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Semantic and Web: The Web Part

Sven Groppe [A], Paulo Rupino da Cunha [B]

[A] Institute of Information Systems (IFIS), University of Lübeck,
Ratzeburger Allee 160, D-23562 Lübeck, Germany, groppe@ifis.uni-luebeck.de

[B] CISUC, Department of Informatics Engineering, University of Coimbra, Pólo II,
3030-290 Coimbra, Portugal, rupino@dei.uc.pt

ABSTRACT

One major aim of the Semantic Web is to enable a machine-processable Web of data. Hence, the Semantic Web community regards it as extension of the traditional web. On the other hand, the applications of the Semantic Web rely deeply on web technologies in order to work in a distributed fashion, world-wide. The goal of this special issue is to bring together contributions from these communities to address the challenges in Semantic Web and Web technologies in cooperation. The papers included in this special issue demonstrate how new technologies of the Web and Semantic Web complement each other and provide more contributions to the area of web technologies. The semantic part of this special issue, which contains substantial theoretical and empirical contributions to Semantic Web, is published in Open Journal of Semantic Web (OJSW).

TYPE OF PAPER AND KEYWORDS

Editorial: *Semantic Web, Web Technologies, OJWT, OJSW, RonPub*

1 INTRODUCTION

The current World-Wide Web enables an easy, instant, access to a vast amount of online information. However, the content in the Web is typically for human consumption, and it is not tailored for machine processing. The Semantic Web is hence intended to establish a machine-understandable Web, and is currently also used in many other domains besides the Web. However, especially due to these historic reasons, many languages and technologies of the Semantic Web are evolved or at least strongly influenced by Web standards and approaches. Furthermore, many Semantic Web applications and architectures are designed to be part of, and to be integrated into the Web.

In this special issue, we collect high-quality papers, which address both topics – Semantic Web and Web technologies. In order to reach both communities – the one of Semantic Web and the one of the Web – we decided to have a joint special issue in two related journals – the Open Journal of the Semantic Web [9] and the Open Journal of Web Technologies [10]. This guest editorial especially deals with those papers having the Web as its main focus.

2 RATIONALE ABOUT CHOOSING THE RIGHT JOURNALS FOR OUR SPECIAL ISSUE

The impact of a research work is defined to be an indication of how much the work contributes to other scientists' research and is hence used, applied and built upon [3]. Not surprisingly, the impact is often measured (e.g. by the Hirsch index [6]), valued and rewarded in researcher performance assessment and in research funding.

Many independent studies confirm that Open Access publications are significantly more cited than

others that are not freely available [3]. Because publishing using the Open Access model increases the impact of a researcher, we looked for an Open Access publisher for our special issue “Semantic and Web”. Furthermore, sought a high-quality peer-review and journals not asking for transferring copyright but applying the license model instead. Hence we finally decided to choose the Open Journal of Semantic (OJSW) [9] and the Open Journal of Web Technologies (OJWT) [10], which are open access, peer-reviewed, academic journals published by RonPub [11]. Among other things, RonPub spends considerable efforts to index their published papers in main bibliographic databases, which increases the visibility of their published scientific contributions. Furthermore, OJSW and OJWT distribute their articles under Creative Commons Attribution License [1], which permits unrestricted use, distribution and reproduction free of charge in any medium, provided that the original work is properly cited.

3 REVIEW PROCESS OF THIS SPECIAL ISSUE

All papers submitted to this special issue were firstly rigorously reviewed by at least three experts in the research areas of Semantic Web and web technologies. The review reports and manuscripts themselves were then carefully evaluated by the editors, and the evaluation results were sent to the authors. In order to avoid conflicts of interest, for a paper having a guest editor as co-author the review process was handled at a higher level by RonPub Editorial Office, who selected the reviewers and requested the reviews; and the other guest editor, who analyzed the received comments and suggested a decision to the Editorial Office.

