**MANAGEMENT INFORMATION SYSTEM FOR**

**QUEZON CITY PUBLIC EMPLOYMENT**

**SERVICE OFFICE**

A Capstone Project Documentation

Presented to

The Department of Information Technology

**QUEZON CITY POLYTECHNIC UNIVERSITY**

In Partial Fulfillment

of the Requirements for the Degree

**BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

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**APPROVAL SHEET**

In partial fulfillment of the requirements for the degree **BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY,** this Capstone project entitled **“MANAGEMENT INFORMATION SYSTEM FOR QUEZON CITY PUBLIC EMPLOYMENT SERVICE OFFICE”**, has been prepared and submitted by **Alaban, Catherine F., Asid, Christian A., Austero, Mark Jospeh P., Baetiong, Mildred C., Carpio, John Perry I., Camota, Camille S., Dela Cruz, Jemeron V., De Guzman, Diana Joyce D., Fiedalan, John Christian, Dillague, Diego S., Gavina, Raymund DL., Lamena, Joyce Mae I., Novella, Karl Adriane E., Ramos, Jonathan E., Salvador, Rodney T., Siggaoat, Kurt Russel P., Simplicio, Marvin P., and Velitario, Raimond Q.,** who are hereby recommended for project presentation.

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Approved by the Committee for Project presentation with a notation of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on (date of defense).

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**DEDICATION**

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*(can be tentative and to be completed in Capstone 2)*

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**ACKNOWLEDGMENT**

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**EXECUTIVE SUMMARY**

Title : **MANAGEMENT INFORMATION SYSTEM FOR**

**QUEZON CITY PUBLIC EMPLOYMENT SERVICE**

**OFFICE**

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Degree : **Bachelor of Science in Information Technology**

Date Completed : **(Month, year)**

Keywords **:**

(---------PROJECT BRIEF------------------------------)

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**CHAPTER I**

**CAPSTONE PROJECT BACKGROUND**

**Introduction**

Management Information System is an information system that provides information to the management. It has a great value in the day to day operation of companies since this system operates with people, software, hardware, organizational procedures, and relationships among the said components affecting the whole company. If implemented properly, it will then help the management of the company achieves a high level of efficiency in their operation. An organization like local governments with growing and changing needs need to have a management information system to support their operation thus gain competitive advantage.

Local government units are responsible to render direct service to its citizens and promote the development of the whole country. One way of direct service to the citizens is the promotion and sustenance of the city’s employment program. The Public Employment Service Office (PESO) was created to develop and enhance the cooperation and understanding between management and labor.

As the proponents conducted an interview with the QC PESO Unit Head, Mr. Pagute, they have found out that the current system they are using has difficulties which need improvement. The present system has problems in terms of the people who can access the system, the database management, and the usefulness of the system as a whole. A development of a management information system is a need to prevent those problems from occurring.

From the observation and continuous interviews performed by the proponents, they have realized the cause and effect of using the present system. In order for the QC PESO to serve people better, the proponents decided to propose and develop a management information system for QC PESO and incorporate the use of technology. The proposed system will benefit not only the citizens but also the management.

**Project Background and Context**

The PESO was established following the Republic Act 8759 or also known as the PESO Act of 1999. On February 4, 1989, created by Executive Order No.4, the Industrial Relations Office mandated "to develop and enhance the cooperation and understanding between management and labor towards industrial peace in Quezon City". The Quezon City’s PESO was born when the City Government signed a pertinent Memorandum of Agreement with the Department of Labor and Employment (DOLE) on September 3, 1992.

The QC PESO serves as a multi-employment service facility that promotes employment programs and services. It is linked to the regional offices of the Department of Labor and Employment (DOLE) for coordination and technical supervision. Its office is located at the Civic Center Building A, Quezon City Hall.  Each day, they are accommodating over 50 applicants.

