

5th European Semantic Web Conference

01 - 05 June 2008 Tenerife, Spain

<http://www.eswc2008.org/>

Workshop

Semantic Interoperability in the European Digital Library

Aims and Scope

One of Europe's current most important initiatives is the construction of the European Digital Library (EDL), which aims at making Europe's diverse cultural and scientific heritage (books, films, maps, photographs, music, etc.) easy to access and use for work, leisure, or study. EDL will take advantage of existing rich European heritage, including multicultural and multilingual environments, of technological advances and of new business models. It will generate a common multilingual access point to Europe's distributed digital cultural heritage, including all types of multimedia cultural content, and all types of cultural institutions, including libraries, museums, archives. The short-term objective of the European Digital Library is to create a prototype within 2008, providing multilingual access to over 2 million digital objects, focusing on libraries, while including as many museums and archives it is possible. The long-term objective, for 2010 is to increase the available digital content to over 6 million digital objects from all types of institutions, i.e., libraries, museums, audiovisual organisations, archives.

The EDLnet Thematic Network is the project approved by the European Commission's eContentPlus programme to prepare the ground for the realisation of the European Digital Library. Consistent with this vision about the European Digital Library, the project addresses particularly the area of improving cross-domain accessibility to cultural content- a pillar of the European Commission's i2010 Digital Library initiative. EDLnet tackles the fragmented European cultural heritage map, by bringing on board the key European stakeholders to build consensus on creating the European Digital Library. In this framework, interoperability has been defined as one of the most crucial issues, with a specific EDLnet workpackage being devoted to it. Semantic interoperability is one of the related key technological issues, and for this reason it constitutes the topic of the Workshop.

In particular:

Cultural heritage collections are mostly indexed on the basis of strongly divergent metadata standards. For example, Dublin Core is used for simple discovery, SPECTRUM for rich collections information, AMICO for art museum images, MARC for bibliographic records, IMS for instructional materials. This severely hampers the combination and opening up of such collections. Achieving semantic interoperability can be a key to face this problem.

Several definitions of semantic interoperability have been proposed in the literature, covering different application domains. In this Workshop, we focus on how the late advances on Semantic Web technologies can facilitate the way that European digital libraries exchange information within the framework of the web. The key in the definition of semantic interoperability is the common automatic interpretation of the meaning of the exchanged information, i.e. the ability to automatically process the information in a machine-understandable manner.

The first step of achieving a certain level of common understanding is a representation language that exchanges the formal semantics of the information. Then, systems that understand these

semantics, such as reasoning tools, ontology querying engines, can process the information and provide web services like searching, retrieval etc. Semantic Web technologies provide the user with a formal framework for the representation and processing of different levels of semantics. Such technologies include W3C standards like RDF, OWL, SKOS, ontology editing, reasoning and mapping tools.

The Workshop aims at presenting works that exploit Semantic Web technologies to semantically link European Cultural content for the realisation of the European Digital Library.

Topics

The workshop invites contributions on all topics related to Semantic Interoperability in the framework of the European Digital Library. We anticipate some significant discussion owing to differences in opinions about approaches to take in solving the relevant joint problems, and we invite you to join the workshop to give your views on the following, but no limited to, topics:

Knowledge Representation, Mapping and Alignment

- Ontologies, Vocabularies, Metadata Standards and Thesauri.
- Ontology Mapping, Merging and Alignment.
- Thesauri alignment and metadata enrichment.
- Use of Ontology Reasoning and Semantic Web Rule technologies.
- Use of Semantic Web Standards, such as RDF, OWL & SPARQL.
- Use of upcoming Semantic Web Standards, OWL1.1, RIF, SKOS.
- Combination of structural and semantic interoperability methodologies.
- Ontology modularisation.
- Digital object modelling, Persistent identifiers and packaging standards.
- Combination of Visual and Physical Collections
- Crosswalk of Metadata Standards.
- Applications based on CIDOC-CRM.
- Combination of E-Learning and Cultural Heritage Standards.
- Semantic Interoperability approaches followed in past and ongoing European Projects.

Applications

- The European Digital Library.
- Museums, Libraries, Archives.
- Audiovisual and Film Archives.
- Television Heritage and Broadcasting.
- E-culture.
- E-learning.
- E-tourism.

Access & Presentation

- Storage, query and presentation in the European Digital Library.
- Personalised access and context enabled presentation.
- Searching methodologies.

- Facet browsing methodologies.
- Scalable and Robust knowledge management.
- Rights management.
- Trust and proof issues.

Benefits

The Semantic Web and the European Digital Library Communities will benefit as the research investigated in this workshop will bring closer these two communities. The aim of this workshop is to investigate and provide cues to the participants on how to use Semantic Web technologies in order to semantically link the European Cultural content.

Target Community

The workshop targets the communities of Semantic Web and European Digital Library. In particular, it targets researchers that use Semantic Web technologies in the application of digital libraries, museums and audiovisual archives (including TV and broadcasting companies). Special attention will be paid to ongoing European projects that deal with this subject. A lot of them have tackled the problem of achieving structural and semantic interoperability in cultural collections that are indexed on the basis of divergent metadata standards.

Invited Talks

The workshop will have one day duration. There will be two invited talks: the first in the area of Semantic Interoperability and the second in the area of the European Digital Library. Finally, a panel discussion will try to open the way on how to use Semantic Web technologies in the Digital Libraries application area.

