



## Virtual exhibitions: MiBAC experience and the INDICATE case study

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- One of the main goals of public and private cultural institutions (GLAMs) is **the promotion and dissemination of knowledge.**
- They accomplish their mission thanks to knowledge dissemination tools that include, among others, **temporary and permanent exhibitions and performances** that follow codified models, whose goal is to **expose citizens to the national and international cultural and artistic heritage.**



The meeting between the languages and methods of traditional cultural promotion (**non-virtual exhibitions**) and the promotion and dissemination of knowledge through web-based methods (**online virtual exhibitions**) have made it necessary to draft **shared guidelines and recommendations** that encourage the use of the web and maximize its potential.





These guidelines, edited by MiBAC, aims:

- to illustrate the **state of the art in online virtual exhibitions**, both on the basis of **the actual experience** accrued by various Italian institutes and the **observation and analysis of international products**
- to **clarify some concepts** that in literature are not yet fully codified, and give some **recommendations and a tool kit** to institutions who want to realise projects.

This MiBAC initiative has been promoted by  
**Istituto centrale per il catalogo unico delle biblioteche  
italiane (ICCU)** <http://www.iccu.sbn.it>

- manages the online catalogue of the Italian libraries and the interlibrary loan and document delivery National services
- develops standards guidelines for the cataloguing and digitization.

**Istituto centrale per gli archivi (ICAR) -**  
<http://www.icar.beniculturali.it/>

- develops plans and programs for the archival description and the development and interoperability among information systems
- promotes the knowledge and application of descriptive standards and technology.

**Osservatorio tecnologico per i beni e le attività culturali  
(OTEBAC)** <http://www.otebac.it>

- provides advisory services, monitoring, and training , supporting cultural institutions in the creation and maintenance of quality digital cultural applications

# A cross-domain working group

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# 1. Concepts and definitions

1.1 Exposition, exhibition

1.2 Online virtual exhibition

1.2.1 Thematic route

- 1.2.2 Digital item
- 1.2.3 Hypertext, hypermedia, multimediality, interactivity
- 1.2.4 Information architecture



# Glossary

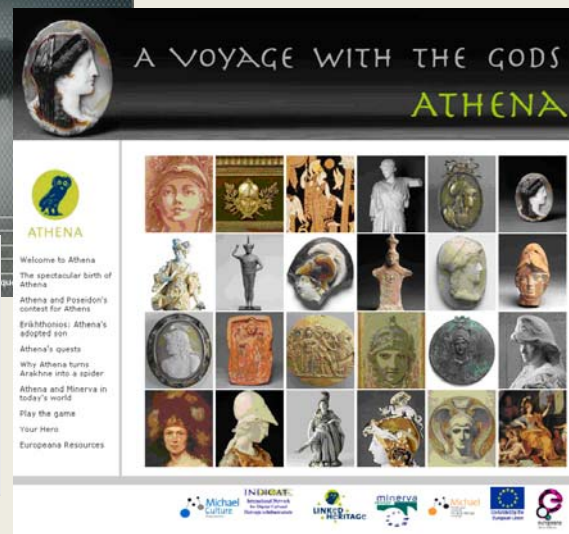
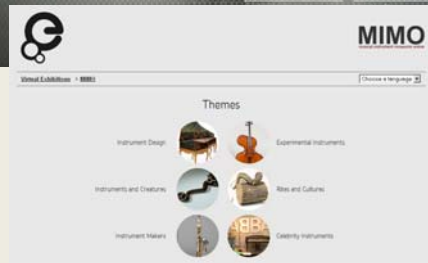
- The term **exposition**, in its broadest sense, indicates the rational process through which one attempts to divulge a concept or topic by explaining its logical content or linking it to other concepts or topics that help highlight its meaning
- The term **exhibition** indicate an event with a specific venue and time, during which the public can enjoy a series of objects, paper and/or multimedia documents, books, paintings, sculptures, and other items, related to one another and organized according to logical, thematic, spatial, historic, and/or authorial criteria, and made accessible either permanently or temporarily, through one or more narrative routes, with scientific, didactic, and/or promotional goals.



# Glossary

Cultural institutions are increasingly recurring to exhibitions that fall **outside the traditional space/time parameters**, and are instead staged on IT platforms **accessible via the web**.

These are **online virtual exhibitions**.



