

MOVIO: A semantic content management and valorisation approach for archives and cultural institutions

*Sam Habibi Minelli², Maria Teresa Natale¹, Barbara Dierickx³, Paolo Ongaro², Daniele Ugoletti²,
Rubino Saccoccio²*

Marc Aguilar Santiago⁴

*¹Italian Istituto centrale per il catalogo unico delle biblioteche (ICCU),
{mariateresa.natale}@beniculturali.it*

²GruppoMeta

{sam.minelli, paolo.ongaro, daniele.ugoletti, rubino.saccoccio}@gruppometa.it

³PACKED vzw

{barbara}@packed.be

⁴i2CAT

{marc.aguilar}@i2cat.es

Abstract

Archives and cultural institutions store, preserve and manage large and invaluable amount of documentation of human history and cultures (photographs, manuscripts, audio and video recordings, etc.): they have a wide and in general, well standardized approaches for the preservation and collection. The new and fast growing need they have, is the communication and valorisation of the treasures that they take care of. This task is not standardized and some useful institutional guidelines have been published to target this need to regenerate knowledge from our past documents, use and re-use cultural content. Often, due to new digitization activities, some important unpublished historical materials are going to be opened to public access and could offer opportunities for new research studies and new culture creation.

The digitization of collections has opened a broader access to local antique and modern knowledge but still, a guidance is requested by different user groups: curators become the cornerstones of valorisation of archival collections. They can put light on multiple paths of study and interpretation. In fact, collection of digital items such as images, videos, audios, documents, does not constitute an intelligible knowledge: such collections require careful selection and organization to illustrate and narrate events and facts, they need to be tied together in a narrative or a logical itinerary. Digital narration can be edited in such a way that they can provide alternative or denser experiences to the study of archive's documents, involving the researcher in a process of discovery, knowledge acquisition, and learning of tangible and intangible cultural heritage. Long ago, researchers were expected to go to archives physically and wait for the authorization to access manuscripts and old documents. Now, from everywhere and at anytime with any device, they can access, and see the tiniest detail of the most valuable antique texts and documents or works of art.

In 2011, the Italian Ministry for Cultural Heritage and Tourism edited guidelines for realising digital exhibitions, a handbook successfully translated in English and even in Arabic. Afterwards, thanks to a funding by Fondazione Telecom Italia, ICCU, a central institute of the Ministry, coordinated the development of the open source toolkit platform MOVIO, which allows archives and cultural institutions to edit digital narrations and organizing the documents show through the use of dedicated functionalities. The toolkit platform, realised by GruppoMeta, supports multilingualism in the back and front-end. The archivist and curator may edit the contents using different tools integrated in the software: media archive, ontology builder, storyteller, different types of image galleries, zooming tools on documents and images, hotspots, maps, timeline, etc. The kit can be easily used by archivists in order to realise digital narrations. They can valorise their intangible cultural heritage and better

enable the researchers to access the resources. During AthenaPlus¹, a European funded project coordinated by ICCU and composed by 40 partners from 21 Member States, MOVIO is further developed in order to include tools, which will facilitate the reuse of content in the field of education and tourism. It also includes now the Europeana APIs and new thesauri building facilities, which will be the base to allow digital archive curators to enrich local resources. Innovative strategies are thus offered in both the treatment and organization of digital documentation and its dissemination and exploitation, reassessing the central role of archives in the Information and Knowledge Society.

Keywords: ICA, archives, documentation, digital exhibitions, virtual exhibitions, MOVIO, intangible heritage, GLAM, intangible, toolkit, museum manager and curators, cultural diversity, oral traditions, performing arts, social practices, events narration, knowledge traditional crafts, storytelling, ontology, media, different communities, intercultural dialogue, cultural heritage, recording, transcriptions, Europeana, AthenaPlus, tools for documentation, promotion and dissemination, different groups of users, (re)discover (re)use less-known cultural asset, tourism, education.

Archives as exhibitors of knowledge

Can we compare archives to museums and exhibitions?

Exhibition title	Location	Total number of visitors
Tiziano	Scuderie del Quirinale, Rome	245.980
Modigliani	Palazzo Reale, Milan	189.340
Manet. Ritorno a Venezia	Palazzo Ducale, Venice	180.250
Robert Doisneau. Paris en Liberté	Palazzo delle Esposizioni, Rome	160.770

Statistics of visitors to some Italian exhibitions in 2014 (Source: Il Sole 24 ORE 2014).

Often the archives have the opportunity to exhibit their documents and collections to the public due organization, to obsolete marketing approaches and also to the apparently low interest of potential visitors. But are we sure that only experts and researchers would be interested to the huge resources of the archives? Archives are preserving spectacular collections but have often low ability to communicate their unique and rare gems due to the costs of communication and risks of exposing the real cultural object. But they can now, independently from their nature, overcome some of the barriers they faced until now.

The meeting between languages and methods of traditional (i.e. non virtual) cultural promotion and the dissemination of knowledge through web-based approaches have created new instruments and ways that make possible to reach a wider audience than before, including people with physical impairments, facing mobility barriers or time restrictions to access archival cultural resources.

