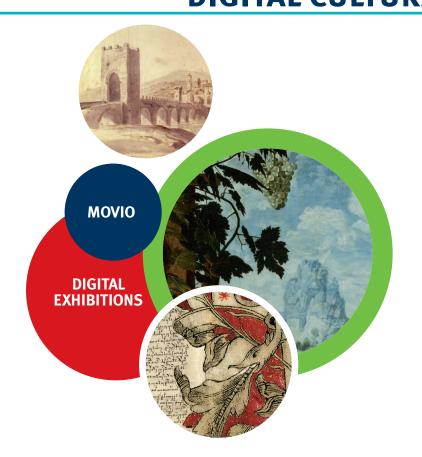


# INNOVATIVE TOOLS FOR THE CREATION, REUSE AND RETRIEVAL OF DIGITAL CULTURAL CONTENT













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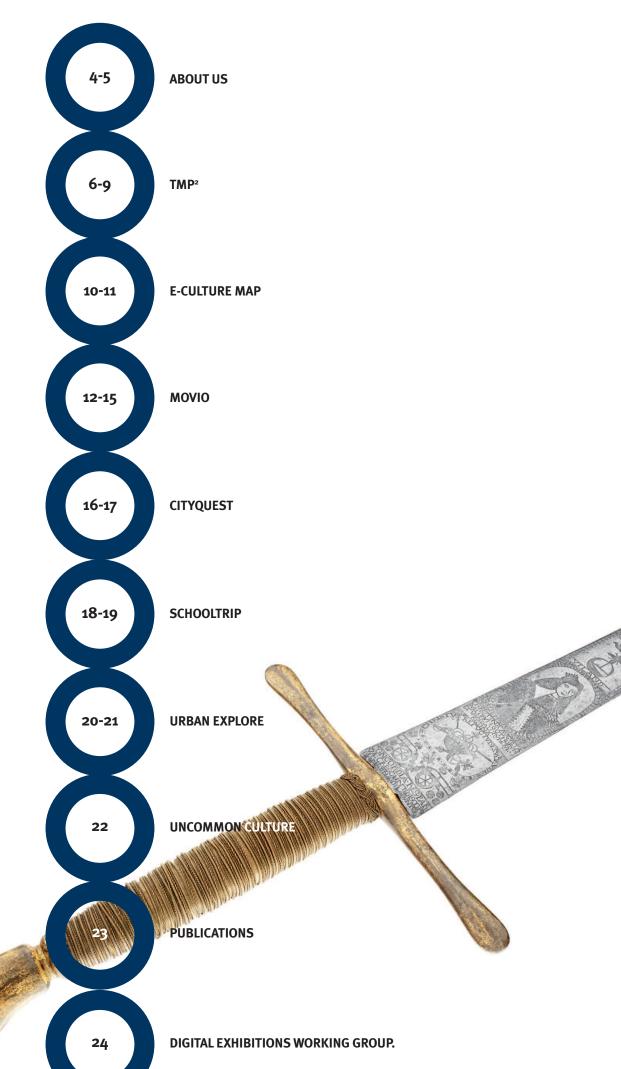
#### **PARTNERS**

Italy (coordinator)	Istituto Centrale per il Catalogo Unico
	delle biblioteche italiane
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Belgium	Koninklijke Musea voor Kunst en Geschiedenis
Belgium	PACKED Expertisecentrum Digitaal Erfgoed Vzw
Belgium	Openbaar Kunstbezit in Vlaanderen Vzw
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AthenaPlus is a project funded by the European Commission







**ABOUT US** 



**AthenaPlus** is a Best Practice Network with **41** institutional partners in **21** European countries. Its main objective is to make cultural heritage more widely accessible through Europeana. By sharing experience from hundreds of experts from all over Europe, the project supports the development of new applications for digital heritage.

