

POMUI. The web portal of Italian university museums

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Abstract

In recent years Italian university museums have faced difficult times as funding has become difficult and usage has declined. The situation was degenerating into a crisis. A solution was needed. How could the isolated, individual museums be re-vitalized into a sustainable, useful, accessible, cooperative group?

The answer was to build a digital gateway: a computer web portal through which teachers, students, academics and the general public can visit the individual collections digitally, while the curators are free to concentrate on preservation, cataloguing, research and display.

The web portal was developed at the University of Modena and Reggio Emilia during a course in computer cataloguing for the valorization of cultural heritage. It is called POMUI (Portal MUseums Italian).

The use of POMUI will help preserve Italian heritage, promote university museum and contribute to social networking.

The crisis of university museums: The vision and the strategies

To face the crisis, Italian university museums must overcome centralist models of cultural heritage management and design a management model that is participatory, sustainable, subsidiary and accessible.

Participation: based on the involvement of the community and on voluntary intervention of those interested in giving support, such as students and citizens through their internship activities.

Sustainable: public intervention integrates ideas and resources coming from voluntary contributions. Many university museums make their resources available to address sustainability issues. The synergy between public and private actions can enhance the sustainability of museums and the management of their cultural heritage.

Subsidiary: confers upon museums the role of cultural garrison for the cultural heritage spread on the territory.

Accessibility: making university museum collections accessible to the widest possible audience is both an academic necessity and a social responsibility (CASATI 2006).

It is important to rethink the values for a contemporary society, to look for new solutions and remedies for past errors, to build new ways of life and models of civilization, to develop new projects and visions, and to value the past and what it teaches us. University museums, with their unique histories, activities, and staff, are a true heritage at the service of this deep rethinking. University museums are seen as authorities on the collections that they preserve. They are cultural subjects aiming at producing, preserving, safeguarding, valorizing, promoting and spreading the culture in each sector (THOMAS & CUENCA 2010). Old development models have now reached a critical point: in today's information society and globalized world a well-organized museum and cultural heritage system represents a competitive advantage.

Working in a digital network

The ability of Italian university museums to work in a network, to promote local systems – territorial and virtual – and to valorize the available knowledge is a contrast ratio of the crisis. Network collaboration not only favors economic synergies, but it is also a fundamental cultural choice, a commitment to be more and better centers of knowledge production, activities, and services. In this context it is essential to create an interactive environment, specialized in spreading information and educational activities through the digital network: online access can break down geographical and physical barriers. The digital network is characterized by an ubiquitous and connective nature. The dematerialization of real objects allows us to keep the valorization and diffusion of them separate from their preservation. Creating a digital network of Italian university museums is a relatively simple and practical way to overcome differences and to better fulfil their mission, to group active forces and to promote exchanges between them and other institutions, to display virtually far more material than they could otherwise be displayed physically (PUGNALONI 2003).

There are two main objectives for a digital network: a public one, to build a strong image as a network in order to gain visibility and recognition; and a private one concerning the administration and the scientific issues related to safeguarding, preserving, documenting, managing, valorizing and diffusing the rich heritage materials of the collections (GASPARON & NYST 2006, 48). Thanks to the relations retrieval process, the web has endless possibilities for valorizing cultural heritage because it is a place for communicating contents to the general public and to specific target audiences (DUFF ET AL. 2010): the web provides the means for democratizing heritage.

In a new collaborative dimension the social media – the set of specialized tools designed to generate social interaction born from the Web 2.0 – started a cultural and knowledge revolution: it contributes to the construction of contemporary intangible heritage around the world in which the user or ‘museum visitor’ becomes an actor and interacts with the museums to further document them (MASSÉ & HOUTART MASSÉ 2010, 91). Social networks can help university museums to get to know their online audience, which is difficult to measure, and it is fundamental to design new strategic plans for them.

It is necessary to begin studying the diffusion of the new web interfaces based on the reference community, in order to examine the possible role that Italian university museums can play in the information society, especially within virtual communities. The community of museum professionals can take on an active role, producing cultural content, activating social tools, and designing interfaces for contents suitable for Web 2.0, that is to say, a new set of standards and services.

