ICOMOSDIGITAL DATABASE OF THE CULTURAL HERITAGE OF TRABZON

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KEY WORDS: Cultural Heritage, Recording, Documentation, Database, Digital, Web

ABSTRACT

Today, detailed comprehensive documentation and recording of the cultural and natural properties are the most important stage at the beginning of the preservation works around the world. Because of the rapid urban growth, keeping the urban identity under the pressure of the globalization world and the economic development has negative impacts on the cultural heritage everywhere. Therefore properly prepared national heritage inventory list became very important phenomenon and a social responsibility for preparing an acquired world cultural heritage list for developing preservation strategies and policies.

It is knowing that broad comprehensive inventory work, interdisciplinary study group, easy accessibility in terms of sharing materials, producible and widespread data, definable sources, systematic and current information help to develop the sufficient and successful restoration works. The reliable restoration projects in the short period of time can be produced based on the concept of the data, methodology and with the similar or standard type of database. At the same time, the wide range usage of the computer has made this study avoidable nowadays.

With the direction of the above objectives, the city of Trabzon has been selected as the case study because of its rich and diverse cultural heritage. The study has focused on developing an digital inventory database for documentation and recording cultural and natural properties.

The results of this study help to developed reliable database can be a contribution to create the local and national digital cultural inventory. Further, it is an important issue to share them on the electronic or digital environment when we consider them as a universal cultural heritage for humanity.

1. INTRODUCTION

Preservation of the cultural heritage has been considered an important phenomenon contemporarily in many countries because they are collective memory of hundred years of civilization from the past. Objectives, techniques, methods and practices of the historic preservation discuss frequently at the national and international level last few decades as a common problem for many historic cities today. Thus it is important to define the problems and its solutions to determine how do and where do start a preservation work and what do protect at the beginning.

The most important step at the beginning of preservation work is considered to have a detail documentation and recording process of the historic and natural heritage. Because without precise documentation process of the historic structure it is difficult to prepare a suitable restoration project for the old buildings and their environment.

Today, historic cities and their cultural heritage are under the pressure of globalization. Identity of historic building and environment is cause to demolish with the rapid urban development and economical growth. Thus, it seems to be a social responsibility to create a national cultural heritage database to be able to create dependable historic data. So that it is a need to establish and to illustrate the historical significant of the building and of its detail.

The objective of this study is to develop a Digital Cultural Heritage Database for the city of Trabzon and to provide a tool to share this database with other users by help of network facilities. Computer base inventory system will enrich various type of information usage about the cultural heritage both publicly and privately as well as individual structure and distinct base.

2. DOCUMENTATION

The short definition of documentation is to "physical recording of the building and its environment" (Kuban, 2000). According to another definition is "recording the visual apperance and assesing the realtionship of structure to near environment by photographic. drawing and written material" (Ahunbay, 1997). At the same time recording the present condition of the structure and its environment helps to asses the deterioration, demolishing, changing and threaten on the structure over the years and making interpretation based on this evidents. Boundry of documentation study depends on many factors; in what way, how and what percentage of it will be done and used for the future research.

During the recording. the goal of historic preservation project, the value of the building, financial sources are take into consideration. Another important issue is that recording the present condition of the historic building without considering what should be (Fitch, 1990).

The following sources can be use during the documentation and recording process: Old photopraph; miniature, engraving, sketche, painting; old maps and atlas; archeological data; local newspaper and other publications; tax and porperty ownership; personal archives; architecture drawing and project; oral history; travel notes; accounting, construction and repairment notebooks; site notes and observation (Ahunbay,1999; Madran 2001; Anonymous7).

2.1. Objectives of Documentation

"Cultural Inventory List" is aim to protect and document the natural and historic heritage include following objectives:
- Documentary value of the heritage: Architectural monuments are the most important evident of history.

Each piece of information about history and building is a valuable document for the future because of rapid development and negative changes cause the lost of these (Kuban 2000, ICOMOS 1990).

▪ Being a significant part of national inventory list: Documentation of local cultural and natural heritage has very important contribution to the national heritage list as a whole (Arslan, 1990).

▪ Creating preservation conscious: Documentation and recording process leads to raise a public awareness on heritage and improves the preservation knowledge among people (Arslan, 1990).