## Current debate: digital exhibition vs. virtual exhibition

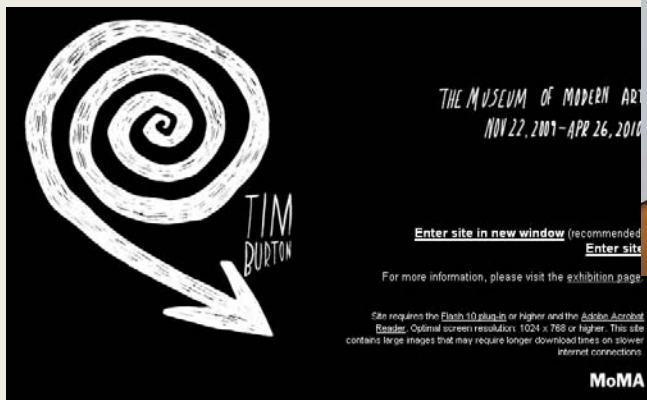
**Virtual exhibitions:** to be used mainly in the case of 3D reconstructions in which there is actually also a virtualization environment in which the works are located.

**Digital exhibitions:** the object is not faced with any kind of reconstruction, the work of art is approached "individually", included in a "path" that performs logical combination of materials based on different criteria: subject, author, time , technicalities, ...

An online **virtual/digital** exhibition is  
a hypermedia collection accessible via the web, and made up  
of digital items which are:

- **linked together** by a common theme, an inter-disciplinary topic, a concept, an idea, an anniversary, a special event, or a physical person
- **displayed in 2D or 3D**
- occasionally memorised in **distributed networks**
- made accessible through the potential provided by modern technology, thanks to a **system architecture** designed to provide user-centred, absorbing experiences
- **dynamic products** that can offer services and be updated periodically.

- Virtual exhibitions are often **generated by real events**, even though they may result in products that are **autonomous**, due to the web language they use.
- Online virtual exhibitions can be staged with **more or less sophisticated IT tools**, depending on the degree of complexity and the goals in question.





- The most basic virtual exhibition is an **advertising showcase for the real event**, included in the website.

It generally includes a series of informative pages and a photo gallery featuring the exhibition's highlights.

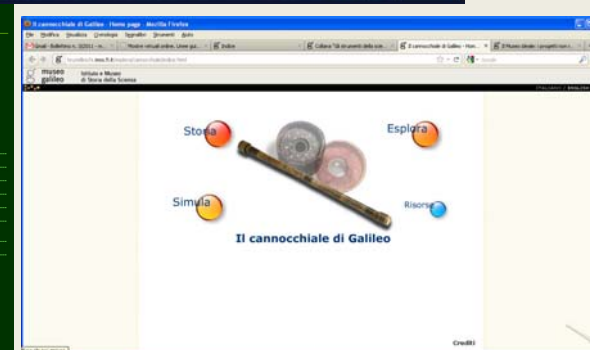
These are often part of a broader set of coordinated marketing actions, whose main goal is to increase the number of visitors to the real exhibition.



- One step up on the complexity ladder are **virtual visits to real exhibitions**, based on a specific web project aiming to depict the exhibition's actual arrangements, and allowing users to approximate as much as possible a real visit, enhanced at times by information pages. Sometimes users need to download specific software in order to access this service.



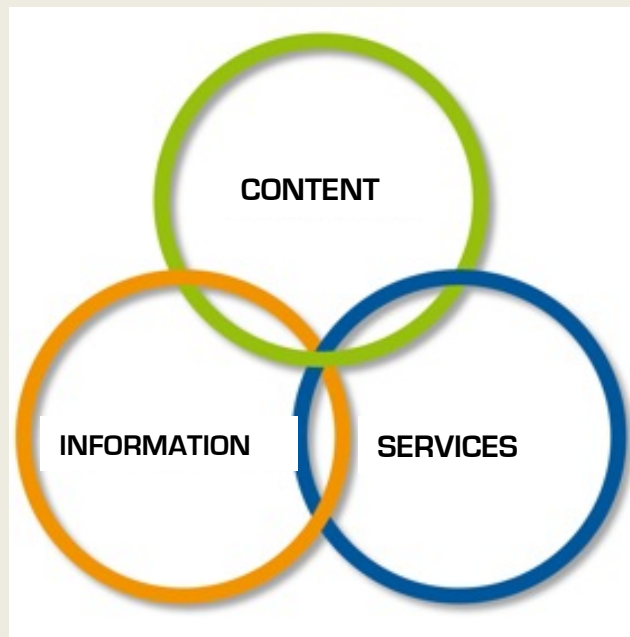
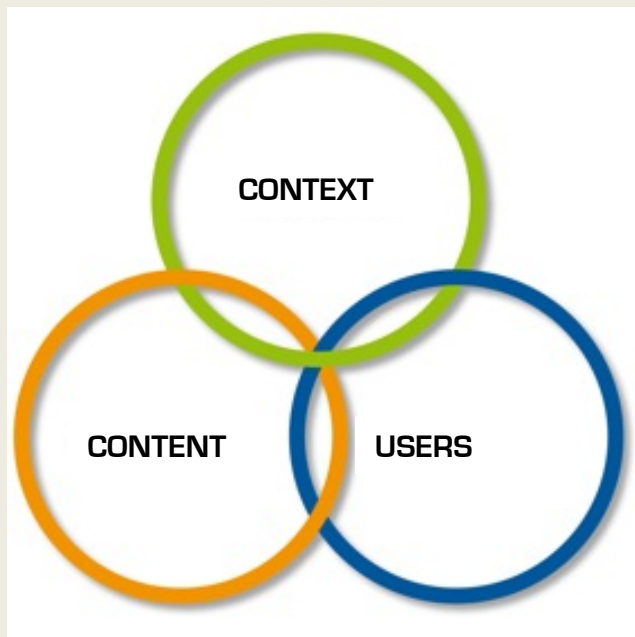
- The most sophisticated are **complex virtual/digital exhibitions** making full use of the conceptual, instrumental, and linguistic tools provided by new technologies, and using the full extent of their potential.