#### Main goals:

**To contribute** more than three millions metadata records to Europeana, from both the public and private sectors, focusing mainly on museums content, with key cultural stakeholders (ministries and responsible government agencies, libraries, archives, leading research centres, SMEs);

**To improve** search, retrieval and re-use of Europeana's content, bettering multilingual terminology management, SKOS export and publication tool/API for Content Providers;

**To experiment** with enriched metadata their re-use adapted for users with different needs (tourists, schools, scholars) by means of tools that support the development of virtual exhibitions, tourist and didactic applications.

AthenaPlus builds on the results of the experience developed by the previous Athena project where LIDO and the Athena Ingestion Server and Mapping Tool MINT have been developed.

The main target groups of AthenaPlus are: the content-contributing community, the aggregators, government and policy bodies, agencies for culture, sister projects, the digital cultural heritage research community, the national research and competence centres in the areas of cultural heritage and e-infrastructures, the tourism sector, the education market and schools, Europeana with its Network and Labs.

The overall objective is to bring together relevant stakeholders and content owners from museums and other cultural institutions all over Europe, as well as evaluate and integrate specific tools, based on a common agreed set of standards and guidelines to create harmonised access to their content.



With **3.4 million** records AthenaPlus is one of the largest Europeana aggregators, second only to The European Library.

39 content providers, including
11 national aggregators
almost 500 cultural institutions
25 European countries



The consortium supplied the Europeana with all sort of records: 3D models, audio and video files, texts and, above all, images. Subjects largely range from the medieval frescos in the Alps regional boundary between France, Italy and Swiss, to important events of the Cyprus history, to klezmer music to archaeology artifacts to important art craft productions across all Europe. Rubens, Rembrandt, Breughel the younger, De Chirico, Botticelli, Arcimboldo and many other old masters will guide the journey of the Internet surfers through the European culture.

# THESAURUS MANAGEMENT PLATFORM



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The **TMP**<sup>2</sup> (Thesaurus Management Platform), is a web portal for thesaury management. The TMP offers:

- creation and editing of thesauri, favouring a conceptual approach
- specification of all types of hierarchical relations (generic, instantial, partitive)
- extensive concept information (notes, images etc.)
- management of multilingualism
- integration of ISO standards 25964-1 and ISO 25964-2 on thesauri
- import and export in SKOS, JSON and RDF
- thesaurus mapping.

**TMP**<sup>2</sup> is freely accessible (read only) to anyone.

User accounts are created for project members and associated organisations. The TMP was developed in the framework of two European projects dedicated to cultural heritage.





Thesaurus, Terminology, Ontology: three approaches based on the notion of term and concept, not to be confused.

Ontologies of the most multilingua TMP2 relies whose noti (OntoTermi

Ontologies, in the sense of knowledge engineering, constitute one of the most promising ways for representing thesauri and multilingual terminologies. This is why the development of the TMP2 relies on the principle of ontoterminology (a terminology whose notional system is a formal ontology) and the OTe engine (OntoTerminology engine), developed by the Condillac Research Group of the University of Savoie.

#### Import & export of thesauri

The **TMP**<sup>2</sup> Platform allows to import and export thesauri under different formats. The import function is accessible on the homepage. It takes into account two exchange formats: SKOS and CSV. The **TMP**<sup>2</sup> verifies the structure of the imported files and the semantic coherence of the data, so that the import is performed in batch mode.

The tool relies on the ISO 25964 standard on thesauri. Three types of hierarchical relations are taken into account: BTG (generic), BTP (partitive) and BTI (instance). These relations do not exist in SKOS and they will be automatically translated in a simple "broader" of "narrower" hierarchical relation.

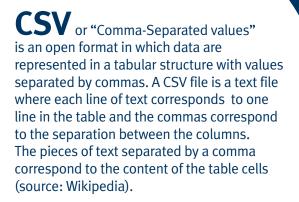
**The export** of a thesaurus is done by his/her owner from the homepage. It is possible to export in SKOS and JSON.

