DELIVERABLE

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Project Title: *Connecting ARchaeology and ARchitecture in Europeana*

D6.6 CARARE International Workshop (Year 3)

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Revision History

Revision	Date	Author	Organisation	Description
0.1	06/12/12	S Bassett	MDR	First draft
0.2	11/01/12	V Tzouvaras	NTUA	Editing and adding contribution
0.3	16/01/13	S Bassett	MDR	Final edits prior to review
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0.6	24/01/13	V Tzouvaras	NTUA	Add missing information.

Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Contents

Executive Summary

Two international workshops were held in the third year of the CARARE Project. The first one was organised jointly by DCU and ADS at the international CAA conference in Southampton in March 2012, this event doubling up as the UK National Dissemination Workshop and is reported in the CARARE report on National Workshops (D6.8). The second international workshop was held in Mykonos on the 24th and 25th May, 2012 and was organised by NTUA and DCU. The CARARE international workshop at Mykonos is the main subject of this report.

The workshop was marketed through the main CARARE channels (website, newsletter, LinkedIn and Twitter) and via the Europeana mailing lists. It was attended by over thirty people and proved to be two days full of intense ideas and discussions, and finding solutions to technical problems across the wide range of activities covered in the CARARE project. The first day included a number of guest speakers from other Europeana-related projects such as Europeana Fashion, EUscreen, ECLAP and PATHS who explained the rational and structure of their particular projects. Some technical aspects of CARARE were also presented, these being the MINT and MORE tools, 3D and Geospatial data. EUscreen and Europeana also presented the results of their Linked Open Data initiatives.

The second day was a technical workshop aimed mainly at CARARE partners, although external partners were welcome to attend if they wished. Further training was provided on the MINT and MORE tools to bring partners up to speed with the latest additions and improvements in functionality of the tools. Daniel Pletinckx and Franc Zacrajsek held informal round table discussions where partners were able to discuss and resolve the current issues and solutions they had with their 3D and geospatial data collections. In the afternoon, CARRAE content providers who were experiencing problems with uploading their data to Europeana were able to get together with the technical support team from NTUA and DCU to discuss the outstanding issues with Dimitra Atsidis and Antoine Isaac from the Europeana Ingestion team and Kate Fernie of MDR. This face to face meeting proved to be very valuable as many of the outstanding issues were resolved and a better understanding gained of both the CARARE and Europeana metadata requirements from both sides.

1. International Technical Workshop, Mykonos, Greece

The CARARE International Conference and Technical Workshop was organised by NTUA and DCU and was hosted on the Greek island of Mykonos on the 24th and 25th May, 2012, with a field trip to the World Heritage Site of Delos on the 26th May, 2012.

1.1 Organisation and marketing of the Workshop

The Workshop was promoted in CARARE Newsletter 6 and was publicised on the Europeana mailing lists and on the project Twitter feed. Partners were requested to disseminate the event on their local networks.

The venue was selected by NTUA as it had been successfully used for previous conferences and is well connected to Athens by air and sea, and by air to other European destinations. The island of Mykonos is very close to Delos and the project wished to include a field trip with archaeological value to attract delegates. During the low season, Mykonos offers low-cost accommodation which was thought to contribute to affordability for delegates.

Thirty participants registered for the International Conference with around forty people present on the day (including speakers and NTUA staff).

1.2 The Programme

The programme covered two days. The first day was the International Conference where the CARARE Project presented its results and invited external speakers gave presentations on their specific Europeana content supply projects and other digital content initiatives. The second day was focused on CARARE partners and consisted of a number of technical workshops to enable partners to understand the latest developments in the metadata mapping and supply tools (MINT and MORE) and on creating 3D PDFs. One of the most important technical meetings was the discussions about the outstanding issues with technical staff from Europeana's ingestion team (Antoine Isaac and Dimitra Atsidis) and the CARARE Technology providers and Technical Co-ordinator, Kate Fernie, which led to the resolution of a number of outstanding problems with the metadata supply to Europeana. (See Annex A for images of the typeset Programme as distributed to participants).

