Grant Agreement ECP-2007-DILI-517009

EuropeanaLocal

D4.3 Report on Second Set of Multi-Regional Training Workshops

Deliverable number	*D-4.3*
Dissemination level	Public
Delivery date	*01 October 2010*
Status	*Final*
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*e*Content*plus*

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[1] OJ L 79, 24.3.2005, p. 1.

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1   Glossary

Table 1: Terms/abbreviations used in the document and their definitions

Term/abbreviation	Definition
EDM	Europeana Data Model. A common term used for the underlying data model of the Europeana Portal as well as an exchange format for semantically rich metadata which over time is envisaged to replace the Europeana Semantic Elements on which it is based.
ESE	Europeana Semantic Elements, application profile of Dublin Core used by the prototype of Europeana as well as the main harvesting format for content ingestion leading up to the Danube-release of the Europeana portal.
OAI-PMH	Open Archives Initiative, Protocol for Metadata Harvesting
OGC	Open Geospatial Consortium. Business standardization body for geospatial and temporal data and metadata.
RDF	"A framework for constructing logical languages that can work together in the Semantic Web. A way of using XML for data rather than just documents".
Semantic Web	W3C: "a mesh of information linked up in such a way as to be easily processable by machines, on a global scale. You can think of it as being an efficient way of representing data on the World Wide Web, or as a globally linked database." OGC: It is a set of rules for publishing text data so that it can be processed very flexibly, in many ways for many purposes.
SKOS	Simple Knowledge Organisation System. A vocabulary of XML elements enabling the encoding of vocabularies into XML.
Spatial Web	Spatial and temporal context services embedded into the "fabric" of the World Wide Web as it evolves. Term first used in an Open Geospatial Consortium discussion paper in 2004.
Triple	Subject Predicate Object triples are in the context of classical grammar the combination of three words which form a sentence. Transferred to Semantic Web technologies, the term represents a structured way of describing an object in RDF-based data models.
W3C	World Wide Web Consortium. Governing body for development and evolution of key standards for the Internet.

XML	Extensible Mark-up Language. A structured text format based on nested tags.

2 Introduction

This report gives an overview of the planning, preparation, execution, evaluation and after-work from the second set of technical workshops of the EuropeanaLocal project (*workshops 5 – 7 out of 8*). The document serves as evidence of partial delivery towards item D4.3 from the EuropeanaLocal DoW document.

The support structure of the project consists of two technical partners, each responsible for aiding a subset of the content provider partners. In order to facilitate attendance for most partners while minimizing the need for travel the workshops were arranged at different locations.

Workshops were arranged at project partner's venues as the project did not earmark any funds specifically for technical and practical arrangements related to workshops.
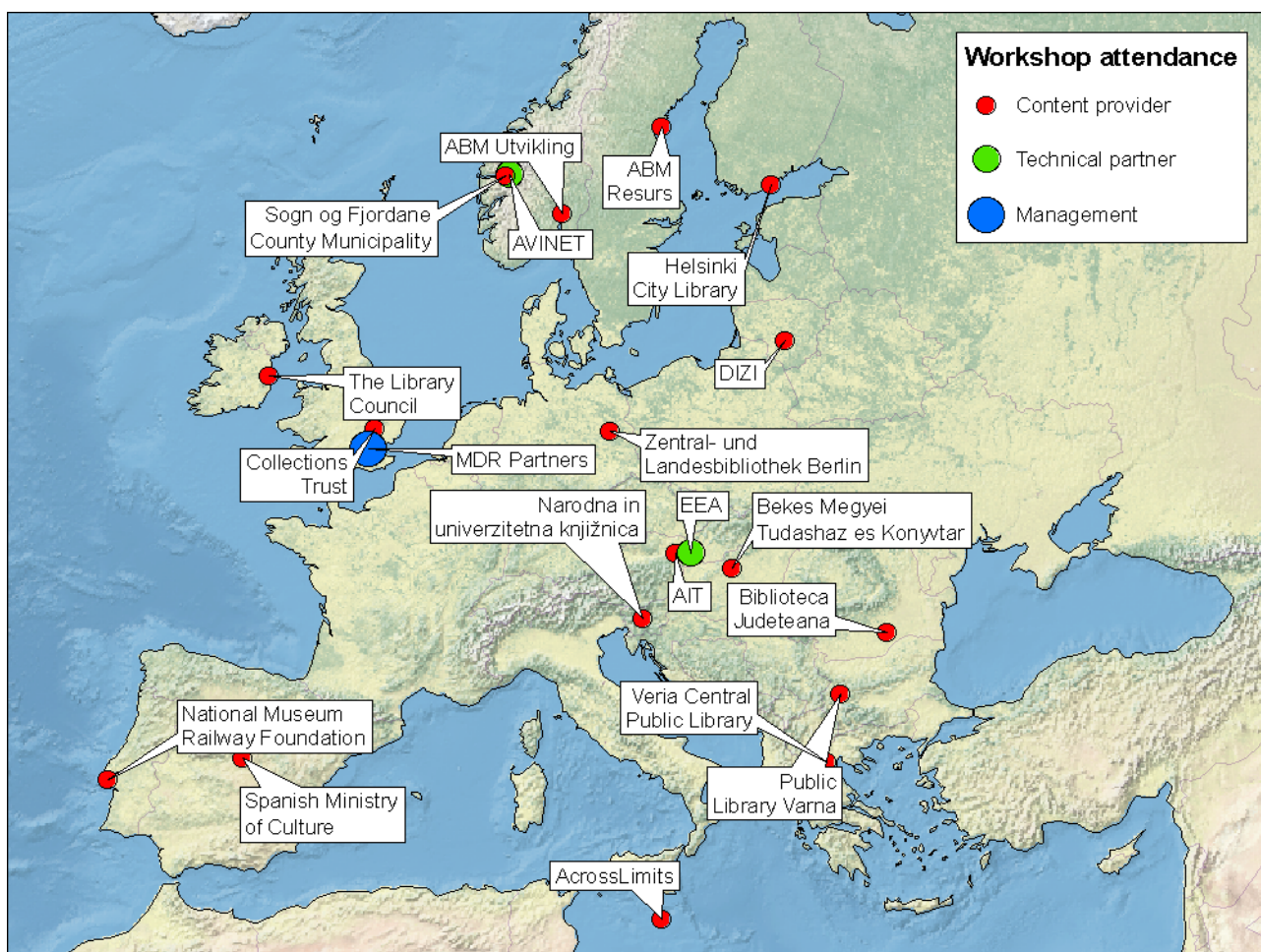

