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Editorial

The Semantic Web Challenge, 2011

The goal of the Semantic Web Challenge[1] is to provide researchers and industry with a forum to showcase the best Semantic Web applications, to demonstrate practical progress towards achieving the vision of the Semantic Web, as well as to show the value of Semantic Web technologies within various application domains. The Semantic Web Challenge has been organized annually since 2003.

The Semantic Web Challenge 2011 took place at the 10th International Semantic Web Conference held in Bonn, Germany, from 23–27 October 2011. The challenge consisted of two tracks: the Open Track and the Billion Triples Track. The Open Track requires that applications are designed to operate in an open Web environment and that they utilize the semantics of the data which they process, whilst the Billion Triples Track focuses on dealing with very large amounts of RDF data, which has been crawled from the public Web and thus exhibits characteristics such as vocabulary heterogeneity and varying data quality. For the 2011 challenge, we provided the participants of the Billion Triples Track with an RDF data set consisting of approximately 2 billion triples. The data set was crawled by Andreas Harth from the Karlsruhe Institute of Technology, to whom we are very grateful for the enormous effort that he put into compiling this data set.

The Semantic Web Challenge 2011 received 15 submissions (10 for the Open Track and 5 for the Billion Triples Track). All submissions were evaluated rigorously by a jury composed of leading scientists and experts from industry in a 3-round knockout competition, according to a comprehensive set of challenge requirements. In the second round, the seven best submissions were chosen based on their presentation as a poster and demonstration. In the final round, the winners were picked after oral presentations and further live demonstrations.

In this special issue, we present articles about the award-winning systems: the winner in the Open Track and the winner of the Billion Triples Track, as well as the system receiving an honourable mention in the Open Track.

The winner of the Open Track was BOTTARI, an augmented reality mobile application to deliver personalized and location-based recommendations by the continuous analysis of social media streams. The application was developed by the multidisciplinary team of Irene Celino, Daniele Dell'Aglio, Emanuele Della Valle, Marco Balduini, Yi Huang, Tony Lee, Seon-Ho Kim, and Volker Tresp from Politecnico of Milano, Italy, SIEMENS Corporate Technology in Munich, Germany and the Korean Saltlux. The application combines local views with emotive analysis of live streaming twitter and blog posts to give the end user a novel augmented reality of the local Korean dining scene.

The winner of the Billion Triples challenge was *SchemEX – Efficient Construction of a Data Catalogue by Stream-based Indexing of Linked Data* developed by Thomas Gottron, Mathias Konrath, Ansgar Scherp, and Steffen Staab of the Institute for Web Science and Technologies (WeST) at the University of Koblenz-Landau in Germany. They were awarded the prize for the design of a real-time index generation algorithm which they successfully applied to build a concise lookup index for the Billion Triples data set.

For their foreshadowing of the upcoming internet of things, the judges gave an additional honourable mention to *A Middleware Framework for Scalable Management of Linked Streams* by Danh Le-Phuoc, Hoan Nguyen Mau Quoc, Josiane Xavier Parreira, and Manfred Hauswirth of the Digital Enterprise Research Institute (DERI) at the National University Ireland Galway. The middleware framework maps a very large number of streaming real world sensor data into a dynamic RDF model and provides an integrated live view on the data.

These three papers demonstrate the diversity of ways in which Semantic Web data can be used, and represent some of the best applications developed in the research community, combining a wide range of technologies with clear use cases and well-designed interfaces.

We would like to thank all the members of the jury for their detailed judgment of the strengths and weaknesses of the submitted applications. The jury this year consisted of:

- Hideaki Takeda (National Institute of Informatics, Japan)
- Ivan Herman (W3C, Netherlands)
- Mark Greaves (Vulcan, Inc., USA)
- Peter Mika (Yahoo!, Spain)
- Sweitze Roffel (Elsevier, USA)
- Tim Finin (University of Maryland, USA)
- Tom Heath (Talis, UK)

Special thanks also go to the sponsor of the Semantic Web Challenge—Elsevier—for their long-standing support.

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