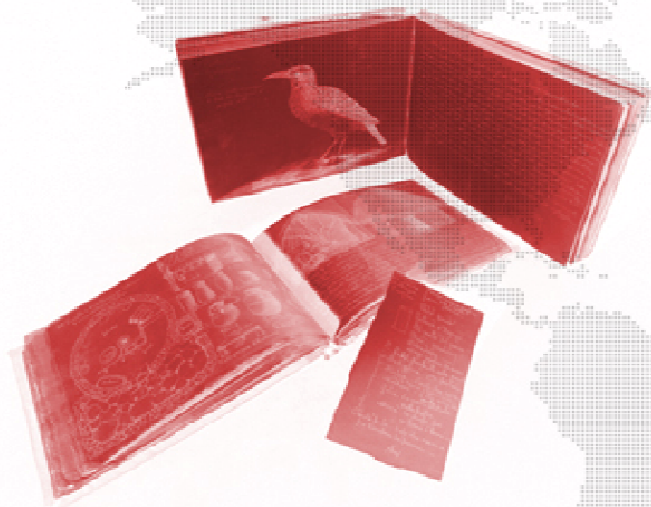




CARTOGRAPHICAL
COLLECTION OF THE
SOCIETÀ GEOGRAFICA
ITALIANA



The EXPLORA Project

The Cartographical Collection of the Società
Geografica Italiana
Digital Preservation and Access to Cultural
Resources for the History of Italian Scientific
Exploration (XIX-XX)

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The aim of the project EXPLORA is the digital preservation and access to cultural resources related to the history of Italian exploration (XIX-XX)

- maps
- photos
- drawings
- notebooks and diaries
- books
- objects
- scientific instruments

The project recovers the previous experience and aims to overcome some critical issues:

- make easier the access to resources;
 - maintain digital information over time generating a higher level of resilience against technological changes;
 - enhance the complexity of the information contained in the system through displaying of explicit and implicit relationships between objects;
 - promote the re-use of data
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The historical archives of SGI provide an interesting case study because of the richness and variety of materials preserved:

- 400,000 books
- 2,000 periodicals
- 100,000 modern maps
- thousands of rare books
- hundreds of maps and atlases from '400 to '800
- the Oriental Fund, a precious collection, unique in the world with over 200 Chinese and Japanese maps
- 120,000 photographs from mid '800

The Archives preserve the memory of the Geographical Society from its foundation. The thousands of maps collected, document the history of the institution and its relations with the geographers, cartographers, travellers, explorers, experts and representatives of both Italian and foreign institutions. These documents allow us to reconstruct a meaningful vision of the Italian political and cultural life in late 1800 and early 1900

- Given the characteristics of the collections and the state of the art, the project aims to:
- retrieve the important work of cataloguing that has been accomplished and integrate it into the metadata system developed by DIGITPA;
- integrate the different collections (photographic archive; cartographic archive, library, museum);
- integrate the EP with other systems as ARCES, the national system for the acquisition and management of integrated knowledge on the Italian cultural heritage (SIGEC) or the Pigorini Ethnographic Museum;
- optimize the search system integrating the different approaches to resources: that of the librarian, that of the geographer, that of a simple user (full text search; spatial search; tag cloud);
- optimize the display system providing high resolution images and the ability to handle 3D objects without increasing the waiting time;
- make explicit the relationships between the objects that are described in the database

An important phase of the project is related to the digitalization of the documents.

The maps must be digitized with attention to the fragility of the document and each phase of the acquisition process should be documented (instrumentation, resolution, output format selected ...) to allow the appropriate assessment of the possible distortions induced by the process of digitization.

We need an high resolution system of digital acquiring and we consider the importance of the lighting system in the digital reproduction workflow.


The Explora Project aims to retrieve the important work of cataloguing that has been accomplished (<http://www.internetculturale.it> and <http://societageografica.it/opac>) and to integrate it into the metadata system developed by DigitPA (RNDT Repertorio Nazionale Dati Territoriali) according to INSPIRE metadata standard (Spatial Reference System; Refresh Rate; Positional Accuracy; Character Encoding; Spatial Representation Type; ...).

Each document must therefore be described to allow a fair use of it in phase of analysis.

The metadata associated with each object will allow a wide full text searching, offering information on place names and themes.

To use a historical cartography in a GIS, to publish it or distribute it through a WebGIS or a Geoservice it is essential that the data are georeferenced

The system provides the georeferencing of maps (which occurs at the back end) and the geolocation of objects and not georeferenced maps. The user can see the georeferenced maps in a WebGIS environment accompanied by metadata and the reproduction of the original document in the cataloguing tab



The database is designed to integrate digital resources, to ensure standardized indexing, to support advanced retrieval, according to the standards in use. The geolocation of the resources in a GIS environment can display query results in Google Earth environment.

The technologies involved are the same you have seen about ARCES project.

The software is a WEBGIS developed with open-source libraries and adheres to defined standards of the Open GIS Consortium.

The frameworks used for development are:

- **GWT**
- **Hibernate**
- **Spring**
- **Openlayers**
- **Geoserver**
- **JBOSS Application Server**

The system conforms to standard OGC (WMS and WFS), is in line with the European directive INSPIRE and ensures the integration/interoperability with other products that constitute a de facto standard in the GIS.

The result:

A WEBGIS developed in j2ee standard MVC (Model View Controller).

The pattern is based on the separation of tasks between the software components:

- The **model** provides methods for accessing data used by the application;
- The **view** displays the data contained in the model and manages the interaction with users and agents;
- The **controller** receives the commands of the user (usually through the view) and implements them by changing the status of the other two component.

This scheme also suggests the traditional separation between

- application logic (business logic) that use the controller and the model
- user interface to load the view.

There are a lot of innovative projects, the technologies adopted are often the same, but the efforts in research related to digital preservation and access to cultural resources is fragmented despite smaller groupings of universities, research centres, public organizations, enterprises working together in specific EU and national projects.

Why don't we think of a common project?



Thank you

