

Joint Proceedings of RSP 2017 and QuWeDa 2017

This joint volume contains the articles from the 2nd RDF Stream Processing workshop (RSP 2017) and the Querying the Web of Data workshop (QuWeDa 2017), held on May 28th and 29th, co-located with the 14th ESWC 2017 in Portoroz, Slovenia.

RSP 2017: 2nd RDF Stream Processing workshop

Data streams are an increasingly prevalent source of information in a wide range of domains and applications, e.g. environmental monitoring, disaster response, or smart cities. The RDF model is based on a traditional persisted-data paradigm, where the focus is on maintaining a bounded set of data items in a knowledge base. This paradigm does not fit the case of data streams, where data items flow continuously over time, forming unbounded sequences of data. To date several stream processing engines have been proposed to enable such applications and the semantic web community have been active in this area. However, each has defined its own extensions to RDF for modelling streaming data and query language. In this context, the W3C RDF Stream Processing (RSP) Community Group has taken the task to explore the existing technical and theoretical proposals that incorporate streams to the RDF model, and to its query language, SPARQL. In this context, the RSP Group is fostering a community to define a common, but extensible core model for RDF stream processing. This core model can serve as a starting point for RSP engines to be able to talk to each other and interoperate.

The workshop brought together members of the community interested to demonstrate and their latest advances in stream processing systems for RDF. The event fostered discussion for proposing novel RDF stream processing techniques, language extension, and benchmarking and experimental evaluation of the engines.

QuWeDa 2017: Querying the Web of Data

The constant growth of Linked Open Data (LOD) on the Web opens new challenges pertaining to querying such massive amounts of publicly available data. LOD datasets are available through various interfaces, such as data dumps, SPARQL endpoints and triple pattern fragments. In addition, various sources produce streaming data. Efficiently querying these sources is of central importance for the scalability of Linked Data and Semantic Web technologies. The trend of publicly available and interconnected data is shifting the focus of Web technologies towards new paradigms of Linked Data querying. To exploit the massive amount of LOD data to its full potential, users should be able to query and combine this data easily and effectively. This workshop at the Extended Semantic Web Conference (ESWC) presented original articles describing theoretical and practical methods and techniques for fostering, querying, and consuming the Data Web.

Acknowledgements

Organising workshops is an activity that involves several people, that we want to thank: the authors of the submitted papers, that are contributing in pushing forward the idea of querying the Web in static and dynamic contexts; the keynote speakers, Dr. Andreas Harth and ... for sharing their vision and their ideas in their keynotes; the ESWC organisers, in particular Agnieszka Ławrynowicz and Fabio Ciravegna for the support and the help in organising the events.

Jean-Paul Calbimonte

Minh Dao-Tran

Daniele Dell'Aglio

Danh Le Phuoc

Muhammad Saleem

Ricardo Usbeck

Ruben Verborgh

Axel-Cyrille Ngonga Ngomo

Table of contents

2nd RDF Stream Processing workshop

SLD Revolution: A Cheaper, Faster yet more Accurate Streaming Linked Data Framework <i>Marco Balduini, Emanuele Della Valle, Riccardo Tommasini</i>	1
C-GeoSPARQL: Streaming GeoSPARQL Support on C-SPARQL <i>Alexander Dejonghe, Femke Ongenae, Stijn Verstichel, Filip De Turck</i>	16
Towards a Benchmark for Expressive Stream Reasoning <i>Riccardo Tommasini, Marco Balduini, Emanuele Della Valle</i>	26

Querying the Web of Data

PeNeLoop: Parallelizing Federated SPARQL Queries in Presence of Replicated Fragments <i>Thomas Minier, Gabriela Montoya, Hala Skaf-Molli, and Pascal Molli</i>	37
Demonstration of Using a Domain-Specific Visual Modeler for Building Semantic Queries <i>Gábor Simon, Dániel Palatinszky, Gergely Mezei</i>	51
JPA Criteria Queries over RDF Data <i>Claus Stadler, Jens Lehmann</i>	55

Program committees

2nd RDF Stream Processing workshop

- Muhammad Intizar Ali, INSIGHT, NUI Galway, Ireland
- Le Tuan Anh, INSIGHT, NUI Galway, Ireland
- Oscar Corcho, Universidad Politécnica de Madrid, Spain
- Emanuele Della Valle, Politecnico di Milano, Italy
- Javier D. Fernández Vienna University of Economics & Business, Austria
- Shen Gao, University of Zurich, Switzerland
- Alasdair JG Gray, Heriot-Watt University, UK
- Femke Ongenaë, Ghent University, Belgium
- Özgür Özcep, Institute of Information Systems, University of Lübeck, Germany
- Srdan Krstic, ETHZ, Switzerland
- Patrik Schneider, SIEMENS, Austria
- Monika Solanki, University of Oxford, UK
- Kia Teymourian, Rice University, USA
- Marcin Wylot, TU Berlin, Germany

Querying the Web of Data workshop

Following is the list of program committee members in no particular order:

- Harald Sack, HPI, University Potsdam, Germany
- Steffen Staab, University of Koblenz-Landau, Germany
- Soren Auer, University of Bonn, Germany
- Stefan Decker, RWTH Aachen, Germany
- Carlos Buil Aranda, Pontificia Universidad Católica de Chile, Chile
- Axel Polleres, Vienna University, Austria
- Aidan Hogan, Universidad de Chile, Chile
- Olaf Hartig, Linköping University, Sweden
- Maria-Esther Vidal, Universidad Simon Bolivar, Venezuela
- Sebastian Rudolph, TU Dresden, Germany
- Oscar Corcho, Universidad Politécnica de Madrid, Spain
- Monika Solanki, University of Oxford, UK
- Pascal Molli, Nantes University, France
- Rinke Hoekstra, Vrije Universiteit, Netherland
- Juan Sequeda, Capsenta Labs, USA
- Muhammad Intizar Ali, INSIGHT, NUI Galway, Ireland
- Peter Haase, metaphacts, Germany
- Hala Skaf, Nantes University, France
- Andriy Nikolov, metaphacts, Germany
- Stefan Schlobach, Vrije Universiteit Amsterdam, Netherland
- Olivier Corby, INRIA, France
- Stasinou Konstantopoulos, Institute of Informatics and Telecommunication, Greece
- Ali Hasnain, NUIG, Galway, Ireland

- Vanessa Lopez, IBM Research, Ireland
- Juergen Umbrich, Vienna University, Austria
- Magnus Knuth, HPI, University Potsdam, Germany
- Miel Vander Sande, Ghent University -- imec, Belgium
- Angelos Charalambidis, University of Athens, Greece
- Gong Cheng, Nanjing University, China
- Andreas Schwarte, fluidOps, Germany
- Gabriela Montoya, University Aalborg, Denmark
- Valeria Fionda, University of Calabria, Italy
- Markus Luczak-Roesch, Victoria University of Wellington, New Zealand
- Christophe Gueret, BBC Wales, UK
- Katja Hose, University Aalborg, Denmark
- Alessandro Adamou, Open University, UK
- Enrico Daga, Open University, UK
- Luis-Daniel Ibanez, University of Southampton, UK
- Giuseppe Pirró, ICAR-CNR, Italy
- Maribel Acosta, KIT, Germany
- Danh Le Phouc, TU Berlin, Germany
- Stefan Dietze, L3S Research, Germany
- Edgard Marx, AKSW, Germany