- In summary, a collection of digital items, in and of itself, does not constitute a material or virtual exhibition. It is only when the items are carefully selected to illustrate a topic, and are **tied together forming a narrative or a logical itinerary**, that they constitute an exhibition.
- Online virtual/digital exhibitions, independently of degree of sophistication of the technology used, can and must be put together in such a way that they can provide **alternative experiences to the real event**, which can involve the user in a **process of discovery, knowledge acquisition, and learning**.

Any virtual exhibition must rest upon an **information architecture** that makes up the logical and semantic organizational structure of the project's information, content, processes and functionality.

Information architecture is at the heart of any interaction design project.





During the conception phase, the contents of a virtual exhibition can be aggregated according to thematic relations, which may be more or less prevalent and non-exclusive depending on the objectives to be pursued, such as:

**Spatial aggregation:** objects are connected by real or reconstructed spatial links (e.g. geographic, environmental, urban, housing, etc.)

**Temporal aggregation:** objects are connected by chronological links (e.g. historical period, event, celebration, phase, etc.)

**Typological aggregation:** objects are connected by their typology (e.g. style, manufacturing technique, material, production, etc.)

**Comparative aggregation:** objects are aggregated on the basis of links arising out of the comparison with other models, thus creating a network of similar contents (e.g. comparisons between civilizations, roles, etc.).

In addition, there are aggregations which take into account the target audience and the relationship with users:

**Functional aggregation:** function and/or goal which the exhibition can help meet (for example, target users: schools for the disabled, university students ... or educational/didactic purposes)

**Behavioural aggregation:** when the exhibition encourages and develops behaviours that can attract other behaviours. This is the case with regards to interactions between multiple communities of users and/or visitors, which bring about broader relationships and new developments (e.g. interactive and community areas, Web 2.0 features).

## 2. PRODUCTION PROCESS OF A VIRTUAL EXHIBITION

- 2.1. Conception
  - 2.1.1 Brainstorming
  - 2.1.2 Thematic relations
  - 2.1.3 Virtual exhibitions and thematic routes for educational purposes
- 2.2. From planning to creation
  - 2.2.1. The project team
  - 2.2.2. Selection of digital resources
  - 2.2.3 Definition of the architecture: contents, information, and services
  - 2.2.4 The technology to be used
    - 2.2.4.1 Mobile devices
    - 2.2.4.2 Augmented reality
  - 2.2.5 The budget
  - 2.2.6 Definition of operating phases and timeline
- 2.3 Testing, publication, communication, and dissemination
  - 2.3.1 Testing and publication
  - 2.3.2. Communication and dissemination
    - 2.3.2.1 Traditional communication tools
    - 2.3.2.2 Social media marketing
- 2.4 Updating, maintenance, and conservation

### 3. EIGHTEEN RECOMMENDATIONS AND ONE PIECE OF ADVICE

#### 4. TOOL KIT

4.1 Graphic design

4.2 Text style

4.3 Multi-media resources

- 4.3.1 Still Images
  - 4.3.1.1 OCR: text conversion
- 4.3.2 Audio
- 4.3.3 Video
- 4.3.4 3D
  - 4.3.4.1 Computer graphics
  - 4.3.4.2 Immersive photography
  - 4.3.4.3 Anaglyph images

4.4 Copyright, re-use of content, and access modalities

# Advantages of virtual exhibitions

- help **promote** the cultural heritage preserved by the institution
- are a **learning** tool that helps enhance knowledge
- can make accessible an **amount** of documents and items that is much greater than what any material exhibition could ever manage to display
- can make accessible to the public the **most valuable** works and documents, without putting the national and international cultural heritage at risk





# Advantages of virtual exhibitions

- help users **enjoy** documents and works that may not be accessible otherwise
- make it possible to **view parts and details** of works that could not otherwise be seen, not even through the direct observation of the original
- remain accessible **over time**, since they are not limited to the duration of the actual event
- can almost always be “visited” **free of charge** by users from **all over the world**, who may not be able to visit the actual exhibition



# Advantages of virtual exhibitions

- they are **dynamic**, since they can be modified even after they have been changed, both with regards to planning aspects and to their activities and contents
- can be enhanced by the **contributions of users**
- they can be staged even on limited budgets, and are **less expensive** than actual exhibitions
- they can **serve as an online archive** for information related to the material exhibition
- they can have positive repercussions on the **tourism industry**.