QC PESO is using a macro-based program with database made in Microsoft Access. It is operated for the collection, transformation and dissemination of their clients’ data. Everyone in their office can access their system because it does not have user restrictions. In job matching process, the Client Assistant Officer searches for applicant’s preferred job in their system and look if that job qualification fits the applicant. Once matched, they will now provide Referral Letter. Aside from Referral Letter, their system can also produce reports such as the master list of all registered applicants and summary report of the services they have rendered. They have webpage under the QC Government’s website which contains information and details about them. In disseminating information about new job offerings and programs, they uses posters and they post it at the ground level of their assigned building.

Based on the interview, the common problem that the organization experiences through the use of the current system are, loss of user access levels, data redundancy, and database issues. A sample scenario in loss of user access rights is the sensitive resource or information may leak because everyone has the same identification, authentication, and authorization. For data redundancy, storing values multiple times is a wastes space and if the value forgets to change in the records, it may lead to inconsistent data. Since they are using MS Access as a database, it only supports limited data storage and it is not scalable compared to other databases.

The problems stated above may affect the entire business process of the organization. If the access management was neglected, it may lead to data breaches and may lead to data integrity issues. If wrong data were processed, it may produce unreliable and inconsistent information. And if the same data were added to the database, it will consume and will waste space.

There are many ideas and concepts that can be adapted and integrated such as designing a proper database and developing an appropriate management information system to mitigate the said consequences.  From the said difficulties, there is a need for a technology that can improve the management information system which intend to enhance the process starting from accumulating data up to disseminating information, thus improve the quality of service to the clients.

The proponents aim to develop a Management Information System for QC PESO. The main function of the system is to provide a well-coordinated information system. The proposed system intend to support the management function of the QC PESO.

**Project Purpose and Description**

**Main Objective**

The main objective of the proponents is to develop a Management Information System for Quezon City Public Employment Service Office.

**Specific Objectives**

The proposed system seeks to achieve the following objectives:

1. To develop a web application that can manage applicants’ profile, employers’ profile, and job postings and vacancies.
2. To develop a system that will provide business intelligence tools such as executive dashboards and interactive reports for PESO Head to see the general overview of the system and to generate customized reports respectively.
3. To design a database that will organize and secure clients’ data for data integrity as well as data analytics purposes for future references.
4. To develop a system that will match applicant’s resume and job qualification easily.
5. To develop a system that will provide an online Career Personality and Aptitude Test for job seekers to help them assess their interest, values, and preference surrounding their career.

**Project/System Description**

The QC PESO Management Information System is a web-based system that provides accessible, complete, and reliable information in a timely manner for the Quezon City Public Employment Service Office. It will be developed using Hypertext Preprocessor (PHP) and CodeIgniter Framework and used Model-View-Controller (MVC) architecture pattern for the development of web application, Ajax as client-side scripting, Bootstrap as front-end framework for designing the website, and MySQL server for the database management.

The proposed system is considered a progressive web application where it is responsive to any device and take advantage to the features enabled in the website such as clipboard access, accessing the filesystem and hardware-accelerated 2D/3D graphics. It was developed to support the relationship of QC PESO and its clients. The admin of the system has the ability to access all the operations within the system – managing applicant’s profile, employer’s profile, job postings and vacancies, and service reports. The employee is capable of job matching and printing of referral letter. The employer is mandated to update vacant jobs and confirm the application of applicants while the applicant needs to verify that confirmation. The public can view job announcements and can create an account in the website to see the more detailed post.

**Scope and Delimitations of the Project**

This section discusses the boundaries of the proposed system.

**Scope**

The scope of the system includes the following:

1. The proposed system has six (6) access level: the PESO Head, Department Manager, Client Assistant Staff, Employer, Applicant and Public
2. The PESO Head stands as the Administrator of the system. The Administrator can manage user accounts, manage the web content, view dashboards, print customized reports, and backup and restore database.
3. The Department Manager can manage employee accounts, manage applicant’s profile, manage employer’s profile, view dashboard, and print customized reports.
4. The Client Assistant Officer can encode and update both applicant’s and employer’s data record, job matching, and print referral letter.
5. The Employer can view company information, and post job vacancies
6. The Applicant can view available jobs, take Career and Aptitude Test, and receive notification for new job vacancies.
7. The public can view available jobs and create account.

