

## Preface

In recent years, researchers in several communities involved in aspects of the web have begun to realise the potential benefits of assigning an important role to events in the representation and organisation of knowledge and media – benefits which can be compared to those of representing entities such as persons or locations instead of just dealing with more superficial objects such as proper names and geographical coordinates. While a good deal of relevant research – for example, on the modelling of events – has been done in the semantic web community, much complementary research has been done in other, partially overlapping communities, such as those involved in multimedia processing and information retrieval.

However, there is a shift in semantics in multimedia research, one that moves away from content semantics towards conversation semantics that is contained in social media. With respect to events and information, what happens in an event becomes secondary to how people react and/or what they talk about. The attendance of DeRiVE 2011 proved that there is a great interest from many different communities in the role of events.

The goal of DeRiVE 2012 is to further strengthen and expand on the results from DeRiVE 2011 and to strengthen the participation of the semantic web community in the recent surge of research on the use of events as a key concept for representing knowledge and organising and structuring media on the web. The workshop invited contributions to three central questions, with the goal to formulate answers to these questions that advance and reflect the current state of understanding. Each submission was expected to address at least two questions explicitly, if possible including a system demonstration. This year, we also specifically focused on event and conversation semantics in multimedia and social media.

The questions we aim to address are the following:

### **Question 1: How can events be detected and extracted for the semantic web?**

- How can events be recognised in particular types of material on the web, such as calendars of public events, social networks, microblogging sites, semantic wikis, and regular web pages?
- How can events be summarised, segmented and described using social media?
- How can the quality and veracity of the events mentioned in noisy microblogging sites such as Twitter be verified?
- How can a system recognise a complex event that comprises separately recognisable subevents?
- How can a system recognise when a newly detected event is the same as a previously detected and represented event?

## Question 2: How can events be modelled and represented in the semantic web?

- How can we improve the interoperability of the various event vocabularies such as EVENT, LODE, SEM, or F to name a few?
- How deployed is the schema.org Event class on the web?
- To what extent can the many different event infoboxes of Wikipedia be reconciled for Wikidata?
- What are the requirements for event representations for qualitatively different types of events (e.g., historical events such as wars; cultural events such as upcoming concerts; personal events such as family vacations)?
- How can aspects of existing event representations developed in other communities be adapted to the needs of the semantic web?
- To what extent can/should a unified event model be employed for such different types of events?
- How do social contexts (Facebook, Twitter, etc.) change the implicit content semantics?

## Question 3: What is the relationship between events, data, and applications?

- How can events be represented in a way to support conversation semantics, search, or enhanced browsing?
- How do tools for event annotation and consumption alter or change the content semantics of the event itself?
- How can we improve existing methods for visualising event representations and enabling users to interact with them in semantic web user interfaces?
- What are the requirements for event detection, representation, and systems creation implicitly or explicitly defined by these three questions?

## Contributions of the Workshop Papers

In each of the seven accepted papers for DeRiVE 2012, two of the workshop topics are addressed. The first, fourth and fifth contributions to be presented, *Automatic Classification and Relationship Extraction for Multi-Lingual and Multi-Granular Events from Wikipedia* by Daniel Hienert, Dennis Wegener and Heiko Paulheim, *Harnessing Disagreement for Events Semantics* by Lora Aroyo and Chris Welty and *Using Syntactic Dependencies and WordNet Classes for Noun Event Recognition* by Yoonjae Jeong and Sung-Hyon Myaeng, present experiments for the extraction and (re)presentation of events on the Semantic Web.

The second and third contributions, *Hyperlocal Event Extraction of future Events* by Tobias Arrskog, Peter Exner, Håkan Jonsson, Peter Norlander, and Pierre Nugues and *Automatic Extraction of Soccer Game Events from Twitter* by Guido van Oorschot, Marieke van Erp and Chris Dijkshoorn primarily focus on extraction of events from real-world data but also explore how wide deployment of their techniques would alter current methods of information processing around events.

The focus on detection in a majority of the submissions shows that this is still a topic that deserves much attention, but the fact that there is already a significant amount of (semi-)structured event-data available and that the results of event detection are reaching acceptable levels have opened up interesting avenues for starting to use event-data in real world settings. This is showcased by the the sixth and seventh contributions accepted for presentation, *Bringing parliamentary debates to the Semantic Web* by Damir Juric, Laura Hollink and Geert-Jan Houben and *Making Sense of the Arab Revolution and Occupy: Visual Analytics to Understand Events* by Thomas Ploeger, Bibiana Armenta, Lora Aroyo, Frank de Bakker and Iina Hellsten. These contributions show what issues are encountered in working with event-based and how these are being addressed by use of various (inter)disciplinary methods.

We hope that in compiling the programme and proceedings for DeRiVE 2012 we have succeeded in presenting various perspectives and discussion points on the problems around detection, representation and exploitation of events and that the workshop contributed to yet another step closer to getting to understand events and their uses better.

#### **September 2012**

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## **Programme Committee**

The following colleagues kindly served in the workshop's program committee. Their joint expertise covers all of the questions addressed in the workshop, and they reflect the range of relevant scientific communities.

- Jans Aasman, Franz, Inc.,
- Klaus Berberich, Max-Planck Institute for Informatics
- Fausto Giunchiglia, University of Trento
- Christian Hirsch, The University of Auckland

- Diana Maynard, University of Sheffield
- Vasileios Mezaris, CERTH/ITI
- Yves Raimond, BBC
- Matthew Rowe, Knowledge Media Institute
- Ansgar Scherp, University of Koblenz-Landau
- Nicu Sebe, University of Trento
- Ryan Shaw, University of North Carolina
- Thomas Steiner, Google
- Denis Teysou, AFP
- Sarah Vieweg, University of Colorado Boulder