CARARE International Technical Workshop,
Mykonos 24, 25 May 2012

Final Programme
Technological Developments by Europeana Content Projects

Day 1 - International Workshop
09:30 Registration
09:50 Welcome

10:00 Session 1: Metadata Handling

- ♠ Metadata sets in Europeana - Kate Fernie
- ♠ MINT Developments - Arne Stabenau
- ♠ MORE developments - Costis Dallas

11:30 Coffee break

12:00 Session 2: Projects and tools
- ♠ Natural Europe - Giannis Stoitsis
- ♠ PATHS – Phil Archer
- ♠ Europeana Fashion – Marco Rendina

13:30 Lunch

14:20 Session 2 continued: Projects and tools
- ♠ Euscreen – Daniel Ockeloen & Sanna Marttila
- ♠ E-CLAP – Michela Paolucci

15:20 Session 3: Linked data
- Europeana Linked Data Pilot – Antoine Isaac
- EUscreen Linked Data pilot – Vassilis Tzouvaras

16: 20 Session 4: Geospatial and 3D Applications
- ♠ 3D in Europeana - Daniel Pletinckx
- ♠ Geospatial, Franc Zakrajsek

17:20 End of the Workshop

Day 2 - Technical Workshops for CARARE Partners
CARARE Partners (hands-on activity, training aspects around the MINT and MORE tools, 3D content and geospatial data)

09:30 – 11:00 Training on MINT – Vassilis Tzouvaras, NTUA

09:30 3D Clinic - Daniel Pletinckx, Visual Dimension
To discuss remaining open issues and solutions adopted by the partners involved in supplying 3D-Content to CARARE.

10:30 – 11:30 Geospatial Clinic – Franc Zakrajsek, IPCHS

11:00 Coffee break

11:30 Training on MORE - Costis Dallas, DCU.

13:00 Lunch

14:00 Meeting with the Europeana ingestion team

17:00 Close

1.3 Day 1 – the International Conference

Around thirty people registered for and attended the Conference and Workshop in Mykonos. Vassilis Tzouvaras started the Conference off with a welcome and introduced the CARARE Project Manager, Kate Fernie, to start the proceedings.

1.3.1 Metadata sets in Europeana, Kate Fernie - MDR

Kate Fernie (left) followed this with a presentation that explained the context of CARARE to Europeana and provided an overview of the CARARE metadata schema in terms of the type of information that it would have to contain to meet the requirements for archaeology and architecture. These are the concepts of a Heritage Asset, its associated Digital Resources and Activities associated with it. Aspects such as time periods and geo-locations are also important for this domain as there are no borders in archaeology. The CARARE schema allows for relations to be defined between Assets.

1.3.2 MINT Developments (metadata mapping), Arne Stabenau

Arne Stabenau (right) presented the MINT tool which is used by CARARE for mapping native metadata schemas to the CARARE schema. He explained that the tool as designed as a self-registration system allowing free data formats and CSV imports. The metadata remains private to the organisation and the tool requires no working knowledge of XML. NTUA are working on future-proofing MINT. Improvements will include making the user interface

more consistent, faster data imports, and trying to speed up transformations, the statistics calculations and item browsing and filtering. Other improvements to be implemented are the login panel, simplification of the upload screen, new panels to always appear on the right hand side and every upload to have a history associated with it. In the future, NTUA plans to make MINT available to Europeana and to migrate their older mapping systems to MINT. Full text "search and replace" is to be implemented – this will help correct such things as dates in the wrong format. Finally, the end user will be able to edit the XML output.

One of the CARARE partners expressed concern that the older mappings would not be retained when the new system was introduced. Vassilis replied that he would try to migrate these by hand to avoid any loss of data.

