

A Virtual Representation of the Egyptian Cultural Heritage

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CULTNAT. Center for Documentation of Cultural and Natural Heritage. El Cairo. Egipto.

Abstract

In Egypt, the Center for Documentation of Cultural and Natural Heritage (CULTNAT) is treating cultural heritage in a holistic approach whether regarding the diversity of themes of cultural heritage or in the case of museums, the presence of objects in the different museums both within the country or abroad (a sort of global virtual museum). The establishment of CULTNAT marks a unique experience in the application of the latest innovations in the world of telecommunications and information technology towards heritage issues. CULTNAT's main mandate is to document the various aspects of Egypt's tangible and intangible cultural heritage as well as its natural heritage.

INTRODUCTION

Egypt the birthplace of civilization is outpouring a tremendous wealth of cultural artifacts, which are of world importance. It is known that a large number of monuments and sites representing the world cultural heritage is found in Egypt. For mankind Egyptian civilization contributed in a very important manner to the making of our history and beliefs. To the Egyptians it represents a national pride and roots and from a scientific prospective it is a source of continuous international interest.

I. THE CULTNAT PROGRAMS

The recent development in the field of information technology and telecommunications: networks, internet, multimedia etc...has played an important role in disseminating knowledge and facilitating the exchange of information.

These developments have also changed our knowledge, appreciation and perception of heritage, our own as well as those of other nations worldwide. Telecommunications and information technology have not only provided tools for the documentation, preservation and management of this heritage, but they have also created a sense of closeness between people of various backgrounds, and a feeling of living in a global village where easy access to one's own heritage and that of his neighbors thousands of miles away is possible.

In Egypt, the establishment of the Center for Documentation of Cultural and Natural Heritage (CULTNAT), which is affiliated with the Bibliotheca Alexandrina and supported by the Ministry of Communications and Information Technology, marks a unique experience in the application of the latest innovations in the world of telecommunications and information technology towards heritage issues.

CULTNAT's mandate is to document the various aspects of Egypt's tangible and intangible cultural heritage as well as its natural heritage. This heritage encompasses various aspects of

human civilization, monitors the development of human livelihood, and represents a cultural and a natural heritage of national and international value. To achieve this goal, CULTNAT is making use of the most up-to-date information technology and is working in collaboration with national and international specialized organizations. The Center also aims to increase public awareness of Egypt's cultural and natural heritage through the dissemination of information using all available media, as well as building capacities of professionals in the field of documentation and management of cultural and natural heritage.

Egypt's wealth in archeological sites, architectural styles, arts, folklore and natural beauty is reflected in CULTNAT's various programs as follows:



Fig 1: The Center for Documentation of Cultural and Natural Heritage building, Smart Village, Egypt

The Archeological Map of Egypt

Normally we can not separate museum objects from the location where it was found, which is usually an archeological site (provenance). That is why sometimes we look at the object as part of a collection and sometimes we look at it as related to its archeological site, like in the case of the archeological map of

Egypt project. The archeological map of Egypt is the first complete inventory of all archeological sites in Egypt in a Geographic Information System (GIS) linked to an exhaustive database of the archeological sites, monuments and artifacts found all over Egypt.

The information is organized into three consecutive levels: The first is the national one, showing all sites on a large scale map of Egypt and providing basic information about each site; in addition, choosing a certain site one can ask for the collection of objects that moved from this site to a specific museum. At the second level, a detailed map shows the site and its components

along with more information about the different components of the site, while the third level provides the complete data of the monument with a plan of the structure and images. For a number of monuments, each wall is depicted with the relief or paintings along with the translation of the hieroglyphs, while for others, a 3-D model is available with the possibility of a virtual visit. The amount of data collected so far and integrated in the program could furthermore be used for a wide variety of products, including archeological atlases, guides, CDs etc.

