



Museo Ilocos Norte Information System: A Cultural Resource Management Study

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Abstract: Cultural Resource Management is the act of protecting and managing the different elements of cultural heritage or, specifically, cultural resources. (King, 2011) A cultural resource can be anything tangible or intangible that holds value to a society's cultural heritage and can range from anything historical, archaeological, architectural, or of cultural significance. Museums are the foundations, which give people a brighter perspective as to how culture is viewed; given this, it is crucial that cultural resources are presented in a way that viewers can begin to understand and appreciate their heritage. By appealing to the target society through the presentation of both artefacts and information on their heritage, museums are the main proponents on enabling more people to be curious about their heritage and cause them to better support the activities done by CRM practitioners. For this study's requirements and implementation, the proponents' domain would be Museo Ilocos Norte.

This study aims to give attention to the rich history of a museum here in the Philippines by providing an ICT solution wherein (1) a virtual means for a wider audience to see the artefacts found in the museum and (2) a back end system to aid museum employees and directors in monitoring, tracking, and presenting artefacts within the museum will be created.

To create a design of the system, several employees of the museum along with members of the Museo's board of directors were interviewed to know the process of handling and monitoring artefacts. Other museum websites were also studied in order to come up with an effective website for the system. As a result, a combination of a website and a system was developed. The website would provide a virtual tour for audiences while the system would provide modules, namely: accessioning, presentation, conservation and deaccessioning for managing the museum's artefacts.

Key Words: Museum; Cultural Management; Virtual Map; Cultural Resource; Heritage

1. INTRODUCTION

Cultural Resource Management (CRM) is, in the broadest sense, protecting and managing the different elements of cultural heritage. These elements must be managed regarding the ways by which change can affect them in context with changing needs of today's society. (King, 2011) The term is used in a very flexible manner as the resource in question varies on the entity in mind. As

cultural resources can vary from places, practices, or even objects, the means of managing these can vary as well. A cultural resource, to be more specific, is any tangible or intangible element that people in a society consider as something valuable due to its relation to their culture (King, 2013). Though cultural resources have always been associated with the physical objects unearthed during archaeological studies, it is already an accepted concept that intangible findings on a society's culture can now also be considered a resource.

The main reason why the team chose a museum as the proponent's domain is because there is little attention to the great and rich history of the museum here in the Philippines. People nowadays do not go to museums because most are no longer interested in exploring and learning more about their cultural heritage. The team experienced visiting the National Museum on a Sunday; however, despite having free entrance during Sundays, only a few people were visiting the museum. If this is the case for the National Museum, the team has thought that there could even be less people for those in far places or in provinces in the case of their museums. This situation could be applicable to Museo Ilocos Norte, which is why the proponents chose this as their domain for the study.

The Museo Ilocos Norte Information System applies the concept of Cultural Resource Management with the mechanics of Digital Asset Management in order to solve the issues being faced by the museum. M.I.N.I.S. is the group's proposal to address the current problems being experienced by the museum as well as maximize the opportunities present. The problems currently being experienced by the museum are: difficulty in monitoring artefacts, difficulty in monitoring the maintenance and cleaning of artefacts, difficulty in locating artefact information, inability to monitor the changes (revisions/updates) to artefact information, and difficulty in increasing the museum audience (outside of Ilocos Norte).

The system will be utilized not only by members of the museum, but also by the online audience who have access to the site. The system aims to aid the museum in its operations through improving the methods by which the processes of accessioning, presentation, conservation, and deaccessioning are conducted as well as to solve the problems listed above. Along with this, the proponents also want to help the museum gain a wider audience by bringing their collection online through the means of a virtual museum where users can have a glimpse of what can be found in the museum and learn about the heritage of Ilocos Norte.

2. METHODOLOGY

The proponents chose the Spiral Model of Systems Development Life Cycle as the methodology of choice because this is the best methodology the proponents can derive from the information and processes of the proposal; the methodology has concrete and complete steps to be followed and accomplished before proceeding to the next step; these steps are planning, analysis, design, implementation, and support and security. Another reason why the group chose this methodology because the spiral method allows adaptability to sudden changes as well as goes back to the previous phases due to the methodology's spiral structure; the methodology also reduces possible risks during the phases and the creation of the system as these could be reviewed and analysed in every loop/increment.

