

Donatella Castelli Yannis Ioannidis Seamus Ross
(Editors)

Pre-proceedings of the 2nd DL.org Workshop

Making Digital Libraries Interoperable: Challenges and Approaches

9-10 September 2010, Glasgow, Scotland (UK),
in conjunction with the 14th European Conference on
Research and Advanced Technology for Digital Libraries
(ECDL 2010)

Preface

The central theme of the 2nd DL.org Workshop is “Digital Library Interoperability”. Interoperability is a multifaceted and very context-specific concept, encompassing different levels along a multi-dimensional spectrum ranging from organizational to technological aspects. These multidimensional aspects make it hard to find generic and fully-comprehensive solutions, thus requiring an approach that investigates interoperability from multiple perspectives.

The workshop builds on the successful outcomes of the 1st DL.org Workshop held in September 2009 during the 13th European Conference on Research and Advanced Technology for Digital Libraries (ECDL2009), which raised many new questions related to interoperability scientific challenges and to its conceptualization. This year’s workshop has sought to continue the path initiated during the 1st Workshop by soliciting and gathering research paper submissions that analyze the different aspects involved in achieving interoperability, from conceptualization at a high organizational level to instantiation at process level, as well as to modeling techniques for representing and enabling interoperability between heterogeneous digital libraries, mediation approaches, methods, and supporting systems.

These pre-proceedings contain the papers presented at the workshop. The results illustrated by these papers provide researchers, practitioners and digital library developers with novel solutions for improving digital library interoperability, thus contributing an effective cross-exploitation of the resources managed by these systems.

All these papers have been peer reviewed by at least three reviewers. We would like to thank the members of the international program committee and the authors of the papers submitted for their contribution to the quality and success of the Workshop.

September 2010

Donatella Castelli, Yannis Ioannidis, Seamus Ross
Workshop Organisers
2nd DL.org Workshop

Organization

The 2nd DL.org Workshop was organised by DL.org (www.dlorg.eu). DL.org is a Coordination and Support Action (FP7 of the European Commission, ICT-2007.4.3, Contract No. 231551) mobilising Digital Library (DL) designers, developers, end-users and researchers from diverse domains in the drive towards interoperability, best practices and modelling foundations for the enhanced development of next-generation DL systems.

Organising Committee

| | |
|--------------------|--|
| Donatella Castelli | Senior Researcher, Institute of Information & Technologies, National Research Council of Italy - DL.org Co-ordinator |
| Yannis Ioannidis | Professor at the Department of Informatics and Telecommunications, University of Athens, Greece - Scientific Chair of the User Working Group |
| Seamus Ross | Dean of the Faculty of Information, University of Toronto, Canada - Member of DL.org's Working Groups on Policy & Quality |

Program Committee

| | |
|------------------|--|
| Tiziana Catarci | Professor of Computer Science, University of Rome "LaSapienza", Italy - Member of DL.org's User Working Group |
| Jane Hunter | Professor at the School of Information Technology & Electrical Engineering, University of Queensland, Australia - Member of DL.org's Liaison Group |
| Ronald Larsen | Dean of the School of Information Sciences, University of Pittsburgh, U.S. - Member of DL.org's Liaison Group |
| John Mylopoulos | Professor of Computer Science, University of Toronto, Canada |
| Fabio Simeoni | Research Assistant, University of Strathclyde, Scotland, UK |
| Dagobert Soergel | Dean of Library & Information Studies, University at Buffalo, U.S. - Scientific Chair of DL.org's Functionality Working Group |