Diagram 1: Attendance of EuropeanaLocal partners for the 6th and 7th technical workshop.

The second set of workshops was delivered as *three* different events:

- The 5th workshop was co-located with the EuropeanaLocal mid-term meeting in December 2009:
    - **Poznan** 4th of December 2009, attended by all partners present at the mid-term meeting hosted by PSNC.

- The 6th and 7th workshops (both with identical agendas) were conducted in July 2010:
  - The 6th workshop was arranged in **Ljubljana** on the 6th-7th of July 2010, attended by partners from Romania, Bulgaria, Slovenia, Slovakia, Austria and Hungary as well as technical partners EEA and AVINET and project coordinator MRD Partners and representatives from Europeana. Special guest presentations were delivered by Victor de Boer (Vrije Universitet, Amsterdam), representative of the EuropeanaConnect project.
  - The 7th workshop was arranged in **Madrid** on the 8th-9th of July 2010, attended by partners from Finland, Norway, Sweden, Ireland, United Kingdom, Lithuania, Greece, Spain and Portugal as well as technical partner AVINET and representatives from Europeana. Special guest presentations were delivered by Steffen Hennicke (Humboldt University, Berlin), representative of the EuropeanaConnect project.

In order to secure the best possible effect of the workshops, events were attended by a minimum of:

- one technical partner;
- one representative of the project management board;
- one experienced content provider and;
- one representative from Europeana

The careful composition of the attendance secured effective communication with the participants as the presence of people with different technical and thematic perspectives enabled instant feedback and different ways of explaining things in the event that a topic over- or undershot the technical skills and experience levels of those present.
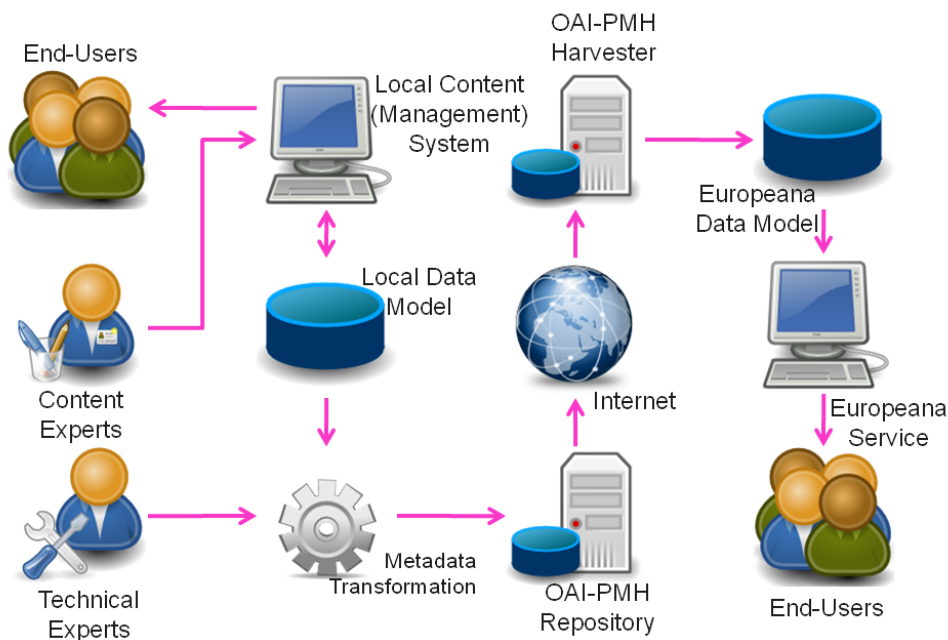
The Europena Local Process

Diagram 2: The overall content extraction, transformation and ingestion process

3   Workshop methodology and content

The following section provides an overview of the methodology applied for the second set of workshops.

