E-Mem: An Interactive Graveyard Information Management Tool & Virtual Memoriam Database

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ABSTRACT

E-Mem project was carried out under the framework of the EU program e-Content. Taking in account the large number of cemeteries (accounted more than 400.000) and the lack of a uniform communication and management graveyard platform in Europe, the project seek to create a tool that enables ubiquitous exchange of graveyard and related information over the www.

Except the obvious applications of the portal in the management and services of modern cemeteries, a number of modules of the research project were focused in the cultural dimension of the cemeteries. The project defined the best practices for portraying information on cultural monuments in the context of graveyards and investigated the evolution of funeral practices in Europe. The changing patterns of cemetery locations were also explored by creating a number of thematic maps for the island of Crete, presenting the spatial distribution of the prehistoric and historic cemeteries, linked to multimedia information related to them. The above information contributed in the study of the evolution of the landscapes in terms of their representation and context production.

To achieve the goals of the project, the participating members utilized mapping technologies through the use of GPS and EDM units, digitization and georeferencing techniques, SQL database construction, GIS mapping and presentation of the geographic information through the WEB. A number of pilot cemeteries were brought in the pool of the e-Mem portal, including the modern Orthodox cemetery of Rethymno, the Deutsche Soldaten Friedhof at Chania, the Moslem Cemetery of Yeni Mahalle at Komotini, the Municipal cemetery of Bologna (Certosa cemetery) and the Bernardines Polish cemetery in Vilnius. The significant historical context of the cemeteries and their monuments was emphasized.

The ultimate product of the project focused in building a dynamic portal bringing together the different policies & standards of registering and offering info on the deceased in Europe, ensuring wider access to Europe's common heritage; one standard applicable to all regardless of their language, culture and religion; one standard which at the same time could serve information related to the historical and cultural value of the cemeteries and their significant monuments.

METHODOLOGICAL APPROACHES

In Europe, there currently exists no tool for the facilitation of communication between cemeteries. This lack of communication seriously affects both the exchange of best practice between these organizations and the possibility to access important information related to our past and our Cultural Heritage. Cemeteries contain a large amount of information about our past and our cultural history (Fig. 1). Thus, it is essential to provide for the public convenient access to cultural heritage and genealogical information. Therefore we need a widely accepted approach and tool to guarantee good and diversified management of these sites in order to activate and deploy their potentialities.

As death is and has been an inevitable part of life throughout time, the project stretches from pre history to the future. E-MEM has investigate the possibility to build up a valuable network and databank of burial culture, burial sites, places of worship and personal information on past to present generations for the future generations.

In order to approach the subject of the project and develop the pilot portal, the following actions have been carried out:

- A study of the current industry practise and burial customs in Europe emphasising on the funeral process in the sample countries with special detailed emphasis on Greece and Iceland as well as studies on the practise in the other sample countries and overview research of the market in Scandinavia and the UK.
- A survey was conducted among the members of ASCE www.significantcemeteries.net giving an important overview of the current industry practises and the administrators future view in particular at the larger entities of European cemeteries.
- A comprehensive overview on the evolution of funeral practices in Creece from the past to present, including 3 cemetery case studies (Fig. 2).
- Development of an Outline for standardizing data collection.

- Specification definition, Design and setup of a Multilingual Pilot Graveyard Information Web Portal including maps and data from 6 cemeteries.
- Dissemination of the results to the graveyard administrators of Europe.

The above actions have led to the conclusion that even though there are many differences in the funeral process in Europe there are many comparisons and shared needs that encourage the effort of increasing co-operation and best practise in the field. The process has an intrinsic degree of complication, since diverse identities have to be accounted for. Thus, the e-MEM solution is very viable and could become widely accepted as long as it could be based on an integrated web-based system that can offer graveyard administrators and the public with value-added services.

The aim of constructing an integrated system that can cover the needs of the users in a Pan-European level is further exaggerated due to the amount of the information and the the lack of standards in collection and storage of the data. The collection of data from graveyards must follow a kind of hierarchical description starting from the geographical context of the entities involved, following by a more specialized type of documentation regarding the monuments or the deceased. Based on the above conclusions, a template for standardized data collection has been produced.