¹ AthenaPlus (2013-2015) stands for Access to cultural heritage networks for Europeana. It is a CIP best Practice network coordinated by the ICCU and composed by 40 partners from 21 Member States whose main goal is to supply Europeana, the European portal of digital cultural resources, with almost 3.5 m records. The AthenaPlus partners are also developing tools for the creative reuse of digital cultural resources and the enhancement of the multilingualism in the digital environments. All resources and information can be found at www.athenaplus.eu.

Archive curators, the scientific board of the archives are invited to reconsider their strategy models. Their effort to catalogue and organize photographs, manuscripts, documents, etc. is compatible with virtual exhibitions of their resources. If they will be able to select and illustrate a topic, and tie together cultural items in a narrative or a logical itinerary and publish them on the web, they will create new knowledge and much more, they will create digital exhibitions. Digital exhibitions can be edited in such a way that they can provide alternative or denser experiences through the cultural documentation, involving the user in a process of discovery, knowledge acquisition, and learning of intangible cultural heritage.

The background

The Italian Ministry for Cultural Heritage and Tourism organised in 2010 a working group made up of experts of the Ministry, local authorities and also private bodies from different cultural domains (libraries, archives, museums) whose work gave rise to the first Italian guidelines for the realisation of digital exhibitions². This handbook had a considerable success and was also translated and enriched into English and Arabic versions by an international group of experts within the INDICATE project³.

The theoretical work carried out by the Italian working group on digital exhibitions became very soon a project proposal for the realisation of a tool that put into effect the suggestions provided in the handbook and can be an effective, easy-to-use and cost-saving resource for the cultural institutions that want to create digital exhibitions. The MOVIO project (MOVIO stands for 'MOstre VIRTUALi Online' = online virtual exhibitions)⁴ was realised by the Central Institute for the Union Catalogue of the Italian Libraries (ICCU), a body of the Ministry, and GruppoMeta⁵ for the technical side thanks to a grant of the Fondazione Telecom Italia that in 2011 funded 7 projects supporting the enhancement of the 'invisible heritage'⁶. It was recognised that MOVIO could play a fundamental role in giving visibility to the unknown or unexplored heritage that is often closed in storehouses and, at the same time, assuring the long term accessibility to the mass of knowledge generated by the temporary exhibitions that, for their nature, have a limited life span.

MOVIO is a kit of tools enabling all cultural institutions, independently from their public or private nature, to create and publish easily narrations targeted both to experts and non-skilled audiences; it helps the exhibition curators to edit the contents using different tools integrated in the software: media archive, ontology builder, storyteller, different types of image galleries, hotspots, maps, timeline, etc. MOVIO supports multilingualism in the back and front-end and it is released with the MIT license that allows the widest possible reuse of the software⁷.

The MOVIO kit has different components and services:

- **CMS MOVIO**, the open source content management system for the realisation of the virtual exhibitions; it can be accessed via web and as microsite via mobile devices using both the Apple and Android operative systems;
- **MOVIO APP**, to access the virtual exhibition through mobiles;

² "Mostre virtuali online. Linee guida per la realizzazione", 2011, <http://www.otebac.it/index.php?it/320/mostre-virtuali-online-linee-guida-per-la-digitalizzazione>

³ "Handbook on virtual exhibitions and virtual performances", 2012, <http://www.indicate-project.eu/getFile.php?id=412>

⁴ The information about the MOVIO project as developed in Italy are available at www.movio.beniculturali.it

⁵ <http://www.gruppometa.it>

⁶ <http://www.fondazionetelecomitalia.it/bandi/bandi/beni-culturali-invisibili/43/progetti-finanziati>

⁷ <http://opensource.org/licenses/MIT>

- **MOVIO HUB**, the catalogue of the real and digital exhibitions, a native mobile APP connecting all MOVIO instances;
- **Online wiki tutorials and training courses** on the use of MOVIO and the implementation of the guidelines for realizing virtual exhibitions (the manuals are in English and Italian, the video recordings are in English).

Now onwards we will refer to 'digital exhibitions' or 'exhibition' as a culturally organized content organization, let it be composed by documents from the archive or books from a library or photographs or any combination of cultural resources exposed in a narrative curatorial way.

An innovative cultural communication strategy for archives

MOVIO has been initially designed for professional curators including collection managers, communication directors and marketing staff. These are the initial actors who can identify the opportunities offered by MOVIO and use autonomously and jointly, all its instruments to innovate the institution cultural communication plan.

A strategic communication plan identifies the target users to whom address the message: Starting from a general end user of a digital exhibition, the curators can identify and address their narration to segments of communities of visitors and audiences (researchers, students, etc.). This distinction, from a general un-profiled audience to a profiled visitor, requires for multiple navigation modes. MOVIO enables free anonymous content navigation, as well as personalised paths⁸, which provide selected collection of information to a specific community (young students, experts, etc.). The users can interact with the contents presented in the exhibition and leave comments and annotations (if enabled by the curator), and share the exhibition parts through social media channels (we are in the social communication society and social networks are the new channels to gather visibility among wider communities).