3.1   5th technical workshop

The workshop was arranged as a plenary session attached to the EuropeanaLocal plenary meeting in Poznan in December 2010. This meeting was attended by all project partners and gave them, for the first time since the kick-off, the possibility to meet and discuss common issues across the whole partnership.

Due to the many technologies and standards used by EuropeanaLocal content providers, this was the first time partners who share the same challenges were able to draw on each other's experiences with data extraction, ambiguity issues in field mapping and interpretation of field-values.

Also, at this stage the development of the EDM had kicked off in Europeana and it was important to learn what this would mean in the context of EuropeanaLocal, where a great deal of resources have been put into establishing distributed OAI-PMH metadata repositories capable of delivering ESE 3.2 to (*a future*) Europeana harvester.

3.1.1   The future of ESE and the Europeana Data Model

Presentations provided a walkthrough of the implications for EuropeanaLocal content providers of Europeana's shift from ESE to the more sophisticated and feature-rich EDM data model. Presentation provided by Robina Clayphan (*Europeana*)

3.1.2   Will our "sandbox" have a "dash board"?

The rich flora of "buzz words", "technical catch-phrases" and "release names" present in the Europeana environment needed some interpretation to aid EuropeanaLocal partners to understand the implications for their role as content providers. An introduction to existing and upcoming tools and utilities for content ingestion in Europeana including the Content Checker and OAI-PMH harvesting were given. Presentation provided by Lizzy Komen (*Europeana*).

3.1.3   ESE 3.2 XML for (and by) dummies

The presentation provided a detailed technical walk-through of the ESE XML v3.2 format including guidelines and implementation rules. Presentation provided by Rastislav Rehak (*EEA*) with support from Robina Clayphan (*Europeana*).

3.1.4   Mapping from local content-models to ESE XML

The main part of the agenda for the workshop was a questions and answers section where partners were given the possibility to raise issues and have the response of Europeana, technical partners or other project partners in a discussion setting.

Content providers brought along examples of their data models plenary discussions, Q&A provided advice on how to map fields from heterogeneous source models into the ESE format.

Answers to questions provided by participants were given by Robina Clayphan (Europeana), Rastislav Rehak (*EEA*) and Runar Bergheim (*AVINET*).

3.1.5 Next set of workshops

The final part of the agenda was a brainstorm for topics seen by the partners as being of interest and/or importance for future workshops. Discussions lead by Runar Bergheim (*AVINET*).

3.2 6th and 7th technical workshops

The topics of the workshop were determined based on a combination of the brain-storm session from the 5th workshop in Poznan and a secondary poll of topics of interest performed via Doodle whereby the project management made sure that the topics were not outdated since they were recorded six months back.

Three sessions were identified for the agenda:

- **Europeana**: Feedback on functionality, tools and technologies in the Europeana domain
- **Partners' experiences**: plenary presentations – feedback and discussion
- **Technology**: Semantic Web, SKOS, Europeana Data Model, Content Enrichment.
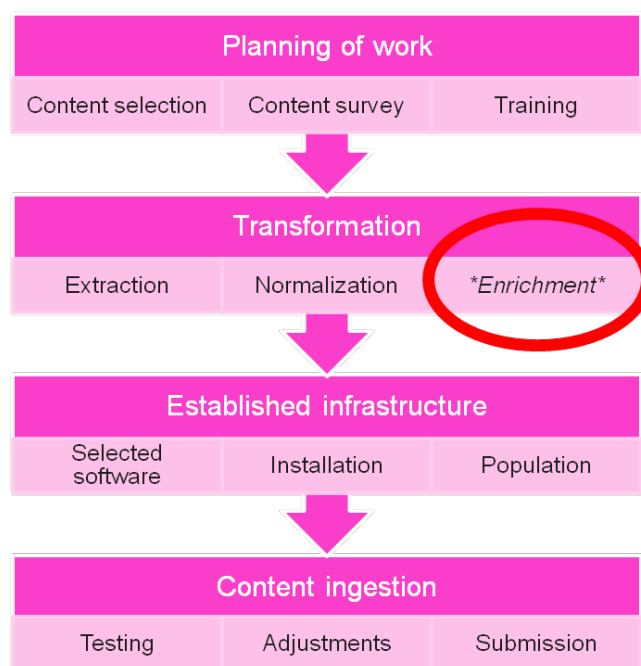
Diagram 3: The individual steps of the technical implementation process

The workshops were arranged over 1 ½ day with a combination of prepared introductions, plenary discussions and demonstrations with the possibility for participants to follow on their own computers.