1.3.3 MORE developments (repository & ingestion), Costis Dallas - DCU

Costis Dallas of DCU (left) presented the MORE repository which is used to ingest the CARARE metadata files, transforms them to the EDM format and uploads them to Europeana. He explained that MORE was based upon MOPSEUS and Fedora Commons. The underlying architecture is based upon SIP[1] and OAI.[2] MORE can process a large amount of heterogeneous data and implement a negotiation protocol as well as produce a binary and XML data stream. MORE provides statistics on the completeness of the mandatory elements, geospatial co-ordinates, temporal data, etc. as part of its reporting facilities.

This presentation was followed by a number of questions from the audience. These concerned:
- what happened when records were duplicated – in this instance when the id of the object is the same as a previous record, then the new record becomes the current version,
- whether link checking was implemented (not at present but could be in the future)
- examples of well-formedness – this is typically important for the repository and the schema. MINT only checks the structure versus the XSD, i.e. location, legality of code. Whether an element belongs to a controlled vocabulary is not checked at present (in either tool).
- P.id service - this is under discussion, e.g. in CIDOC and the project will monitor progress on this.

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[1]   Session Initiation Protocol
[2]   The Open Archives Initiative Protocol for Metadata Harvesting

1.3.4 Natural Europe – Dr. Giannis Stoitsis
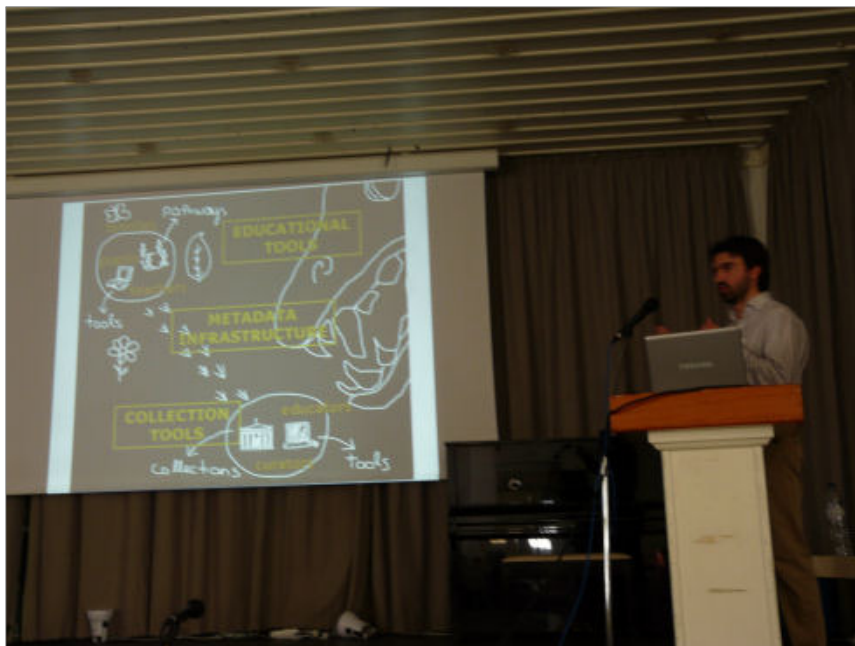
Dr. Giannis Stoitsis posed the question how can natural history connect their digital collections/ assets to educational activities? He went to explain that are three phases: pre-visit, the visit and post-visit to be considered by teachers and museum educators. A "guided pathway" allows museums to use their own materials and those from Europeana. Families can also use the materials via a guided pathway during their visits, i.e. Engagement (via a game) followed by reflection. Natural Europe hasn't developed another portal but helps museums to develop educational sections on their own websites, e.g. by providing widgets and apps.

Organisations are can be members of either the Natural Europe Learning Federation and/or the Natural Europe Cultural Federation. A schema has been developed within the project and end users utilise a multi-media authoring tool to upload and enrich metadata. This tool has been provided to the OpenUp! Project for ingestion of metadata into Europeana.

Natural Europe is focused on small natural history museums with high quality materials. The project can provide resources and tools as a cloud provider. The Open Discovery Space is a social network for learning and also researchers.