Workshop Organizers and Chairs

Stefanos Kollias – National Technical University of Athens (NTUA), Greece

<http://www.image.ece.ntua.gr/lab/stefanos/>

Jill Cousins – Koninklijke Bibliotheek (KB), The Netherlands

http://www.kb.nl/hrd/europeanlibrary/contact_jill-en.html

Professor Kollias has been working in the field multimedia semantics for more than ten years and in the linking Semantic Web technologies and the European Digital Library during the last five years, being a member of the European Expert Group on Interoperability, a member of the European Expert Group on Cultural Heritage and an invited expert of the EDLnet on interoperability.

Jill Cousins has been the Director of the European Library, leader of the TEL Programme, the Programme Director of the European Digital Library, member of the European High Level Expert Group for the EDL and the leader of the EDLnet.

Important Dates

Deadlines: March 7, 2008

Notifications: April 4, 2008

Camera ready: April 18, 2008

Workshop Notes Due: May 1, 2008

Programme Committee (to be confirmed)

Stefan Gradmann, University of Hamburg, Germany

Carlo Meghini, Consiglio Nazionale delle Ricerche (CNR), Italy

Guus Schreiber, Free University Amsterdam, the Netherlands

Frank Van Harmelen, Free University Amsterdam, the Netherlands

Jacco van Ossenbruggen, Centrum voor Wiskunde en Informatica (CWI), The Netherlands

Antoine Isaac, Free University Amsterdam, the Netherlands

Miles Alistair, e-Science Centre, UK

Carole Goble, University of Manchester, UK

Giorgos Stamou, National Technical University of Athens, Greece

Vassilis Tzouvaras, National Technical University of Athens, Greece

Yannis Ioannidis, National and Kapodistrian University of Athens, Greece

Stavros Christodoulakis, Technical University of Crete, Greece

Lora Aroyo, Free University Amsterdam, The Netherlands

Eero Hyvönen, Helsinki University of Technology, Finland.

Johan Oomen, Sound and Vision, The Netherlands

Emmanuelle Bermes, Bibliothèque nationale de France, France

Short Biography of the Organisers

Stefanos Kollias was born in Athens in 1956. During his studies he obtained a Diploma in Electrical Engineering from the National Technical University of Athens (NTUA) in 1979, an M.Sc. in Communication Engineering from the University of Manchester in England in 1980, his Ph.D in Signal Processing from the Computer Science Division of NTUA in 1984. In 1982 he was given a COMSOC Scholarship by the IEEE Communication Society. Since 1986 he has served as Lecturer, Assistant and Associate Professor the ECE Department of NTUA. From 1987 to 1988 he was a Visiting Research Scientist in the Department of Electrical Engineering and the Center for Telecommunications Research of Columbia University in New York, on leave from NTUA. Since 1997 he is Professor of NTUA and Director of the Intelligent Multimedia Systems Lab. His research interests include multimedia analysis, coding, storage, retrieval, semantic multimedia analysis, knowledge technologies, multimedia systems,

human computer interaction, augmented and virtual reality, multimodal emotion recognition and synthesis, artificial intelligence, neural networks.

R&D Activities:

- He has published more than 200 papers, 100 of which in international journals.
- He is editor of the book 'Multimedia Content and the Semantic Web', Wiley, March 2005.
- In the last ten years he has been leading 60 projects, both European and National.
- He is National Representative of the Hellenic Ministry of Culture to the EC NRG on Digitisation.
- Member of the EC Interoperability Group.
- Member of the EC expert group in Cultural Heritage
- He has been Associate Editor of the IEEE Transactions on Multimedia & of the Neural Networks Journal.
- He was an invited expert in the Vision2012 Workshop of the EU in the field of Knowledge Technologies and Interfaces in June 2002.
- He has been member of the Executive Committee of the European Neural Network Society 1991 – 1992 and 2007-.
- He has been a member of the Executive Committee of the ESPRIT Network of Excellence NEURONET (1994 - 2000), the EC NoE on Intelligent Systems – EUNITE (2000-04), the FP6 IST NoE on Emotion Research – HUMAINE (2004-07), the FP6 IST NoE on Multimedia Semantics K-Space (2004-07), the FP6 Project Felix-Growing on Cognition and Emotion (2006-2009).
- He has been member of the International Advisory/Technical Committee in 50 Intl. Conferences.
- He organised the VLBV01 Intl. Workshop on Multimedia Analysis, Athens, October 2001.
- He has been General Chair of the ICANN-06 (Intl. Conf. Neural Nets) held in Athens, October 2006.
- He has been Programme Chair of WIAMIS-2008 (on Multimedia Analysis and Semantics) and of ACII-2007 (on Affective Computing).

Jill Cousins is Programme Director for the European Digital Library and Director of The European Library. She has many years experience in web publishing, which are now being applied to the cultural heritage arena. Her past experience includes: European Business Development Director of VNU New Media to scholarly publishing; online journals of Blackwell Publishing in publishing and prior to that in a variety of marketing and research careers such as Marketing and Event Director for Learned Information and her own research company, First Contact, prior to selling it to Disclosure Ltd in the early 90's. All of which is very deviant from her first career as a Middle Eastern Map Researcher for the Ministry of Defence.

Related Workshops

First International Workshop on Cultural Heritage on the Semantic Web, ISWC 2007

<http://www.cs.vu.nl/~laroyo/CH-SW.html>

One more step towards the European digital library, International Conference

<http://www.edlproject.eu/conference/>