All partners were instructed to send people with technical skills – or in cases where such were unavailable internally in the organisation – their local external technical support. This is in line with the EuropeanaLocal sustainability principle whereby knowledge is developed locally and regionally in order to be further exploited post-project.

All partners were furthermore requested to bring along laptops with WLAN capabilities and administrator privileges for installation of server/client software, this for the purpose of connecting to the Internet to download samples and to network the computers between themselves during the technical workshop.

3.2.1 Session 1: Europeana

The session provided a status of the technical implementation task across the partnership emphasizing conformance to or deviation from project indicators as appropriate. Presentation provided by Runar Bergheim (AVINET) in both of the workshops.

Information on upcoming functionality for the Rhine and Danube releases - the development of an ingestion toolkit and the Europeana ingestion workflow. Presentations were provided by Robina Clayphan in Ljubljana and Lizzy Komen in Madrid (*both representing Europeana*)

Current progress and ideas on the way to the Europeana Data Model and the Europeana Semantic Layer as developed through the Europeana Connect project. Presentations were provided by Victor de Boer (*Vrije Universitet, Amsterdam*) in Ljubljana and Steffen Hennicke (*Humboldt University, Berlin*) in Madrid.

3.2.2 Session 2: Partners' experiences

The session allowed partners to share their experience with technologies and methods used including repository software, extraction of data and other supporting tools. Presentation from each partner.

Local extensions to metadata standards. Dublin Core, the Europeana Semantic Elements and the Europeana Data Model. How to deal with interpretation issues.

Feedback to Europeana on what partner's have identified strengths, weaknesses, opportunities and threats to the successful evolution of the local content ingestion infrastructure. (*All partners*)

3.2.3 Session 3: Technology

The presentation "Taking on the Semantic Web: ABC to the Semantic Web" provided an introduction to the Resource Descriptor Framework (*RDF*) and the Simple Knowledge Organization System (*SKOS*). Ontologies, vocabularies and thesauri. Use of common classification systems for cross sector multi-lingual and multi-cultural cultural heritage resources. The introduction demonstrated practical application areas for Semantic Web technologies for local cultural heritage providers. Presentations were provided by Victor de Boer (*Vrije Universitet, Amsterdam*) in Ljubljana and Steffen Hennicke (*Humboldt University, Berlin*) in Madrid.

Workshop on content enrichment: Applying what we learned in the previous section, we will apply semantic content enrichment concepts and techniques including people, place, event and objects relationships as well as external Linked Data. '
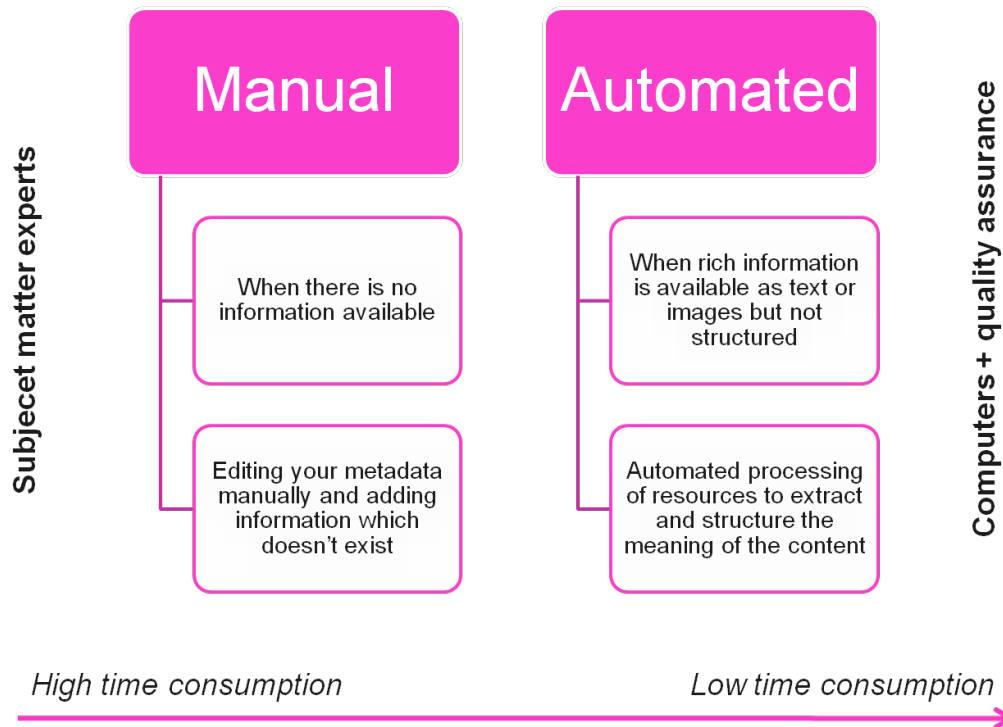
Diagram 4: The differences between manual and automated content enrichment techniques

Working together on the "big screen" we will demonstrate the use of simple content enrichment tools and perform a hands-on conversion of a local vocabulary into SKOS. Demonstrations provided by Rastislav Rehak (*EEA*) in Ljubljana and Runar Bergheim (*AVINET*) in Madrid.