1.3.5 PATHS: It's all about the links – Phil Archer, i-Sieve

Phil Archer started his presentation with an intriguing question: What was 5 Ft 8.5 inches mean to the audience? The answer he was looking for is that this is the standard gauge (track width) for European rail tracks and is related to the width of Roman chariots (evidenced by ruts at sites such as Pompeii). He then went on to link to various Roman historical epic movies and stories. However, linked themes are not a new idea and there have been previous examples such as museum and galleries who create themed exhibitions, Timelines and "Trailmeme".

PATHS can do more:

- Natural Language Processing
- Information Extraction
- Similarity Calculation
- Link Finding
- Personalisation.

Archer went on to say that research demonstrates that users both want to be lead to new things and to make their own discoveries, and they also like to see what other people have found as well as to share and contribute their own ideas and content. He showed some PATHS examples, choosing an item and narrative, navigating a path, looking at social features and exploring starting points. PATHS can use standard vocabularies, visual topics and tags to navigate a route through a variety of content.

1.3.6 Europeana Fashion – Marco Rendina

Marco Rendina introduced the Europeana Fashion project and talked about the partners and the type of content they owned. These consist of fashion houses archives (e.g. Pucci and Missoni), magazines, picture libraries and museums. The project also has direct collaboration with Wikipedia Chapters. The aim is to promote GLAM[3] events and initiatives like Wiki Loves Monuments and Public Art.

The Project will develop topic and social media analysis tools to "measure the buzz" and will aggregate media services as per the "Flux of meme".

A fashion use case was outlined which would look at:

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[3]   Galleries, Libraries and Museums

- Topic extraction and image analysis

- Blog posts, RSS and Twitter reach

- User stereotypes

http://www.europeanafashion.eu/.

1.3.7 EUscreen - Daniel Ockeloen & Sanna Marttila

EUscreen is a portal for audio-visual materials aimed at both researchers and end users. It aims to promote content re-use, combining different AV materials and contexts. For example, combining different media around themes and narratives. EUscreen partners make exhibitions and have regular user groups.

EUscreen has developed a Virtual Exhibition tool to create virtual exhibitions and for integration into the portal. EUscreen has a user-centric approach. Virtual Exhibitions are defined in the VE tool by first creating a wireframe then building a prototype to connect different media. This was covered in the first EUscreen workshop. In a second workshop, participants created virtual exhibition prototypes.

These tools were demonstrated. IPR is designed so exceptions are the rule. Video is restricted to research.

Leeuwarder Voetbal Club was provided as an example. A 90-minute video of a football match contains "moments" of interest. The owner embedded settings creating a new AV items of 5 minutes in length with a bias towards Team A, showing the goals, corners and free kicks which occurred in the original video.

1.3.8 E-CLAP (European Collected Library of Artistic Performance) - Michela Paolucci

E-CLAP is a social service network and content service. Some content provider members of E-CLAP have their own channels as well as belonging to the E-CLAP portal which allows performing arts institutions and students as well as interested third parties search and browse related content on a variety of digital/mobile devices. Content providers can use E-CLAP to enrich their metadata and provide it to Europeana as well as distribute their content to E-CLAP users. Working groups have been set up to provide best practice guides for education and training, IPR and business models, and digital libraries and management.

E-CLAP accepts a wide range of content from the usual text, audiovisual and images to blogs, web pages and wikis, collections, courses and also user generated content. The portal supports user groups, forums and mailing lists as well as event set up and management. Michela then presented the E-CLAP workflow and demonstrated some examples of uploading a video, an e-learning course, and the monitoring and assessment tools available to content providers. E-CLAP also allows affiliated users to be members subject to the portals terms and conditions.

1.3.9 Europeana Linked Data Pilot, Antoine Isaac – Europeana

The Europeana Linked Open Data Pilot used 2.4 m objects from 200 content providers from 15 countries across Europe and is based upon the Linked Open data principles defined by Tim Berners Lee (http://linkeddata.org). This was not without technical challenges for the Europeana team and the example of HTTP redirection was explained. The LOD pilot was tested with the EDM, which uses SKOS, CIDOC-CRM and OAI-ORE making it more complicated than ESE. EDM is better suited to semantic-enabled searches but as so few content providers are currently using the EDM, the team had to experiment with legacy ESE data and convert this to EDM. Final lessons learnt was that it takes time to persuade content owners to provide their metadata as CC0 and that there is no standard practice for representing licensing information or provenance.