The JSON format is more complete than the SKOS format, because it includes all the information stored in the thesaurus, more specifically the hierarchical relationships of ISO 25964 (BTG, BTP, BTI) which are not translated in SKOS.



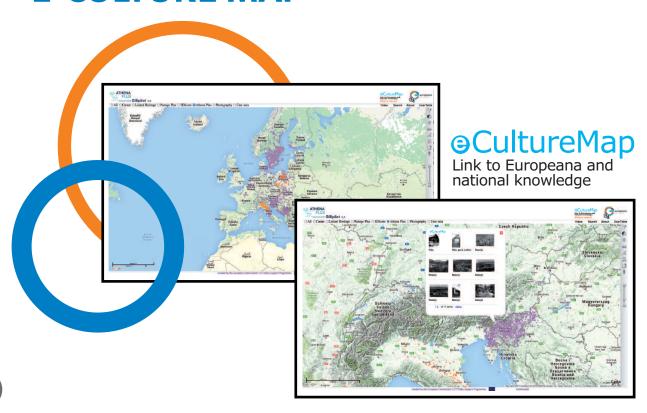
### **SKOS**

Simple Knowledge Organization System (SKOS) is a W<sub>3</sub>C recommendation designed for representation of thesauri, classification schemes, taxonomies, subject-heading systems, or any other type of structured controlled vocabulary. SKOS is part of the Semantic Web family of standards built upon RDF and RDFS (Resource Description Framework, http://www.w<sub>3</sub>.org/RDF/), and its main objective is to enable easy publication and use of such vocabularies as linked data. (source: Wikipedia)



**JSON** or "JavaScript Object Notation" is a format for textual data derived form the object notations in JavaScript. It can represent data in a structured way, accompanying information with labels that identify all the different elements. JSON is promoted as a low-overhead alternative to XML (source: Wikipedia).

# **E-CULTURE MAP**



The eCultureMap has been developed to demonstrate the use and re-use of Europeana, AthenaPlus and other digital cultural heritage content, when browsing the content geographically. Currently the map has three main uses: a user may find out what cultural content is present on a certain location, plan a cultural route or upload own content.

#### The AthenaPlus GIS PILOT

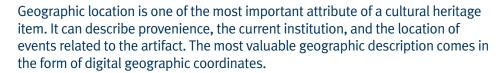
This pilot has been developed in the framework of eCultureMap. The eCultureMap is the effort of Europeana partners to put their cultural content on one single geographical knowledge map when ingesting their metadata to Europeana. The eCultureMap currently displays more than 2 millions objects from several Europeana related projects such as Athena, Carare, Linked Heritage, AthenaPlus, PartagePlus and others.

The AthenaPlus GIS pilot map works as an alternative user interface for Europeana and other cultural portals. The map provides a clear overview of the content that is aggregated within one specific project but also enables easy browsing and discovery of the other content that's linked in the database. Several powerful features have been developed, illustrated by some use cases.

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#### The pilot action created the following results:

- eCultureMap connected with Google Street View
- Powerful refine search among items on a certain location
- Three use cases:
  - Van Wittel vedutes
  - Geocoding historical photographs
  - Architectural heritage
- eCultureMap augumented reality mobile application: you can browse over 2 million cultural objects from the eCultureMap on your mobile device. The application is free for download (Android only)
- AthenaPlus GIS Pilot APIs: two additional APIs are available for web developers
  of cultural heritage related portals. The API enables the reuse of eCultureMap
  data and can be embedded into any webpage and/or mobile application.



Use and reuse of geographical location information of cultural content is very important. For example travel portals usually include an interactive geographic map with locations of hotels, service venues, museums and other interesting places/spaces. For cultural tourism it is a pity that on these maps, none or just a few more or less randomly cultural objects are presented with very poor linked information. Therefore it is strongly advised to merge the travel service information with cultural content services.

