SWU | IT AND ENGINEERING

"COEMETERIUM SYSTEM"

A Capstone Project

Presented to the Faculty of the College of IT and Engineering

Southwestern University – PHINMA

In Partial Fulfillment of the Requirements for the degree Bachelor of Science in Information Technology

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Chapter 1

Introduction

1.1 Rationale of the Project

Humans have used technology for ages. People live comfortably by using it hassle-free. It helps human save time in doing multple things. Nowadays, people have to live in a fast-paced environment to be more productive and competitive. From time to time, a person has to visit a local cemetery not just to mesmerized but also to inquire a grave spaces, or lot spaces and its information. But with a busy schedule, sometimes it is more practical to check a cemetery without getting there physically.

Management Information System (MIS) is a general term for software designed to facilitate the collection, storage, retrieval and use of data for the purpose of efficient management of operations. This term is sometimes used synonymously with database management system (DBMS) although normally used in a more general sense. The term has no widely accepted definition and thus can be applied to any system of software that facilitates the storage, organization, and retrieval of information within a computer system, without the implication that it need have all the essential characteristics of a DBMS.

The proponents came up with a project that will benefit the local cemetery (Carreta Public Cemetery) and will develop a reliable system that the administration can use to record all the information about departed loved ones, including names, age, and the exact date and time they have departed and the cause of their deaths (optional). The system can allow viewing and printing of records especially for such information, as requested by families or relatives.

Technology is crucial in making tasks fast and efficient. It is much expected that this project, Coemeterium System, should meet this criteria.

1.2 Review of Related Studies

This chapter presents the related studies after the profound and comprehensive search done by the proponents. This will also present the

synthesis of theoretical and conceptual framework to fully understand the proposed system to be developed.

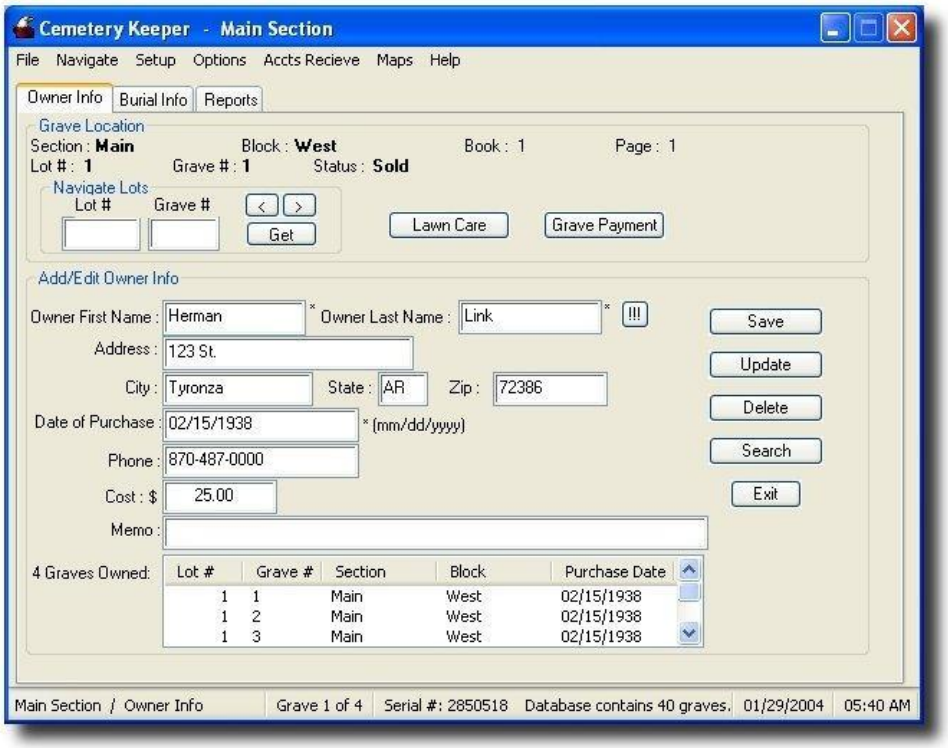


Figure 1: Cemetery Keeper

This system is a cemetery record keeping system that will allow the user to see who is buried next to whom or if there is an available grave next to specific person. It uses Microsoft Access Database – Relational Database. Easy to use, Capable of keeping up with annual lawn care dues and printing invoice, Allows monthly payments of graves, Navigate lots in each section, View of map and Includes fast search capabilities of owners and occupants (EagleSoar Software: Cemetery Keeper, 2010.http://www.eaglesoartech.com/).

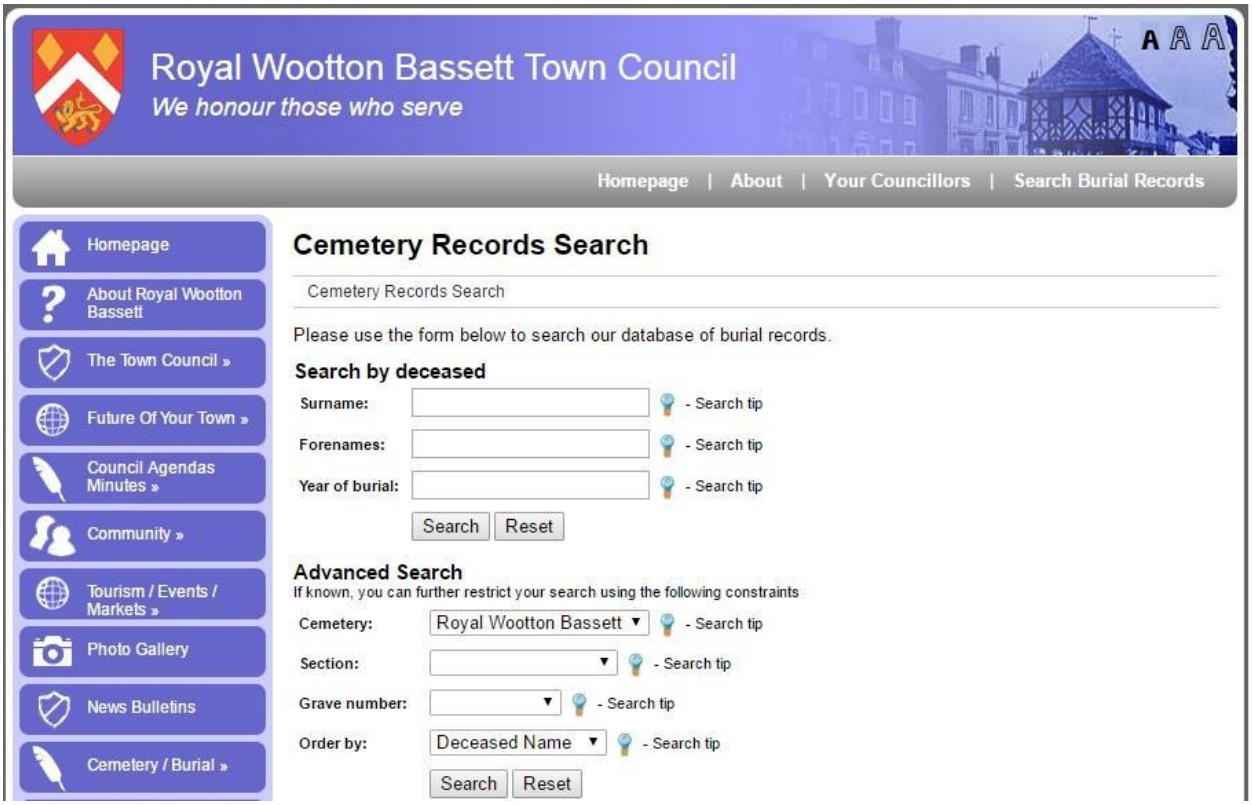
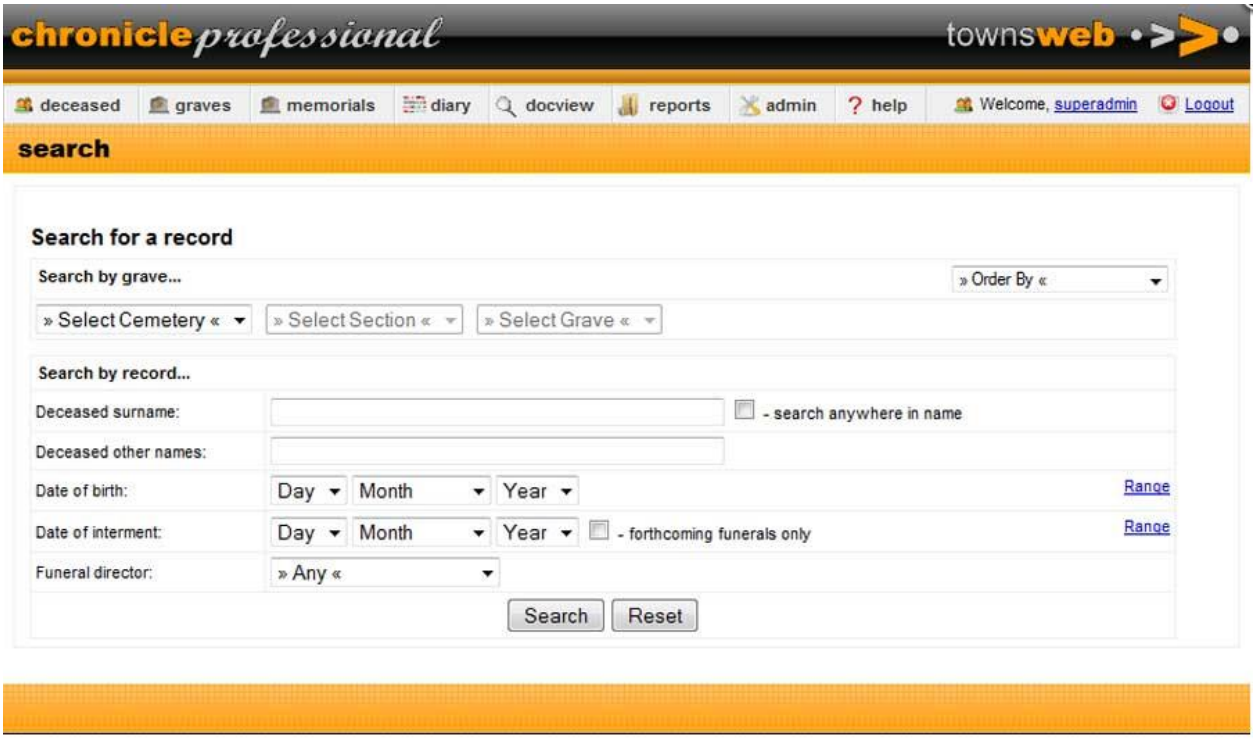


