (LNCS 3703).

The technical program of PPSWR 2006 comprised an invited talk by Harold Boley on “*The RuleML Family of Web Rule Languages*”, and the presentation of 14 refereed technical articles selected by the Program Committee among the 25 submitted. These 14 articles discuss various aspects of reasoning on the Semantic Web ranging from more theoretical work on reasoning methods that can be applied to the Semantic Web, concrete reasoning methods and query languages for the Semantic Web, to practical applications.

Besides the presentation of the technical articles, one session was devoted to the presentation and demonstration of 6 systems, all of them related to reasoning

on the Semantic Web. A description of each of these systems is also part of this volume.

During the workshop, informal on-site proceedings were distributed. The papers in this volume have been revised by the authors based on the comments from the refereeing stage and ensuing discussions during the workshop and have been subject to a final acceptance by the Program Committee.

The workshop has partly been supported by the 6th Framework Programme (FP6), Information Society Technologies (IST) project REVERSE (cf. <http://reverse.net>), project reference number 506779, funded by the European Commission and by the Swiss State Secretariat for Education and Research.

We would also like to thank the developers of the EasyChair conference management system (<http://www.easychair.org/>). EasyChair assisted us in the whole process of collecting and reviewing papers, in interacting with authors and Program Committee members, and also in assembling this volume.

Last, but not least, we would like to thank the authors of all papers and system descriptions that were submitted to PPSWR 2006, the members of the Program Committee, and the additional experts who helped with the reviewing process, for contributing and ensuring the high scientific quality of PPSWR 2006.

July 2006

José Júlio Alferes
James Bailey
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