Cultural mapping refers to the assignment of cultural objects and resources to a geographical or non-geographical knowledge map. Europeana is connecting a large number of digital cultural objects (currently over 30 million) from European museums, libraries, archives and multi-media institutions. The content is ready for use by the general public, professionals, students, tourists, ... The eCultureMap is an attempt to re-use this content as a geographical knowledge map.



#### Link to the pilot implementation:

http://athenaplus.eculturelab.eu/GISpilot\_2\_o/.

#### Link to training material:

http://wiki.athenaplus.eu/index.php/ECultureMap

#### **Responsible partner:**

Javni Zavod Republike Slovenije za Varstvo Kulturne Dediscine, Slovenia



An open source and user-friendly tool for realising digital exhibitions in an easy, creative and funny way. It can be used by curators, students, schools, and whoever wants to create a digital exhibition.

**MOVIO** is a kit: it is not just a software, it includes a set of tools and services:

- a Content management System (**cms movio**) for the realization of online digital exhibitions
- **cms movio** for mobile devices (microsite): iPhone and Android smartphones and tablets
- MOVIO APP for generating apps on mobile platforms
- **MOVIO HUB**, an online catalogue of digital and real exhibitions, available also on **MOVIO APP**
- Online tutorials and interactive training on the use of the kit and implementation of the guidelines for the creation of online digital exhibitions.

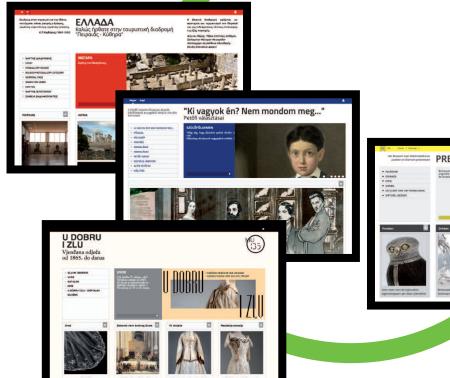


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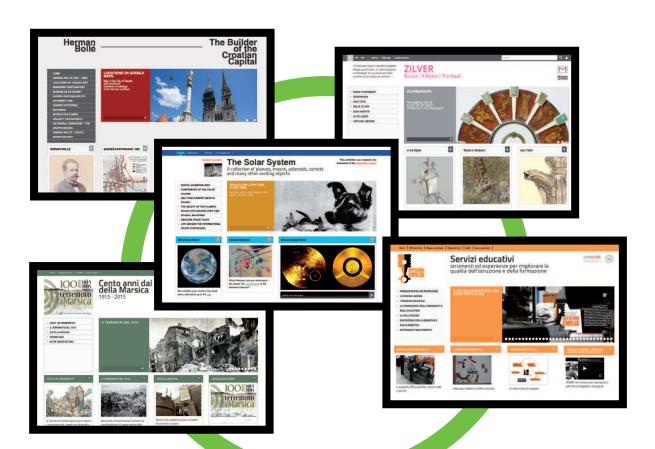
#### **BACK-END**

The back-end of MOVIO is the area where the curators create and manage the content of its digital exhibition. The back-end offers functionalities to manage:

- THE BACK-END LANGUAGE
- THE MULTILINGUALISM OF THE CONTENT
- THE GRAPHICAL TEMPLATES
- THE ONTOLOGY RELATED TO THE DIGITAL EXHIBITION
- THE MEDIA ARCHIVE
- THE USER PROFILES AND THE USERS
- THE PAGE TYPES AND THE RELATIVE TOOLS AVAILABLE IN THE CMS
- THE EXPORT FOR THE APP
- THE EUROPEANA API
- THE INTEROPERABILITY WITH MOVIO HUB
- SOME SOCIAL FUNCTIONS







#### **MOVIO** main functionalities

#### **Ontology builder**

Tool that enables the curator to manage the conceptual map of the content to be published in the digital exhibition, and to offer the visitor new and unexpected paths throughout the exhibition.

#### **Storyteller**

The story can be narrated using a sequence of texts, images, audios and videos, enabling also user interaction.