3.2.4 What are our parents and siblings doing?

The Europeana family of projects is comprehensive and looking at EuropeanaLocal isolated provides a very narrow view of the ongoing activities. For this reason, a small session was set aside to learn about the developments in our mother and sister projects to see how our project may benefit from the progress made in parallel initiatives.

An introduction to DISMARC, an audio centric project contributing technology and infrastructure which is now used by EuropeanaConnect to provide an audio aggregation platform for Europeana was introduced by Walter Koch (*AIT*) in Ljubljana and the closely related Athena project was presented by Gordon McKenna (*Collections Trust*) in Madrid

4   Findings from workshops

The following findings were made during the workshops and are compiled in this section:

(i) **Simple Knowledge Organisation System**: content providers note with interest the possibilities of semantic integration through the systematic use of controlled vocabularies whose terms/concepts are linked to other vocabularies. It is a challenge that controlled vocabularies today (for the greater part) are implemented as (printed) keyword lists which are used for reference when manually entered keywords describing the content resource into free-text fields. Also, the meaning of a keyword from a controlled vocabulary may be sensitive to the collection context and relative to the subject matter experts' interpretation at the time of assignment.

(ii) **Linked Data**: content provider partners find the concept interesting but have difficulties in determining, at this stage, the impact for content providers to Europeana. Large-scale content providers like Wikipedia/DBpedia/GeoNames may have a significant impact and their publishing of Linked Data may be of great value to enrichment of data held by EuropeanaLocal content providers.

(iii) **Europeana Semantic Elements and the Europeana Data Model**: while partners realize that the ESE is too constraining and provides too little flexibility for Europeana in order to express and convey semantic relationships between content, many partners stressed the importance of offering backward compatility with the ESE for a significant period of time – extending beyond the Danube release when it has been announced that ESE support will terminate.

(iv) **Semantic Web**: content providers appreciate that Semantic Web technologies will be of key importance to allow the integration of content from institutions with different geographical and cultural background. The concept of graph data models based on RDF triples was discussed at great length and understood as one possible way of describing semantic relationships. Integration will be important in order to realize the ability to trace people, concepts or ideas as they moved across administrative, cultural and language border throughout Europe – and in some cases beyond.

(v) **Spatial Web**: current content held by EuropeanaLocal content providers is not rich when it comes to spatial metadata. It is however recognized by content providers that spatial metadata may be one of the quickest and simplest ways of integrating Europeana content at the outset as such metadata do not involve the semantic challenges resulting from different cultures and languages.

(vi) **Content enrichment**: content providers stressed that due to the nature of cultural heritage preservation, the only *safe* way of enriching metadata is through manual processes. Any automated guesswork will have a relatively high probable error rate; however, enrichment

techniques as demonstrated in the workshop may be used to convert free-text keyword references to semantically tagged content whereby enabling the introduction of SKOS vocabularies which may be used as a first step towards semantic integration across Europeana content providers.

(vii) **Establishment of national aggregators**: EuropeanaLocal partners noted that lack of a joint approach and unclear responsibilities among actors in the cultural heritage domain in each member state posed a challenge to the successful establishment of aggregators "at sensible levels". In some countries, local and regional actors have a greater technical sophistication than national institutions but are not in a position to overstep their boundaries. National economies are pressed and this affects the priorities of national institutions as well as the allocation of funds to the cultural heritage sector from political level.

(viii) **Athena mapping tool**: the tool, developed by NTUA, integrates many steps which in Europeana are separate and manual in a way which is appealing to EuropeanaLocal content providers. It was suggested that it would be nice to embed this tool within the Europeana ingestion process.

(ix) **Prolog XML-vocabulary tool**: the tool is available on request from EuropeanaConnect and partners who may be interested in utilizing it may access it by contacting either Victor de Boer or Steffen Hennicke. Partner recognizes this as a useful tool for parties who already possess a vocabulary expressed as XML.

5 Software tools and vocabularies

5.1 Software tools

To demonstrate the concept of semantic enrichment, a number of software tools were demonstrated throughout the workshop. These are compiled in a list in this document for the convenience of the reader.