The perspective of population

MOVIO is designed as a collaborative teamwork platform for GLAMs. The archive's curator may take the responsibility to create the storyline and define semantic connections between the items or collections that are represented; the archive collection manager may select archive's documents and content (digital material => reproductions, metadata); historians and professional creative writers may enrich the presentation, the narration and may address the different end users with personalized introductions. The archive's publishing team is enabled to layout a path, but also to semantically connect various parts or elements of the story to be told (using the Ontology Builder). They will take advantage of specific instruments and conceptual tools in MOVIO to create the collection narration: storytelling instruments, interactive timelines and interactive mapping but also personalised word lists or vocabularies. These lists function like a glossary and provide links between contents or elements, and additional annotations. Moreover the archive's right managers may check the rights of the external resources connected to the narration by the writers thanks to the Europeana connector, which provides information about the way its resources may be published and used. Europeana presents a connection to more⁹ than 30 million cultural heritage items from more than 2,300 institutions from 36 different countries are made accessible and do not need to be processed-in again by content contributors, before use and display in MOVIO: any subject can use such resources

⁸ Currently developments are on going to allow users to log into the front end interface of MOVIO and choosing their own role (e.g. student, tourist, etc.). Based on some general profiles, the user can access all the published content in addition, they can access personalized navigation if logged in.

⁹ Source statistics: Europeana, November 2013: <http://pro.europeana.eu/content>

with the licenses published on Europeana the same. This way. The archive's marketing team may create news, and engage the addressed user communities and thus disseminate and advertise the finished narrations (managing the presentations of the collections and using the social connectors – such as Google+, Facebook, LinkedIn, Twitter- made available in the MOVIO back-end): All of them will use the same back-end with different user profiles.

The audience of the archive narrations will range from the general public to students, up to researchers and other cultural heritage institutions and stakeholders which will be more and more attracted by cultural resources if the archive's cultural team (including the marketing), will be able to take advantage of all the tools offered by this semantic platform.

The perspective of content

MOVIO offers a media archive tool (a content management system) which enables the archive to import, catalogue respecting the Dublin Core metadata model, store and manage content resources (images, video, audio, documents, visual and multimedia): this is useful in particular for archives which do not have CMS solutions and they have as first the need of a resource management catalogue.

MOVIO, thanks to specific new tools (such as the 'module builder'), allows the archive curators to import seamlessly existing data bases and their integration into the platform in an easy way. Moreover, the content curators may link their resources published on local sites.

Also external resources may be connected and referred easily to, as already said, boosting the large open cultural resources made available by other cultural institutions.

All MOVIO content tools (including the 'ontology builder') support the archive scientific team to best create, manage, organize and enhance cultural resources to a later or immediate opening to the audience fruition and access.

Thanks to the fact that content collection can be narrated, the archives and museums will be able to create new cultural knowledge and enrich the existing content.

The perspective of the cultural industries

The opportunities offered, using the MIT Open Source license, opens the full access to the source code, and enables private sectors to take advantage of MOVIO and add new customized tools, create new interface and redistribute the software. We imagine that new applications and new design will be offered by a large number of software companies and graphic studios.

Also, looking at the creative industry, we imagine that new professional profiles will emerge such as story writers, research-publishers, tourist guides who start creating tours. In fact, MOVIO can activate new publishing approaches and thus new professional communities to emerge (including marketing and PR).

The open source license model has been chosen to allow any subject to take it, modify it and redistribute it respecting its open source nature. An open solution allows museums to modify autonomously the source code, allows the community of developers to expand and personalize the platform, and enables the reuse and community participation to the code update and maintenance. GruppoMeta developed the MOVIO platform and the Glizy framework with the intent to enlarge the community of stakeholders, including international ICT software developers. This also means that any additional components that will be integrated should be created in such a way that they are also open source components and their usage rights do not conflict with the license conditions applied to

MOVIO. This way, the entire layer of available AthenaPlus tools will be available in an accessible way.

The MIT License¹⁰ is a free software license originating from the American Massachusetts Institute of Technology (MIT). It is a '*permissive free software license*': the MIT license allows (re)use (even commercial reuse) within proprietary software provided all copies of the licensed software include a copy of the MIT License terms. Such proprietary software retains its proprietary nature even though it incorporates software under the MIT License. MOVIO does not require licensing third parties software, as it is not embedding external code: MOVIO connects to free for use APIs (such as Google Map or timeline). As a consequence, it is not required any further licensing about these applications and tools. We did not include other tools, even if sometimes it would have been appreciated, because of the licence compatibility issues. In fact most other available tools are not under MIT license.