#### **Timeline**

MOVIO integrates TimelineJS, an open source tool that allows rich and interactive chronologies, which can be native or imported from a Google spreadsheet. Each event becomes a part of a greater narration.

#### Googlemaps

integration of the Google API enabling the geolocalisation of point of interests.

#### Image galleries

Several types of digital galleries allow the curator to valorise images, changing the visualisation according to editorial needs.

#### **Hotspots**

The curator may select some elements of a single image, and highlight them.
The marked spot may be linked

to a tooltip, to another section of the digital exhibition or to external links.

#### **Europeana API**

Through it, selected content within Europeana, can be embedded in MOVIO pages.

#### **Tourist services**

The possibility to link and geolocalise tourist operators and services.

#### Module builder

The possibility to import CSV files and made the content searchable.

#### **MOVIO APP**

It is the framework for the creation of mobile applications based on the exhibitions created with CMS MOVIO. MOVIO APP is a customized version of an exhibition that can be distributed on AppStore and Google Play. These apps can also be browsed offline and updated directly from the server.



#### **MOVIO HUB**

Web service acting as a catalogue of all the digital exhibitions realised with CMS MOVIO, whose information is imported automatically through interoperability procedures. By registering in the service, also institutions who did not realise exhibitions with MOVIO, may advertise their physical exhibitions.



# **URBAN EXPLORE**



Urban Explore is a tool to create and manage mobile apps as touristic and cultural digital guides in the context of collective or solo visits. As a complement to a speaker story (heritage expert, historian, city planner, art professional), the mobile app offers an access to the audio-visual history / memory of a place, in an original and emotional way.

Based on the use of digital resources in mobility, Urban Explore offers a new way of sharing and reading an area or a specific location. Convening in situ testimonies, text documents or audiovisual archives, from Europeana and other sources, the app enables to give a singular vision of the territory: it provides access to a set of selected and editorialized digital cultural content according to the theme of the walk. The user embarks on an exploration: he is guided by the story of a speaker and navigates through the contents over the path, digital tablet in hands. The application is designed as a fully adaptable device according to the place of the visit of the treated themes and the expected objectives in terms of mediation.

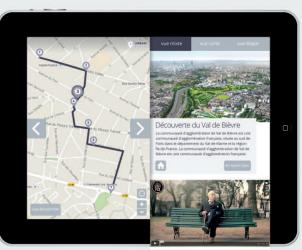
The device allows the aggregation of different set of data within a mobile app: Europeana data, open data, user generated contents, cultural institution contents, resources from virtual exhibitions...

The pilot is planned to be adapted to specific places (city areas, museums) and aims to link video, audio and pictures (as archives material) to a place users are going through.

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Urban explore is based on a **specific CMS integrating mobile app builder software**. This means that you build the content of the tour in the online editor, then publish it to become a mobile app.



### Rencontre avec Henri Val de Bièvre. Découverte des projets liés à la renaissance de la Bièvre. Arcueil, le 30 avril 2011., photo © Christian PE-



Découverte des projets liés à la réouverture de la Bièvre. Val de Biève. Découverte des projets liés à la renaissaince de la Bièvre. Action le 30 avril 2011 - Jappen de Christian PF. 177. Précimitation des projets de récoverture de la Bièvre par le départment du Val de Maitre à la communaule protés par le départment du Val de Maitre à la communaule de la Bièvre de la Bièvre de la Bièvre de la Communaule de la Bièvre de la Biè

URBAI

#### **General functionalities**

The online CMS allows building a specific tour app from a varied set of data. The following general functionalities have been implemented:

- Generation of a path on a map
- Set up of the path: colour, thickness
- Positioning of map markers for content pop up opening
- Upload of content (video, sound, image)
- Local hosting of content on the iPad for a use without connection
- Easy update
- Customising of the graphic interface: colours, logo, header, ...
- Specific dashboard to explore, select and reuse external data (such as as Europeana data).