The proponents also conducted several interviews with contact persons inside the museum in order to better understand the processes to be encompassed by the system as well as to analyze the different problems being faced by the museum and how these can be solved. The proponents also studied 5 different virtual museums from different countries in order to better formulate plans as to what the Museo Ilocos Norte Virtual Museum would need in order to be effective.

3. RESULTS AND DISCUSSION

Below is the conceptual framework for the Museo Ilocos Norte Information System:

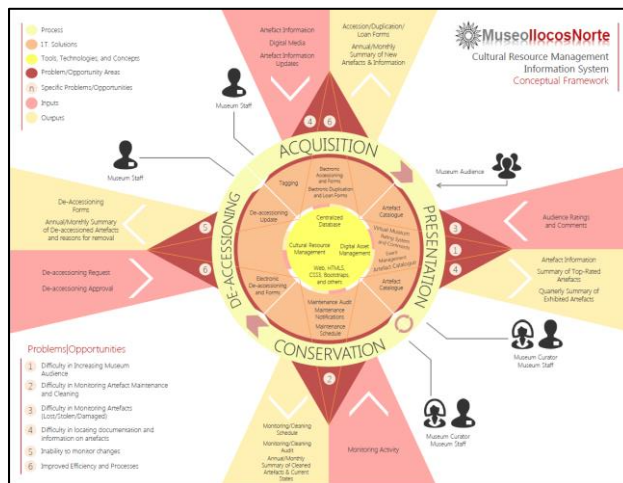




Figure 1. Conceptual Framework

This conceptual framework contains the four processes that the team would be covering namely Acquisition, Presentation, Conservation and De-accessioning. In addition, the problems of each process plus the corresponding solutions that the proponents plans to propose and the tools and technologies that will be used were also presented in the conceptual framework.

3.1 Acquisition

This is the start of the cultural resource management process wherein the museum acquires a new cultural resource.

In this module, museum staffs are able to input new artefact information, update current artefact information, and add or update digital media for an artefact. Examples of artefact information to be added or updated would be the artefact's local name, English name, material, usage, and measurements. Catalogue numbers, accessioning numbers, and field numbers will also be assigned respectively. Any digital media related to an artefact can be assigned a tag once added to the system. An example of a tag would be the artefact's usage, the province it came from, the artefact's name, etc. The presence of the tag will enable museum staff to easily search for a specific artefact or artefacts with similar tags when coming up with exhibits.

Outputs from this module of the system are the completed Accessioning, Duplication, and Loan forms and an Annual or Monthly summary of all added or updated artefact information and digital media. It is also in this module where the Artefact Loans process will be automated.

3.2 Presentation

After Acquisition, presentation comes in next. Presentation provides the viewers a look of the artefact as in a virtual museum.

Web-based tools would be used to virtually present the artefact and as a result it could tempt viewers to see the real thing and thus provide more

audience in the museums place. The virtual museum could act as also a extension for people who are far away from the museum. Basically the goal of the virtual museum is to gain a wider range of audience, more specifically people far from Ilocos Norte. Also, given that the artefacts already have tags, the museum could make a specific theme from these tags and use these tags to manage and select which artefacts are to be presented.

Inputs that would go in this module would be the ratings and comments of the audience who visits the website to determine what the viewers really think of the artefact and most importantly which the museum could also use to determine which artefacts are to be presented in the next quarter based from the ratings and suggestions the audience made on a particular artefact. Also, this can be guidance to the curator to what should mostly be displayed so that audience would be given more opportunity to view the artifact. Another input would be the queries regarding the artefact and the chosen artefacts for presentation.

The outputs under the presentation module would be the artifact information, summary of quarterly exhibits and top rated artifacts. All of these outputs provide information to the museum employees about the exhibition and what the audience thinks of the artifacts as a feedback.