Figure 2: ROYAL WOOTTON BASSETT

Shows the Royal Wootton Bassett Town Council website. The website covers information about their town council, agendas, community, tourism, events and markets. For the relation of the proposed system, the website includes cemetery tab where the people in town can search for the burial records. As you can see on figure 2, they can search the records by inputting the Surname, Forenames and the year of burial (Royal Wootton Bassett Town Council, 2011-Present. https://royalwoottonbassett.gov.uk).


chronicle professional
townsweb
deceased
graves
memorials
diary
docview
reports
admin
help
Welcome, superadmin
Logout
search
Search for a record
Search by grave...
» Order By «
» Select Cemetery «
» Select Section «
» Select Grave «
Search by record...
Deceased surname:
- search anywhere in name
Deceased other names:
Date of birth:
Day
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Year
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Date of interment:
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Figure 3: Chronicle Professional

Figure 3 shows the Chronicle Cemetery Management Software. It is hosted online allowing access from any location with an Internet Browser. Chronicle allows you to define cemeteries, sections and graves. It allows you to record deceased records, funeral details, grave ownership and purchase costs, search for records by cemetery, section, grave, name, date and use wild cards. Chronicle allows you to View & update a daily diary of funerals (TownsWeb Archiving,2016).

1.3 Comparative Matrix

The comparative matrix showed the relationship between the features of the related projects to the project which is Coemeterium System. It showed every feature common within the system. In order to see the common features, the check marks served as the guide if the particulars were supported by the mentioned system.

Table 1: **Comparative Matrix**

Features	**Cemetery Keeper**	**Royal Wootton Bassett Website**	**Chronicle Professional**	**Coemeterium System**

Geographical Map	☐	☐	☐	☐
Online Access	☐	☐	☐	☐
Friendly Dashboard	☐	☐	☐	☐

Legend:

✓Supported **x** Not Supported

1.4 System Theory

Record Management System Theory

Record Management System (RMS) is the administration of records regardless of the format for an organization throughout the record-life cycle. The activities in record management include time efficient creation, maintenance, and deletion of the records of a business transaction documents by the organization. Documentation may exist in contracts, memos, paper files, electronic files, reports, emails, videos, instant message logs or database records. Paper records may be stored in physical boxes on-premises or at a storage facility. Digital records may be stored on storage

media in-house or in the cloud. The goal of records management is to help an organization keep the necessary documentation accessible for both business operations and compliance audits. In some small to mid-sized businesses, spread sheets are used to track where records are stored, but larger organizations may find records management software suites that are tied to both taxonomy and a records retention schedule to be more useful (Rouse, Margaret. August, 2014).

Sketch theory

Sketch theory is the intensities perceived by any visual system function in four main factors: the geometry (meaning shape and relative placement); the reflectance of the visible surfaces; the illumination; and the viewpoint. The detection of intensity changes, the representation and analysis of local geometric structures and the detection of illumination effects take place in the process of generation of the primal sketch. One important principle of sketch is that an independent spatial organization of the viewed intensities in a scene reflects the structure of the visible surfaces. It is intended to represent the orientation and depth of the visible surfaces as well as discontinuities. It is composed of some local surface orientation

primitives, distance from the viewer and discontinuities in depth and surface orientation, and, as in the previous representation, it is specified in a viewer-centered coordinate system.

Chapter 2

The Problem

2.1 Statement of the Problem

Modern technology has great effect in the lifestyle of everyone. This helps make our way of living comfortable and in some ways easier. The continuous inventions and innovations of things that would help us, is now rampant.

Before cemetery mapping and information were thought, the proponents are aware of the enormous challenges and problems that will encounter for this type of system. These are the obstacles that challenge the proponents:

1. What are the problems encountered in the current system in terms of:

    1.1 Searching deceased records;

    1.2 Locating the grave

    1.3 Updating the records of transferred deceased persons

2. Based on the findings above, What system could be proposed?

3. What functionalities can be integrated in the proposed system?

2.2 Scope and Limitation of the Study

Advances in technology continue to simplify the procedures we go through every day. Traditionally, data collection as a well as grave searching was performed by a cemetery personnel with the use of the clipboards, pens and handwritten notes. Most cemeteries continue to rely on these antiquated paper documents as their sole source of burial and local information. These documents are subject to loss and destruction, compounding the difficulties with the data retrieval process.

The system will record all the information of the departed loved ones, including their names, age, and the exact date and time they have departed, and the cause of their deaths. The system will allow viewing and printing of records especially for those information, as requested by their families and relatives. The system will also support storing and searching information with regard to the deceased as requested by their relatives.

The system will have a dashboard and a color-coded map-to enable the administration and the clients to easily view and identify the locations, based on the colors by set, the proponents will be using primary colors, Red for Occupied, Green for Available Spaces/Lots, and Yellow for Expired Graves.

The system will be operated by the administration/personnel of a certain cemetery. This allow the administration to add, edit, view, and update deceased records, and for the Clients will allow to search and view their loved ones information more securely for it will enable an authentication login before they can view records. All the records will be stored on a database.

The system will be able to view the location of a certain individual as well as the location of an available spaces and information about the selling of burial lot, space rentals, and the processes that will be needed by the client. It will be online.

This system cannot process any transaction that involves payments. Only authorized personnel can access the system and can retrieve the data of the said cemetery. The authentication of certificate or information is done manually.

The information will be categorized, and it will not monitor the items and equipment of the cemetery.

2.3 Significance of the Study

Technology has been long around in our society. It has aided the world to achieve task fast and efficient. As time pass by, its capabilities grow same with its demand.

To overcome the deficiencies and stressfulness of manual system, the proponents came up with the cemetery mapping and information system to automate the processes. This system will help minimize the manual recording of the clients and depart love ones' information. In addition, getting and checking the information of the clients and departed love ones will make the process faster or more efficient.

The design aims the following:

1. To the Administration/Personnel, they will feel more secure during the process and recording of the clients and departed love one's information. This will enable them to view the location of the lot, available space, rentals and information about selling of burial lot.

2. To the Clients, this will help them to check the information they need with ease. This will also allow them to easily view and identify the location of their departed love ones' lot.

3. To the Researchers, the system will help them develop a reliable reference for more enhancement of the study.

2.4 Project Highlights

Paper records and manual processes are susceptible to errors. Coemeterium System (Cemetery Mapping and Information System) makes it more efficient, able to provide better customer service and its record keeping more accurate.

- Color coded map
- Will be operated by the administration or personnel of the cemetery.
- Guest or Clients access (authentication login).
- Will add, edit, view and update deceased records.
- Store records on a database.
- Getting information about the location of lot will be made faster including available space and rentals.
- Will allow clients to search and view the flow and the process of the cemetery as well as the information of their departed love ones.

- Dashboard, for the clients to easily view the updates and friendly information.

2.5 Technical Background

Figure 4: PHP(Hypertext Preprocessor)

Hypertextpreprocessor is a server-side scripting language designed for web development but also used as a general-purpose programming language. It can interact with data into and out of the server. This will be the backend language in creating the website.

Figure 5: MySQL

MySQL is an open source relational database management system based on Query Language for handing database. It is one of the most used databases in web application. It runs on multiple platforms, and has a user interface.

Figure 6: JavaScript

JavaScript an object-oriented computer programming language commonly used to create interactive effects within web browsers. It is multi-paradigm language, supporting object-oriented, imperative, and functional programming styles. It will be the frontend of the website, together with the HTML, and CSS.

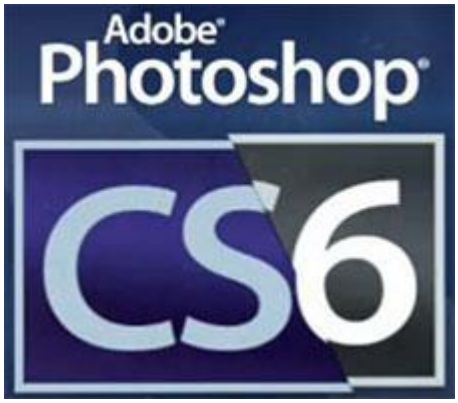

Figure 7: Photoshop CS6

An image editing software developed and manufactured by adobe System Inc. The software allows users to manipulate, crop resize and correct colour on digital photos. This will be used in designing our system.