**Delimitations**

The delimitations of the proposed system are as follows:

1. The proposed system does not have features like text-to-speech and speech-to-text to support visually/hearing impaired.
2. The proposed system does not accept an appointment for scheduling and reservation for job vacancies.
3. The proposed system is limited to application form processing and does not have an online interview.
4. The proposed system is limited to account-based notifications.

**Definition of Terms**

The following are the definitions of the terms used by the proponents in the proposed system for the general reader to understand its context.

**Access Level.** It is a set of permissions and restrictions imposed to each user of the proposed system to limit and determine what each user can access.

**Clients.** These are people who are QC PESO gives service. It can be jobseekers, employers, students, or persons with disability (PWD).

**CodeIgniter.** A codeigniter is a PHP driven framework. It simplifies the PHP code and brings out a fully interactive and dynamic website at a shorter time.

**Dashboard.** It is a user-interface that organizes and presents information into a visual representation in a way that is easy to read.

**Database.** It is an organized collection of information gathered from various clients.

**Encode.**  The process of putting a sequence of characters (letters, numbers, punctuation, and certain symbols) into a specialized format for efficient transmission or storage.

**Hypertext Preprocessor (PHP).** It is a scripting language which used by the proponents to generate dynamic website and control user access.

**Interactive Reports.** These are reports customized by the admin by filtering, sorting, searching, and other data manipulation the appearance of data.

**Job Matching.** It is a process done by the Client Assistant Officer which matches the applicant’s skills to the specific vacant job qualifications.

**Microsoft SQL.** It is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL)

**Model-View-Controller framework.** It is an architectural design used by the proponents in creating user interface. It has three components which are model for maintaining data, view for displaying the portion of data, and controller for handling the events that affects the model and view.

**Progressive Web Application.** It is a website with responsive capability as well as other added features enabled in the website.

**Public.** It is one of the access level stated by the proponents. These are people who does not have an account in the website or not yet logged in.

**Scripting Language.** It is a programming language which embedded within Hypertext MarkUp Language and it is used by the proponents to add functionality to the web page.

**Web Application.** It is an application or computer program that runs in web browsers and perform task over the internet.

**CHAPTER II**

**REVIEW OF RELATED LITERATURE**

This chapter presents the various literature and studies from thesis, articles, blogs, and websites which help the proponents in understanding the context of the proposed system.

Beal, V. (2016) from Webopedia stated that Management Information System (MIS) is a computer-based system that provides managers with the tools to organize, evaluate and efficiently manage departments within an organization. MIS can include software, databases, hardware, decision support systems, people management and project management applications, and any computerized processes that allow the department to run efficiently. In simple terms, Management Information Systems as systems that provide information to management. The department responsible for computer systems is sometimes called the MIS department.

The idea that comes from Beal helps the proponents in developing the system. It helps the proponents to identify what management information system is, how it works, what are the components it includes, and what it can provide to the organization.

According to Christensson (2014), an MIS includes employees, departments, projects, clients, finances, and other types of [data](https://techterms.com/definition/data). However, it may also include non-computer based elements, such as the structural hierarchy of an organization. Many MIS solutions now include web-based interfaces as well aside from desktop applications.

The statement of Christensson supports the idea of the proponents about MIS and it strengthens the certainty about the proposed system as an MIS. The proposed system is designed to be comprehensive solutions that perform multiple MIS functions.

Martin (2017) discussed that Management Information Systems have four components used to collect, process, store and retrieve the information whenever it is needed. The Information System as a component in MIS, helps in the collection of data that is stored in the MIS. Another component which is the database management system aid in the storage and retrieval of data. Intelligence System is the component concerned with the processing of the data collected and presenting it in a manner that is easy to comprehend. Lastly, the research system component is concerned with identifying the main management problems in the organization and coming up with alternative decisions that can suffice in a particular situation.

Based on Martin’s statement, the four components of MIS are effectively delivering the information needed to decision makers. The proposed system is also incorporating the use of MIS components that makes the proponent recognize the system being developed is an MIS. The use of this components will help achieve a high level of efficiency for the users as well as the management.