# The INDICATE project

INDICATE (International Network for a Digital Cultural Heritage e-Infrastructure) is an European Union FP7 project which aims to establish a network of common interest made up of experts and researchers in the field of e-infrastructures and digital cultural heritage at Euro Mediterranean level.

Through the network, the participants (10 partners, 7 countries) can share experience, promote standards and guidelines, seek harmonisation of best practice and policy.

<http://www.indicate-project.eu>



# INDICATE Virtual Exhibitions

## Case Study

The case study, through a survey among partners and the analyses of current practices investigated connections between virtual/digital exhibitions and e-infrastructures.

The results were made available in a report targeted to memory institutions, illustrating advantages for **institutions**, **curators** and **final users**.

Many opportunities:

Storage

Band Efficiency

Supercomputing

Virtual communities (shared tools and cooperation projects)

Educational services

Virtual performances



# Glossary: virtual performances

**Virtual performances** can be defined as **performing arts actions and experiences that use the possibilities of Grid Computing, interactive technologies and virtual spaces.**

In the Virtual Performing world the key element is **the interaction** between the different elements involved in the show.





# Glossary: virtual performances

The aim of virtual performing arts is **to explore the limits of the interaction around the networks** between several distributed places with similar schemes.

These interactions can be produced in different ways:

- **End to End** (connecting physical spaces);
- **Real to virtual world**, connecting the real world with the virtual world;
- **Multipoint to multipoint**, connecting multiple physical spaces in a N to N connection;
- **Multipoint to multipoint plus a virtual world**, connecting multiple physical spaces in a N to N connection where one point is the virtual world.

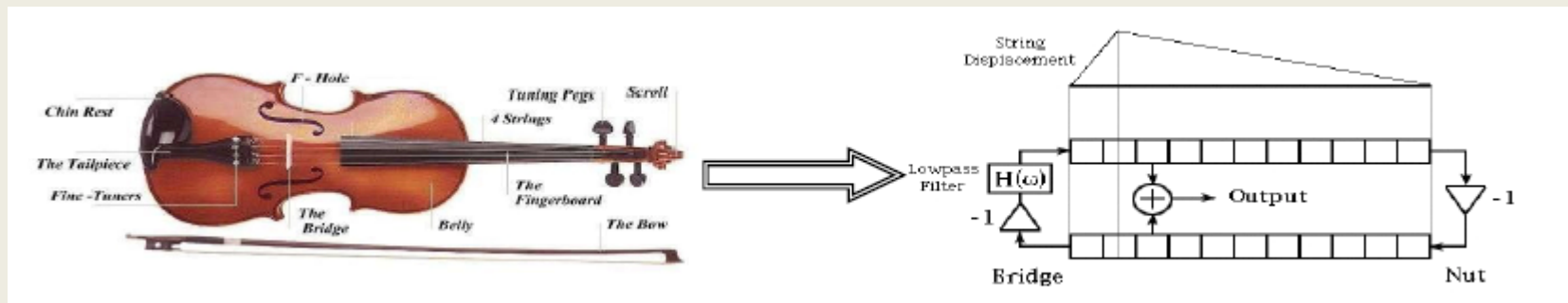


# Virtual performances



## Physical modelling synthesis, Data sonification

Complex digital audio rendering technique that allows to recreate a model of the sound source (volcano eruption, old instruments) and produce the sound by simulating its behaviour as a mechanical system



# Virtual performances

**Education, music and drama**

**Distance master classes**

**Ubiquitous drama workshops**

**Music collaboration**





Soon online on the INDICATE website



# MOVIO project

MOVIO project (18 months), funded by Fondazione Telecom Italia, intends to realise **a kit to build online virtual exhibitions online.**

Through it, Italian cultural institutions will be able to highlight masterpieces of their collections, as well as less known or “not visible” works of art.

An example of public-private partnership



# MOVIO project

The kit will consist of:

- an **open source MMS** for the creation of online virtual exhibitions
- the **equivalent version for mobiles**  
(iPhone, Android for smartphones and iPad)
- the **version of App** for popular mobile platforms  
(iMovio) online tutorials and training

The kit will put in practice and validate what declared in the guidelines





# Thanks!

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