Some of the tools offered by MOVIO

MOVIO enables the GLAM curators, managers and the editorial staff to use it in many ways: from the creation of a simple collection of cultural resources (a content management system), an on-line web site to publish archive's documents up to advance and more complex approaches to promotion and valorization of cultural resources (including visitor guides with personalization and mobile applications and customized navigation modes using conceptual maps, QR code readers, interactive geographical maps, time-line creation etc.).

In this section, we will shortly describe some of the tools and suggest the reader to look at the public resources about MOVIO¹¹.

The **back end** of MOVIO is very simple and needs no IT expertise: MOVIO satisfies user needs from primary media gallery creation up to on-line promotion and further more with the creation of personalized narrative approaches and fully mobile marketing and communication level. In fact, the first and most basic need of any small archive is the creation of a media gallery and later on the museums need on-line sites and mobile and personalized ways of creating catalogues and present them to the audiences of users.

Ontology builder: Leaving a model where the curators used a linear corridor of narration, now thematic paths can be created instead, correlating content items and personalizing the content fruition: The Ontology Builder is the most advanced back-end tool for creating conceptualized maps for resource navigation. Such semantic tool allows the curator to create and manage the profile of the cultural resources and their presentation features (a content may be represented as is or located in relation to a timeline, a map, an external collection of resources such as Europeana's or even to a conceptual map). The ontology is made of the *entities*, the *relations* and *attributes* connecting the *entities* (to which the curator may associate documents, images and other media).

The *relations* between *entities* are expressed by verbs: this guarantees the correctness of the logical path connecting them. The final result of the map can be visualized by the curator (from the back-end) and by the end user from the front-end even in portions.

After the involvement of cultural curators, researchers and cultural mediators we identified the most relevant user requirements needed to support content (re)use and (re)discover. The most innovative aspect of MOVIO is the fact that the content is no more managed as 'put in a box' for later use:

¹⁰ <http://opensource.org/licenses/MIT>

¹¹ <http://wiki.athenaplus.eu>

MOVIO allows the curators to add content and structure media by already using a semantic conceptual organization and personalized vocabularies. As a consequence MOVIO enables institutions and cultural subjects to create virtual exhibitions and narrations following conceptual maps.

The semantic approach of MOVIO allows the use of the available formatted information for preparing virtual exhibitions and creating virtual versions of real exhibitions thus, providing a continuity from the virtual to the real exhibition. MOVIO enables a vertical semantic multimedia content management system (SMCMS) specialised in the management and promotion of exhibitions: it contains tools, templates, and repositories, designed and developed for a better support to museums, curators and exhibitors. The system gives the opportunity to prepare semantic queries using special relations, and it integrates tools for the management of routes allowing the creation of custom paths. MOVIO supports the creation of ad hoc description cards, provides support functions for the preparation, the enjoyment and the sharing of the virtual exhibition.

Storyteller: The storyteller is an instrument to narrate stories. Three are the main ingredients of the storytelling: the story (in intangible digital exhibitions we use digital media contents); the writer/storyteller (in the case of such digital exhibitions, this role is performed by the curator); the public (who will read, listen and, interact socially commenting, etc.). As such, the MOVIO SCMS (Semantic Content Management System) is the most adequate instrument for having a digital continuation of the storytelling tradition with the added value of public direct involvement. To best follow the storytelling process, we decided to design a vertical sequence template, which presents on the narration line texts, video, images, etc. In-depth contents will be linked by means of the Ontology Builder and as same as in Blogs, each narration item has a permalink to be quoted or shared as a single relevant piece of knowledge.

Thesaurus builder: GLAMs curators and content managers can create personalized vocabularies with three different formats: *Generic* (fully personalized); *Geographic* (as example: Europe > Italy > Tuscany > Florence; Pisa; Lucca; etc.) with a pin on a geographical map; *Event* with the possibility to define events and associate them to a timeline.

Europeana API¹²: the back-end of MOVIO includes a dedicated connector to Europeana. This connector enables the curators and editorial managers to execute content searches on Europeana and link them to the content on the MOVIO front-end.

Module Builder

The Module Builder enables the archive digital manager to re-use existing structured resources (such as CVS files or DBs) and import data tables into MOVIO and create dedicated page types for the publication (full publication or partial publication).

A growing community: from the training archivists and museum curators to the pilots

Training is the first necessary step to be set up when you decide to introduce an innovative process and methodology inside a community of domain experts: A new professional toolkit such as MOVIO, needs to be showed to the curators who rapidly can then start and create collections and narrations. Some of training events were organised in the project partner countries in order to let local institutions and project partners and curators to familiarise in (first instance) with MOVIO.