Chapter 3

PROJECT METHODOLOGY

The locale of the study takes place in Cebu City specifically in Barangay Carreta. The city comprises 81 barangays. These are grouped into two **CONGRESSIONAL DISTRICTS**, with 45 barangays in the northern district and 36 in the southern district. Barangay Carreta belongs to Northern District, and bounded by Barangay Lorega and Barangay Hipodromo.

Figure 8: Vicinity Map

This figure shows the vicinity map of Brgy. Carreta, Cebu City, where the Carreta Public Cemetery located.

BARANGAY CARRETA

BARANGAY OFFICIALS	
Barangay Captain	Hon. Eduardo C. Lauron
Councilor	Hon. Mariano C. Lauron
Councilor	Hon. Evangeline L. Natividad
Councilor	Hon. Jeffrey J. Oliveros
Councilor	Hon. Carmelita B. Francisco
Councilor	Hon. Erwin P. Navales
Councilor	Hon. Geraldine C. Hortelano
Councilor	Hon. Rey B. Francisco

Figure 9: Brgy. Carreta Officials

This figure shows the Barangay Officials of Brgy. Carreta, Cebu City.

The researchers choose the Carreta Public Cemetery as the research environment, in order to help the clients of Carreta Cemetery.

The Carreta Cemetery, a public cemetery of the Cebu Metropolitan Cathedral under **MSGR. Renato C. Beltran Jr., P.C.** a Member Team of Pastors Cebu Cathedral and located along M.J. Cuenco Avenue.

3.1 Requirements Specifications

The requirements specifications tackles the functionality of the project which included the technical operations that manage in the reliable impact of the application. It discussed all the requirements that being used during the development of the project. Coemeterium System (Cemetery Mapping and Information Technology) had the following non-functional requirements:

Interoperability

The proponents will ensure that the system will be able to run/execute with minimum system requirements: Internet Explorer, Mozilla Firefox and Google Chrome. For the best viewing of the system, the researchers recommended Mozilla Firefox and Google Chrome.

Performance

The system will be able to perform its operation and functions smoothly depending on the speed of their internet connection.

Security

This system was provided with authentication which means only administrator or personnel can do the recording of information; on the other hand, clients can only view the website.

Maintainability

Maintainability is important. The system should be maintained since all the data records are stored and kept in database. Reformation of design interface can be done conveniently.

Safety

In case the administrator forgets or loses Password, the repair functionality helps by choosing "forgot password" option in the main login window. To this kind of situations, backups can be done regularly. While typing the password, if the caps lock is on it must be notified.

Flexibility

Since the system is dynamic, it actually accommodated updates of the data and records.

Timeliness

The system carried out all the operation with consumption of very less time.

3.1.1 Operational Feasibility

The proponents displayed the functionalities of the system with the use of a fishbone diagram. The proponents guaranteed that the system is simple and can be easily understood by the users.

Figure 10: Fishbone Diagram

Coemeterium System (Cemetery Mapping and Information System) fishbone diagram. The figure shows all the list of related features the system consisted. It is categorized by the following: Machine, Management, Methods, Maintenance, Manpower, Materials, and Mother Nature.

3.1.2 Functional Decomposition Diagram

Figure 11: Coemeterium System Functional Decomposition Diagram

The figure shows the functional decomposition diagram of the administrator/personnel and the clients of the proposed system to have a clear view.

3.1.3 Technical Feasibility

The technical feasibility was intended in the development of the system wherein it met the capabilities of the researches in implementing the system. Upon creating the system, the researchers used some application or software that was useful in developing the system. The researchers used HTML (Hyper Test Markup Language), PHP (Hypertext Preprocessor), JavaScript, CSS (Cascade Style Sheets) and Notepad++ as the bases and a layout enhancement. The researchers also used Adobe Photoshop CS6 for the editing of logos and other necessary images that are useful in developing the system. For the database of the system, which is the back end part, the researchers used “WampServer” which contains “phpmyadmin”. All the software mentioned had been use for other researcher and it’s already proven that these are good and efficient to use in the system.

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Task ID	Task Name	Start Date	End Date	July 2016					August 2016					September 2016					October 2016				
				1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1	Rationale of the Project	7/28	8/24																				
2	Review of Related System	7/29	10/29																				
3	System Theory	7/23	10/29																				
4	Statement of the Problem	7/29	10/29																				
5	Scope and Limitation	7/15	10/29																				
6	Significance of the Study	7/23	10/29																				
7	Project Highlights	7/09	10/29																				
8	Technical Background	7/25	10/27																				
9	Requirements Specification	7/25	9/27																				
10	Operational Feasibility	7/25	10/1																				
11	Functional Decomposition Diagram	7/25	10/28																				
12	Technical Feasibility	8/18	10/2																				
13	Gantt Chart	7/18	10/29																				
14	List of Modules	7/15	10/27																				
15	Requirement Modelling	7/29	9/27																				
16	Activity Diagram	7/26	9/28																				
17	Object Modelling	7/29	10/29																				
18	Design	7/29	10/29																				
19	Development and Testing Method	7/29	9/27																				
20	Questionnaire	7/29	9/7																				
21	Cost Benefit Analysis	7/29	9/28																				
22	Risk Assessment Management	7/29	10/1																				
23	Bibliography	9/20	10/28																				
24	Appendices	9/20	10/28																				

25	Curriculum Vitae	9/15	10/27	
26	Glossary	9/20	10/2	

Legend:
Incomplete On Going Complete

3.1.5 List of Modules

Admin/Personnel

1. Log-in and Log-out
    - 1.1 Username
    - 1.2 Password
2. Dashboard
3. Deceased Records
    - 3.1 Add
    - 3.2 Update
    - 3.3 Search
    - 3.4 Inactive/Active
4. Lot Records
    - 4.1 Add
    - 4.2 Update
    - 4.3 Search
    - 4.4 Inactive/Active
5. Map

Client

1. Dashboard
2. Authentication Login

3. Deceased Records and Lot Records

    3.1 Search

    3.2 View

4. Map

3.1.6 Requirements Modelling

Figure 12: IPO Diagram

The diagram shows the input, process, and output of Coemeterium System (Cemetery Mapping and Information System). The possible inputs are log-in details for administration. Only administration can manipulate deceased records and clients information. Clients can only view information of their love ones.

Control

The major performance of the system is to give Cometerium System (Cemetery Mapping and Information System) its very own system. It will perform efficiently once all software and hardware specifications are met.

The following are the specified control system:

- **Secured Login Details**

  The system will verify and validate the administrator or personnel through their login details.

- **Authentication Control**

  The system will authenticate the administrator details. There will also be an authentication login for clients before they can view their departed love ones' information for security purposes.

- **Confirmation Control**

  The system will prompt a message before the administrator or personnel will make changes on the records in the system. This applies on deleting records.

3.1.7 Activity Diagram

Figure 13: Login Activity Diagram

The figure above illustrated the system's flow and interaction when the administrator logged in the system. In accessing the system, the admin must provide username and password. To clients, there is no need to log in for they can only view deceased records and information.

3.1.8 Object Modelling

Use Case Diagram

Figure 14: Use Case Diagram for Admin

The use case diagram provides the overall task of the admin. It can add, update, view, search clients and love ones' information as well as the lot records. The system also includes dashboard and map.

Figure 15: Use Case Diagram for Client

The use case diagram provides the task of the clients. There will be an authentication login so they can view their love ones' information more securely.

Figure 16: Sequence Diagram of Admin

The figure shows the sequence diagram for the administration/personnel. Only the admin or personnel can manipulate all the data in the system, which includes adding, updating, viewing and searching of deceased information as well as the lot records.