According to Forte (2016), Web Application or specifically a web-based application is an application that can be accessed using a web browser. It is stated that as web browsers cross-platform, a web app will run on any operating system (OS). Their systems usually only require an up-to-date web browser and do not need to be installed individually. Web application user interfaces are easier to create and design activities.

The proponents decided to make a proposed system with the use of web-based application because a web-based application is an application that uses a website as the interface or front-end. Users can easily access the application from any computer connected to the Internet using a standard browser. The proponents come up with this idea because it may help the proponents to create a system easily and more dynamic.

Temere (2017), explained that Bootstrap help to build the user interface faster for web and mobile applications. For example, menus, buttons, and lists for user experience development. There is no need to create all of HTML, CSS classes and styling from scratch. The style button just pops in the class name.

The proponents decided to use bootstrap as the front-end framework to make a better design for common HTML elements. Bootstrap is the solution of the proponents’ problem in designing front-end. It helps to build a friendly UI for the design in the proposed system.

Reenskaug (1978), invented the Model-View-Controller (MVC) pattern when he was visiting scientist at Xerox Palo Alto Research Laboratory (PARC). He stated that MVC was conceived as a general solution to the problem of users controlling a large and complex data set. It separates the application into three parts: the model, the view, and the controller. A Model represents knowledge. A model could be a single object (rather uninteresting), or it could be some structure of objects; the view is a (visual) representation of its model. It would ordinarily highlight certain attributes of the model and suppress others. It is thus acting as a presentation filter, and; controller is the link between a user and the system. It provides the user with input by arranging for relevant views to present themselves in appropriate places on the screen. It provides a means for user output by presenting the user with menus or other means of giving commands and data.

The proponents seek an opportunity to use this development pattern in developing the proposed system to control the complexity of it. MVC helps to balance the vast amount of users who access it. The proponents comprehend what the MVC is and how it works. With that understanding, the proponents decided to integrate the use of MVC in the proposed system.

Ellis (2006), created CodeIgniter as a powerful open-source PHP framework with a very small footprint. It is based on the MVC development pattern which separates application logic from presentation. It was made for rapid development of both websites and web applications with a simple and elegant toolkit.

The proponents decided to use the CodeIgniter framework for developing the proposed system because they saw that it simplifies PHP syntax. Also, the proponents saw the potentials and exceptional features of the CodeIgniter such as it is easy to install, has in-built security tools, and provides error handling.

Based on the study conducted by Anttonen (2018), the main purpose of the thesis was to follow the process of developing a mobile-friendly web application by utilizing the MVC design pattern and the latest available set of technologies for responsive web application development. The application was developed by using Codeigniter 3 PHP framework in combination with Bootstrap 3 frontend component library and MySQL database. Additional technologies such as jQuery, HTML5 and CSS were also used in order to build the user interface and frontend functionality of the application.

The proponents acquire this reference and use this all framework for the proposed system. The proponents decided to use MVC to support rapid parallel and asynchronous technique in development. With the use of CodeIgniter PHP framework with the combination of bootstrap, it helps the proponents to develop the proposed system in a better way and faster than writing a code from the scratch. It is expected to adjust the layout of the design depending on the device being used.

Morris (2018) notes that the AJAX technique ignores unnecessary page data and only handles requests for updated information and the updated information itself. It emphasizes that JavaScript automates the updating process, the request for updated content is formatted in XML to make it universally understandable, and JavaScript again kicks in to refresh the relevant content for the user viewing the page.

Morris explained how AJAX works and what it can do. The proponents find it useful as the proposed system will be developed using AJAX for front end development together with bootstrap. It is important to know what AJAX means and how it works in order to do it and gain an insight and understanding about it.

Jonsson (2009) described that AJAX (Asynchronous JavaScript and XML) has proven to gain a higher extent of usability when used compared to ordinary web applications. When implemented, it has also been proven that performance gains can be achieved.

The proponents decided to use AJAX for making it possible for user to interact with the UI without having to wait for a response. Using AJAX as technique to enhance the usability along with performance standard such as response time for end users.

Elias (2012) explained that dashboards can provide an effective solution to the overwhelming amount of data that business users experience every day. Also, dashboards are tailored to fit specific requirements, and a dashboard does not need to fit a single category in order to be successful. Rather, it needs to provide clear and immediate information in order to improve decision making and understanding of data.

