

## Introduction

This workshop on ontology driven interoperability for cultural heritage digital objects is a joint DELOS – MultiMatch event. Both DELOS and MultiMatch are supported by the unit for Content, Learning and Cultural Heritage (Digicult) under the Sixth Framework Programme. DELOS is a Network of Excellence aimed at coordinating a joint programme of research activities in digital library related areas<sup>1</sup>. MultiMatch, a 30 month specific targeted research project, is developing a multilingual search engine designed specifically for the access, organisation and personalised presentation of cultural heritage (CH) information<sup>2</sup>.

The goal of MultiMatch is to build a system that will enable users to explore and interact with online CH content, across media types and language boundaries. The MultiMatch search engine will provide specialised search facilities: it will be updated via regular focused crawling of domain-specific web sites and will automatically classify the information acquired in a semantic-web compliant fashion, based on document content, metadata, context, and the occurrence of relevant CH concepts. Search results will be organised and displayed in an integrated manner, according to the user needs or profile. The system will be designed to support diverse user classes but also to assist CH institutions to disseminate their content widely and raise their visibility. Clearly, being able to handle, interpret, match and/or merge the diverse metadata schemas and knowledge representation formats currently found in the CH field is a crucial issue for MultiMatch.

The original idea for organising this workshop thus resulted from early discussions within MultiMatch and more specifically in the group working on the definition of the most appropriate metadata schema and overall conceptual framework for the diverse types of information that would be handled by the project. The intention is to define the basis for maximum interoperability. The first activity of this group was to study the most relevant standards for each CH sub-domain, together with the most relevant generic schemas (Dublin Core, MPEG-7, MPEG-21) and reference models (FRBR and CIDOC-CRM). The results of this study are publicly available on the MultiMatch website<sup>3</sup>. Following this initial analysis of the state-of-the-art, the MultiMatch metadata group is now in the process of making the final decisions with respect to the metadata schemas, knowledge representation formalisms and/or ontologies, etc, that will best serve the diverse needs of the project. However, it was felt that before making any definite commitment it would be extremely useful to be able to discuss and compare ideas with experts in the field and with others who have already faced or are currently addressing the same issues.

DELOS has long been concerned with questions concerning semantic interoperability and has published a comprehensive report on Semantic Interoperability in Digital Library Systems<sup>4</sup>. The report (written as part of the activities of the cluster on “Knowledge Extraction and Semantic Interoperability”) defines interoperability very broadly as enabling any form of inter-system communication, or the ability of a system to make use of data from a previously unforeseen source. This report was one of the sources of information for MultiMatch. It thus seemed obvious to arrange a meeting between people in both DELOS and MultiMatch interested in questions concerning semantic interoperability for a useful exchange of opinions. However, as we began to organise this meeting we became increasingly aware of the fact that there is currently a lot of interest in this area. In fact, last year, BRICKS and EPOCH organised a workshop on “Semantic Interoperability”, held in connection with the VAST 2006 Conference<sup>5</sup>, and the European Commission has just set up working group on Digital Library Interoperability aimed at identifying the major obstacles hindering interoperability.

We thus decided to organise a one-day workshop on this topic and the DELOS Conference provided us with the perfect venue. The purpose of the workshop is to bring together experts in the field (both theoreticians and practitioners) to investigate the current state-of-the-art, identify common problems and issues, and hopefully formulate recommendations aimed at encouraging (i) adoption of standards, (ii) interoperability.

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<sup>1</sup> See [www.delos.info](http://www.delos.info)

<sup>2</sup> See [www.multimatch.eu](http://www.multimatch.eu)

<sup>3</sup> MultiMatch – D2.1.1: First Analysis of Metadata in the Cultural Heritage Domain

<sup>4</sup> DELOS - D5.3.1: Semantic Interoperability in Digital Library Systems, 29th June 2005.

<sup>5</sup> See [http://public-repository.epoch-net.org/workshops/semantic\\_interop.pdf](http://public-repository.epoch-net.org/workshops/semantic_interop.pdf)

Our keynote speakers, Martin Doerr, Maja Žumer and Chrisa Tsinaraki, will present three of the best known existing conceptual frameworks (CIDOC-CRM, FRBR and MPEG-7) and some of the relationships between them. These talks will be followed by a panel discussion, moderated by Stavros Christodoulakis, aimed at investigating how these frameworks can be made interoperable.

After lunch, we will have a series of position statements by a number of projects and institutions working in the CH domain. The EDLProject, TEL, MICHAEL, BRICKS, IMAGINATION, EPOCH plus the Dutch Cultural heritage Institution will briefly present the problems they are currently facing in this area and/or the solutions they are adopting. The last two speakers will give the perspective of the Text Encoding Initiative and present the recently formed EC Interoperability Group. The final session of the workshop will be dedicated to a discussion of the main issues that have emerged during the day. All participants will be expected to contribute and present their opinions.

We should like to end this brief introduction by expressing our gratitude to our programme committee for their assistance in the organisation and the identification of themes for discussion, and to our speakers for agreeing to present their ongoing work. We conclude by thanking all the participants in advance for their valuable contributions to the discussions and wishing everyone an enjoyable workshop.

Carol Peters and Vittore Casarosa

#### **Programme Committee**

DELOS: Martin Doerr, *FORTH, Greece*; Carlo Meghini, *ISTI-CNR, Italy*; Stavros Christodoulakis, *Technical University of Crete, Greece*.

MultiMatch: Giuseppe Amato, *ISTI-CNR, Italy*; Neil Ireson, *University of Sheffield, UK*; Johan Oomen, *Sound and Vision, The Netherlands*.

External Expert: Stefan Gradmann, *University of Hamburg, Germany*.

#### **Organization**

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