Table 2: List of software tools demonstrated during technical workshops

Software tool	Description
DIGMAP	Toolkits currently being sourced into EuropeanaConnect and available from the EuropeanaLabs CVS. http://portal.digmap.eu/
EuropeanaLocal / skostools	Demonstrators showing how SKOS works. http://europeanalocal.avinet.no/skostool
GeoNames	Web services and downloadable data for geographical names of varying but hugely improving quality. http://www.geonames.org
Open Street Map / Google Maps	Addresses, street names, named features. http://www.openstreetmap.org / http://code.google.com/apis/maps
W3C/PoolParty SKOS checker	Check if your SKOS files are correctly formatted. http://demo.semantic-web.at:8080/SkosServices/check
Protégé	OWL/RDF editor from Stanford University. http://protege.stanford.edu
SKOSEd	Add-on to Protégé (requires 4.0 version of protégé, development currently halted – ok for learning). http://code.google.com/p/skoseditor/
XML2RDF from EuropeanaConnect	Convert your XML formatted vocabulary into RDF/SKOS using a simple Prolog-based approach

5.2 Well-known SKOS vocabularies

For partners to assess the possibility of using existing vocabularies for either semantic extraction/tagging or for cross-mapping to their local vocabularies, a number of well-known international sources were discussed and demonstrated throughout the workshop.

Table 3: List of vocabularies/thesauri discussed during technical workshops

Thesaurus	What for
GeoNames	Geographical names

Virtual International Authority File (VIAF)	Named entities
Art and Architecture Thesaurus (AAT) (accessible through EUROVOC)	Named entities
Library of Congress Subject Headings (LCSH)	Topics/what
Wikipedia/DBpedia	Context mining
Agrovoc	Agricultural terms
GEMET	Environmental terms
UNESCO	High-level cultural heritage terms

6 Follow-up and next steps

The points below were agreed as concrete follow-up actions to the second set of technical workshops:

(i) The project provided for two sets of four technical workshops. To date, seven workshops have been arranged. The final workshop will be arranged in the winter of 2011 and emphasize content enrichment and creation of "user exhibitions", a new feature of the Europeana portal following the Rhine release. A program for the final technical workshop will be developed by **Europeana, MDR Partners, AVINET and EEA**.

(ii) **All partners** who use and have access to controlled vocabularies should supply these to technical partners **AVINET and EEA** so that they can be converted to SKOS and be made subject to testing including semantic tagging of collection content using enrichment techniques as demonstrated in the second set of technical workshops. This action will contribute towards the completion of D4.5.

7   References

7.1   Tables

7.2   Diagrams

8   Appendices

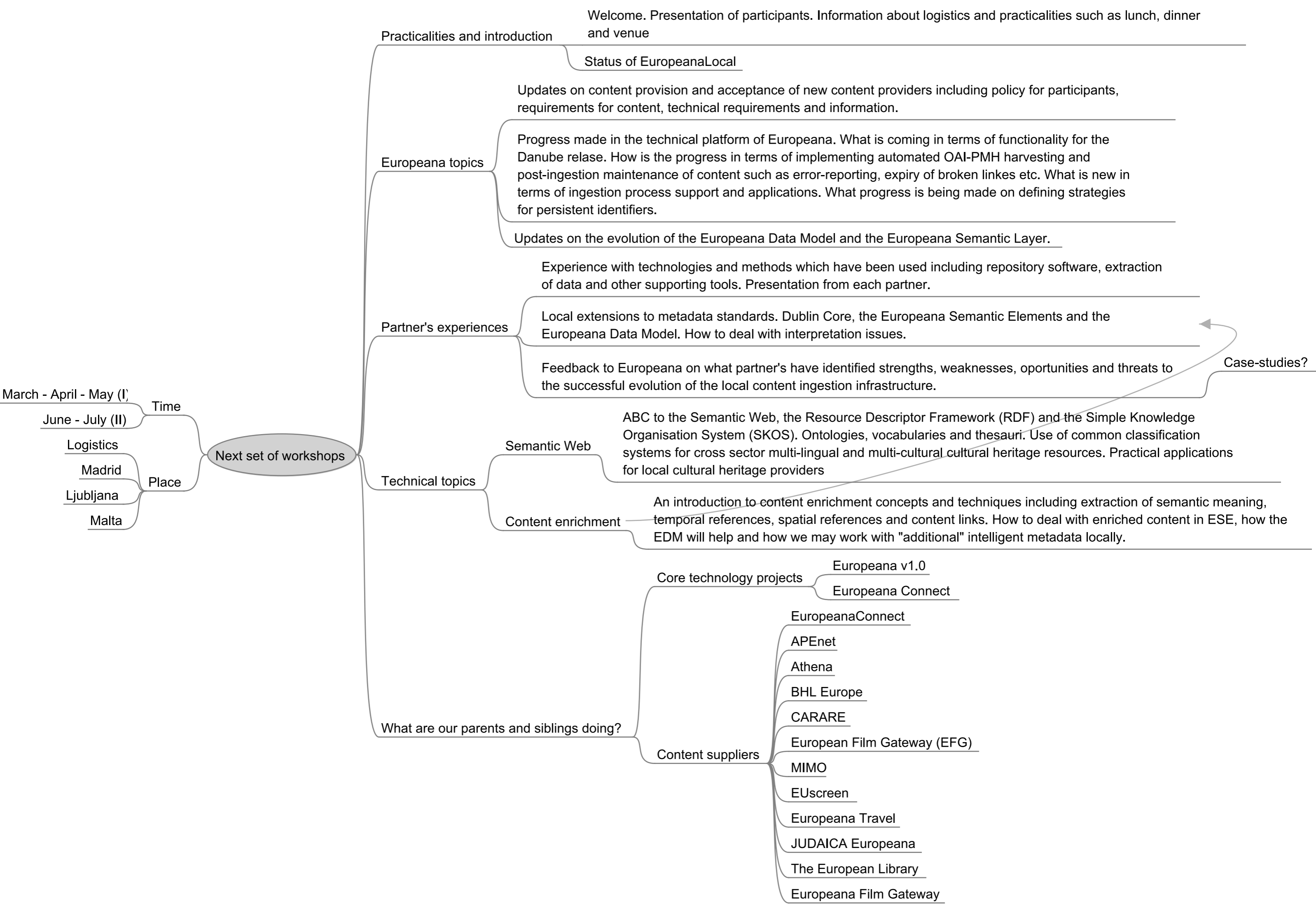Appendices follows in the order listed below without separator pages.