The community can reflect on possible dynamics related to changes in the way we use the internet to access cultural content of university museums on the web.

It is possible to argue that the internet and new communication technologies, unlike traditional media, promote a fluid approach to information, which means a greater openness and sharing in order to spread knowledge. In recent years the development of Web 2.0 has enabled greater participation by allowing users to create and share contents (SIMON 2010).¹

It is necessary to promote within Italian university museums the use of Web 2.0: it provides a set of applications that have made it easy, intuitive and free, to produce, provide and share online text content, photographs, audio-visuals, often constructed and manipulated by the users. It is important to remember that interaction and knowledge sharing help develop relationships based on interpersonal exchange processes and can also activate pathways of social learning where knowledge flows in all possible directions. Knowledge, therefore, is no longer hierarchically constructed but rather democratically conceived. What defines the success of the new platforms or the social networks like

¹ www.participatorymuseum.org (accessed September 19, 2011).

Facebook, Twitter, YouTube, Flickr or MySpace is the level of sharing in creating contents that are immediately available to other users with similar interests or similar areas of competence. Almost all platforms have a personal profile associated with blogs, photos, videos, chats and instant messages sent as text content.

Through the use of such tools, Italian university museums can draw on different strategies and communication media to highlight their activities and support the discussion and dissemination of new contents related to specific or temporary projects applications for iPhone, iPod, iPad; e-readers can also be used as town guides for museums or as GPS navigators on cultural visits.

The creation of POMUI, the web portal of Italian university museums

The web portal of Italian university museums POMUI² is the result of a first research undertaken at the University of Modena and Reggio Emilia within the master's course in computer cataloguing for the promotion of cultural heritage³.

POMUI is a new web entity that brings together all of the existing Italian university museum web portals and web sites and creates a new connection among them to enhance their overall visibility. It is intended to serve as a vehicle for information, knowledge and services, while highlighting the unique qualities of each University in presenting its museums online.

In particular, services are intended as the added value to those offered by individual museums, in response to the *Orientation act on technical-scientific criteria and standards of management and the development of museums decree of the Ministry of the Culture of 10 May 2001* where in section VII, *Relationship with the public and related services*, it states that "for each communicative and informative aspects one must bear in mind the growing importance of remote communication, in particular through the internet, aimed at making scientific and practical information available before and after the visit to the museum".

Italian university museums, like libraries and archives, must be aware of their role as a source of institutional information and a tool for spreading knowledge: the opportunity for offering users a clear and effective selection of contents with useful services for the public becomes highly important.

A web portal is a tool that offers services of complex interaction to its users. It is usually based on contents placed within other cultural web applications that can be selected by users through a special search engine. A web site is a more simply structured set of web pages that provides contents and services, without necessarily offering advanced navigation and research tools.

POMUI is a horizontal portal addressed to a wide audience: museum staff, museum specialists, university students and professors, and the general public.

It serves as an access system to the cultural heritage of Italian university museums, an experimental pole offering new ways to produce, interact, spread, and exchange university historical and scientific knowledge, a resource for the research community that enables democratization of knowledge and raises the social profile of scientific work and those who undertake it professionally. Moreover, it becomes a meeting place where teachers, students, academic and cultural institutions, social actors, and citizens can come together to contribute to the promotion and preservation of Italian university heritage (CASTELL 2009).

² www.pomui.unimore.it (accessed September 19, 2011).

³ www.cibec.unimore.it (accessed September 19, 2011).

POMUI aims to become the point of access for those who use the internet as a virtual clearinghouse of institutional information about Italian university museums, highly recognizable and identifiable, while promoting the visibility of its contents.

The *mission* of POMUI is complex and determined by the way in which knowledge is organized as well as the needs and expectations of users, faced with the multifaceted, information-rich universe of each university museum. Understanding users' expectations and endeavoring to meet their needs in order to win their loyalty is a primary mission of both the individual cultural institution that wants to create its own web site and of more complex entities that think of the web portal as a source of knowledge and services.