Table of Contents

| | |
|---|-----------|
| A Framework for Digital Library Function Description, Publication, and Discovery: A prerequisite for interoperable digital libraries | 1 |
| <i>George Athanasopoulos, Katerina El Raheb, Edward A. Fox, George Kakalettris, Natalia Manola, Carlo Meghini, Andreas Rauber, and Dagobert Soergel</i> | |
| Quality interoperability within digital libraries: the DL.org perspective . . | 12 |
| <i>Giuseppina Vullo, Genevieve Clavel, Nicola Ferro, Sarah Higgins, René van Horik, Wolfram Horstmann, Sarantos Kapidakis, and Seamus Ross</i> | |
| Modeling User and Context in Digital Libraries: Interoperability Issues . . | 25 |
| <i>Anna Nika, Tiziana Catarci, Akrivi Katifori, Georgia Koutrika, Natalia Manola, Andreas Nürnberger, and Manfred Thaller</i> | |
| The gCube Interoperability Framework | 35 |
| <i>Leonardo Candela, George Kakalettris, Pasquale Pagano, Giorgos Papanikos, and Fabio Simeoni</i> | |
| Handling Repository-Related Interoperability Issues: the SONEX Workgroup | 45 |
| <i>Peter Burnhill, Pablo de Castro, Jim Downing, Richard Jones, and Mogens Sandfær</i> | |
| Epidemiology Experiment and Simulation Management through Schema-Based Digital Libraries | 57 |
| <i>Jonathan Leidig, Edward A. Fox, Madhav Marathe, and Henning Mortveit</i> | |
| Interoperability Patterns in Digital Library Systems Federations | 67 |
| <i>Paolo Manghi, Leonardo Candela, and Pasquale Pagano</i> | |
| Author Index | 77 |

**A Framework for Digital Library Function
Description, Publication, and Discovery: A
prerequisite for interoperable digital libraries**

George Athanasopoulos, Katerina El Raheb, Edward A. Fox, George
Kakaletris, Natalia Manola, Carlo Meghini, Andreas Rauber, and Dagobert
Soergel

xxx

Quality interoperability within digital libraries: the DL.org perspective

Giuseppina Vullo, Genevieve Clavel, Nicola Ferro, Sarah Higgins, René van
Horik, Wolfram Horstmann, Sarantos Kapidakis, and Seamus Ross

xxx

Modeling User and Context in Digital Libraries: Interoperability Issues

Anna Nika, Tiziana Catarci, Akrivi Katifori, Georgia Koutrika, Natalia
Manola, Andreas Nürnberger, and Manfred Thaller

xxx

The gCube Interoperability Framework

Leonardo Candela, George Kakaletis, Pasquale Pagano, Giorgos Papanikos,
and Fabio Simeoni

xxx

Handling Repository-Related Interoperability Issues: the SONEX Workgroup

Peter Burnhill, Pablo de Castro, Jim Downing, Richard Jones, and Mogens Sandfær

xxx

Epidemiology Experiment and Simulation Management through Schema-Based Digital Libraries

Jonathan Leidig, Edward A. Fox, Madhav Marathe, and Henning Mortveit

xxx

Interoperability Patterns in Digital Library Systems Federations

Paolo Manghi, Leonardo Candela, and Pasquale Pagano

xxx

Author Index

Athanasopoulos, George, 1
Burnhill, Peter, 45
Candela, Leonardo, 35, 67
Catarci, Tiziana, 25
Clavel, Genevieve, 12

de Castro, Pablo, 45
Downing, Jim, 45

El Raheb, Katerina, 1

Ferro, Nicola, 12
Fox, Edward A., 1, 57

Higgins, Sarah, 12
Horstmann, Wolfram, 12

Jones, Richard, 45

Kakaletris, George, 1, 35
Kapidakis, Sarantos, 12
Katifori, Akrivi, 25
Koutrika, Georgia, 25

Leidig, Jonathan, 57

Manghi, Paolo, 67
Manola, Natalia, 1, 25
Marathe, Madhav, 57
Meghini, Carlo, 1
Mortveit, Henning, 57

Nürnbergger, Andreas, 25
Nika, Anna, 25

Pagano, Pasquale, 35, 67
Papanikos, Giorgos, 35

Rauber, Andreas, 1
Ross, Seamus, 12

Sandfær, Mogens, 45
Simeoni, Fabio, 35
Soergel, Dagobert, 1

Thaller, Manfred, 25

van Horik, René, 12
Vullo, Giuseppina, 12