3.2 Design

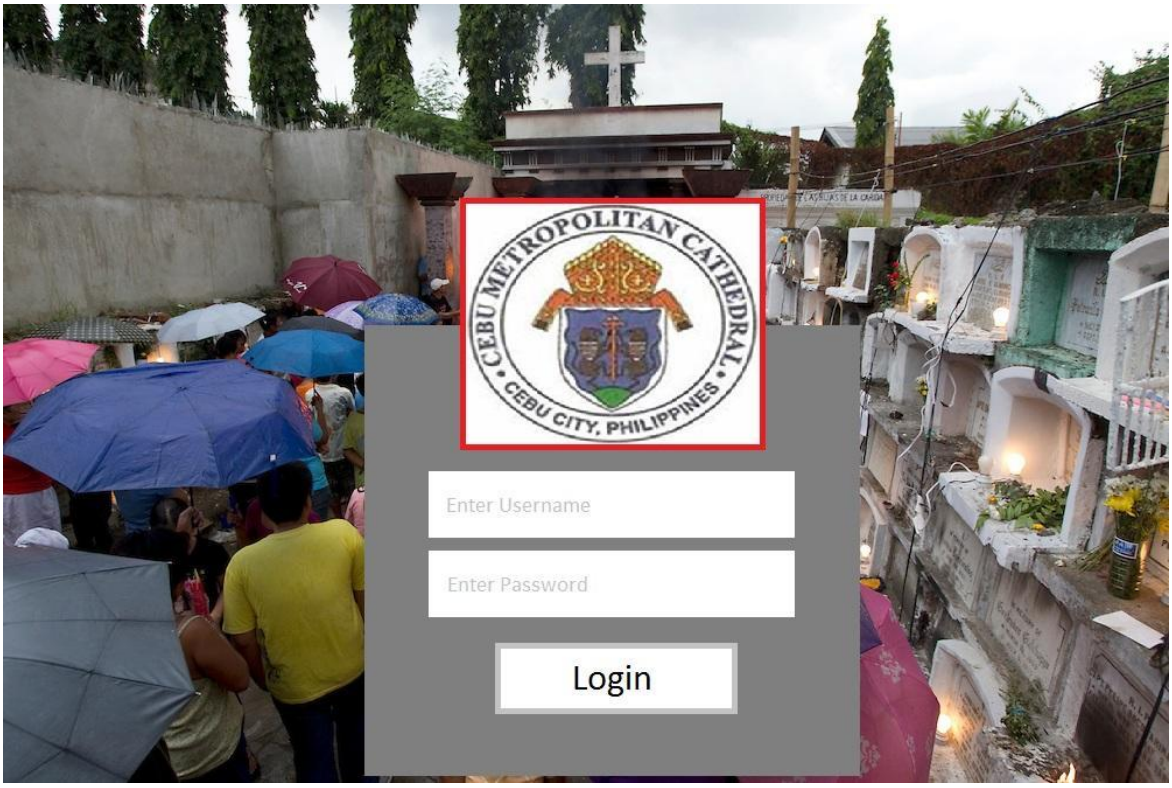

Figure 17: Login

The figure shows the Login for the Administration and Clients.

Figure 18: Home page for Administration/Personnel

The figure shows the home page of the administration/personnel, where it can view easily the recent files. The homepage shows a slide of a bulletin, like the holy mass schedule, and the advertising of the available lots or rental spaces. This also shows the activity calendar, where it can view the events, and also edit.

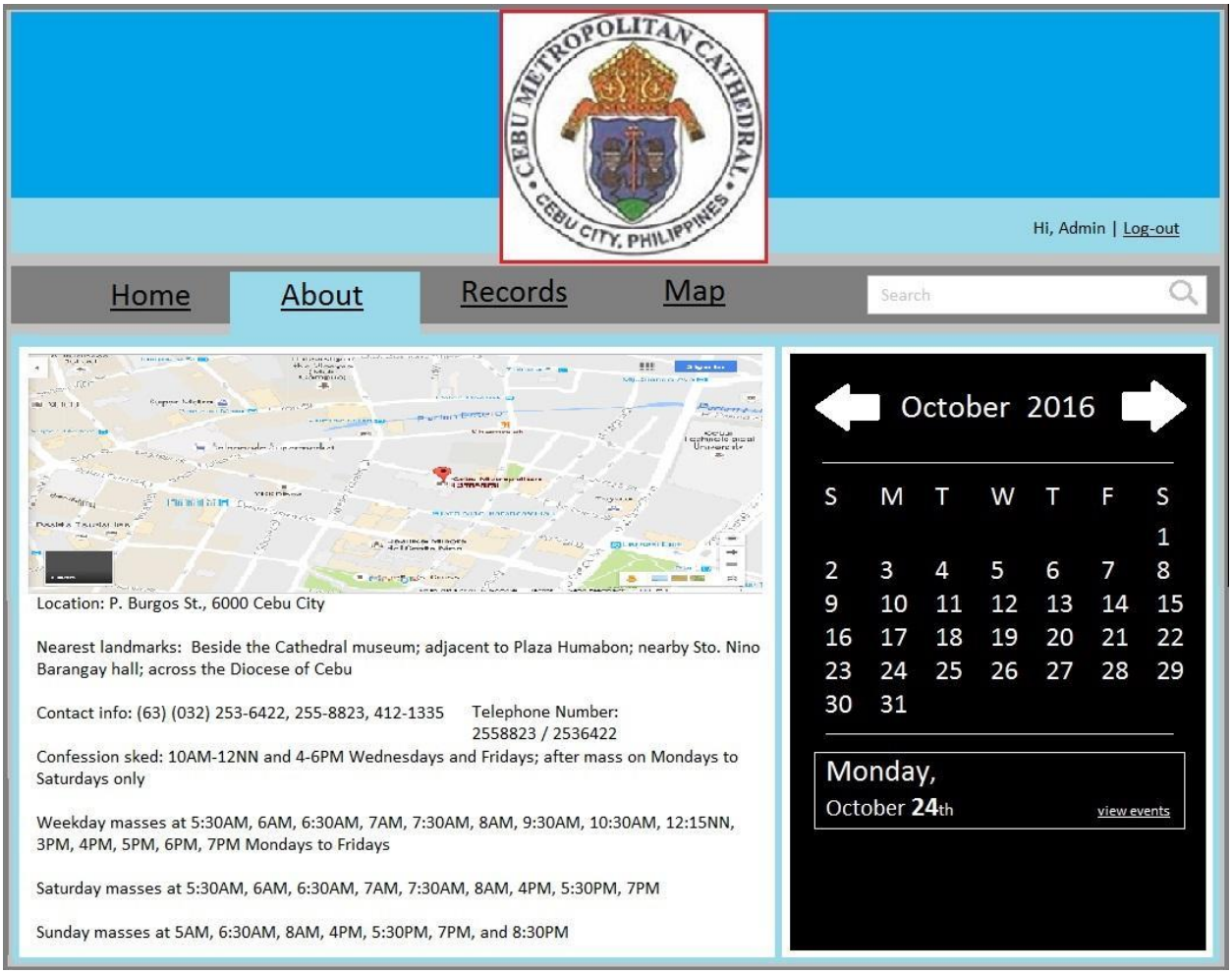

Figure 19: About page for Administration/Personnel

The figure shows the about page of the administration/personnel, where it can view and edit the important information about the Cebu Metropolitan Cathedral, and for the clients to be easily view the contact information, the address of the main office. It also show the schedule of the confession, the holy mass schedule. This also shows the activity calendar.

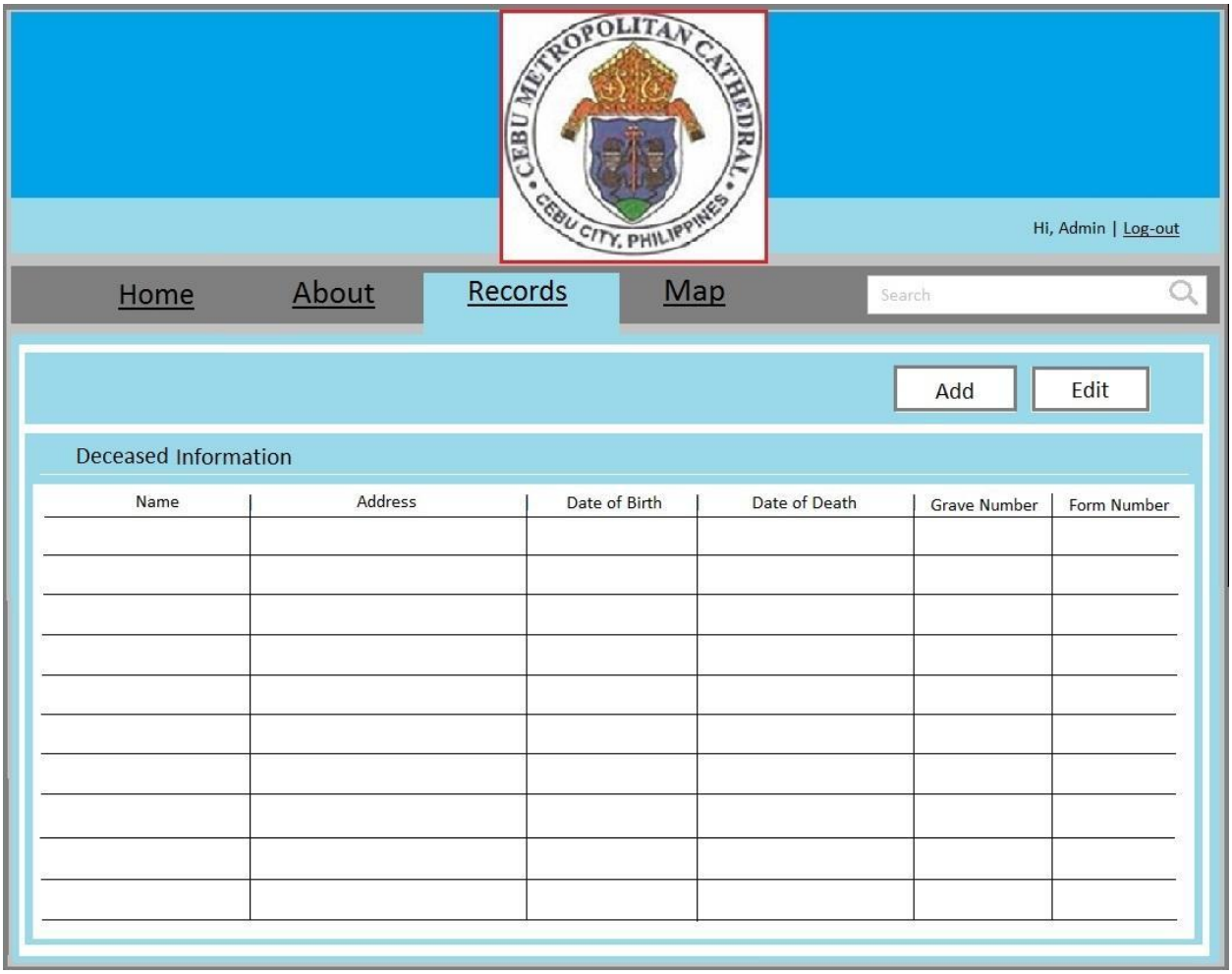

Figure 20: Records page for Administration/Personnel

The figure shows the records page of the administration/personnel, where it can view, add and edit the important information about the deceased persons, and also shows the search bar for easily finding the exact person or files.