¹² API: Application Programming Interface

The AthenaPlus team, coordinated, executed three training methodologies, coordinated by PACKED:

- a) First training approach: AthenaPlus coordinator invited directors of institutions and archives during dedicated public seminars and introduce them to digital communication, cultural promotion and to the new instruments for creating digital and narrative exhibitions.
- b) Secondly, executing training meetings among the institutions, which are partners of the AthenaPlus project and setting up pilots. Several training courses were organised by AthenaPlus team in Italy, Poland, Lithuania, Romania, Croatia, Sweden and now in Spain during ICA 2014. Several hundreds of experts and curators attended at these courses. Every partner prepared some content material. The training materials were explored together and exemplified using their specific context and materials. Afterwards, a period of hands-on training in a test instance was foreseen. This way the instructor could immediately detect difficulties and overcome them right then and there. The training events, especially the first few ones to be organised fairly quickly after the release of MOVIO, were also an occasion on which bugs or usability improvements could be reported to the technical team.
- c) Third approach was to train graduated students during the master courses (Formazione 24 ORE – Il Sole 24 ORE): the courses allowed, as example, to new curators to use MOVIO on a real private gallery¹³ and real artists to be presented.

1: Figure



Training course of MOVIO in Rome, at MAXXI museum (MiBACT) on September 2014.

The interest in the platform is demonstrating that MOVIO can successfully fill a gap providing not only an innovative and performing tool for the creation of digital exhibitions, but also a core platform of information and good practices in support of the process of intellectual creation that is behind every exhibition.

¹³ The curatorial activity was managed by Monica Anzillero in collaboration with Alice Tegazi:
<http://54.247.69.120/build/movio/theca-gallery/>

In addition to training activities, the AthenaPlus team created and published video-materials and manuals on how to make best use of the tool. Moreover, the team created a dedicated training on-line wiki including all support materials, and also offers physical training events. The above public events, where archivists and curators attended at training presentations, were ideal to translate the information to be found on the wiki to real case situations.

The on-line wiki with manuals and training material is available at <http://wiki.athenaplus.eu>. This website hosts all training materials on the tools to be released in the project, so MOVIO is one of these tools. A wiki platform was chosen as it allows for easy update and collaboration/feedback. At the moment, the MOVIO training materials section consists of:

- MOVIO getting started: a simple overview of things to keep in mind before creating a virtual exhibition using MOVIO. It contains information about what to keep in mind when preparing your content, how to think about a storyline, etc.
- MOVIO manual pages: text and screenshots on how to work with the various MOVIO components. The manual works like a step-by-step guide, including also the pictograms of the buttons you are supposed to click in order to proceed to a next step. Multiple examples are also indicated.
- MOVIO FAQ videos: short tutorial videos that answer MOVIO-related Frequently Asked Questions. These videos visualise the action described in parts of the manual pages. Sometimes, it is easier to see someone perform the creation of e.g. a timeline than to figure this out on paper.
- MOVIO example exhibition: a digital exhibition created to illustrate the different MOVIO components.
- MOVIO installation instructions: you can fill a form to receive the installation code and work in your own MOVIO instance.

The materials on the training wiki are also supported by a helpdesk, to which MOVIO users can post any problems or issues they encounter.

Case stories and first pilots results

Some Italian institutions and private organisations already published some graceful websites and have personalized the Italian MOVIO instance to promote and narrate their collections. Among the others we would like to put into evidence private ones like the Historical Archive of Telecom Italia¹⁴ (narrating the history of the telephone in Italy), and the Theca Gallery¹⁵ (exhibiting contemporary artists) and some public ones like the Biblioteca Universitaria Alessandrina¹⁶, the Museo Centrale del Risorgimento¹⁷, the Soprintendenza archeologica per l'Etruria meridionale¹⁸. All of them have already released their own virtual exhibitions using MOVIO.

The MOVIO project included a test phase with a real community: curators from libraries, archives, and museums experimented the first release of the Semantic Multimedia Content Management System (SMCMS) named MOVIO. They provided useful feedbacks about the functionalities of the software and usability advises. More than seventeen digital exhibitions are now online¹⁹ since the first public launch in March 2014; they range from archaeology to contemporary art to architecture and theatre.