Good practices nationally emphasize two interesting features for the creation of POMUI: the attention paid to public communication as reflected in the structure and internal organization of the portal; the attention given to contents as a cultural stimulus. The contents are therefore retrieved, sorted, referred and selected by the web portal and then serve as a cultural stimulus, which unlike cultural information, relates to the knowledge processes that the user can activate starting from the informative data provided by the web portal.



Fig. 1 - Homepage

POMUI must consider the validity, affordability and significance of the resources that it collects and must also ensure their appropriate maintenance and management. The selection and evaluation of resources to be included in POMUI must meet specific technical and scientific criteria, aimed at quality: as soon as a web page or other digital resource is included in the web portal, it becomes an agent in the cultural project that POMUI envisages.

Phases of the research

Phase 1 – Web portals and web sites of Italian university museums

The first phase of the project was to look for web portals and web sites of Italian university museums. This survey showed that there were four different types of Italian university museums:

1. University museums portals are those websites defined as such, even if they do not display the standard features and functions of portals. Most of them are web sites that collect links for an individual university museum or other similar resources concerning the same thematic or cultural issue. As a matter of facts, these portals are not information collectors nor do they provide tools for researching, indexing contents, and surfing related web sites;
2. Web sites of complex organizational/managerial structures, where university museums and collections are grouped together (centers or systems);

3. Web pages within the main university web site, collecting and presenting information on museums and collections. These web pages provide a brief description of the museum structure and/or a list of links to specific university museums web sites;
4. Individual web sites for each university museum.

Italian university museums on-line have mainly used a broadcast information distribution model, as is typical for Web 1.0: this means that the contents are created and distributed by the institutions through the web.

Like in Germany (WEBER 2009, 34), the majority of web portals and web sites under examination have a low interactive capability but provide users with a high quantity of contents: in this context users tend to have the same passive attitude as they would otherwise have while visiting a museum.

A few Italian university museums offer catalogues or databases which, in most cases, are of interest only to expert users. The internal university public, however, which should be one of the main communities for university museums, seems to be of no relevance.

The present situation shows a lack of vision concerning the impact of consequences of the quick transformation process started through the use of digital technologies within the cultural heritage field: although this situation is slowly changing, most Italian university museum web sites are very content-light, only listing events, activities and directions for how to get to them (CARNALL 2009, 37). Currently, social networks are used by only a few university museums like the *Museo di Storia Naturale* in Florence, the paleontological collections at the universities of Chieti and Pescara and a few other museums that use only Facebook.

Phase 2 – Evaluation of web portals and web sites of university museums

An evaluation of web portals and web sites of Italian university museums using the *Museum and Web kit*,⁴ created as part of the MINERVA European project,⁵ aimed to create quality and accessible web sites for small and medium-sized cultural institutions. The MINERVA European project defines the guidelines for creating digital content and designs a *Good Practice Handbook* for enhancing the interoperability of digital resources.

In particular the section *Quality check* of the *Museum and Web kit* has been designed for the museum's web site self-evaluation, and the sub-section *Objectives evaluation* is essential for evaluating its contents. There are twelve objectives: 1. Museum identity; 2. Museum activities; 3. Museum goals; 4. Role effectiveness in the sector; 5. Standard rules; 6. Dissemination of cultural contents; 7. Supporting cultural tourism; 8. Educational services; 9. Research services; 10. Services for professionals; 11. Purchasing and booking services; 12. Promoting on-line communities. Each of the objectives incorporates a set of practical tests that can help to verify the existence of a series of aspects (from 4 to 12, according to each objective).

Phase 3 – Showing the results

In the third phase of the project, the results are shown following three steps: 1) evaluating single requirements: response to practical tests. Each test had a response in order to evaluate the level of satisfaction for each requirement corresponding to a different value: for complete satisfaction, the score was 1, for partial satisfaction the score was 0.5, for an absolute lack of satisfaction the score was 0; 2) evaluating the objectives: for each objective, all responses have been summed in order to get a figure – and consequently a percentage – that could represent the level of single-objective fulfillment; 3) evaluating the portal/web site: all figures obtained for each objective have been summed

⁴ www.minervaeurope.org/structure/workinggroups/userneeds/prototipo/museoweb.html (accessed September 19, 2011).