There was some discussion following this presentation. Regarding usage, there have been a couple of experiments but no uses. Marco Rendina and Arne Stabenau asked several questions regarding LOD and the EDM. Kate Fernie made the point that content providers have to put enough text in the description to benefit from LOD and the enrichment services which are becoming available . The semantic web often falls down due to the lack of semantic resources.

Antoine Isaac said that selection of data for the Europeana LOD pilot was based upon the early signatories of the DEA.

Phil Archer, wearing his W3C hat, commented that LOD means that the web is the aggregator. In this context, Europeana is very small and decentralised. Europeana doesn't have to use LOD but it is the best solution. There are issues to be sorted out. Antoine Isaac agreed and said there was room for aggregators to build best practice for LOD.

Antoine Isaac explaining the Europeana technical approach for Linked Open Data

1.3.10 EUscreen Linked Open Data Pilot, Vassilis Tzouvaras, NTUA

Vassilis Tzouvaras explained that for instantiating the EUscreen data as Linked Data resources, a machine readable representation in RDF was necessary. Hence, it was decided in accordance with the "things" described in the homogenized XML documents to select the EBU Core ontology as the vocabulary to be used for the RDF representation. The EBU Core ontology is an RDF representation of the EBU Class Conceptual Data Model (CCDM). Then he presented the next step, which having selected the appropriate vocabularies for the RDF representation of the EUscreen content, was the creation of resources for the described things. In other words, the fulfilment of the first principle of Linked Data that states the use of URIs for things. Finally, Vassilis presented a timeline application that exploits the EUscreen linked open data.

### 1.3.11 3D in Europeana - Daniel Pletinckx, Visual Dimension
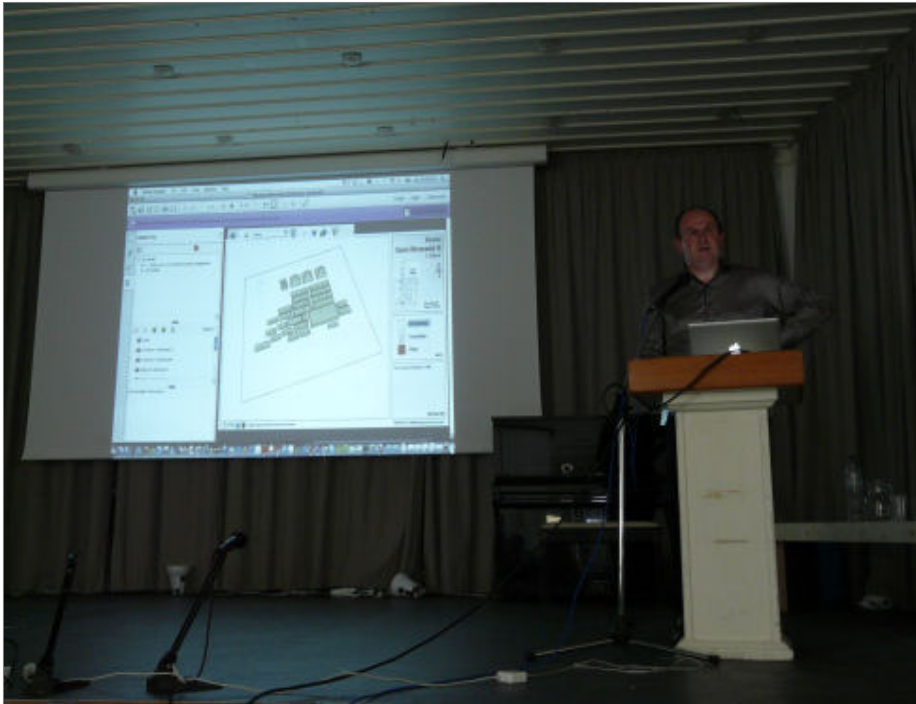
Danïel Pletinckx outlined how 3D PDF had been selected by the CARARE Project as a light-weight (i.e. 20MB and under) solution for 3D models. He also provided an overview of other technologies which may become suitable candidates in the future when they are better developed and more stable. For example:

- HTML5 which is browser-based and enables exploration of 3D models but is not fully stable yet.

