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Klein, Michel; Visser, Ubbo

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Editorial

Semantic Web Challenge 2004

Dear reader,

Once again the Semantic Web Challenge attracted scientists from Universities and Research Labs as well as software developers working in companies. The organizers are content with the 80% increase of submissions compared to the year before. This can be considered as a big success giving the fact that the challenge hasn't been around for long. Also, the incorporation of the awarding ceremony and the online demonstration of the best Semantic Web Application in a plenary session during ISWC 2004 can be considered positively. This underlines the tendency that the challenge gets more attention regarding the Semantic Web community worldwide. A description of the most sophisticated applications will be included in the ISWC proceedings for the 2005-edition of the challenge.

The applications that were submitted in 2004 are very diverse in the functionality that they provide and the domain they work on. There are semantically structured portal sites, e.g. the *Madeira portal* of Nesstar Ltd./University of Essex, which provides access to social sciences datasets, the *International Affairs portal* of the Spanish political institute Elcano, developed by iSOCO, and *MuseumFinland*, the runner-up in this year's competition which provides a semantic portal that contains metadata from the collection databases of the several Finish museums. There are some knowledge management applications, such as the *KMP* by INRIA Sophia Antipolis, which maintains interests and needs of actors in the Telecom Valley of Sophia, and NASA's *Semantic Organizer*, a semantically structured collaborative knowledge management system which has been used inside NASA, to support the evidence

The Semantic Web Challenge is a yearly competition that aims at exhibiting the potentials of the Semantic Web by creating applications that use this technology. The challenge is defined by a number of minimal criteria for 'Semantic Web applications' and a yearly updated goal.

The challenge started in 2003 with 10 applications, in 2004 the number of submissions increased to 18. The submissions came from several countries, i.e. Finland, France, Germany, Israel, Italy, the Netherlands, the United States of America and the United Kingdom. Each application has been evaluated three times by experts with a background in knowledge representation, machine learning working at Universities, large research organizations or in industry. The submissions are ranked based on the minimal criteria and additional desired properties.

The Semantic Web Challenge is organized in cooperation with the International Semantic Web Conference (ISWC). The winner of the challenge is announced during this conference and the submitted applications are demonstrated at the conference. More information about the challenge can be found at: <http://challenge.semanticweb.org>.

organizing needs of the Space Shuttle Columbia accident. In addition, there are applications about music recommendation (*MusiDB*, Vrije Universiteit of Amsterdam), dynamic linking in the biomedical domain (*GOHSE*, Manchester University), research communities and bibliographic data (*Flink*, Vrije Universiteit

of Amsterdam, and *Bibster*, University of Karlsruhe), shared bookmarks (*Annotea*, W3C), Semantic Web-based accessibility (*SWAP*, UB Access) and others.

Besides the above mentioned applications, there were also a number of submissions of what can be described as ‘infrastructure applications’. These are applications that provide support for creating Semantic Web applications but do not provide direct end-user functionality. For example, *pOWL* from the University of Leipzig delivers a web-based ontology development platform and *Swoogle* (University of Maryland) is a search engine for Semantic Web documents, i.e. RDF and OWL documents. Such applications are very useful for Semantic Web developers and are also a prerequisite for the Semantic Web to become more widespread. However, they are less suited to the general aim of the challenge: illustrate the possibilities of Semantic Web technology to the general public.

One observation of previous year’s challenge was that most of the applications used simple and shallow ontologies, mostly taxonomies. We argued in a provocative way that this could be the future for ontologies on the Semantic Web. In response to this observation, we formulated as special task for the challenge in 2004 to *show the benefits of the inference capabilities of the Semantic Web languages used within the application*. Compared to the 2004 edition of the challenge, there is indeed an increase in the use of reasoning in applications. The top three applications all exploit some reasoning. However, also this year the majority of the applications did not use advanced inference capabilities, such as automatic classification and satisfiability checks. Does this mean that we will only see “light-weight” ontologies on the Web? We think that this would be too easy to state since there exist already more sophisticated ontologies (such as the cancer ontology from the US national cancer institute). However, it is quite possible that the

majority of future applications will only need shallow ontologies and simple inference mechanisms. We will monitor the development of this issue in the next challenges.

Some of the applications that took part in the competition will be published in this journal during the next couple of issues. In this issue, we start with the winner of last year’s challenge, an application from the Vrije Universiteit of Amsterdam called *Flink* and the runner-up, an application from the University of Helsinki and the Helsinki Institute for Information Technology (HIIT) called *MuseumFinland*. In addition to the written description of the applications in this journal, there is also an online walkthrough of each application available at the website of the journal, <http://www.semanticwebjournal.org>. This combination of printed and semi-permanent on-line content gives the readers the possibility to read and view the applications, both now and in the future.

Online demonstrations of some of the other participants of the Semantic Web Challenge 2004 and information about this year’s challenge can be found at <http://challenge.semanticweb.org>. And now, have fun reading the descriptions of the two best Semantic Web Applications of 2004.

Michel Klein*

Vrije Universiteit Amsterdam, Division of
Mathematics and Computer Science, De Boelelaan
1081a, 1081 HV Amsterdam, The Netherlands

Ubbo Visser

Universität Bremen, Germany

* Corresponding author

E-mail addresses: michel.klein@cs.vu.nl

(M. Klein)

visser@tzi.de

(U. Visser)