Appendix 1 - Mind-map workshop 5

Appendix 2 - Agenda workshop 5

Appendix 3 - Agenda workshop 6 and 7

Appendix 4a - Attendance workshop 6

Appendix 4b - Attendance workshop 7

Next set of workshops

Time
- March - April - May (I)
- June - July (II)

Place
- Logistics
- Madrid
- Ljubljana
- Malta

Practicalities and introduction
- Welcome. Presentation of participants. Information about logistics and practicalities such as lunch, dinner and venue
- Status of EuropeanaLocal

Europeana topics
- Updates on content provision and acceptance of new content providers including policy for participants, requirements for content, technical requirements and information.
- Progress made in the technical platform of Europeana. What is coming in terms of functionality for the Danube relase. How is the progress in terms of implementing automated OAI-PMH harvesting and post-ingestion maintenance of content such as error-reporting, expiry of broken linkes etc. What is new in terms of ingestion process support and applications. What progress is being made on defining strategies for persistent identifiers.
- Updates on the evolution of the Europeana Data Model and the Europeana Semantic Layer.

Partner's experiences
- Experience with technologies and methods which have been used including repository software, extraction of data and other supporting tools. Presentation from each partner.
- Local extensions to metadata standards. Dublin Core, the Europeana Semantic Elements and the Europeana Data Model. How to deal with interpretation issues.
- Feedback to Europeana on what partner's have identified strengths, weaknesses, oportunities and threats to the successful evolution of the local content ingestion infrastructure.

Technical topics
- **Semantic Web**
  - ABC to the Semantic Web, the Resource Descriptor Framework (RDF) and the Simple Knowledge Organisation System (SKOS). Ontologies, vocabularies and thesauri. Use of common classification systems for cross sector multi-lingual and multi-cultural cultural heritage resources. Practical applications for local cultural heritage providers
- **Content enrichment**
  - An introduction to content enrichment concepts and techniques including extraction of semantic meaning, temporal references, spatial references and content links. How to deal with enriched content in ESE, how the EDM will help and how we may work with "additional" intelligent metadata locally.

Case-studies?

What are our parents and siblings doing?
- **Core technology projects**
  - Europeana v1.0
  - Europeana Connect
- **Content suppliers**
  - EuropeanaConnect
  - APEnet
  - Athena
  - BHL Europe
  - CARARE
  - European Film Gateway (EFG)
  - MIMO
  - EUscreen
  - Europeana Travel
  - JUDAICA Europeana
  - The European Library
  - Europeana Film Gateway

Training (technical) workshop agenda

Friday 4th December 2009 - Poznan

#	Start	End	Agenda Item
	09:30	09:45	**Introduction to the agenda** *Runar Bergheim/Rastislav Rehak*
	09:45	10:30	**The future of ESE and the Europeana Content Model** What are the implications of the shift towards a more sophisticated data model for EuropeanaLocal content providers? *Robina Clayphan*
	10:30	11:00	Break
	11:00	11:45	**Will our "sandbox" have a "dash-board"?** Introduction to existing and upcoming tools and utilities for content ingestion in Europeana including the Content Checker, OAI-PMH harvesting etc. *Julie Verleyen/Lizzy Komen/Bram van der Werf (someone with overview of the Europeana technology)*
	11:45	12:30	**ESE 3.2 XML for (and by) dummies** Detailed technical walk-through of the ESE XML v3.2 format including guidelines and implementation rules. *Runar Bergheim/Rastislav Rehak*
	12:30	13:30	Lunch break
	13:30	15:00	**Mapping from local content-models to ESE XML** Workshop: Content providers will bring examples of their data models and we will discuss in plenary how to map fields to the ESE format. *Runar Bergheim/Rastislav Rehak*
	15:00	15:30	**Next round of technical workshops** What would partners like to see included in the next round of technical workshops? *Runar Bergheim*

2nd Set of Europeana Local Technical Workshops

The purpose of the second set of technical workshops is to share experiences, good practices and common as well as uncommon problems encountered throughout the process of implementing OAI-PMH metadata harvesting infrastructure and the ESE format in partner's collection management systems. Furthermore, we will look into the current developments in Europeana and what we can expect in the coming months.