- SpiderGL (an implementation of WebGL) has been developed by CNR, Pisa and can cope with 5m polygons in a browser. It is Javascript and multi-resolution with varying levels of detail.

- X3DOM (developed by the Fraunhofer institute, Germany) is good for large X3D format models. No plug-in is required.

- Venus 3D provides a low-resolution interactive visualisation and remote rendering (see www.ccrmlabs.com). Danïel Pletinckx demonstrated this. Showing a low-resolution model and clicking on the model to show a higher resolution close-up view, which took 3-5 seconds to load.

Serious game solutions such as Unity3D for interactive multi-platform and major mobile platforms could also be considered. X3D is emerging as a mobile solution and is driving development of HTML5. The presentation concluded with a summary of techniques including image capture using 3D drones and BIM which is used in architecture using 3D models as an interface.

1.3.12   Geospatial, Franc Zakrajsek, IPCHS
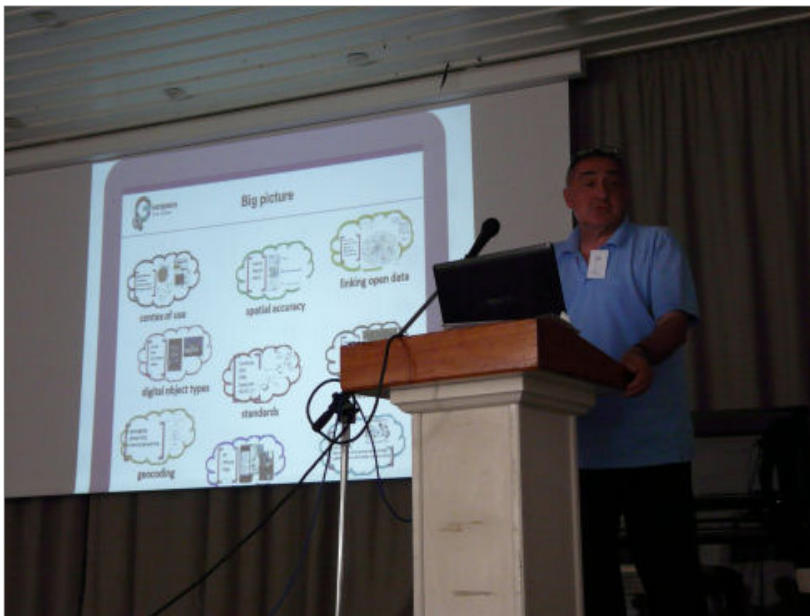
Franc Zakrajsek of IPCHS outlined how important geographic information is to cultural heritage. He described geoparsing and how this worked and highlighted the aspects of the INSPIRE Directive that were relevant to CARARE. In particular, protected areas are part of cultural heritage. He demonstrated how Europeana Maps use the geospatial data recorded in the CARARE schema and EDM. However, he made the point that geo-names are not very useful as they are limited and not designed from the start. Zakrajsek said the future will be the 3D – 4D city which uses geospatial data along with geo-processing web services as well as open linked data and other concepts such as the Internet of Things to provide combined resources for end users.

Conference Day 1 Presentations

Presentations from the Conference on Day 1 can be downloaded (as PDFs) from the CARARE website at: http://www.carare.eu/eng/Activities/Int-l-Workshop-Mykonos.

1.4   Day 2 – Technical Workshops

The Workshops organised for Day two were aimed mostly at CARARE Project members who needed to get up to date with the latest developments with the MINT and MORE tools, 3D PDF (how to create these and process existing 3D models into a suitable format for insertion into PDF files) and how to deal with geospatial data. Partners also used this time to network and exchange their experiences and solutions.