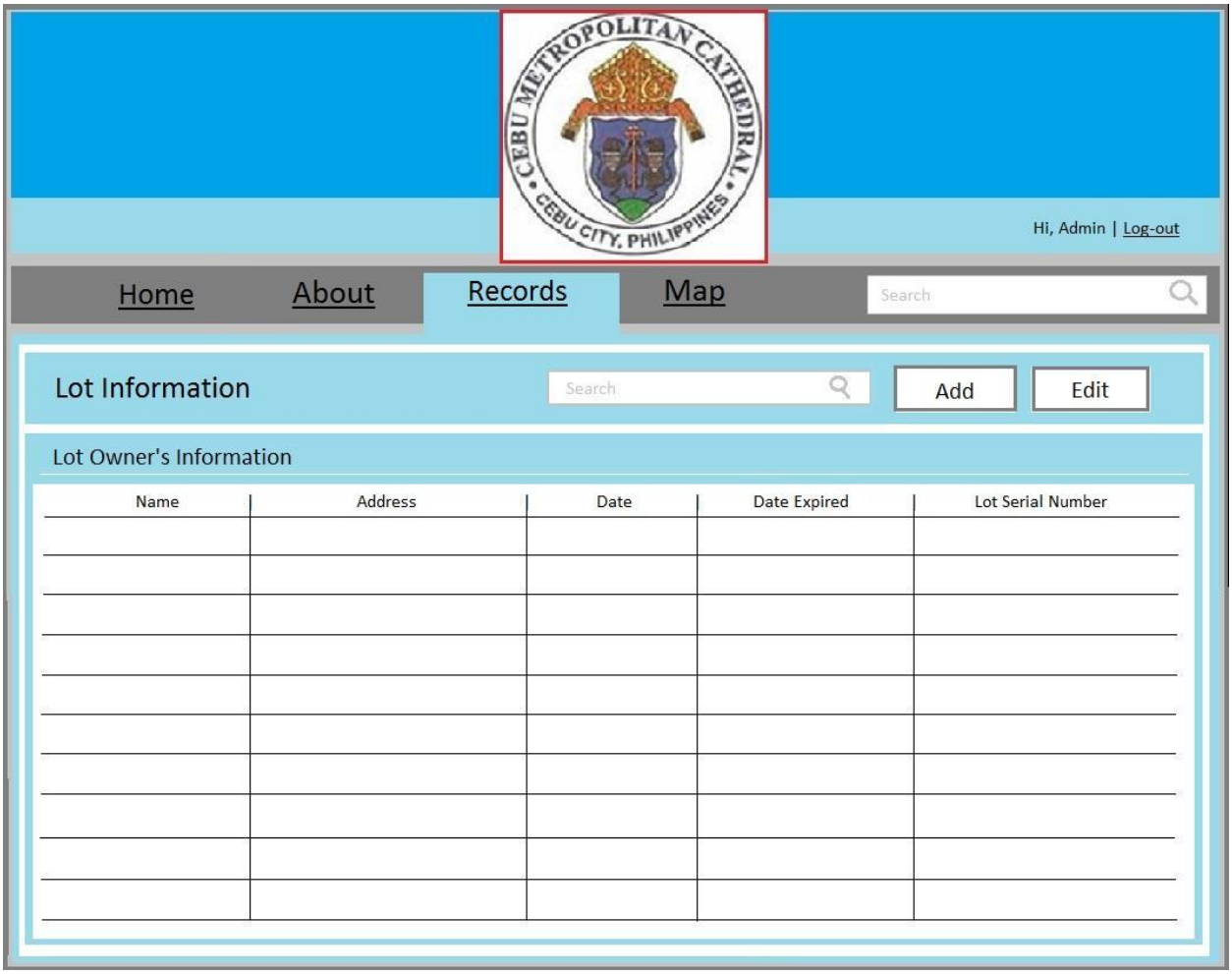

Figure 21: Records page for Administration/Personnel

The figure shows the records page of the administration/personnel, where it can view, add and edit the important information about the Lot information, and also shows the search bar for easily finding the exact lot information or files.

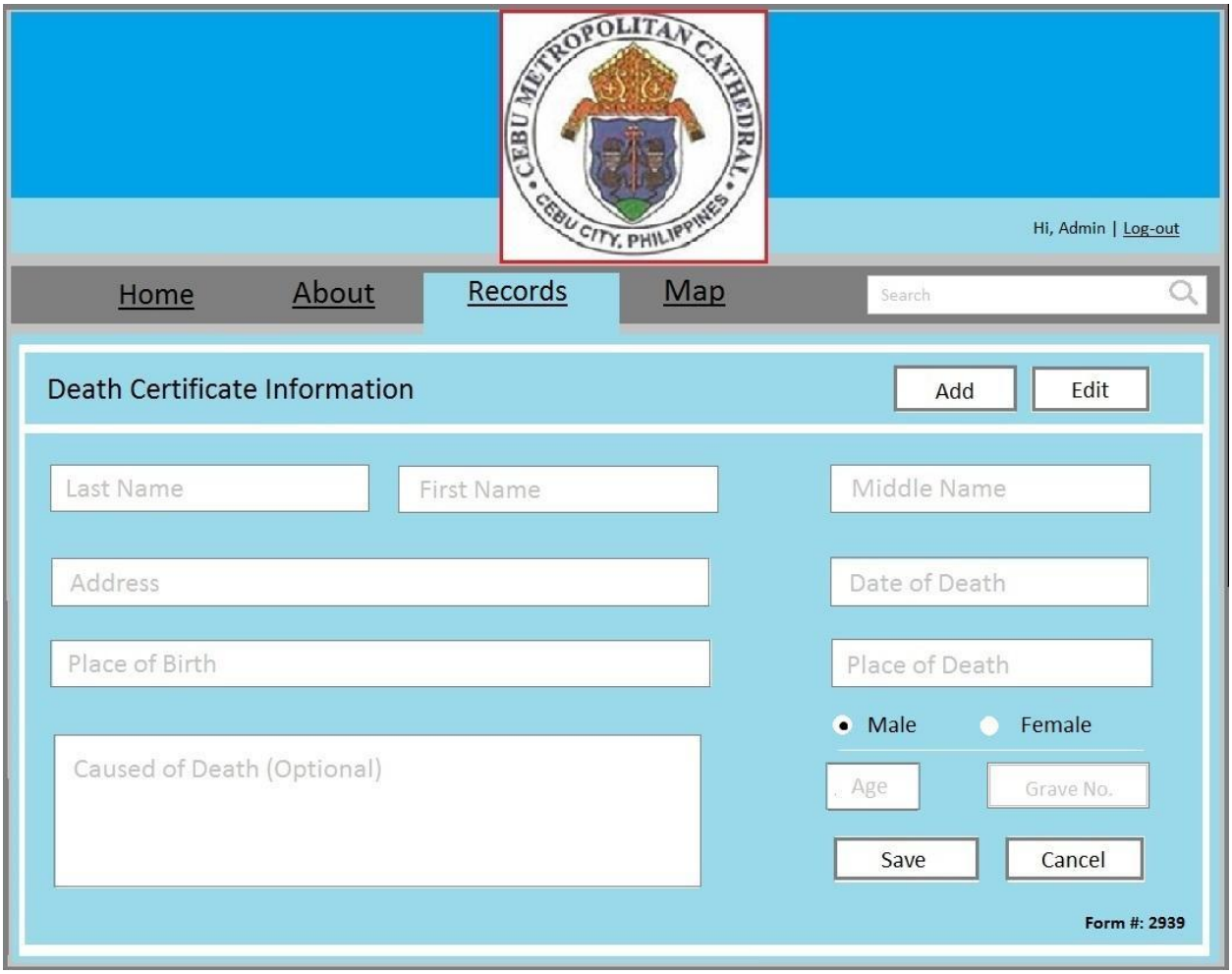

Figure 22: Add/Edit page of Death Information for Administration/Personnel

The figure shows the Add/Edit page of the administration/personnel, where it can add and edit the new information of the deceased person, where it can input their Last Name, First Name, Middle Name, Address, the Place of Birth, Place of Death, Gender, Age and the Grave Number, this can also input the deceased persons caused of death for optional, or remarks, after the personnel saving the file, the personnel will provide the Form Number located at the bottom left corner to the Client.