▪ Database for planning process: Accurate recording and documenting data can be established base on the strategic preservation approaches. So that a valuable resource may be created for people who work in the field of historic preservation. This also provides precise information on exiting condition of the historic structure during any future intervention (ICOMOS, 1990; Anonymous 7). At the same time the planning of the contemporary environment without destroying cultural heritage depends on establishing a precise and current cultural inventory list (Özdoğan, 2002).

▪ Understanding the problems in historic environment: Documentation process needs to find answers for what do preserve, how do define the problems and how do give priority what do restorate by utilizing economical and technical resource in a knowledgeable way (Arslan, 1990).

▪ Developing legal protection precaution: It is very important to have accurate inventory list in local and national level to able follow up and making decision for the necessary action on time and right way for protection of the historic building in legally (Ahunbay, 1999).

Architectural structures are destroyed in many ways and for many reasons; new development, technical or functional obsolescence, neglect, fire, natural disaster, and war. Some of the causes can be mitigated, with precautions taken against others. Architectural documentation can provide future generations with information on structures long since vanished. Documentation can also serve as a form of insurance for a significant structures so that if there were to be catastrophic loss, the structure could be rebuilt (Burns, 1989).

2.2. Documentation Techniques

Before preparation of a restoration project, information in following topics needs to be collected about the building: Preparation of measured drawings; documenting with architectural photography old and new condition; documentation with architectural photogrammetry; recording information from visual and written materials (literature and archival search); conducting oral history search (Burns, 1989).

Information about the historic building can be collected using by the techniques above but the most important issue is that how do keep and make useful these information widespread in this technology age. Thus, computer is the only way to enable to give opportunity professions who practice in the field of historic preservation to share, distribute, provide easily access and reproduce all these systematic and current documents with others through world wide web system (Anonymous 5).

2.3. Use of computer and web-based data

Electronic inventory list in another word historic heritage database is convenience to share the exiting current data with the other interest groups such as academicians and public organization Sharing the database through the web-based (www) appears to be one of the rational ways for this study. The most important reasons for this decision are listed beloved:

▪ Developed an archive of the historical material is easy in this way and give an opportunity save the document without concerning the loosing.

▪ Wide speared usage of www network system due to rapid growth in data processing techniques and development in computer technology makes it possible to many users access at the same time from various locations.

▪ Accessing to the first hand information without interfering other people.

▪ Updating archival data frequently and making these data dependable and reliable to its users.

▪ Time consuming for many professions.

▪ The information opens to usage of users all the time.

▪ Provide opportunity both recording and accessing visual and any other types of materials in the system and make them available to users. Another word it creates an interactive electronic environment.

▪ Information in the different digital data processing system can be easily convertible for the personal usage. The users have opportunity to save the document into their own system and to change the format.

▪ With this web-based system the local and the regional heritage have chance get to publish worldwide.

2.4. Target user profile of web page

The aim of this system is to make it accessible to as many different users as possible from everywhere.

Public user
The users and organizations in public who have interest in history, architecture, preservation and restoration can be able to use this database. The information that public users need is the history of the structure, basic identification information, photographs, simple diagrams or sketch and mostly visual mate image.

Students: Students from high school to university both graduate and undergraduate are considered in this category. They might use visual documents and other type of architectural drawing such as plan, section; elevation, ornament and other details about the historic structure.

Academicians and researches: One important purpose for architectural documentation is providing materials for academicians and researchers. They might want to need more detail information than other users. This information is lot number, the ownership, usage history (functional changes), inventory numbers and degree and ext.

Private Offices and professions: In this category Architect, conservationist, urban planner, historian, archeology, landscape architect, regional planner, surveyors and other professions are in this category.

Institutional users: Historic preservation offices, the others local and central governmental offices, national and international organizations and universities can be listed under here.

3. THE STUDY

The city of Trabzon has been selected as the case of the study because of its rich and diverse cultural heritage. Historic buildings that are already listed on the national heritage are the topic of this study. The objective is to creating an electronic database for the existing heritage in Trabzon. This study focuses on developing a digital inventory database for documentation and recording cultural and natural properties. The general scope of the study as following:

- Determining existing historic building stock with extensive field recording and photographical documentation,
- Classification of the collected data and filling this data into Electronic Building Identity form,
- Designing a web page for the purpose of sharing database through the electronic environment (network) with interest groups.
- Recording the condition of the historic heritage from the past until present time and the most importantly having the current and precise information about the city's cultural heritage and district.