¹⁴ Link: <http://www.litaliachiamo.it>

¹⁵ <http://54.247.69.120/build/movio/theca-gallery/>

¹⁶ Link: <http://movio.beniculturali.it/bua/societasindacatopolitica>

¹⁷ Link: <http://movio.beniculturali.it/mcrr/immaginidellagrandeguerra>

¹⁸ Link: <http://movio.beniculturali.it/sbaem/sulleormedieracle/>

¹⁹ <http://www.movio.beniculturali.it/index.php?it/68/mostre-realizzate>

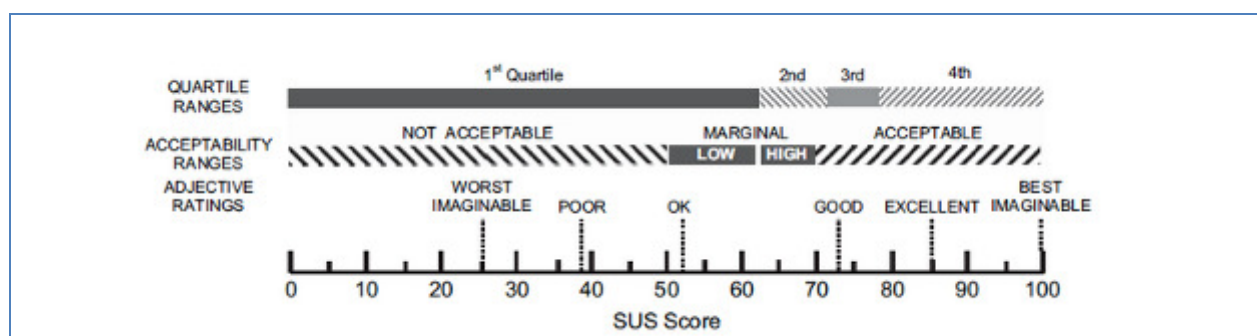
MOVIO is currently among the most advanced technologies offered to the AthenaPlus project offering to almost 40 cultural institutions, archives and museums specialized tools to facilitate the reuse of content in the field of education and cultural promotion. MOVIO includes now tools connecting Europeana resources allowing digital curators and archivists to further enrich their narrations directly connecting external cultural resources under the Europeana license models.

The pilots and testing phases are three depending on the scale of the audiences: small (4-5 users), medium (20-30 users) and large scale (>1,000 users). At the time of writing i2CAT has performed the first phase tests evaluating the usability and testing the performance of the MOVIO platform.

During such first phase (launched May-June 2014, ended Sept 2014), 10 pilot virtual exhibitions have been set up and completed in 8 countries. Three feedbacks have been addressed during phase I: Issue and bug reporting; answering to online questionnaire and executing interviews to the pilot curators.

Institution	Country	Title
Stowarzyszenie Międzynarodowe Centrum Zarządzania Informacją	Poland	Art Noveau in the Architecture of Poland
Lietuvos Dailes Muziejus	Lithuania	Architecture and Visual Arts at the Old University of Vilnius
Museum of Fine Arts, Budapest	Hungary	A Nyolcak / The Eight (1909-1918)
Muzej za umjetnost i obrt	Croatia	From Data to Creative Content: A Century of the Wristwatch
Petofi Irodalmi Muzeum	Hungary	"Who I am? I will not say": The Poetry of Sándor Petofi
Riksarkivet	Sweden	Queen Christina of Sweden
Siauliu Ausros Muziejus Valstybes Biudzetine Istaigasam	Lithuania	The Modernist Architecture of Šiauliai in the 1930's

The first phase evaluation phase, coordinated by i2CAT, was measured using the SUS methodology: The System Usability Scale (SUS) is a standardised questionnaire comprising 10 items, which measure the ease of use and learnability of a given IT system. It yields a single number, between 0 and 100, representing a composite measure of the overall usability of the system being studied. MOVIO's first evaluation score is equal to **76,75, which is in between Good and Excellent.**



Next we present the sites realized during the first phase of pilots (still under construction).



Figure 1: Art Noveau in the Architecture of Poland.



Figure 2: Architecture and Visual Arts at the Old University of Vilnius.

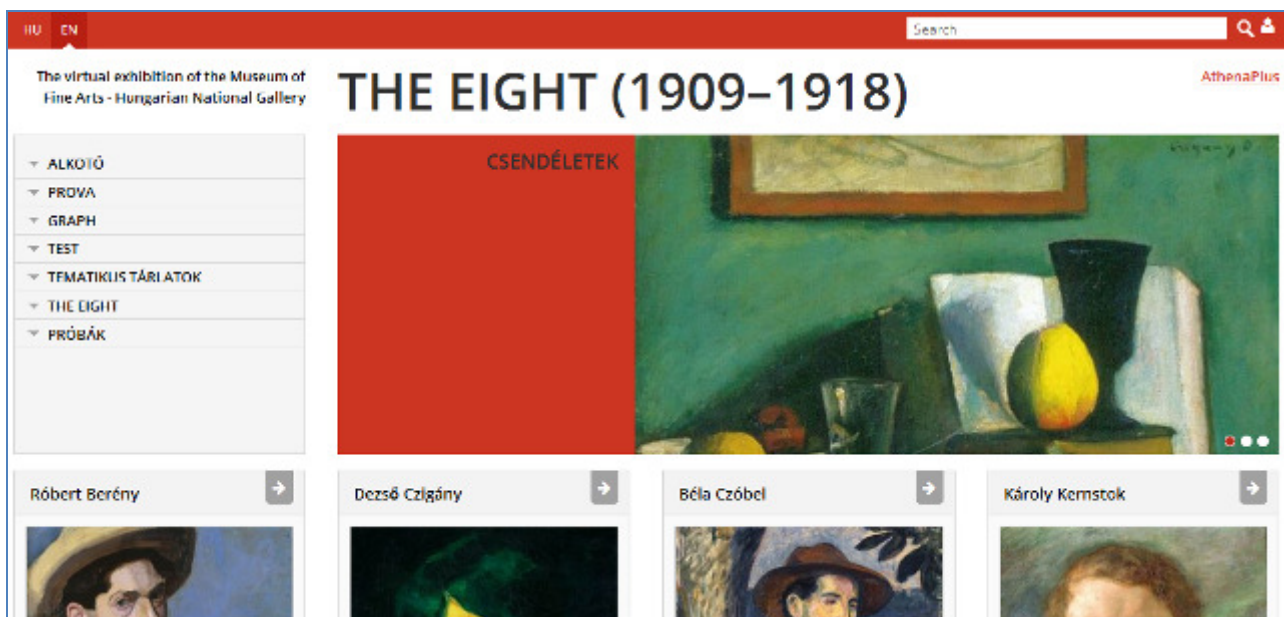


Figure 3: A Nyolcak / The Eight (1909-1918).