⁵ www.minervaeurope.org (accessed September 19, 2011).

in order to get a general indicator of content quality for each web site and then converted into a percentage.

Phase 4 – Presentation of the POMUI

Each web portal or website of complex organizational/managerial structure of Italian university museums has its own card (a page within the POMUI) that collects the essential reference data for the museums – name, reference structure, address, url – and the percentages for each quality objective derived from the *Quality check* survey according to the *Museum and Web* kit.

Further developments of the POMUI

The development of the POMUI represents an important turning point for the Italian university museum community presence on the web. For the first time the community has available a system built from the connection of already existing web portals, web sites and web pages. POMUI hopes to find its own place within the web's new horizons based on the principles of cooperation, interoperability and data reusability.

By developing integrated access tools and providing essential information on the nation's university museum heritage, POMUI ensures museums greater visibility and enhances their specific characteristics, even with the diversity of presentation on the web (VITALI 2010, 53-55).

More specifically, further steps of the project include developing:

- a database of bibliographic resources related to Italian university museums and collections;
- research guides, virtual tutorials and other materials for different audiences (teachers, students, genealogists, historians), including novices and unskilled users;
- specific thematic sections or sub-portals that describe and provide access to different university museums and collections;
- editorial and multimedia contents, including news, virtual exhibitions, photo galleries and so on to illustrate the multiple aspects of university museums and collections;
- customized web pages for hand-held internet portals such as mobile phones, iPhone, iPod, iPad, e-reader or the latest generation of hand-held game consoles;
- Web 2.0 tools for communicating with the users of the portal, allowing them to collaborate in creating its contents and enabling them to build communities related to specific topics and research projects.

In a future perspective of a semantic web, cultural web portals will need to have an architecture that is based on multilingual thesauri and common ontologies in order to make the quality of their contents become an intrinsic value for new digital resources that face the web. The thesauri together with controlled dictionaries and authority files are useful tools for cataloguing contents and for sharing terminology: choosing and cataloguing the materials to be included within the public cultural portal is a crucial element in instilling quality on the portal itself.

The suggestion to use Web 2.0 highlights the difference between the first stage of development of the internet – characterized by a relative static quality – and developing a future in which, thanks to the diffusion of new platforms and communication infrastructures, more dynamic and interactive qualities are fore grounded.

The social tools and interfaces for designing contents typical of Web 2.0 represent a significant change in the way we use the internet and a new set of standards and services. The pattern that emerges can be defined as a multi-channel model, where the web – through its distributed networks and especially through its social networks – connects not only to cultural institutions and their users, but also to individuals. New digital technologies and on-line communities will help to create virtual

places for Italian university museums, without limits of time or space, places where anyone interested in a particular topic can share and discuss experiences, thereby contributing to the growth of 'wikicracy' and closing the gap between Italian university museums and society (COTTICA 2010).

Concluding remarks

POMUI, the web portal of Italian university museums, creates connections among individual institutions and creates a unique virtual structure that is identifiable and recognizable. It is characterized by a unique and coordinated image, and central actions for the promotion and valorization of cultural heritage. In so doing, it coordinates and gives cohesion to single museum web portals, web sites and web pages.

POMUI should be considered the first step towards creating a series of connections and links across Europe, in particular the MICHAEL project (Multilingual Inventory of Cultural Heritage in Europe),⁶ a continent-wide project which aims to provide simple and quick access to the digital collections of museums, libraries and archives from different European countries and the *Europeana* project⁷ that enables people to explore the digital resources of Europe's museums, libraries, archives and audio-visual collections and promotes discovery and networking opportunities in a multilingual space where users can engage, share in and be inspired by the rich diversity of Europe's cultural and scientific heritage. Therefore, POMUI aims at promoting virtuous pathways for designing international projects, discussing systems for standardizing methodology, and for sharing best practices, projects, and ideas within a synergetic framework.

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⁶ www.michael-culture.org (accessed September 19, 2011).

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