Workshop Venues

- Ljubljana, Slovenia , 6th – 7th of July 2010

- Madrid, Spain, 8th – 9th of July 2010

Day I: 12:30 – 17:30

12:30	*13:30*	*Lunch*

Practicalities and introduction

13:30	*13:45*	Welcome and presentation of host and participants. Information about logistics and practicalities such as the venue, dinner etc.
13:45	*14:15*	Status and progress of EuropeanaLocal from a technical point of view. (Runar)

Coffee break

Session 1: Europeana

14:30	*14:45*	What is coming in terms of functionality for the Rhine and Danube releases? (Lizzy/Robina)
14:45	*15:00*	The development of an ingestion toolkit and the Europeana ingestion workflow. (Lizzy/Robina)
15:00	*16:00*	Current progress and ideas on the way to the Europeana Data Model and the Europeana Semantic Layer as developed through the Europeana Connect project. (Victor/Steffen)

Coffee break

Session 2: Partners' experiences

16:15	*17:30*	Experience with technologies and methods which have been used including repository software,

extraction of data and other supporting tools. Presentation from each partner.

Local extensions to metadata standards. Dublin Core, the Europeana Semantic Elements and the Europeana Data Model. How to deal with interpretation issues.

Feedback to Europeana on what partner's have identified strengths, weaknesses, opportunities and threats to the successful evolution of the local content ingestion infrastructure. (All partners)

17:30	*Close of day 1*
To be confirmed	*Dinner*
	(time and place will be announced during the workshop)

Day II: 09:00 – 12:30

Session 3: Technology

09:00 10:00 Taking on the Semantic Web: ABC to the Semantic Web, the Resource Descriptor Framework (RDF) and the Simple Knowledge Organization System (SKOS). Ontologies, vocabularies and thesauri. Use of common classification systems for cross sector multi-lingual and multi-cultural cultural heritage resources. Practical applications for local cultural heritage providers (Victor/Steffen)

Coffee break

10:15 12:00 Workshop on content enrichment: Applying what we learned in the previous section, we will apply semantic content enrichment concepts and techniques including people, place, event and objects relationships as well as external Linked Data.

Working together on the "big screen" we will demonstrate the use of simple content enrichment tools and perform a hands-on conversion of a local vocabulary into SKOS. (Runar/Rastislav)

12:00 12:30 What are our parents and siblings doing? Pending availability/presence of a partner from one of the projects, feedback and information from parent and sibling projects. (Gordon/?)

12:30 *Close of workshop, departure*

Appendix 4a

Ljubljana Workshop: Attendance List

European Local
2nd Training Workshop
Ljubljana
6-7 July 2010

Name	Organisation
STRT	ANINET
M. Gerkart	MDR Partners
Victor de Boer	Vrye Univ. Amsterdam / Econnect
GYORFFY ANDRAS	CLUJ COUNTY LIBRARY
SORINA STANCA	Cluj County Library RO
Radka Kalcheva	Public Library VARNA-BG
Daniela Ilieva	Public Library Varna
Rastislav Rehak	EEA SK
Breda Karun	National and Univers. Libr.
Simon Golob	Ngi, d.o.o.
LÁSZLÓ KÁRMÁN	BÉKÉS COUNTY LIBRARY MONGUZ LTD } HUNGARY
ZOLTÁN MAZULA	— " —
VIKTOR NAGY	— " —
ROBINA CLAYPHAN	EUROPEANA FOUNDATION
MARCIN WERLA	PSNC
KOCH CURTIS	AIT GRAZ

Appendix 4a
Madrid Workshop: Attendance List

Name	Organisation	Country
Annalise Duca	Acrosslimits	Malta
Jonathan Azzopardi	Acrosslimits	Malta
Antonia Gutiérrez	Ministerio de Cultura	ESPAÑA
Øystein Åsnes	SFCM	Norway
Snorre D. Øvybø	- " -	- " -
NIRMALAN	ABM	Norway.
Annette Kelly	Library Council	Ireland
Mária Luísa Martínez-Conde	MINISTRY OF CULTURE	SPAIN
EVA RIVERA	"	"
Gordon McKenna	Collections Trust	UK
Francisca Hernández	DIGIBIS	SPAIN
Andrés Viedma	DIGIBIS	SPAIN
Emmanouel Garoufallou	Veria Public Library	Greece
Mace Ojala	Helsinki City	Finland
ANTTI PAKARINEN	- " -	- " -
JUOZAS MARKAUSKAS	Dizi	Lithuania
Christian Bajomi	Countymuseum of Västernorrland – Murberget	Sweden
Märta Molin	- " -	
Lizzy Komen	and ABM Resource Europeana	Sweden Netherlands
ANTÓNIO VIEIRA	FMNF	PORTUGAL