Figure 4: From Data to Creative Content: A Century of the wristwatch from the Museums of Arts and Crafts Collection in Zagreb



Figure 5: "Who I am? I will not say": The Poetry of Sándor Petöfi (by the Petöfi Literay Museum in Budapest)



Figure 6: Queen Christina of Sweden (by Riksarkivet Sweden)



Figure 7: The Modernist Architecture of Šiauliai in the 1930's (by Siauliu Ausros Muziejus Valstybes Biudzetine Istaigasam, Lithuania)

Among other pilots we show next the real exhibition realized for a private gallery (Theca Gallery) by the curators Monica Anziliero and Alice Tegazi (Il sole 24 ORE business master schools).

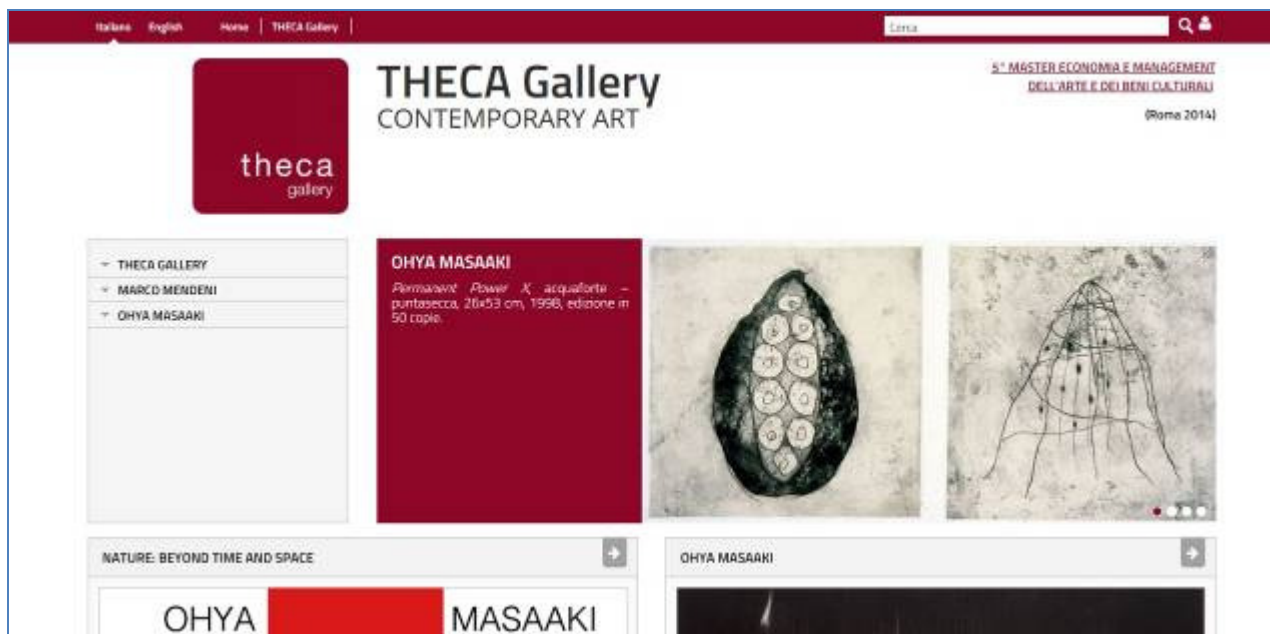


Figure 8: Ohya Masaaki, THECA Gallery (Lugan).

Graphical personalization and design aspects

Since the release of the MOVIO platform new graphical interfaces are under development to allow the creation of personalized front-ends.



Figure 9: The 'Red Velvet' template.



Figure 10: The 'wall' template.