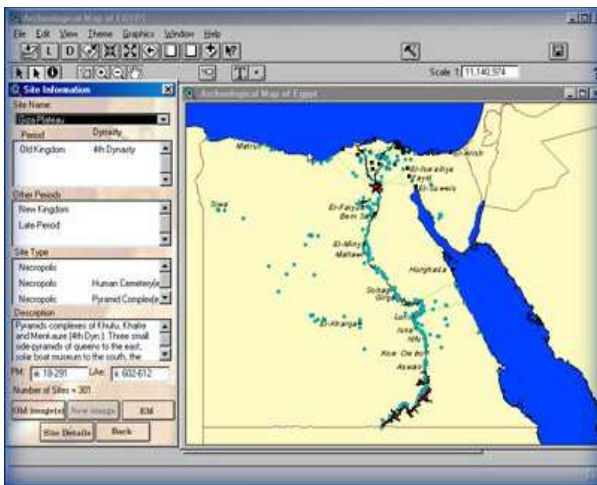


Fig 2 & 3 : The Archeological Map of Egypt : levels 1 and 2



Fig 4 & 5 : The Natural Map of Egypt

The Architectural Heritage of Egypt

The purpose of this program is to document the nineteenth and twentieth century architectural heritage of Egypt, starting with the Downtown area of Cairo as a pilot project and continuing with more parts of Cairo and other cities. This project constitutes a Geographic Information System (GIS) with an easy to browse database that includes extensive photographic documentation, all published material for each inventoried

building, in addition to historic documents, maps and archival material.

The Natural Heritage of Egypt

The documentation of Egypt's natural heritage is a multi-disciplinary program aiming to document and disseminate information on the natural heritage of Egypt. The program involves the collection of all data available on protected areas

and their components including detailed information on the Flora, Fauna, geological formations and the related cultural features. The data is further used to create a digital natural map of Egypt in Geographic Information System (GIS). For the dissemination of information, a series of books, CDs and postcards were produced on various subjects related to the natural heritage.

The Egyptian Folklore

Egypt's living traditions are embedded in a deep and colorful source stemming from various cultures that have enriched it over the millennia. CULTNAT is undertaking the task of documenting these traditions. A systematic approach is adopted in the compilation process and aims to build up the most comprehensive and inclusive library of scientific and audio-visual material. The library is designed to include a rich array that covers ethnological activities, popular themes, traditional festivities, celebrations, folktales, proverbs and cycles of life.

The Musical Heritage of Egypt

CULTNAT aims to provide a better understanding of both our musical heritage and arts that have greatly developed during the earliest part of the twentieth century and which are in very serious danger of being lost forever. This is achieved through documenting, classifying and analyzing this heritage. The Arabic music information system consists of three levels: the first level focuses on documenting basic information related to composers, lyrics, singers, modes, forms, and rhythms. The second level compiles the complete works of artists' with original lyrics, scores, audio and video clips whenever possible. The third level is a multimedia upgrade that targets the production of documented audio-visual deliverable based on the collected data as well as a detailed musical analysis of selected pieces by professional critics.

The Photographic Memory of Egypt

At the turn of the twentieth century, the Middle East and Egypt in particular, became a destination that attracted a large number of pioneer photographers. Their works documented such vivid topics as archeological sites and excavations, local architecture, landscapes in addition to social life and daily activities of the local community. The program aims to make such rare collections available for researchers, curators, and admirers of old photography online, in addition to producing a number of publications including books and CDs.

The Scientific Islamic Manuscripts Heritage

The manuscript documentation program aims to document scientific Islamic manuscripts available in various institutions and private collections on the national and regional level, in order to build an electronic encyclopedia of manuscripts on sciences and mathematics that were produced during the peak of the Islamic period.

II. ETERNAL EGYPT ON THE WEB

Collaboration between CULTNAT, the Egyptian Supreme Council of Antiquities and IBM Corporation, led to the development of a premier website, "Eternal Egypt" www.eternalegypt.org, to showcase a selection of Egypt's treasures and cultural heritage on the Internet, to the global audience, using state-of-the-art technologies. The website covers the different eras of the Egyptian civilization: Pharaonic, Greco-Roman, Coptic and Islamic. It comprises of descriptions of events, characters, museums objects, as well as historical sites, wrapped in a variety of stories covering attractive topics. The descriptive information is available in three languages, Arabic, English and French, and is supported by an innovative text-to-speech technology to generate the audio narrations, by 2D high-resolution images, tours and panoramic views of many sites as well as 3D models of various objects.