The proponents learned the importance and uses of dashboard that is why the proponents decided to integrate it in the proposed system to enable the PESO get a clear view of their business at a glance. Dashboard would be a vital tool for them as it compresses data into one picture for the manager to make valuable decisions.

Karim, M. (2015) discussed that online recruitment or e-recruitment through websites and job boards are increasing the firm’s competitive advantage as well as giving more opportunity to the jobseekers. E-recruitment integrates the use of the Internet to search for jobs which have been advertised electronically. Thus, the employers advertise the job opportunities, save the resume of applicants, contact the jobseekers who are qualified. In this study, it was found that online recruitment for job seekers is influenced positively.

        In relation to the study above, the proponents found out that nowadays, jobseekers preferred using the Internet in jobseeking rather than in newspaper classified ads. It is proven that online recruitment helps both the applicants and the company. The study gives more certainty for the proponents to develop the proposed system in order to help job seekers as well as the management.

        Mansourvar and Yasin (2014) develop a job web portal for the students in the Faculty of Computer Science and Information Technology (FCSIT), University of Malaya (UM). A job web portal provides an efficient search for online information on job vacancies for job seekers. The system is created to help job seekers especially fresh graduates have access to job vacancies and find a job after graduation.

        The system developed by Mansourvar and Yasin support the students and gives students a variety of choices in available job vacancies that match their skills and qualifications. It is relevant to the proposed system as it has a web portal that allows the user to find job vacancies.

Online job portal is a web application that allows the employer to post job vacancy and enable the applicants to browse through the vacancy details that are posted and apply for the jobs online. The employers then can browse through the posted resumes and select suitable candidates. The system also includes filter search wherein it scans the resumes of jobseeker that will fit to the required vacancy. Through this system, posting of job vacancy by the company as well as finding job by the applicant becomes easy.

The Online Job Portal is relevant to the proposed system as it both includes employer and applicants that interact with each other through the web application. However, the proposed system does not only include the employer and applicant but also the middleman which is the PESO. The PESO will be the bridge between the applicant and the employer. Applicants need to communicate first with PESO before directing to the company.

        Based on the research of Karim, A. (2011), Management Information Systems (MIS) aids in the decision-making for strategic planning in an organization. It helps the organization to make informed business decisions as MIS provides information needed to manage organizations effectively.

        The study shows the significance of the MIS in the organization’s strategic planning. It makes the proponents understand the importance of MIS and how data or information is vital in an organization.

**Synthesis of the Related Literature and Studies**

The literature and studies cited here are all interrelated to the area of the proposed system, which helps the proponents to come up with the new ideas. The different concept of studies helps the proponents be more familiarize about what framework can really suit in their software development. With the help of reviewing previous studies gives the proponents an insight on how to make the proposed system more efficient and better than the other existing system.

Most of the studies presented here have similarities in using a web-based application framework such as PHP CodeIgniter, MySQL, MVC, Bootstrap, Ajax, jQuery, CSS, and HTML. These all framework stated that, with the use of this framework particularly in CodeIgniter, it supports rapid parallel technique in development which help the proponents to have a fast development and responsive web- application. Some of the studies here are successful and some are not, which gives the proponents to learn further their recommendation, this will help the proponents on what and where to improve more.

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**CHAPTER III**

**TECHNICAL SPECIFICATIONS**

**Brief Introduction (***of the chapter***)**

**Software**

*(Declarations and brief descriptions of software/s, proponents has decided to utilize for the project proposed, include justifications as to the choice made and advantages disadvantages if any. This should also include all software diagrams, such as but not limited to, DFD's, page schematics, flowcharts etc...)*

**EX.**

Table 3.1: Software Development Requirements

|  |  |  |
| --- | --- | --- |
| Software | Specification | Descriptions |
| Operating System | Windows 10 | An operating system…… |
| Programming Language | Java (Netbeans v.2) | An open source software…. |
| Database software | Oracle 11g | A database….. |
| Web Browser | Chrome v.8 | A browser…… |