Today data processing and computer usage are intensively into every sections of the research as well as the daily life of people. Thus the usage of this database and web page for educational and academicals purposes will enhance and improve the research facilities on heritage of the scientists.

Traditional archival methods are not sufficient for diverse users profile in the computer age. The information needs to be reproducible and shareable with others, therefore it gives more opportunity to add and also take out unnecessary things and becomes more meaningful and beneficial to the everyone who uses.

The web page that is designed for this purposes and will serve as a cyber database. These types of database and web page have been started to use recently in Turkey and other countries. The study of Mersin University City Research Center (AKKENT) which is sampled as "Inventory Study"(Anonymous 1), the "Heritage Building Inventory" which is carried out by the Wellington City Council (Anonymous2), the "Historical Buildings Database" carried out by Iranian Cultural Heritage Organization (Anonymous 2) and the "Heritage Building Inventory" which takes its place in the web site of Canadian Nanaimo City (Anonymous 4).

The design stages of web page shows at figure 1. There is also feedback system inside of the model.
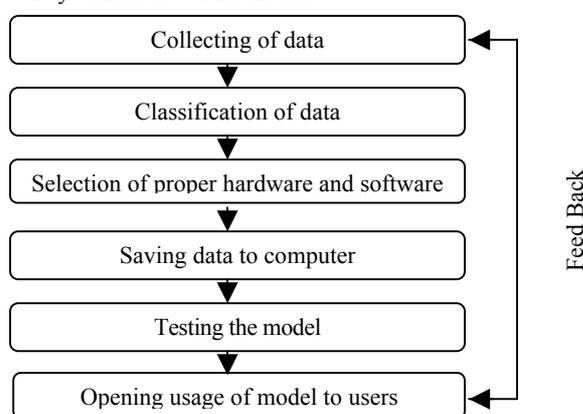

Figure 1. Design stages of Web page

The study area has limited with 3 historic districts in Trabzon for this research. Systematically collected information about the buildings in the first, second and third historic district had filled into "Building Identity Form" (appendix B) and each building had marked on the digital maps with its ID number.

The information about the historic buildings is collected base on the fieldwork, literature search, existed data from the files of each building at the local Historic Heritage Preservation Office in Trabzon. Approximately 500 historic buildings have studied but considering time limitation of the research, only data about 3 historic districts had used for establishment of web page initially. Furthermore it is possible to add the data about the other buildings.

The information on the web page covers word documents, tables, digital map (AutoCAD and GIS applications), photograph, architectural drawing (AutoCAD), video images and additional materials (appendix A). To be able to putting all above data about historic buildings into the web page requires special computer language and format. Therefore all data had converted in to those formats step by step so they became suitable to access from distance and to produce as an image on the network.

At the first step, existed written and visual material had converted to digital data to be published on the web page. An identification (ID) number had appointed to each building in the system and these numbers had put into the digital map of each historic district. Each building has a Building Identity Form on the web page and has a special link on the digital map with ID number. For the purpose of this study, Building Identity Form of 5 buildings has been selected as an example to demonstrate how this web page works. These buildings are selected carefully base on different functions and being from the different historic districts in the city. Photographs of each building are placed into web page according to ID number in the list and link by .jpg format by using Adobe Photoshop®. In addition to this, old and new photograph from the private archive and collection has also put the page. Furthermore, video images of a few building place for the purpose of multimedia and interactive usage.

Architectural drawing (measured drawing) such as plan, section, elevation and photograph are saved in image format also. Some of the architectural drawings have prepared in vectorial line format (.dwg file) another word converted into digital data by using AutoCAD® and other similar types of software. With this way, web page users can enable download the drawing materials to the personal computer and use in various purpose by intervention to these drawings. Measured drawing and restoration project of the historical buildings from different institutions or organizations are also included into this database and given opportunity others to benefit from it.

Microsoft Front Page® is prefer to use as a Web editor. The flexible and easy framing characteristic of this program was the reason for choosing the program. When the user clicks on the one link another frame opens in the same frame. While the menu is stable, the others can be changed. This characteristic give chance to users to visit to website quickly. The study had done on Windows XP system but it had tested in different systems to see if it has been working properly in.