Within this website, one can investigate several collections that are present in different museums. For the Pharaonic period one can investigate the collection at the Cairo museum and the Luxor museum. For the Greco-Roman period the collections of the Greco-Roman museum in Alexandria can be viewed, for the Coptic period the collections of the Coptic museum in old Cairo (Fustat) can be explored and finally for the Islamic period the collection of the Islamic art museum in Cairo can be examined.



Fig 6 : The homepage for www.eternalegypt.org

In addition, there is a facility to go thematically through the whole collection like for example the investigation of woman representation along history; it is possible to retrieve objects regarding this subject from different collections. Alternatively, one can choose to see the relation between certain objects and other objects, sites and subjects, following which a diagram appears in a tree format that has the selected objects in the center with links to different objects, sites and subjects. Going one step further one might choose to navigate along this tree from one object to another then the new object becomes the center of the diagram and consequently the center of the diagram links to other objects, sites or subjects. Once an object or site is in the center of the diagram, one can obtain from the database information about this object as well as high resolution images and sometimes a 3-D model. For some objects, a 3-D model was built through the use of a laser scanner and a turntable. This allows the investigation of the object from all sides and also allows electronic restoration of the object such as adding missing parts, cleaning surfaces or retouching colors.

For most of the objects, a very high resolution image is obtained which allows multiple zooming allowing for investigating the details of the different parts of the image. For very specific objects, a simulation through animation of its function is available. Some examples are the fire lighter that was used at the time of the ancient Egyptians and the astrolabe that was used at the time of the Arabs.

III. THE GLOBAL EGYPTIAN MUSEUM (GEM WEBSITE)

As we have seen, eternalegypt.org web site is treating the different collections within the different Egyptian museums in a collective way. It does not extend beyond Egyptian territories. There is another approach that took place between CULTNAT and the Dutch Center for Computer-aided Egyptological Research (CCER), which is directed by the eminent professor of Egyptology Prof. Dr. Van der Plas, to address the different Egyptian collections in other European museums in what is known as the Global Egyptian Museum (GEM).

This website presents the Egyptian Treasures from various European museums. Scientific object information, hieroglyphic texts and full color images of the objects are offered in an interactive way. As part of the project scope the current set of ten museums will be enlarged with other collections from worldwide museums.

There are two main functions in the website the Basic Mode which is geared towards the interested public and the Advanced Mode which opens up the full database and offers detailed scholarly information to professionals and amateurs.

The hyperlinked glossary of over 400 entries explains Egyptological words and concepts, illustrated with pictures and

line drawings. Scholarly information about gods, kings, dynasties, archaeological sites, etc., is given in a user-friendly way.

The guided tour presents several objects from each collection with a spoken commentary.

There are many rotating objects and panoramas throughout the site.

The user interface and most of the supplied information on this website is available in seven languages: Dutch, English, French, German, Italian, Portuguese and Spanish.

CONCLUSION

A holistic approach to the museum collections was developed by the Center for Documentation of Cultural and Natural Heritage (CULTNAT). This approach included incorporation of the compilation of different collections within the content of its different developed programs addressing the various aspects of documenting of the cultural and natural heritage of Egypt. This is reflected more specifically within the archeological map of Egypt program, which relates objects to its site of origin. In addition, the collections are addressed in a second way within the premiere website eternalegypt.org which relates the objects of different Egyptian museums to each other and to sites and subjects as well as using different imaging technologies to investigate each object. Finally, the Egyptian collections in different European museums were treated in a global approach using a developed thesaurus in seven languages and addressing collections in ten European museums jointly with the collections in the Egyptian museum.