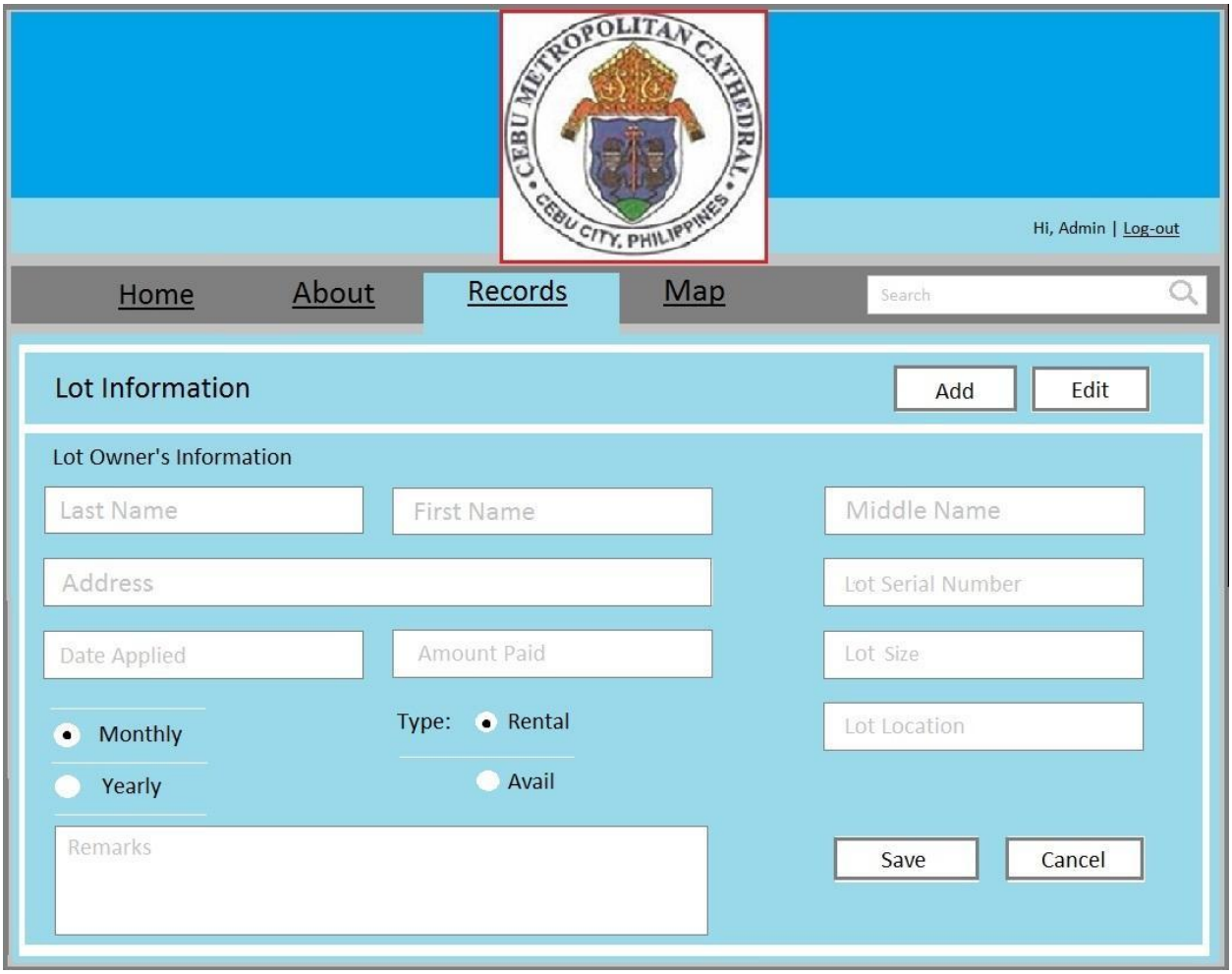

Figure 23: Add/Edit page of Lot and Rental Spaces for Administration/Personnel

The figure shows the Add/Edit page of the administration/personnel, where it can add and edit the new information of the Lot owners information. Where it can input the Last Name, First Name, Middle Name, Address, Date Applied, Amount Paid, the Lot Serial Number, Lot Size, Lot Location, and the type of Rental and Available Spaces, and the Monthly and Yearly of the Lot, and also it can add some remarks.

Figure 24: Home Page for the Clients

The figure shows the home page for the clients, where the clients can easily view the dashboard information for the Available graves, or Available lots, Deceased records, Lot records, and Inquire for further details of the cemetery. The clients will be able to login there Authentication Login (Form Number) provided by the cemetery personnel. The client will be able to click the geographical map of the cemetery and view events in the calendar.

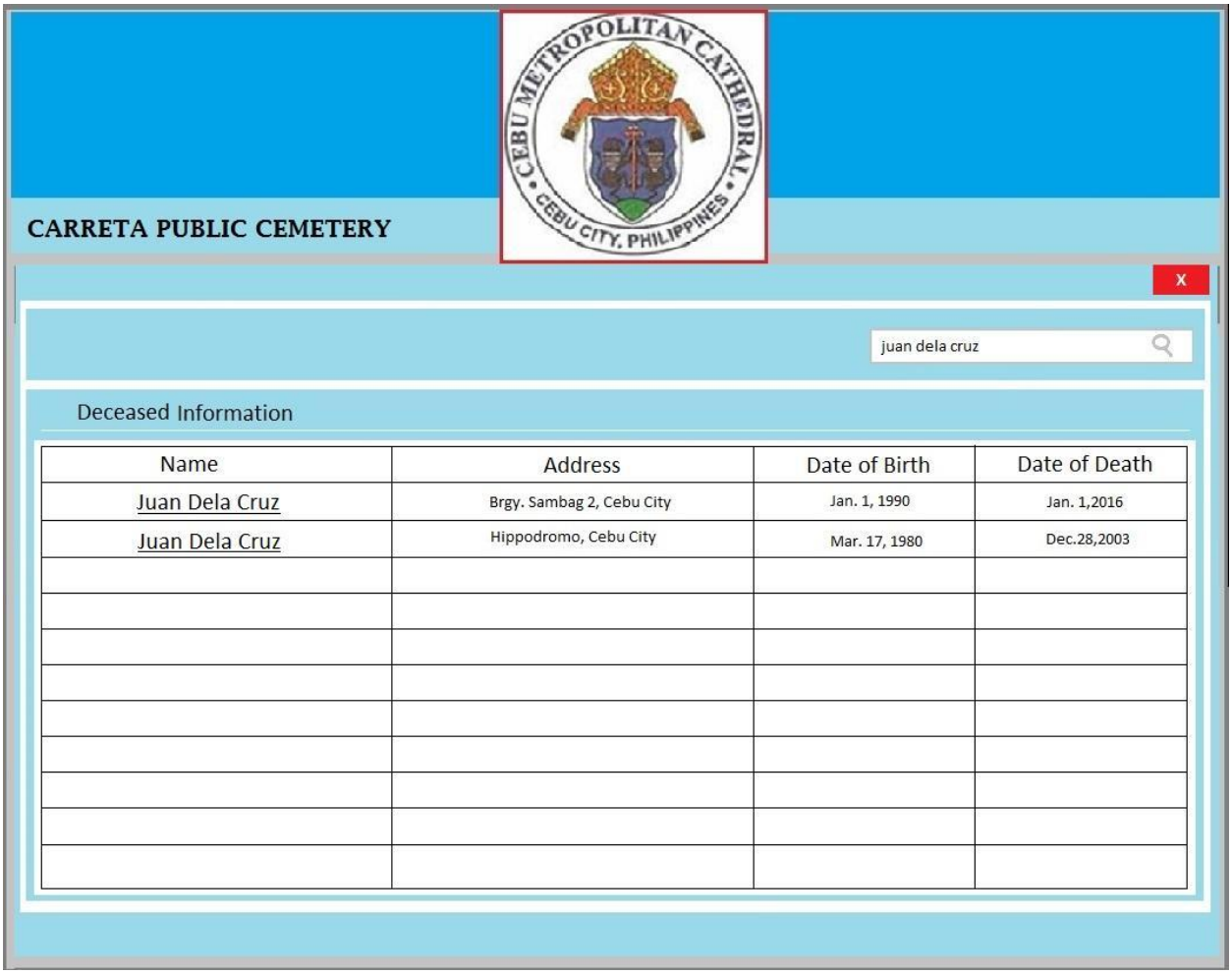

Figure 25: Records Page for the Clients

The figure shows the client can easily search the deceased persons basic information like names, address, date of birth, and date of death.

Figure 26: Authentication Login

The figure shows after the client clicked the name of their departed love ones, the system will ask for the Form Number of the client as an authentication login and for security purposes.