3.3 Conservation

Given that one of the main problem that the museum has is the difficulty they have in monitoring their artefacts since they have more than a thousand artefacts but their catalogue system is just using either a word or excel file.

The proposed system would be able to help in the conservation process by aiding the museum in monitoring their said artefacts. With the proposed system, users would be able to keep track and monitor each and every one of the artefact's cleaning schedule and would be alerted when it is time for the artefacts to be cleaned. In addition, given that cultural artefacts deteriorates over time, gets damaged, or even lost, the museum needs to monitor and track these changes as well as the locations of

these artefacts. With the artefact catalogue of the proposed system, the museum would be able to easily monitor, keep track and update the status of the artefacts in case something happens to it; required inputs would be when the artefact was damaged/broken/lost, who broke it, how it was broken or other information which the museum deems important.

Monitoring activities are inputted to the module for the system to recognize what the activities of monitoring are and, as an output of the system, there would be a Maintenance Audit and Annual Summary of Cleaned Artefacts. The Maintenance audit also provides the information on who cleaned the artifact and who is responsible for cleaning and not cleaning the artifact at a designated time period. While the summary of cleaned artifact and current status provides information of the cleaned and uncleaned artifacts of the past and the current status of the artifact on to whether it is broken, needs repair or if it has been modified.

3.4 Deaccessioning

The deaccessioning module is basically an automation of the request and approval process for removing/disposing a certain artefact from the storage or display of the museum.

The system would have a deaccessioning form, which contains why would the employee of the museum want to dispose of a specific artefact, which would then be waiting for the approval of the Gameng Foundation. The user would be notified whether the request was approved or not. If the deaccessioning request was approved, the system would automatically update the artefact catalogue stating that the artefact is no longer part of the museum collection.

Inputs for this module of the system would be the deaccessioning request, which can be given by museum staff when, for example, an artefact is beyond repair, and a deaccessioning approval, which can only be given by the museum director in line with approval from the board of directors (Gameng Foundation) and the provincial government. As for the outputs of this module, there would be the

completed deaccessioning form and an Annual or Monthly summary of all deaccessioned items.

3.5 Screenshots



Figure 1.0 Login Page

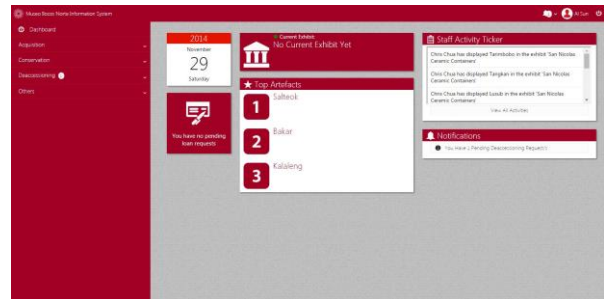


Figure 2.0 Main Menu Page

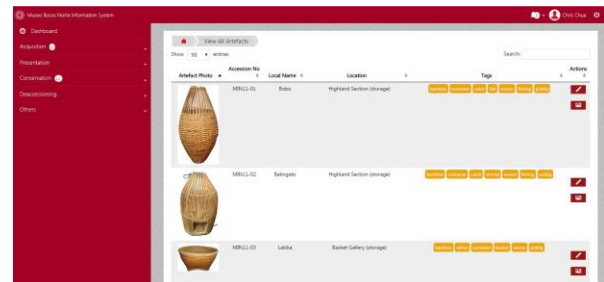


Figure 3.0 Artefact Catalogue



Figure 4.0 Choosing Artefacts for an Exhibit

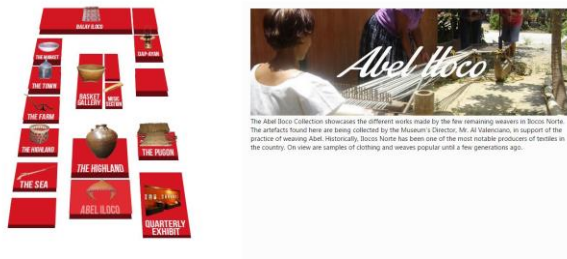


Figure 5.0 Floor Map

4. CONCLUSIONS

The proposed system opens up new possibilities and the team hopes to inspire others to focus on other issues in the society with this system. Aside from the opportunity of improving transaction time through the automation of forms and processes, the proponents also wanted to address several problems faced by the Museo.

