Web-scale Semantic Information Processing

One of the greatest challenges for the Semantic Web is achieving web-scale. While the information retrieval community has developed successful strategies for coping with the scale of the web using statistical techniques, semantic web technologies are still struggling with scaling up to the web as such. This is in part due to the need to preserve the data’s structure and the need to perform various forms of reasoning in order to more effectively leverage the available information. The need to handle vast amounts of structured data on the web is now widely recognized and efforts like the Billion Triples Challenge have been launched to advance the state of the art with this respect. For this special issue, we seek papers that present algorithms and architectures that help semantic web systems achieve any form of scalability possessed by contemporary, state-of-the-art web applications, including, but not limited to:

- answering queries and/or reasoning with billions of triples
- operating over hundreds of ontologies or schemas simultaneously
- supporting hundreds of thousands of users and/or concurrently handling semantic web requests from thousands of users

Accepted papers will have to provide detailed descriptions of their algorithms, architectures, and data structures and include systematic empirical evaluations that clearly demonstrate their claims of scalability. Topics of interest include, but are not limited to

- semantic web search engines,
- benchmark evaluations of the state-of-the-art systems
- systems that process data streams from multiple sensors
- parallel and distributed reasoning,
- …

The Journal of Web Semantics is published by Elsevier since 2003. It is an interdisciplinary journal based on research and applications of various subject areas that contribute to the development of a knowledge intensive and intelligent service Web. These areas include: knowledge technologies, ontology, agents, databases and the semantic grid, obviously disciplines like information retrieval, language technology, human computer interaction and knowledge discovery are of major relevance as well. All aspects of the Semantic Web development are covered.

The Journal of Web Semantics offers to its authors and readers:

- Free availability of papers on the Web at http://www.semanticwebjournal.org/
- Professional support with publishing by Elsevier staff
- Indexed by Thomson Reuters web of science
- Impact factor 3.41: the third highest out of 92 titles in Thomson Reuters' category "Computer Science, Information Systems"

Submissions should describe original contributions and should not have been published or submitted elsewhere. Submissions based on conference papers should be extended and include a reference to the corresponding proceedings.
Manuscripts should be prepared for publication in accordance with instructions given in the JWS Guide for Authors. The submission and review process will be carried out using Elsevier Editorial System (http://ees.elsevier.com/jws/). Final decisions of accepted papers will be approved by an editor in chief. The schedule for the special issue is the following:

Submissions Due: October 1st 2010  
Notification: December 1st 2010  
Revised Papers: February 1st 2011  
Final Decision: April 1st 2011  
Camera Ready Version: May 1st 2011

For any further questions regarding the special issue (appropriateness of your contribution, editorial issues, etc.), please feel free to contact the guest editors:

Prof. Dr. Heiner Stuckenschmidt (managing guest editor)  
Computer Science Institute  
University of Mannheim  
B6, 26 68159 Mannheim  
Germany  
Phone.: +49 621 181 2530  
Fax: +49 621 181 2682  
Email: heiner@informatik.uni-mannheim.de

Jeff Heflin  
Associate Professor  
Dept. of Computer Science and Engineering  
Lehigh University, 19 Memorial Drive West  
Bethlehem, PA 18015  
Phone: +1 610 758-6533  
Fax: +1 610 758-4096  
E-Mail: heflin@cse.lehigh.edu