(Then discuss **how** and **why** the proponents choose and need this requirements, NOT THE DESCRIPTION)

Table 3.2: Software Implementation Requirements

|  |  |  |
| --- | --- | --- |
| Software | Specification | Descriptions |
| Operating System | Windows 10 | An operating system…… |
| Programming Language | Android Program (KitKat version and up) | An open source software…. |
| Database software | Oracle 11g | A database….. |
| Web Browser | Chrome | A browser…… |

(Again, the proponents discuss **how** and **why** the proponents choose and need this requirements)

**Hardware**

*(Declarations and brief descriptions of hardware/s, proponents has decided to utilize for the project proposed, include justifications as to the choice made and advantages disadvantages if any. This should also include all hardware diagrams, such as but not limited to, hardware schematics, network diagrams, technical specifications, etc...)*

***EX.***

Table 3.3: Hardware Development Requirements

|  |  |  |
| --- | --- | --- |
| Hardware | Specification | Descriptions |
| RS 232 | RS 232 (USB TYPE) | ADAPTOR THE PLUG….. |
| MICROPROCESSOR BOARD | ARDUINO (AT MEGA 120) | MICROPROCESSOR BOARD… |
| LIGHT EMITTING DIODE | IN 222229 | A SEMI CONDUCTORR….. |
|  |  |  |

(Then discuss **how** and **why** the proponents choose and need this requirements, NOT THE DESCRIPTION)

Table 3.4: Hardware Implementation Requirements

|  |  |  |
| --- | --- | --- |
| Hardware | Specification | Descriptions |
| RS 232 | RS 232 (USB TYPE) | ADAPTOR THE PLUG….. |
| MICROPROCESSOR BOARD | ARDUINO (AT MEGA 120) | MICROPROCESSOR BOARD… |
| LIGHT EMITTING DIODE | IN 222229 | A SEMI CONDUCTORR….. |

(Then discuss **how** and **why** the proponents choose and need this requirements, NOT THE DESCRIPTION)

**Technologies**

*(Declarations and brief descriptions of systems/s, proponents has decided to utilize for the project proposed, include justifications as to the choice made and advantages disadvantages if any. This should also include all system diagrams.)*

**Lan-based**

**Web-based**

**Mobile-based**

**Hardware (sensors, motor, semiconductors and switches, etc…)**

**Diagrams and flowcharts**

(*Include all diagrams and flowcharts such as DFD, VTOC, ERD, UML diagrams, etc. and those diagrams that will be used in the project development, include a* ***short narrative explanation or introduction about the diagram***)

However, the diagram can be check to the appendices!

**Network Layout**

*(If any, also include a narrative explanation of the layout)*

**Hardware Design Layout**

*(If any, also include a narrative explanation of the layout)*

**CHAPTER IV**

**METHODOLOGIES**

**Brief Introduction (***of the chapter)*

*( this chapter is dedicated to the procedures decidedly utilized in the conceptualization, development, testing and implementation of the proposed project / system.****)***

***`***

**Systems Requirement Specifications**

*( this chapter is dedicated to the procedures decidedly utilized in the conceptualization, development, testing and implementation of the proposed project / system.****)***

**Systems Development Methodologies**

*( this chapter is dedicated to the procedures decidedly utilized in the conceptualization, development, testing and implementation of the proposed project / system.****)***

Include here the Project Development, Conceptual Framework, SDLC, Data Gathering Procedure (Interviews, Observation, Company Visit, Seminars, Research, Consultations, Browsing Internet etc.….)

**Testing Procedures / Method**

*( include all methods chosen to be used, i.e.Black Box, white Box, etc..., specify iterations, both quantity and quality based, as well as a definition and tabulation of Use Cases, applied to each test criteria, also include all relevant procedures used in the testing phase of the project)*

*Answer: What Testing Procedure did you used? Why did you choose this testing procedure? Where did you used this testing procedure? How did you used and who manipulate this testing procedure?*

**Implementation Plan**

*(This part is dedicated to the articulation of the procedures to be followed and utilized in the implementation of the proposed project / system, for use in the actual company or in parallel runs or true project launch.)*

*State here the step-by-step procedures including the installation*

*The* implementation plan describes how the information system will be deployed, installed and transitioned into an operational system. The plan contains an overview of the system, brief description of the major task involved in the implementation, the overall resources needed to support the implementation effort (such as hardware, software, facilities, materials, and personnel), and any site-specific implementation requirements.