In order to proceed to the development of the final system, e-MEM project explored the current technologies used in the management of cemeteries by reviewing graveyard operators, the existing websites or databases and the related markets. The need of fusion of contextual information with geographical component was mostly shared among the entinties involved in the management of cemeteries. Thus, the need for an up-to-date CMS system with a mapping tool became evident.

THE FINAL TOOL

As a result of the e-MEM project a specific tool was developed to satisfy the needs of cemetery operators and of the wider public. Because of variant data and user requirements, the system incorporates a complex structure of dataflow and data process. As such, e-MEM solution has been suggested to be based on an integrated centrally hosted web-based system offering in the following value added service:

Graveyard administrators oriented: Value-added services: a) Diversified communication through protected Forum, Message board & Project areas; b) CMS to edit the public part; c) Easy to use management tools for grave regulations., main-taining records on relatives responsible for graves, link to social records; d) Portfolio of management software such as for accounting, geographic info (GIS), etc.

Public oriented: e) Centralized search for info and location of graveyards, deceased relatives, cultural monuments, major events calendar, etc.; f) Limited CMS access, managed by next of kin, for creating and editing home pages for deceased relatives and building of family trees; g) services such as grave reservation, grave maintenance, flower ordering, etc.

Due to the diverse nature of data formats, e-MEM has created a Document Type Definition (DTD), which ensures that data form various data providers is encrypted into e-MEM standards before the data enters the system. The three principal sections of the system include a) Data Flow (Cemetery data / Remote data), b) the e-MEM Web Server and c) Data Retrieval (external Data – on demand) (Fig. 3). In order to transform the data the IMDT (Inter-Map Data Transformer) uses the DTD document to ensure data structure and it can be used to open connection to most databases, while the user can match data in his own database to the required data for e-MEM. This tool can also support direct SQL queries, in case of complex data. In some cases the database software will be able to generate desired XML document using DTD from e-MEM. Users can use their own Data transformation tool, but it must support e-MEM's DTD. Finally, e-MEM will automatically update the main server with data from remote servers, through web service or direct connection. The data update process will be incremental, so that users do not have to import the whole data a once; they can import it in parts and then update only changed fields, keeping down the bandwidth cost.

CASE STUDIES

A number of pilot cemeteries were brought in the pool of the e-MEM portal in order to evaluate current data and practice at different levels. The cemeteries were chosen in such a way to provide a test bed for the final system based on different types of data, burial customs and practices. The case studies included the following:

- The modern Orthodox cemeteryof Agios Georgios at Rethymno, Crete, Greece
- The Deutsche Soldaten Friedhof at Chania, Crete, Greece
- The Moslem Cemetery of Yeni Mahalle at Komotini, Thrace, Greece.
- The Municipal cemetery of Bologna (Certosa cemetery), Italy, one of the most technically advanced cemeteries of Europe which has invested heavily in digitizing its data using their own system.
- The Bernardines Polish cemetery in Vilnius, Lithuania.

FINAL REMARKS SUMMARY

E-MEM has underlined the importance of graveyards as sources of social, historical and cultural information, and promoted how they can be better managed, and exploited for research purposes and cultural tourism. A graveyard information portal

pilot has been developed taking into account the findings of the project and the specifications arrived there from. The portal is available for public testing at www.e-mem.org.

In co-operation with ASCE, Association of Significant Cemeteries of Europe www.significantcemeteries.net the portal will be further introduced as a base for centrally hosted pan-European web information portal for its members and other cemeteries in Europe. The prospects are to formally open the first phase during the European week of cemeteries in June 2005.

Applications will be made to fund the accumulation and insertion of relevant data, especially in the new EU countries, where technical standards are lower but data is widely available, only not in digital format. Furthermore, the portal/databases can be further expanded in case studies that concern historical/archaeological monuments, cemeteries and clusters of graves.
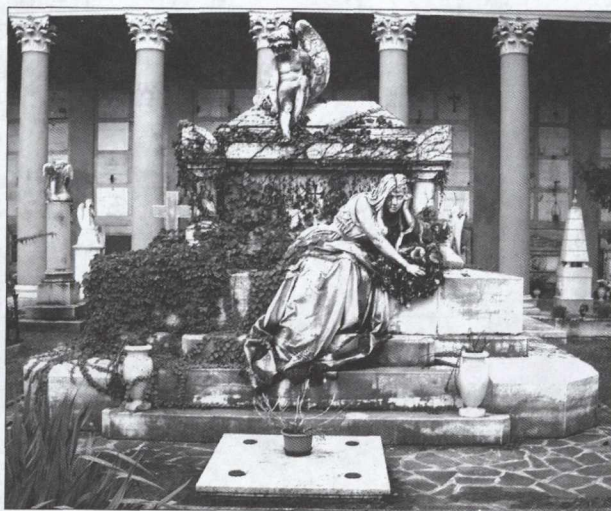
FIGURES