All authors, whose papers were not rejected in the first round of reviews, revised their papers according to the comments in the revaluation reports. Meanwhile, the authors also prepared a revision report to describe how authors address the reviewers' concerns in the revised manuscript. Furthermore, the authors were provided with the possibility of rebuttal: authors could issue a point-by-point refutation of the comments and concerns from evaluation reports. After a careful and complete evaluation of the revised manuscripts, revision reports and rebutting letters, only papers with high-quality work have been finally accepted and included in this special issue.

4 CONTENT OF THIS SPECIAL ISSUE

We accepted four papers for this special issue: [2] and [5] have a strong contribution to the Semantic Web community and are hence introduced in the other guest editorial [4] of our special issue, which is published in the Open Journal of Semantic Web (OJSW) [10]. We will shortly summarize [7] and [8], which are more related to the Web community:

"Detecting Vital Documents in Massive Data Streams" [7]: Web documents published e.g. at social media or online news sites may contain novel information to be taken into account in updating articles of knowledge bases like Wikipedia. Manually monitoring all the relevant web documents is practically impossible for the editors of such knowledge bases, which leads to a considerable time lag between the publication dates of such documents and a corresponding edit in a knowledge base. This paper proposes a realtime framework built upon the distributed and fault tolerant realtime computation system Apache Storm for detection of web documents containing novel information flowing in massive document streams.

"Context-Dependent Testing of Applications for Mobile Devices" [8]: Mobile apps have to be robust to their various context changes caused by their mobility with changes in network parameters such as latency and usable bandwidth, along with data read from sensors such as GPS coordinates. Frequent context changes complicate testing mobile apps, which the authors address by a novel concept: Their approach identifies blocks of code between which context changes are possible in order to reduce complexity. Furthermore, the authors present a use case, show its application and benefits, and discuss challenges.

We wish our readers enjoyment when reading our selection of papers in the addressed research area of Semantic and Web.

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AUTHOR BIOGRAPHIES

Dr. Sven Groppe earned his diploma degree in Informatik (Computer Science) in 2002 and his Doctor degree in 2005 from the University of Paderborn. He earned his habilitation degree in 2011 from the University of Lubeck. He worked in the European projects B2B-ECOM, MEMPHIS, ASG and TripCom. He was a member of the DAWG W3C Working Group, which developed SPARQL. He was the project leader of the DFG project LUPOSDATE, an open-source Semantic Web database, and one of the project leaders of two research projects, which research on FPGA acceleration of relational and Semantic Web databases. He is also the workshop chair of Semantic Big Data (SBD 2016), which is affiliated with the ACM SIGMOD 2016 conference. His research interests include databases, Semantic Web, query and rule processing and optimization, Cloud Computing, peer-to-peer (P2P) networks, Internet of Things, data visualization and visual query languages.

Dr. Paulo Rupino da Cunha is assistant professor of information systems at the Faculty of Science and Technology of the University of Coimbra, Portugal. Paulo is Director of Informatics and Systems Lab of Instituto Pedro Nunes (IPN), a non-profit association for Innovation and Technology Transfer. Paulo holds a Ph.D. in Informatics Engineering from the University of Coimbra. He has been Adjunct Associate Teaching Professor in the School of Computer Science at Carnegie Mellon, USA, from May 2009 to Dec 2012, and Visiting Associate at Brunel University, UK, from 2008 to 2010. He has been the Vice-President of the Board of Instituto Pedro Nunes and of IPN-Incubadora- the recipient of the 2010 Word's Best Science Based Incubator Award. For a period of three years, he was the elected Coordinator of the Informatics Engineering Chapter for the centre region of Portugal of the Portuguese Engineering Association, and for a two year term he was a member of the Executive Committee of the Department of Informatics Engineering of the University of Coimbra. Has been involved in information systems and software engineering projects for several private and public organisations and regularly participates in the evaluation of R&D projects and start-up pitches. Presently focused on cloud, service systems and business models.