GIS Applications: The main goal of the study that we work on is to create a database depended on historical buildings of Trabzon and share it with others. The one way of this sharing was using web but also we prepared an alternate to prepare our

inventory and share it by using GIS technology. The sample of this alternate is consist of the informations of 5 historical buildings in Ortahisar – Trabzon. When we select a building on the vectoral map of Ortahisar, it allows us to see whole informations about the building and its place in this application.

"GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, that means data identified according to their locations" (Anonymous 6). GIS combines layers of information about a place to give you a better understanding of it. What layers of information you combine depends on your purpose—finding the best location for a new building, analyzing environmental damage and similar types of information about a city, to help reach a decision about the location of a new housing development that has minimal environmental impact and which is located in a low-risk area and is close to a city center, classifying buildings and natural beauties and so on. "GIS works with six steps. These are relating information from different sources, data capture, data integration, projection and registration, data structures and data modeling" (Yomralıoğlu, 2000).

One of the main benefits of GIS is improved management of your organization and resources. A GIS can link sets of data about the buildings and their environment, locational data, such as addresses, which helps departments and agencies share their data. By creating a shared database, one department can benefit from the work of another—data can be collected once and used many times. GIS provides improvement of organizational integration, making better decisions and maps.

4. CONCLUSION

The easy access linked pages which are prepared simply, being avaible for practical usage and also the datas which are always checked and upgraded are gived importance in the study. The rapid changes in the informatics technology makes an important issue current. Computer systems are always upgrade themselves in hardware and software so this web-page can loose its importance in a few time later. It is meaned that the study must adapt itself to today's technological conditions in hardware and software technology. Also it is necessary to check for the informations in certain periods to define if there is a missing datum or a datum need to be add. It is needed to apply these steps into study to have it reliable. Also it is thought to have the study translated into different languages to make it easily understood by other nations.

In contemporary life, the common problem of humanity has been excepted as an accelerated necessary for the documentation and recording process of the historic heritage. The results of this study help to developed reliable database can be a contribution to create the local and national digital cultural inventory. Further, it is an important issue to share them on the electronic or digital environment when we consider them as a universal cultural heritage for humanity.

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APPENDIX A. VIEWS FROM WEB PAGE AND THE GIS APPLICATION
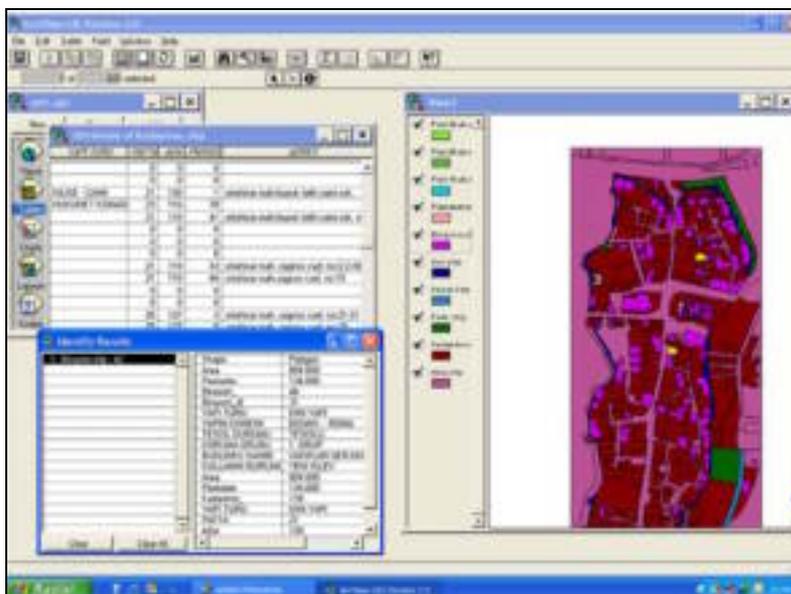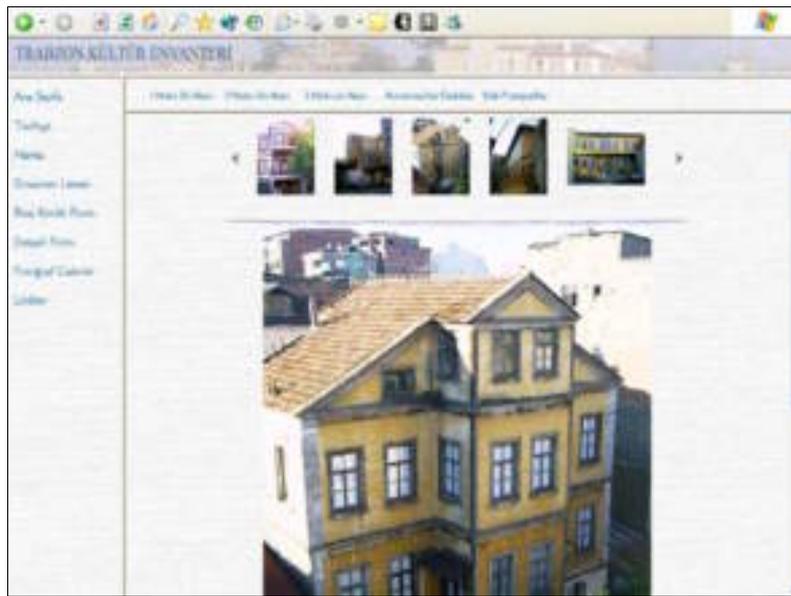
B31	BIG FATIH MOSQUE	INVENTORY NUMBER 353

