**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.