Costis Dallas presents the latest developments to MoRE to CARARE end users

Franc Zakrajsek discusses how to manage and convert geospatial data in his workshop

Danïel Pletinckx discusses 3D model conversion and using creating 3D PDFs

The CARARE technical team discuss issues with the Europeana Ingestion Team

1.5   The Field Trip to Delos

On the Saturday following the Conference, a field trip was organised to the nearby island of Delos which has been inhabited since 9000 B.C. and is the site of some very impressive Romano-Greco ruins. There is also a museum which provides a showcase for some of the smaller items found on the island. The trip was very well attended as Delos was of great interest to everyone attending the International Conference.

Michela Paolucci of ECLAP and Katerina Komninou from NTUA contemplating the ruins of the Meeting Hall of the Poseidoniasts, Delos

The impressive Terrace of Lions which originally consisted of between 9 to 12 Sphinx like animals along the Sacred Way.

A full article was published on the CARARE website about the archaeology of Delos at: http://www.carare.eu/eng/News/Archaeology-of-Delos.

1.6 Conclusions

CAA provided an ideal venue for an international workshop focussed on the production and mapping of metadata for uploading into Europeana and the use of 3D-PDF for the creation of 3D content. The workshop, which is reported in CARARE deliverable 6.8, attracted an audience consisting of archaeology professionals and some students, most of whom had not heard of Europeana previously. It provided the stimulus for an animated discussion which indicated the interest amongst archaeologists about interoperability, data exchange and establishing common access points to archaeological datasets. CARARE has addressed some key issues for this audience.

The International Workshop on Mykonos provided an opportunity to bring together archaeologists with those from other domains, and technical specialists with content providers. It proved to be a lively event where different approaches to content exploitation and metadata aggregation were presented along with project results. Certain topics such as Open Linked Data led to quite intense exchanges of ideas and opinions. The CARARE project partners welcomed the opportunity to network and exchange ideas with each other and those involved in other projects. It was noticeable that the workshops on Day 2 were of great interest and assistance to the project members (some workshops being more relevant to some partners than others) judging from the intense discussions.

Networking and exchange of information, especially with external people with similar experiences brought fresh perspectives and initiated new ideas.

Annex A: Conference Programme

CARARE International Technical Workshop, Mykonos 24, 25 May 2012

Final Programme _____

Technological Developments by Europeana Content Projects

Day 1 - International Workshop

09:00 Registration

09:30 Welcome and & Keynote

09:50 Session 1: Metadata Handling
- Metadata sets in Europeana
- MINT Developments (metadata mapping)
- MORE developments (repository & ingestion)

11:30 Coffee break

12:00 Session 2: Projects and tools
- Natural Europe
- PATHS – Phil Archer, i-Sieve
- Europeana Fashion

13:30 Lunch

14:20 Session 2 continued: Projects and tools
- EuScreen
- E-CLAP

15:20 Session 3: Linked data
- Europeana Linked Data Pilot
- EuScreen Linked Data pilot

16: 20 Session 4: Geospatial and 3D Applications
- 3D in Europeana - Daniel Pletinckx, Visual Dimension
- Geospatial, Franc Zacrajsek, IPCHS

17:20 Panel Discussion

CARARE is funded by the European Commission's ICT Policy Support Programme

Day 2 - Technical Workshops for CARARE Partners

CARARE Partners (hands-on activity, training aspects around the MINT and MORE tools, 3D content and geospatial data)

09:30 – 11:00 Training on MINT

09:30 3D Clinic - Daniel Pletinckx, Visual Dimension
To discuss remaining open issues and solutions adopted by the partners involved in supplying 3D-Content to CARARE.

10:30 – 11:30 Geospatial Clinic – Franc Zacrajsek, IPCHS

11:00 Coffee break

11:30 Training on MORE

13:00 Lunch

14:00 Meeting with the Europeana ingestion team

17:00 Close