One of the problems encountered by the museum, **difficulty in monitoring lost, stolen, or damaged, artefacts**, was addressed by allowing the tracking of an artefact's location through the system. Users can search for a particular artefact in the catalogue and see where the artefact currently is. Examples of locations would be the museum's storage, one of the museum's collections, under maintenance, or a statement indicating that the artefact is currently loaned out to a borrower. Also, the artefact is removed from the catalogue once it is deaccessioned or being loaned out so that users will no longer see it as a candidate for exhibits.

In solving the problem wherein the museum experiences **difficulty in monitoring the maintenance and cleaning of artefacts**, the team came up with a

maintenance module. In this module, the artefact schedule being followed by the museum was integrated into the system wherein the Museum Staff receive notifications regarding artefacts to be cleaned during a certain period. This aids the staff in keeping track of the artefacts they need to maintain for a given period. On the side of the Gameng users, a Maintenance Audit report is provided so that they may be able to keep track of the artefacts that were and were not maintained. This aids Gameng in monitoring whether the Staff are able to maintain artefacts on schedule as well as hold them accountable in case certain artefacts are not maintained. As for the Curator, this module helps monitor the condition of the artefact as, during maintenance, the Staff can not only input narratives on the artefact condition but also upload photo proof in case an artefact is in need of or undergoing extensive maintenance. The Curator can gauge from these photos and information whether an artefact is still a viable candidate for exhibits. By being able to monitor the artefacts' conditions, the Museo will be able to better prevent the deterioration of these as they can assure that each artefact is undergoing proper maintenance.

Another problem faced by the Museo was **difficulty in locating artefact information**. This problem was solved through the development of an Artefact Catalogue, which allows users and audience to easily search for artefacts. Through the catalogue, one will be able to have access to artefact information such as its provenance, a brief background, its materials, dimensions, and the like. Also, through the artefact catalogue, information about the artefact can be updated such as the description, usage, the tags assigned to it, and even its photograph.

In solving the problem of the Museo's **inability to monitor changes (revisions/updates) of artefact information**, automating the different forms allows users to easily submit requests and also be informed regarding these. In terms of deaccessioning, the museum is now updated on which artefacts are no longer part of their collection. Though the artefact information is still available, the artefact is removed from the catalogue so that it no longer appears as a choice when coming up with an exhibit as well as in the list of artefacts to be maintained and is instead replaced with a deaccessioning report and an option to view the deaccessioned artefact's details.

Lastly, the problem of **difficulty in**



increasing the Museum audience was addressed by the team through the creation of the system's front-end website. Aside from providing users with access to information about the Museo's artefacts, the audiences are also given the opportunity to comment on artefacts and even rate these. These ratings also aid the Curator in coming up with exhibits as artefacts with higher ratings are displayed higher in the list of suggested artefacts when creating an exhibit. Audiences will also have access to a Virtual Map of the museum wherein they can access information regarding a certain collection as well as some of the artefacts available in that collection. With this, audiences can get a preview of what the Museo has to offer even before they visit. Information regarding the Museo's location as well as ticket prices and other details are also available for audiences to refer to. This allows online users to learn about the Museo even before they visit so that their interest regarding the heritage of Ilocos Norte will be piqued.

5. ACKNOWLEDGMENTS

The team would like to thank the following people, as, without their help, this study would not have been a success. **Mr. Al Valenciano**, the Museum Director, **Ms. Hannah Cunanan**, the Museo's Curatorial Consultant, **Mr. Christopher Villa**, the Museo's Keeper of the Collection, **Ms. Araceli Drake**, the Museo's Administrator and a representative of the Gameng Foundation, and **Ms. Erlinda Simon**, the Museo's Operations Manager.

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