*(Infrastructure/Deployment) where needed*

**Ex.**

The developed system will be sent to MinSCAT right after the revision to present it once more to the expected users. If the administrator wants to adopt the system, the proponents will hand over the system together with its documentation. It will serve as a guide to the administrator who will be assigned for the system’s update and maintenance. There would be a letter of agreement that the system will be handed over to the institution freely and the proponents is no longer responsible for its update and maintenance. If the system will be implemented, the proponents will conduct several strategies. Those strategies are presented below.

Table 4.5: Implementation Plan

|  |  |  |  |
| --- | --- | --- | --- |
| STRATEGY | ACTIVITIES | PERSON INVOLVED | DURATION |
| Approval from the MinSCAT Administrator | Letters for the Administrator | Proponents and Administrator | 1 day |
| System’s installations | Installation of the system and required hardware and software | Proponents and Administrator | 5 Hours |
| Information Distribution | Flyers | Administrator and Students | 1 day |
| Posters | Administrator and Students |
| Manuals | Administrator and Students |
| 3 Day Training | Hands on Training and Lectures | Administrator, Officers, and Students | 3 Days |

**CHAPTER V**

**SUMMARY AND RECOMMENDATIONS**

**Brief Introduction (***of the chapter)*

*(This chapter is dedicated to the benefits to the company, proponents, as well as general public upon implementation of the proposed project / system.****)***

**Summary**

(A good summary should be comprehensive, concise, coherent, and independent. These qualities are explained below:

1. **A summary must be comprehensive.** You should isolate all the important points in the original passage and note them down in a list. Review all the ideas on your list, and include in your summary all the ones that are indispensable to the author’s development.
2. **A summary must be concise.** Eliminate repetitions in your list, even if the findings restate the same points. Your summary should be considerably shorter than the source. You are hoping to create an overview; therefore, you need not include every repetitions of a point or every supporting detail.
3. **A summary must be coherent.** It should make sense as a piece of writing in its own right; it should not merely be taken directly from your list of notes or sound like a disjointed collection of points.
4. **A summary must be independent.** You are expected to maintain your own voice throughout the summary. Don’t simply quote other’s research works; Instead use your words to express your understanding of what you have read. After all, your summary is based on your interpretation of the findings points or ideas. However, you should be careful not to create any misrepresentation or distortion by introducing comments or distortion by introducing comments or criticisms of your own.

**EX.**

Based on the objectives of the proposal, the following results were accomplished:

1. **Information Acquisition and Dissemination**. The study revealed that 60.97 percent of the barangays are dependent on other government agencies in acquiring information……… blah… blah…. Blah…..
2. **Extent of ICT Utilization of Barangays**. In determining the extent of utilization of ICT in barangays the following data were gathered.

Computer(s) per barangay. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah….

Printer(s) per barangay. blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah….blah… blah…. Blah… blah… blah….

Telephone Line(s) per barangay. blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah….blah… blah…. Blah… blah… blah….

Internet Use in barangay. blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah…. Blah… blah… blah….blah… blah…. Blah… blah… blah….

**Recommendations**

*( this part is dedicated to the articulation of the Requirements modifications, development deviations and other design and implementation modifications or changes recommended for the system, this may be a product of the survey and stakeholder feedback or is emanating directly from the proponents as guide for future development of the work)*

The recommendation may include further research of the study and/or enhancement of the developed system. If there is no conclusions as in the case of capstone projects, recommendations may include a direction on how to use the software product in order to achieve its maximum benefits.

**EX.**

The following recommendations were formulated and advanced in answer to the problem issues raised.

