Proceedings of the 2nd Workshop on Semantic Personalized Information Management: Retrieval and Recommendation

SPIM 2011

Workshop Organizers and Program Chairs

Marco de Gemmis
Department of Computer Science,
University of Bari "Aldo Moro", Italy.

Ernesto William De Luca
School IV – Electrical Engineering and Computer Science,
Berlin Institute of Technology, Germany.

Tommaso Di Noia
Electrical & Electronics Engineering Department,
Technical University of Bari, Italy.

Aldo Gangemi
Italian National Research Council (ISTC-CNR),
Institute for Cognitive Sciences and Technology, Italy.

Michael Hausenblas
National University of Ireland (NUIG), Galway.
DERI – Digital Enterprise Research Institute, Ireland.

Pasquale Lops
Department of Computer Science,
University of Bari "Aldo Moro", Bari, Italy.

Thomas Lukasiewicz
Department of Computer Science,
University of Oxford, United Kingdom

Till Plumbaum
School IV – Electrical Engineering and Computer Science,
Berlin Institute of Technology, Germany.

Giovanni Semeraro
Department of Computer Science,
University of Bari "Aldo Moro", Italy.

These are the Proceedings of the *2nd Workshop on Semantic Personalized Information Management: Retrieval and Recommendation (SPIM 2011)*, held in conjunction with the *10th International Semantic Web Conference (ISWC 2011)*. The workshop aims at improving the exchange of ideas between the different communities involved in the research on semantic personalized information management and covers a wide range of interdisciplinary topics: semantic social web, machine learning hybridized with semantics for personalization, techniques for (semantic) user modeling, recommender systems, personalized information retrieval, semantic interaction, use of semantic technologies in UI/HCI, linked data consumption for PIM, semantic search and exploratory browsing.

The workshop received an enthusiastic feedback from the SPIM community with a total of 20 submitted papers. 13 papers have been accepted and this highlights an increasing interest in the workshop topics. Indeed, during the first workshop edition in 2010, 7 papers were presented. This is a clear indication that "semantic personalized information management" is a very interesting and timely topic.

The set of accepted papers substantially covers the proposed topics, with some additional specific subjects: folksonomies, interaction and knowledge patterns for automatic explanation, CMS, business intelligence, etc. We can coarsely group the 13 accepted papers as follows:

Recommendation and classification:
- *Improving Tag-based Resource Recommendation with Association Rules on Folksonomies*
- *Finding similar research papers using language models*
- *Towards Ranking in Folksonomies for Personalized Recommender Systems in E-Learning*
- *User's food preference extraction for cooking recipe recommendation*
- *Performance Measures for Multi-Graded Relevance*
- *A Dimensionality Reduction Approach for Semantic Document Classification*
- *Personalized Filtering of Twitter Stream*

User modelling
- *Classifying Users and Identifying their Interests in Folksonomies*
- *User Modeling for the Social Semantic Web*

Various PIM support
- *Personalization in Skipforward, an Ontology-Based Distributed Annotation System*
- *A Model for Assisting Business Users along Analytical Processes*
- *A Privacy Preference Manager for the Social Semantic Web*
- *User-sensitive Explanations under a Knowledge Pattern Lens*

In the following, we summarize the background motivation for the scientific and practical relevance of the workshop.

Motivation

Finding and managing information is a crucial task in our everyday life, and especially on the Web, the user is confronted with a huge amount of information. Therefore, search engines have become an essential tool for the majority of users for finding information on the Web.

While search engines implementing the canonical search paradigm are adequate for most ad-hoc keyword-based retrieval tasks, they reach limits when user needs have to be satisfied in a personalized way. Today's search engines have a very limited consideration of individual user's preferences or context given by previous searches for distinguishing the relevance of a document with respect to the meaning of a user query (experiences so far seem restricted to massive log analyses and experimental things like Google Squared, which however does not address

personalization). With the advent of the Semantic Web, new opportunities emerge for semantic information retrieval systems to better match user needs. Next-generation search engines should implement a novel search paradigm, where the user perspective is completely reversed: *from finding to being found*. *Recommender Systems* may help to support this new perspective, because they have the effect of pushing relevant objects to potentially interested users. An emerging approach is to use Web 2.0 and Semantic Web technologies to model information about users, their needs and preferences, their context and relations, and to incorporate data from other resources like Linked Open Data (http://linkeddata.org). This data might be useful to interlink diverse information about users, items, and their relations and implement reasoning mechanisms that can support and improve the search and recommendation process, better satisfying the users' information need.

A new generation of systems is emerging, *which fully understand the items they deal with*, and new methods for modelling user information, combining user content and Semantic Web resources, as well as new algorithms for processing that data, are thus needed.

Why the topic is of particular interest at this time
More and more real-world applications in different areas are going to integrate recommender systems to personalize retrieval issues, results, and in general the user interaction.

Successful workshops and international conferences in the last few years (ACM Recommender Systems, User Modelling, AAAI, ECAI, IJCAI, SIGIR) show the growing interest and research potential of these systems. Recent developments of the Semantic Web community offer novel strategies to represent data about users, items and their relations that might improve the current state of the art of search and recommendation systems.

The challenge is to investigate *whether* and *how* this large amount of wide-coverage and linked semantic knowledge can significantly improve the search/recommendation process in those tasks that cannot be solved merely through a straightforward matching of queries and documents.

We wish to thank all authors who submitted papers and all workshop participants for fruitful discussions. We would like to thank the program committee members and external referees for their timely expertise in carefully reviewing the submissions.

October2011
The workshop chairs

Marco de Gemmis
Ernesto William De Luca
Tommaso Di Noia
Aldo Gangemi
Michael Hausenblas
Pasquale Lops
Thomas Lukasiewicz
Till Plumbaum
Giovanni Semeraro

Program Committee

Fabian Abel	L3S Research Center
Sahin Albayrak	DAI-Labor, Technische Universität Berlin, Germany
Claudio Bartolini	
Marco Brambilla	Politecnico di Milano
Andrea Cali	University of London, Birkbeck College
Charles Callaway	University of Haifa
Ivan Cantador	Universidad Autonoma de Madrid
Pablo Castells	Universidad Autónoma de Madrid
Federica Cena	Department of Computer Science, University of Torino
Philipp Cimiano	
Mathieu D'Aquin	Knowledge Media Institute, the Open University
Marco De Gemmis	Dipartimento di Informatica - University of Bari
Ernesto William De Luca	Technische Universität Berlin
Tommaso Di Noia	Politecnico di Bari
Nicola Fanizzi	Dipartimento di Informatica, Università di Bari
Bettina Fazzinga	DEIS - University of Calabria
Miriam Fernandez	Knowledge Media Institute
Tim Furche	University of Munich
Aldo Gangemi	CNR-ISTC
Michael Hausenblas	Digital Enterprise Research Institute (DERI), NUI Galway
Tom Heath	Talis Systems Ltd
Dominikus Heckmann	
Eelco Herder	
Dietmar Jannach	TU Dortmund
Pasquale Lops	University of Bari
Thomas Lukasiewicz	Oxford University
Till Plumbaum	DAI-Labor, Technische Universität Berlin, Germany
Georg Ruß	Otto-von-Guericke-University of Magdeburg
Alan Said	TU Berlin
Giovanni Semeraro	Dipartimento di Informatica - University of Bari
Wolf Siberski	L3S Research Center
Armando Stellato	University of Rome, Tor Vergata
Tania Tudorache	Stanford University

Table of Contents