#### **Use cases**

The Urban Explore pilot was developed and tested for a collective visit, combining physical and digital mediation: the participants are guided by a speaker who uses the app to enrich the visit thanks to media. The participants are not autonomous, they browse content with the app after the speaker invites them to watch a picture or a video in link with a step of the visit.

Several other use cases are possible:

- In the framework of a solo visit: the user is totally autonomous in his visit path and his use of the mobile app. In this case, the user walks between different points of interest proposing medias and the mediation is based on the mobile app
- Outdoor touristic route
- Enriched urban promenades
- Indoor digital guide (in a museum, in a cultural institution, or a particular place).

The Urban Explore application is available in a web version for access to features and additional content. The web version is a transposition of the mobile application on the web. It retains the same design and the same content.

Link to training material:

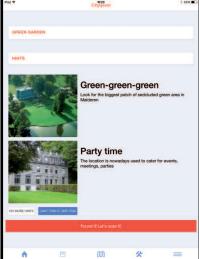
http://wiki.athenaplus.eu/index.php/ Urban\_Explore

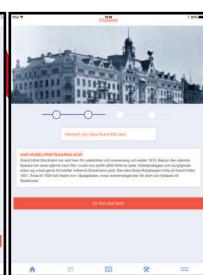
**Responsible partner:** Dedale, France

# **CITYQUEST**









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CityQuest allows cultural organisations to easily create a quest online, and publish it to a mobile app. Send your visitors around the city to discover items from your collection and the locations they are connected to. Based on hints and media you track down an item, scan the QR code on its location and learn the (hi)story behind it.

CityQuest is a very straightforward tool. The online interface gathers all steps required to create your quest, in one single webpage. What story do you want to tell? What is the subject of your quest? Who are you making it for? This might affect your ideas on which Clues to give, the items to look for, tone in the texts, length of the walk. A good CityQuest is also highly linked with the possibilities of the place (city, village, ...) in which it will take place. Can you choose nice pedestrian paths?

Are walking distances appriopriate for the audiences/age

group you have in mind?

#### **Gather the content**

Once you know the storyline of your Quest, you should gather the content that will be featured in it.

Descriptive texts, cryptic hints, images ... need to be collected, edited or written, and checked in terms of possible copyrights.



#### Go out and test

A crucial element in the success of the Quest you've designed, is the testing phase. Go out and play the Quest by yourself. Take on another person who is not familiar with the subject of your Quest, in order to see whether he/she understands the cryptic descriptions you've used to target the object to be found. Perhaps some items turn out to be too difficult, others too straightforward. Other media clues might be better suited; the walking distance between two items might be too short/long. These are aspects of your Quest that can only be tested



#### Make regular checks and inform the community

One of the key elements in your CityQuest are the QR codes that provide more information on the place, subject, object that is discovered by the player. When you're organising an active CityQuest, these codes will be visible throughout your town. Check with owner(s) of the locations that you wish to feature, and make sure you do not damage anything by adhering a QR code to an object or location.

CityQuest is available for free download from Google Play and iTunes store.

You can also find the CityQuest code package on GitHub at https://github.com/PACKED-vzw/cityquest-mobile

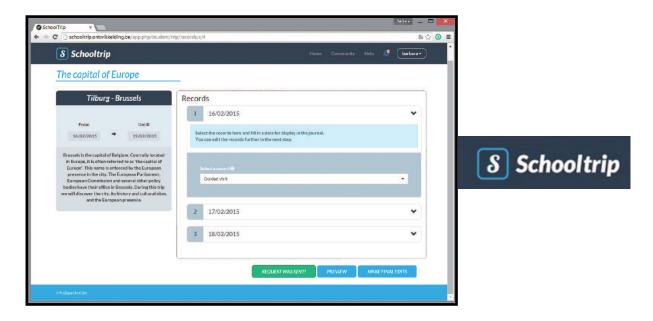
#### Link to training material:

http://wiki.athenaplus.eu/index.php/CityQuest

#### **Responsible partner:**

PACKED Expertisecentrum Digitaal Erfgoed Vzw, Belgium

# **SCHOOLTRIP**



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Schooltrip is a tool that allows students to create their own school journey. Through an online interface the teacher can set a couple of parameters defining the skeleton of the trip. Students fill the template with information on practicalities, cultural heritage sites to visit, historical information, and so on. They learn to plan a travel from a to z, while incorporating our cultural heritage. At the end, a journal-like document is generated which can be used as itinerary guidebook.