1. To address the issue of the inadequate information management practices of barangays, it is recommended for every barangays to use and adopt the newly developed Community Based Information System Prototype. To be able to use the CBIS effectively and efficiently, it must be complemented by a barangay ordinance supplemented by municipal and provincial ordinance requiring the constituents to:
2. Register to the barangay personally for 18 years of age and above.
3. Furnish the barangay a copy of personal records of every person below 18 years of age.
4. Furnish the barangay a photocopy of birth and death certificate of inhabitants who born/die recently.
5. On the technical side of using the CBIS, the following basic system and hardware specifications are recommended:
6. Windows 98/2000/XP Operating System
7. A Pentium 4 microprocessor, 256 MB memory and 20 GB HD space (Pentium II, 128 MB memory, and 5GB HD is the minimum requirements).
8. A fingerprint Recognition System (Fingerprint reader) is optional.

**References**

*(follow APA style/APA format, hanging indent)*

**For Books:**

Benoit, H. (2008). Digital Television (3rd Ed.). Jordan Hill, Oxford: Elsevier Science Press.

Bosi, M. and Goldberg, R. E. (2005). Introduction to Audio Coding and Standards. Norwell, Massachusetts: Kluwer Academic Press.

Brown, A., et al. (2006). Multimedia and Communication Technology. British, London: Bath Press.

For Theses and Dissertation Abstract:

Ahn, K. (2006). Empirical Finding on the perceived use of digital multimedia broadcasting mobile phone services. (Doctoral Dissertation, Osaka University, Japan, 2006). Dissertation Abstract International, 29, 4529A

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For Electronic Sources:

Gaylord, C. (2009, February 4). Congress Delay DTV Switch. [Online]. Available:http://www.csmonitor.com/Innovations/Horizons/2009/0204/congress-delay-dtv-switch.

Villa, D. (2015, November 26). Digital TV Standard: DVB-T, ATSC, ISDB-T. [Online]. Available: http://dev.emcelettronica.com/digital-tv-standards-dvb-t-atsc-sdb-t

Yoshida, J. (2008, August 2). What is Digital Multimedia Broadcasting? [Online]. Available: http// www.wwisegreek.com/what-is-digital-multimedia-broadcasting.html.

**User Guide -** *(with CD copy of Installer type file for system dev)*

**Curriculum Vitae (***CV**of proponents, alphabetically arranged* )

**Note:**

* **Font size is 12, book antiqua**
* **No page number every beginning of a chapter**
* **Please include appendix letter, example:**

**Appendix A**

**Source Code**

* **Do not use first person such as WE, I, YOU, OUR.**
* **Do not link to words such as it’s, doesn’t, cant, etc. Spell it out.**

**DEVELOPMENTAL COST**

**(Hardware and Software)**

**(**State first a narrative discussion regarding Hardware and Software Cost)

**EX.**

**Hardware Materials / Equipment**

|  |  |  |  |
| --- | --- | --- | --- |
| **Hardware** | **Quantity** | **Unit Cost** | **Total** |
| **Arduino (Uno)** | **2 Sets** | **2375.00 pesos** | **4750.00 pesos** |
| **UTP Cable** | **10 meters** | **15.00 pesos** | **150.00 pesos** |
| **RJ 45** | **15 pcs.** | **3.50 pesos** | **52.50 pesos** |
| **Hardware Total Cost** | | | **4952.50 pesos** |

**Source:**

**Software Materials / Packages**

|  |  |  |  |
| --- | --- | --- | --- |
| **Software** | **Quantity** | **Unit Cost** | **Total** |
| **Windows 10 (Operating System)** | **3 packages** | **7135.00 pesos** | **21,405.00 pesos** |
| **Visual Studio** | **4 packages** | **4500.00 pesos** | **18,000.00 pesos** |
| **Software Total Cost** | | | **39,405 pesos** |

**Source:**

|  |  |
| --- | --- |
| **Hardware Total Cost** | **4952.50 pesos** |
| **Software Total Cost** | **39,405 pesos** |
| **Developmental Total Cost** | **44,357.00 pesos** |

**SOURCES for the capstone format:**

Arlors, A. P. (2016). K to 12 Curriculum Compliant Practical Research 2 (Quantitative Research). Recoletos, Manila: Mindshapers Co., INC.

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