

Joint Proceedings of WSP 2017 and WOMoCoE 2017

This joint volume contains the articles from the Web Stream Processing workshop 2017 (WSP 2017) and the 2nd International Workshop on Ontology Modularity, Contextuality, and Evolution (WOMoCoE 2017), held on October 22nd and co-located with the 16th International Semantic Web Conference (ISWC 2017) in Vienna, Austria.

WSP 2017: Web Stream Processing workshop 2017

More and more applications require real-time processing of massive, dynamically generated, ordered data, where order is often an essential factor reflecting recency. Data stream management techniques provide reactive and reliable processing mechanisms over such data. Key to their success is the use of streaming algorithms that harness the natural or enforceable orders in the data.

This trend started to be visible also in the Web, where an increasing number of streaming sources and datasets are becoming available. They originate from social networks, sensor networks, Internet of Things (IoT) and many other technologies that find in the Web a platform for sharing data. This is resulting in new Web-centric efforts such as the Web of Things, which studies how to expose and describe IoT using the Web, or the Social Web, which investigates protocols, vocabularies, and APIs to facilitate access to social functionality as part of the Web. In the Semantic Web context emerged efforts like Stream Reasoning and RDF Stream Processing. Stream Reasoning aims at combining data stream management and semantic technologies to perform reasoning over massive, heterogeneous and dynamic data; while RDF Stream Processing studies the continuous query answering process over data streams modelled accordingly to the RDF model.

The workshop put together such sub-communities to discuss and to investigate holistic processing models for streams over the Web, which consider the issues about publishing data streams on the Web as well as processing them with queries and inference processes. The event has contributed in the creation of an active community interested in integrating stream processing and reasoning by using methods inspired by data and knowledge management.

WOMoCoE 2017: Ontology Modularity, Contextuality, and Evolution

In the Semantic Web and Linked Data, knowledge is rarely considered to be a monolithic and static entity. Instead, partitioning knowledge into distinct modular structures is central to organize knowledge bases, from the design of the latter to their creation, from their maintenance to their use in knowledge sharing. From a different perspective, representing and reasoning about a context with respect to knowledge in distinct modules is essential for

the correct exploitation knowledge bases, and for reliable and effective reasoning in changing situations. Finally, evolution of knowledge resources, in terms of updates by newly acquired knowledge, is an important factor ensuring that over time stored knowledge remains meaningful.

The 2nd International Workshop on Ontology Modularity, Contextuality, and Evolution (WOMoCoE 2017) provided a forum for practitioners and researchers to discuss current trends in modularity, contextuality, and evolution of knowledge resources. The workshop aimed at bringing together an interdisciplinary audience that is interested in its topics both from a theoretical, formal point of view but as well from an application-oriented perspective. WOMoCoE 2017 attracted 5 submissions. Each submission was reviewed by at least three members of the Program Committee, and 4 were accepted for oral presentation at the workshop and are included in this volume. The workshop also featured an invited talk by Pascal Hitzler.

Acknowledgments

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