Schooltrip is a tool that allows students to create their own school journey. Through the interface, the teacher can set a couple of parameters defining the skeleton of the trip. Students fill the template with information on practicalities, cultural heritage sites to visit, historical information, and so on.

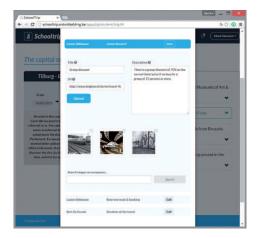
The students, guided by the teacher, learn to plan a travel from a to z, while incorporating our cultural heritage.

At the end, a journal-like document is generated which can be used as itinerary guidebook.

The travel journal, which is the end product of the Schooltrip trajectory, requires thus:

- preparatory work by the teacher/administrator
- searching content (texts, images, links, ...) by the students

SchoolTrip also features a function to search for additional media on Europeana.



The teacher does not only create the general framework for the trip - where to go, when to leave, what the must-sees are - but also explains to the students how to work with the application. By working with an application like Schooltrip, the students also become more media and tech aware. There is no one-way process of knowledge transfer, but they're looking up their own information and work with a tool that is new to their experience.

SchoolTrip can be used in a one-to-one relation (1 Teacher, 1 Student completing the full Trip), or one-to-many (1 Teacher, multiple Students working in a group to complete the full Trip).





SchoolTrip is released under the MIT License and is available for free download.

You can find the SchoolTrip code package on GitHub at https://github.com/PACKED-vzw/schooltrip

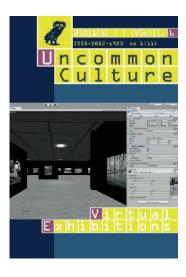
#### Link to training material:

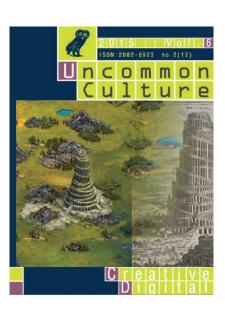
http://wiki.athenaplus.eu/index.php/SchoolTrip

#### **Responsible partner:**

PACKED Expertisecentrum Digitaal Erfgoed Vzw, Belgium

# **UNCOMMON CULTURE**





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The *Uncommon Culture* journal, that started in the framework of the previous ATHENA project, appears as a supporting tool for cultural heritage promotion.

The journal mission is to "provide unique perspectives on a rich variety of cultural activities in Europe. Examining cultural institutions and their collections, this magazine gives new insight into diverse cultural activities". Moreover, it promotes Europeana and other European projects contributing to Europeana, as well as initiatives leading to this goal.



Uncommon Culture is available in printed and online version:

http://uncommonculture.org/index

#### **Responsible partner:**

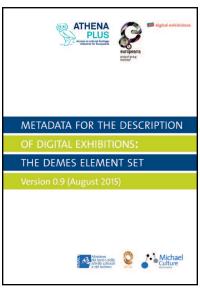
International Center for Information Management Systems and Services (ICIMSS), Poland

# **PUBLICATIONS**



A methodology for implementing LIDO (Lightweight Information Describing Objects), and in doing so give help and advice to potential and new users of LIDO seeking to employ it.