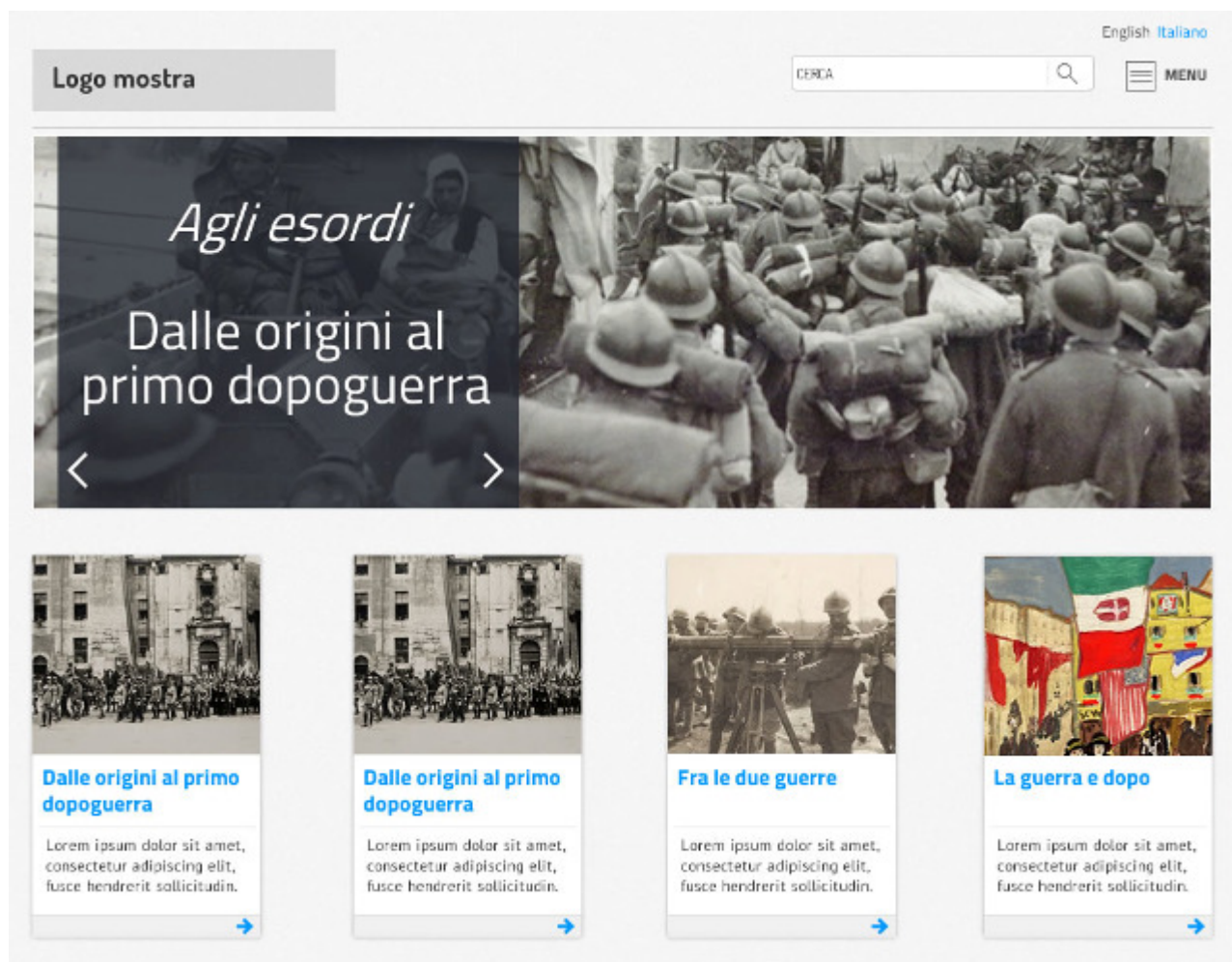


Figure 11: The 'Minimal blue' template.



Figure 12: The 'Sliding windows' template.

Conclusions

This paper described the MOVIO sematic multimedia content management system supporting archives and institutions to manage, enhance, promote and communicate their collection through innovative tools. Many professional cultural subjects (such as archivists, curators, researchers, etc.) and industrial (software developers and graphic designers) may take advantage of the MOVIO tools or open source software to open and create new opportunities and knowledge.

The archivists may edit the content created by the archive's staff or link external resources (such as from Europeana.eu) using many different tools integrated in the software and customized for the cultural and professional communities. Software developers and cultural industry may personalize the tools for local institutions and graphic designers may create and sell new graphical templates which can be easily imported and applied to the front-end of MOVIO. During AthenaPlus, a European funded project coordinated by ICCU, MOVIO has reached a growing community of stakeholders and trainee (more than 700 persons followed the MOVIO training lessons and more than 60 institutions (including AthenaPlus partners and other institutions who joined the community) are currently using the tool and contributing to the improvement of the services and tools).

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<http://www.gruppometa.it/it/44/movio>
- [4] AthenaPlus wiki: <http://wiki.athenaplus.eu>
- [5] AthenaPlus community: <http://athenaplus.wordpress.com>
- [6] AthenaPlus public deliverables and documents:
<http://www.athenaplus.eu/index.php?en/156/deliverables-and-documents>
- [7] Digital exhibition guidelines
<http://www.indicate-project.org/getFile.php?id=412> (English)
<http://www.otebac.it/getFile.php?id=507> (italian)
<http://www.indicate-project.org/getFile.php?id=481> (Arabic)
- [8] Some exhibitions curated using MOVIO:
<http://www.movio.beniculturali.it/index.php?it/68/mostre-realizzate>
- [9] CMS MOVIO: Code request form:
<http://www.movio.beniculturali.it/index.php?en/73/cms-movio-code-request-form>