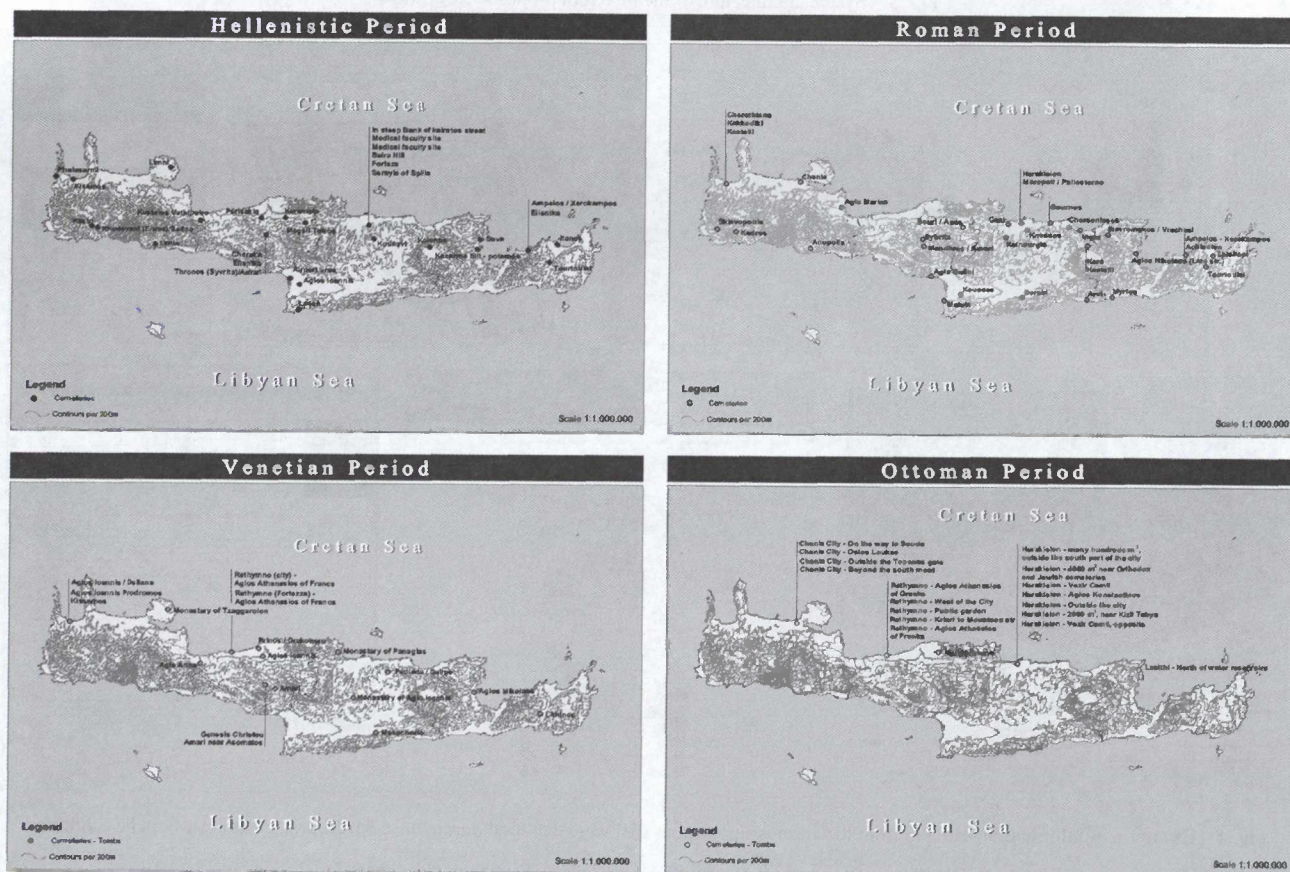Fig. 1 – Picture from Certosa cemetery at Bologna, Italy.