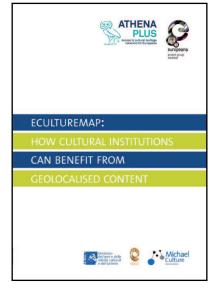
A set of 30 descriptive elements specific to digital exhibitions, grouped into seven semantic sections based on existing standards.the seven sections, including the elements, are packaged together in a wrapper called Digital Exhibition Metadata Elements Set (DEMES).





What is digital storytelling?
What tools, devices and services
are available? What are the
recommendations and technical
guidelines for GLAMs wanting
to carry out digital storytelling
projects? The aim of this publication
is to inform cultural institutions
on stakes and opportunities given
by digital storytelling and answer
to their doubts.





eCultureMap: how cultural institutions can benefit from geolocalised content
The eCultureMap is created as a simple, interactive geographical map and is ready for use by the general public and professionals on mobile devices as well as on desktops. The booklet presents the guidelines for use and reuse of the eCultureMap content.

#### **Download them at:**

http://www.athenaplus.eu/index.php?en/169/publications

#### **Responsible partners:**

Istituto centrale per il catalogo unico delle biblioteche italiane (ICCU), Italy Stiftung Preussischer Kulturbesitz (SPK), Germany

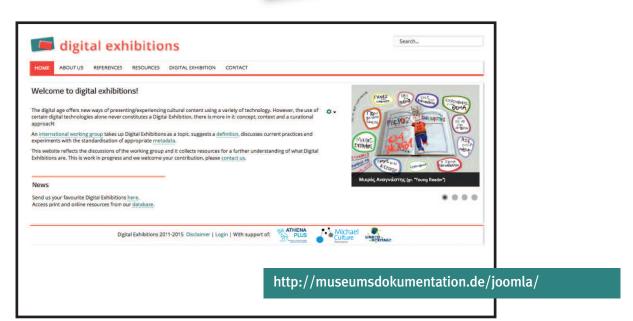
The AthenaPlus publications extend the series of publications produced during the ATHENA and Linked Heritage projects. Here the list of the other booklets available:

- Digitisation Standard Landscape
- Guidelines for geographic information
- Persistent identifiers: recommendations
- Lightweight Information Describing Object: LIDO)
- Your terminology as a part of the semantic web recommendations for design and management
- Geocoded digital Cultural Content

# DIGITAL EXHIBITIONS WORKING GROUP

The digital age offers new ways of presenting/experiencing cultural content using a variety of technology. However, the use of certain digital technologies alone never constitutes a Digital Exhibition, there is more in it: concept, context and a curational approach! An international working group takes up Digital Exhibitions as a topic, suggests a definition, discusses current practices and experiments with the standardisation of appropriate metadata. The Digital Exhibitions website reflects the discussions of the working group and it collects resources for a further understanding of what Digital Exhibitions are.





The website of the Digital Exhibitions Working Group features a valuable definition of what constitutes a digital exhibition. It was developed by ythe members of the working group through intensive research of guidelines, definitions, and best practice directories. The centerpiece of the website are its resource databases. The thematic databases (literature, tools, guidelines, trainings) provide access to print and online resources from the field of libraries, archives, and museums.

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The Working Group has also set up a digital exhibition database. Working Group members and AthenaPlus project members collect and enter into the database examples of digital exhibitions. The website of the Digital Exhibitions Working Group is a work in progress. Interested parties will find there useful information and material connected to digital exhibitions.



# Checklist: Things to consider before creating a digital exhibition".

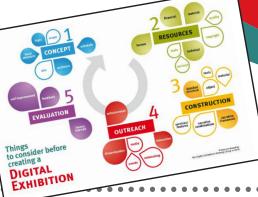
This checklist (version 1.0 - 10/06/2015) consists of guiding questions for planning and realising digital exhibitions.

The guiding questions may correspond to phases of an exhibition project. These five phases – concept, resources planning, outreach and evaluation phase – are marked as headings in order to help to structure the work process. Each of the guiding questions contains a key word that is written in italics and for each question some explanatory statements are provided.

**Responsible partner:**Stiftung Preussischer
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