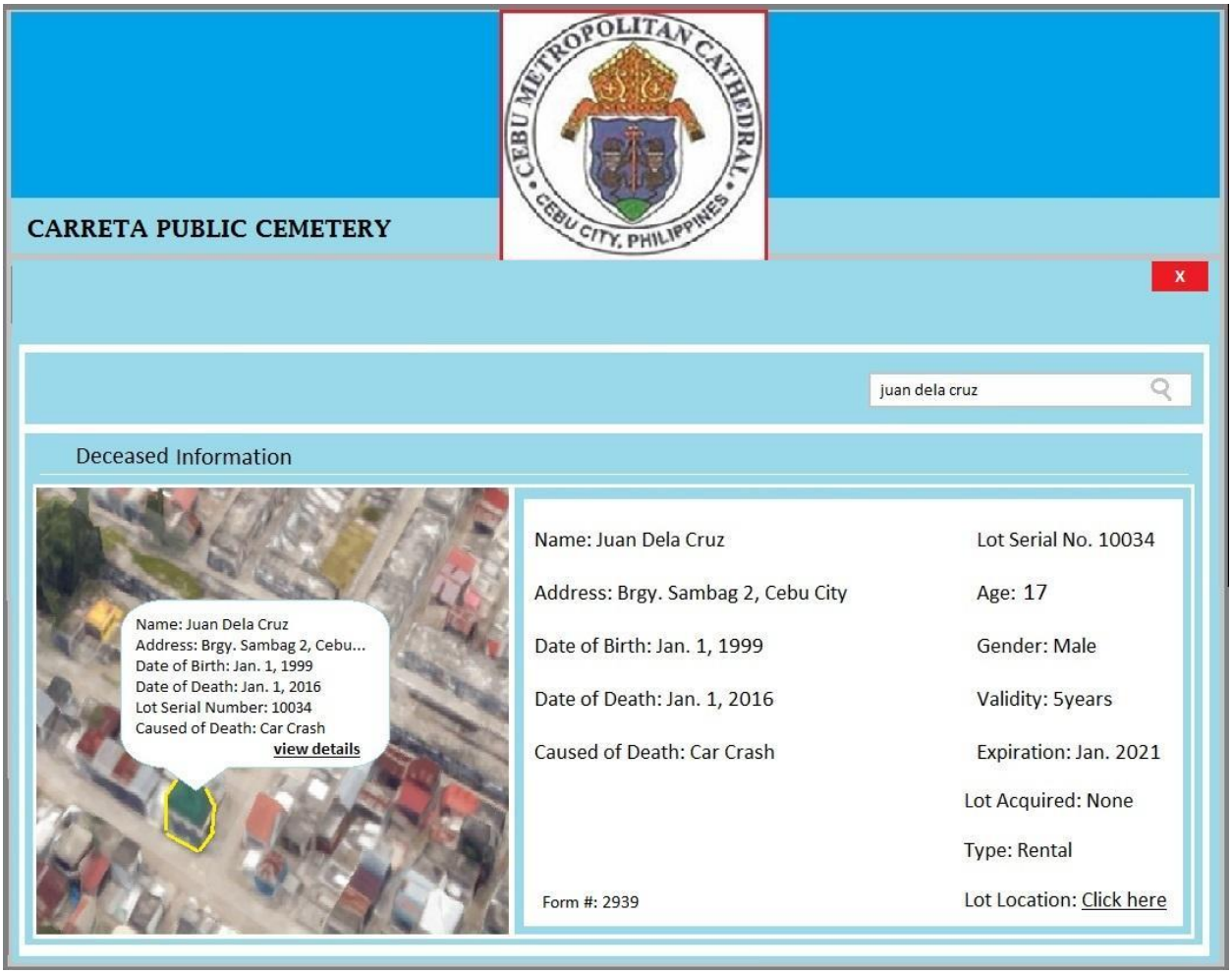

Figure 27: Full Records Information Page for the Clients

The figure shows the client can easily view the full Deceased Information, and by clicking the Lot Location of the Deceased Person, the map will highlight the tomb of the Deceased Person.

3.3 Development

In development of the system, software and hardware are being used. The following software and hardware are needed to make the system work properly and efficiently. The software and the application are needed to run the system properly and the hardware specifications are necessary to make the system functional in deploying the system.

Software Specifications

Operating System	Windows 7 or higher
Programming Language Support	PHP, JavaScript
Web Host Server	WampServer
Database Server	MySQL

Hardware Specifications

Processor	Intel Core Duo Processor 2.0GHz or higher
RAM	DDR3 2.00 GB or higher
Hard Disk	500GB any type or higher
Graphic	DirectX 9.0 or higher
Monitor	Any Type
AVR	Giant 500W or higher
Peripherals	Mouse Keyboard Printer

Deployment

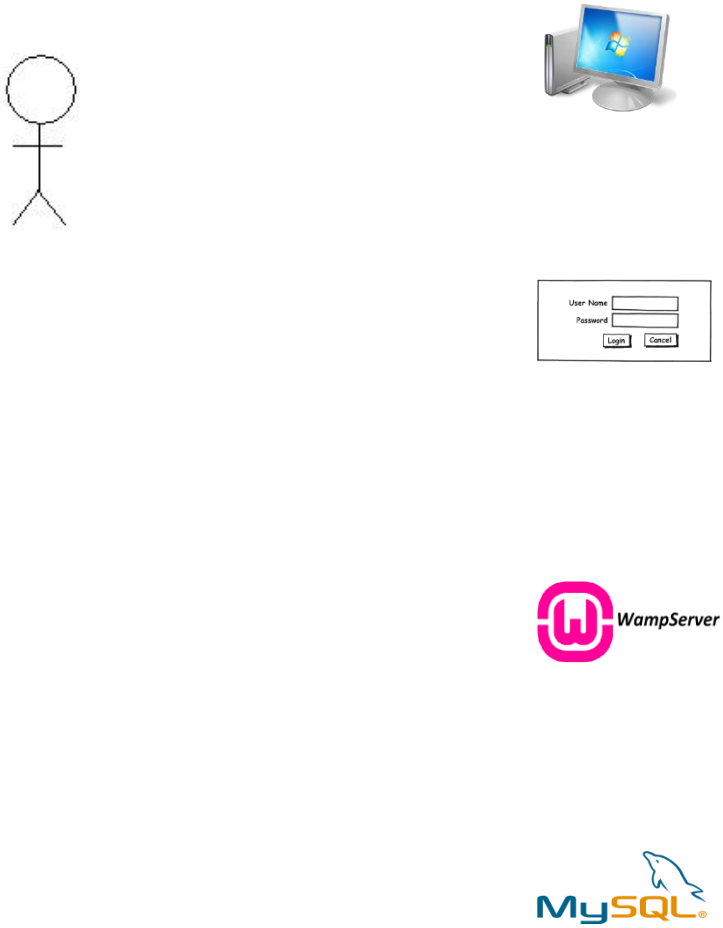

Figure 28: Deployment Diagram

The figure shows the deployment diagram of the software that is installed on the hardware to use to connect to one another.

Testing

Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not. It is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements.

Functionality Testing

Functionality testing is performed to verify that a software application performs and functions correctly according to design specifications. It also checks whether software application is meeting the user expectations.

Usability Testing

In usability testing basically the tester tests the ease with which the user interfaces can be used. It tests whether the application or the system built is user-friendly or not.

Compatibility Testing

Compatibility testing is used to ensure compatibility of the system/application/website built with various other objects such as other web browsers, hardware platforms, users, operating systems etc.

Database Testing

Testing activities would include:

- Check if queries are executed without any errors.
- Adding, updating or deleting data in database should maintain the data integrity.
- Collect data from database & represent on the web pages correctly.

Performance Testing

Performance testing is performed to determine how fast some aspect of a system performs under a particular workload.

Security Testing

Security testing is to check whether the application or the system is secured or not. It checks to see if the application is vulnerable to attacks, if anyone hack the system or login to the application without any authorization.

Chapter 4

Presentation, Analysis and Interpretation of Data

4.1 Questionnaire

Instructions: Please check(✓) the given situation using the scale below.

Legend:5 strongly agree; **4** agree; **3** neutral; **2** disagree; **1** strongly disagree

Coemeterium System provides the map of Carreta Public Cemeteryand the personal data and burialrecords of a deceased person in the graveyard.

	1	2	3	4	5
1. I experienced visiting a wrong grave in the cemetery instead the grave of my deceased relatives.					
2. The path towards the graves are not easy to remember.					
3. I experienced too long during transaction of recording and updating cemetery records of my deceased relative and paying his/her real state tax.					
4. A document of my deceased relative happened to be misplaced by the employee of the Municipal Treasury Office.					
5. Replacement of the manual process in recording and updating cemetery records to a web-based system is ideal in terms of keeping the records of the cemetery.					
6. Replacement of the manual process in managing the cemetery records to a web-based system would lessen error because records will be encoded and easily updated.					
7. Replacement of the manual process in recording and updating cemetery records to a web-based system will make transactions fast that will save much of my time.					
8. Visualizing the map Carreta Public Cemetery through a web-based system would be helpful in viewing the path towards the grave of my deceased relatives.					
9. Visualizing the map Carreta Public Cemetery through a web-based system would be helpful in viewing the location of grave of my deceased relatives.					

4.2 Cost and Benefit Analysis

Cost and benefit analysis is useful in development and deployment of the system. It is used in to evaluate the risks and rewards of projects under consideration. During cost and benefit analysis, monetary values may also be assigned to less tangible effects such as risk, loss of reputation, long-term strategy alignment, etc. The information obtained during a cost-benefit analysis makes budgeting easier. If you have all the possible costs listed, you can project the budget needed to undertake the project.

Cost

Costs include the costs of physical resources needed, as well as the cost of the human effort involved in all phases of a project. Since the cemetery has already had a computer set, they no longer need to buy a new one. A comprehensive training should be done as well to educate the personnel that will surely need sufficient fund.