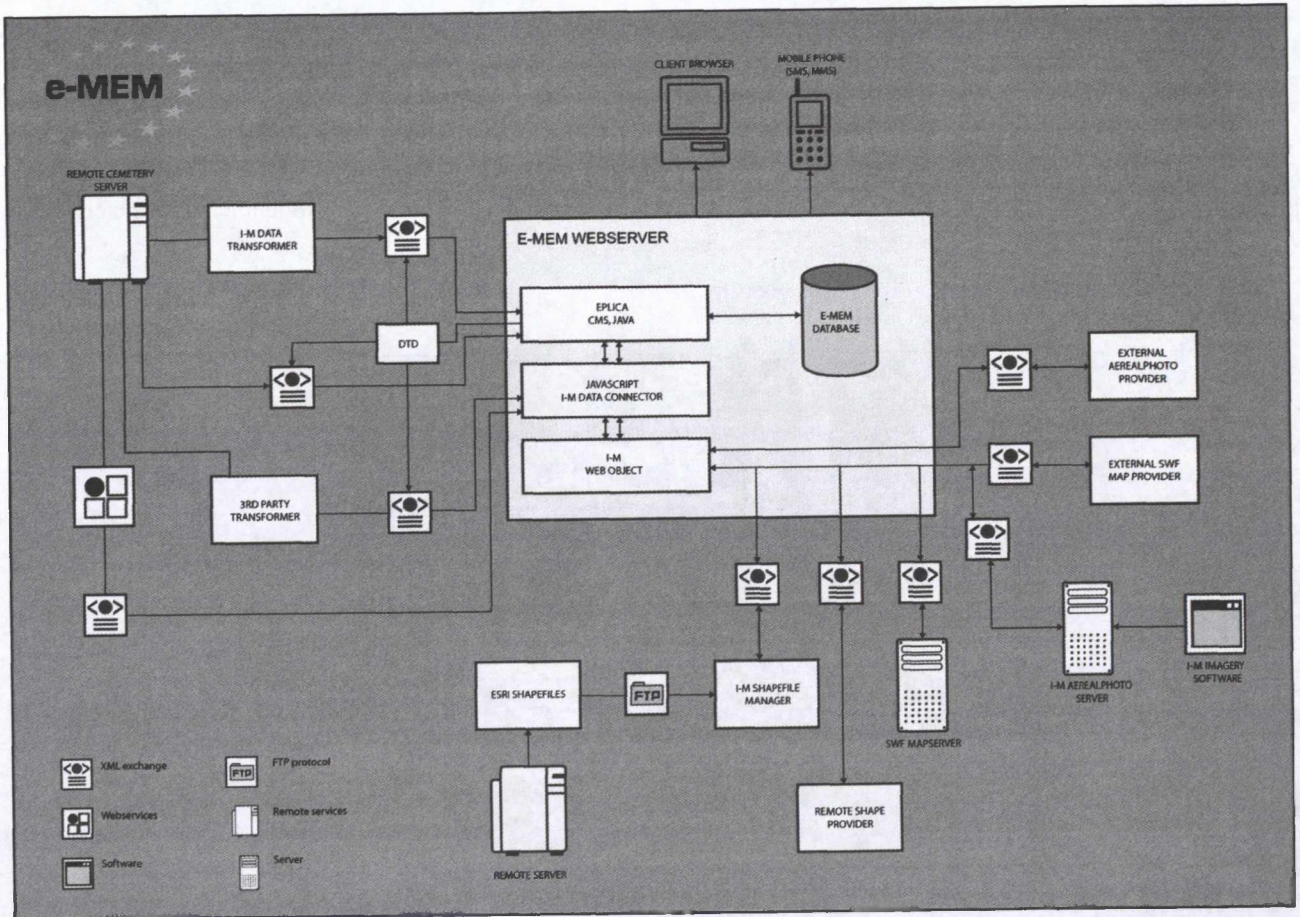Fig. 2 – Distribution of known cemeteries in the island of Crete, Greece for 4 different historical periods.

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Fig. 3 – System architecture of the final tool proposed by e-MEM.

Fig. 4 – Examples of information retrieval from the various case stadies that were explored during the e-MEM project. Querries can be addressed through key words of cemeteries/individuals or through a geographical based tool.