IDENTITY CARD

CITY	TRABZON		
COUNTY	CENTER		
ADDRESS	ORTAHİSAR QUARTER		
CADASTRAL SITUATION	Section 21	City Block 130	Parcel 2
SECTION NUMBER of DEVELOPMENT PLAN	21 L-II		
SITUATION OF OFFICIAL REGISTRATION	REGISTERED		
SITUATION of DISTRICT REGISTRATION	2nd DEGREE DISTRICT REGISTRATION		

GENERAL INFORMATION

BUILDING TYPE	MOSQUE	
CONSTRUCTION DATE/ TERM	10. YY / BYZANTIUM	
OWNER	FOUNDATION HEAD QUARTER	
CONSERVATION GROUP	Monumental I	Not Monumental -
CONSTRUCTION METHOD	MASONRY	
ORIGINAL FUNCTION	CHURCH	
PRESENT FUNCTION	MOSQUE	
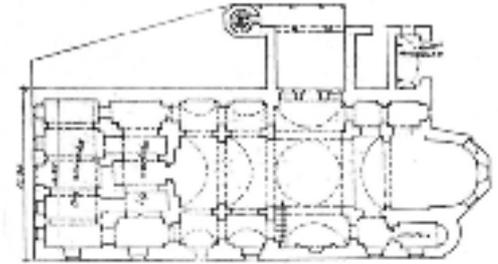
THE PLAN
Download

DETAILED DEFINITION

Chrysokephalos Church which is one of the most important religious buildings in TRABZON is now using as a mosque that has the most beautiful ornuments from the past. Building was constructed as a church in the 10. century for the first time. It was repaired and addited in the century of 12th –13th and 14th. It assumes that there was a mosque on the place in the time of Roman. Building was converted into a mosque after the conquest of Trabzon in 1461. "The wooden minbar" and "the stone mihrab" which were addited at that date are very important samples of Ottoman Art. Also the legends on the inner and outer walls of the mosque displays a wonderful calligraphy. The main plan is as a Greek Cross. The Apsis of this building which has three naves is circular in inside and polygon at the outside. There are one inner and one outer nartexes in the building. The central dome sits on the pendants and has a high hoop with 12 corners.
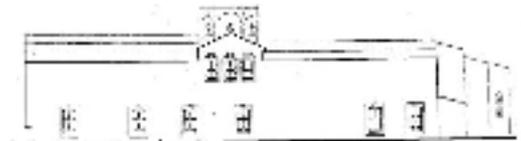
EAST ELEVATION

EXTRA INFORMATION

PHOTOGRAPH	MONUMENT CARD	MEASURED DRAWING
MAP	SITUATION OF DEVELOPMENT	RESTORATION PROJECT
REPORT	SAMPLE OF OWNERSHIP PAPER	RESTITUTION PROJECT

SHEATH-FISH INDEX

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