Benefits

The system provides intangible benefits. It improves the accuracy of keeping records of clients and departed love one's information. It will record all the information about departed loved ones, including names, age, and the exact date and time they have departed, and the cause of their deaths (optional). The system can allow viewing and printing of records especially for those information, as requested by families and relatives.Getting information about the location of lot will be made faster. It will also allow clients to search and view the flow and the process of the cemetery as well as the information of their departed love ones.

4.3 Risk Assessment Management

A risk is any event that could prevent the project from progressing as planned, or from successful completion. Before the implementation of the system, the proponents foresee the possible risk that will occur while the system is running. You will never be able to eliminate all risk, but you can prioritize and document risks to attempt to mitigate or eliminate them.

Table 1 shows the risk management plan. There are several possible risks that might occur in the system. Mitigation and contingency strategies are ways to minimize the probability and impact of risk elements.

Table 1: Risk Management Plan

Events		**Probability**		**Mitigation**		**Mitigation Strategy**	**Impact**		**Contingency**		**Contingency Strategy**
Internet Connection Failure	The system is down	H	0.8	M	0.5	Run the program through a backup external web hosting	M	0.5	M	0.5	Run the program through a backup external web hosting
Database Failure	The system is unable to perform well	H	0.8	M	0.5	Check Database consistently	H	0.8	M	0.5	Always check database condition consistently
Browser Incompatibility	Web pages displayed inappropriately	M	0.5	L	0.2	Follow the minimum requirements	M	0.5	L	0.2	Use recommended web browser (chrome, Firefox)
Virus Infection	The data is corrupted	H	0.8	M	0.5	Install Antivirus	M	0.5	M	0.5	Always check the files and programs

Electricity Black out	Web server is down and the system is not accessible	M	0.5	L	0.2	N/A	M	0.5	L	0.2	N/A

Legend:

H – High Probability or Impact
M – Medium Probability or Impact
L – Low Probability or Impact

In getting the risk, multiply probability and impact times to the exponent of 0.4425. The constant variable of high is 0.8, 0.5 for medium and 0.2 for low. To get the reduction, mitigation multiplies the contingency. To get the exposure, risk is to be subtracted by reduction. The summation of total risk will be divided by the total number of events (risk elements).

Table 2: Summary of Risk Management Plan

Events	**Probability**		**Mitigation**		**Impact**		**Contingency**		**Risk**		**Reduction**	**Exposure**	
Internet Connection Failure	H	0.8	M	0.5	M	0.5	M	0.5	M	0.821	0.25	M	0.571
Database Failure	H	0.8	M	0.5	H	0.8	M	0.5	M	0.821	0.25	M	0.571
Browser Incompatibility	M	0.5	L	0.2	M	0.5	L	0.2	M	0.541	0.04	M	0.501
Virus Infection	H	0.8	M	0.5	M	0.5	M	0.5	M	0.821	0.25	M	0.571
Electricity Blackout	M	0.5	L	0.2	M	0.5	L	0.2	M	0.541	0.04	M	0.501

Total Risk = 3.545
Average Total Risk = 0.709 = Medium

Total Exposure = 2.715
Average Total Exposure = 0.543 = Medium

Interpretation: Originally the average total risk is 0.709 (Medium). After the management strategies to mitigation and contingency, the average total exposure is 0.543 (Medium). Thus, the overall risk is reduced by 0.166 or 16.6%.

Formula: (Probability * Impact) ^ 0.4425
Reduction = Mitigation * Contingency
Exposure = Risk – Reduction

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Unpublished Materials

APPENDICES

APPENDIX A

TRANSMITTAL LETTER TO THE CEBU METROPOLITAN CATHEDRAL

08-02-2016

SWU | IT AND ENGINEERING

MSGR. Renato C. Beltran Jr. P.C.
Member Team of Pastors Cebu Cathedral
Fax: 253-92-57

Dear MSGR. Beltran,

We, the 4th year students of Southwestern University-PHINMA, taking up **Bachelor of Science in Information Technology (BSIT)** from the College of Information Technology and Engineering. As part of the curriculum, we are enrolled in the subject **Capstone Project 1** in which we will be designing a program that can be of great help to your firm, as a whole. The purpose of the study is to create "**Coemeterium System**" that can help to local cemeteries nowadays.

We are very pleased with the opportunity to present to you our system proposal. We are aware that creating client-oriented software takes a mixture of technical excellence and clear communication and our team knows only the very best to ensure you receive both. We know that every client is unique and we strive to deliver an individual, innovative, and affordable proposal every time and to follow it though with an outstanding delivery.

We came up with a project that will benefit the local cemetery since we noticed that technologies nowadays spread too fast. We as Information Technology students, will develop a reliable system that your administration can use to record all the information about departed loved ones, including names, age, and the exact date and time they have departed, and the cause of their deaths(optional). The system can allow viewing and printing of records especially for those information, as requested by families and relatives.

To enable us to design and develop the system according to your actual need, We would like to request for Information about the process of cemetery, blueprints and other details. We assure you that the information that we can collect from you will be kept confidential.

Finally, we realize that you are very busy and want to thank you in advance for your time. God bless.

Respectfully yours,

SWU | IT AND ENGINEERING

Joel C. Boncales **John Ariel B. Terez**

Marvin E. Acallar **Sherwin G. Flores**

Noted by:

MR. RIGAN AP-APID, MSCS
Project Adviser

MR. RIGAN AP-APID, MSCS
Subject Adviser

Recommended by:

MR. RIGAN AP-APID,MSCS
Dean, College of IT and Engineering

CURRICULUM VITAE

Personal Data

Name: Joel Boncales

SWU | IT AND ENGINEERING

Age: 23

Date of Birth: May 11, 1993

Civil Status: Single

Sex: Male

Citizenship: Filipino

Religion: Roman Catholic

City Address: Cebu City

Educational Background

Primary: Badian Elementary School
Poblacion Badian, Cebu
SY: 2003-2004
De Castro Elementary School
Pasig, City

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SY: 2005-2006

Secondary: Saint James Academy

Poblacion Badian, Cebu

SY: 2009-2010

Tertiary: University of Cebu-Main

Sanciangko St., Cebu City

SY: 2012-2013

Southwestern University-PHINMA

Villa Aznar Road, Urgello St., Cebu City

SY: 2013-Present

Personal Data

Name: John Ariel Terez

Age: 30

Date of Birth: October 4, 1986

Civil Status: Single

Sex: Male

Citizenship: Filipino

Religion: Roman Catholic

City Address: Cebu City

Educational Background

Primary:Mangagoy Central Elementary School

Mangagoy, Bislig City

SY. 1993-1999

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Secondary: De La Salle John Bosco College

Mangagoy, Bislig City

SY. 1999-2003

Tertiary:Southwestern University Phinma

Villa, Aznar, Urgello St. Cebu City

2014 - Present

Personal Data

Name: Marvin Acallar

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Date of Birth: September 29, 1989

Civil Status: Single

Sex: Male

Citizenship: Filipino

Religion: Roman Catholic

City Address: Cebu City

Educational Background

Primary: St. Rose of Lima Montessori School

Teresa, Rizal

S.Y 1996 – 2000

Sta. Dorotea Grade School

Teresa, Rizal

S.Y 2000-2002

Secondary: Philsin College Foundation Inc.

Teresa, Rizal

S.Y 2002 - 2006

Tertiary: Southwestern University – Phinma

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2011 – Present

Personal Data

Name: Sherwin Flores

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Sex: Male

Citizenship: Filipino

Religion: Roman Catholic

City Address: Cebu City

Educational Background

Primary: Binongto-an Central School

Alangalang Leyte

S.Y 1996 – 2002

Secondary: Alangalang Comprehensive National High School

Alangalang Leyte

S.Y 2002 - 2006

Tertiary:Southwestern University – Phinma

Villa, Aznar, Urgello St. Cebu City

2012 - Present

GLOSSARY

The following terminologies are operationally defined:

Adobe Photoshop: Adobe Photoshop is the predominant photo editing and manipulation software on the market. Its uses range from full featured editing of large batches of photos to creating intricate digital paintings and drawings that mimic those done by hand.

Barangay: Smallest local government in the Philippines.

Computerized: It refers to a manner of storing, performing or producing information in a computer or systems of computers.

Coemeterium: (Latin for "cemetery", from the Ancient Greek"bedroom, resting place") was originally a free-standing, multi-roomed Early Christiangravesite. Bodies were buried in wall niches and under the floor.

Data: A distinct pieces of information usually formatted in a special way.

Database: Consists of an organized collection of data of Barangay Carreta Cemetery so that it can easily be accessed, managed and updated.

Grantt Chart: A popular type of bar chart illustrates a project schedule.

Geographic Information System: It is used to trace the location of the residents.

Information System: An integrated set of components for collecting, storing, processing, and communicating information.

JavaScript: is a high-level, dynamic, untyped, and interpreted programming language. It has been standardized in the ECMAScript language specification.

Microsoft Windows: A trademark for any of a series of GUIs or GUI-based computer operating systems.

Programming: Assembling or compiling the program to turn it into machine language.

Questionnaire: A piece of paper which contains the feedback, respond based on the information gathered from the respondents.

System: A group of interacting, interrelated, or interdependent element or parts that function together as a whole to accomplish a goal or organized arrangement or network.

SQL (Structured Query Language): Programming language used for retrieving records or parts of records in databases and performing various calculations before displaying the results.