Research article

MANAGEMENT SYSTEM FOR THE OFFICE OF THE SENIOR CITIZEN AFFAIRS (OSCA) WITH SMS NOTIFICATION

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Abstract

The main purpose of this study is to design and develop a "Management System for the Office of the Senior Citizen Affairs (OSCA) Malolos with SMS Notification".

The researchers considered several system functionalities which were incorporated into the developed system as follows: (a) Registration of members. The system covers up the creation and registration of membership based on the credentials needed by the client or the organization itself. (b) Storage of member's credentials. Information of the senior citizens is securely stored in the database. (c) Report Generation. It can generate annual and monthly report if in case needed for assessment. (d) Allowance Monitoring. The system can monitor allowance issued to the senior citizens officers quarterly and monthly. (e) SMS Notification. The events or announcements cannot reach all the members but through the SMS notification, the senior will be up to date and be aware to whatever the present activities of the organization are.

System requirements were also considered in designing and developing the Management System. For the software specification, the system was developed using Visual Basic .Net. SQL Server 2008 was used as the database application. Adobe Photoshop was used as image editing software. The study was evaluated based on the following software evaluation criteria; functionality, reliability, usability, maintainability and portability. The study was interpreted as "Very Acceptable" which shows that the developed system is highly suitable for implementation. **Copyright © WJMCR, all rights reserved.**

Keywords: Management system, senior citizen, SMS notification, office of the senior citizen affairs,
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I. INTRODUCTION

Technology today in our continuous modernizing world has profoundly affected our lives. It is beyond doubt fast and innovations that the people can develop are so unpredictable. There are lots of advance technologies occurring every now and then. Coming up with a good invention that is brought up by creative minds will be a challenging action to do.

Information System is a way in which people interact with this technology in support of business processes. Because of these, the use of information systems will be advantageous to different organizations such as government agencies.

Office of the Senior Citizen Affairs (OSCA) is a government agency serving the senior citizens. Covering and serving the 54 barangay of Malolos, Bulacan. It has been serving since then resided in Malolos. Primarily, OSCA's role is to monitor the current state of the senior citizens, financial support in terms of medical assistance, scrutinize its population and to grant their needs in accordance of their rights.

II. BACKGROUND OF THE STUDY

Apparently, the agency is at present using the traditional manual system for all of its transactions and due to their manual way of keeping important records in the office and transactions, some problems were encountered that are needed to be solved.

Too much paper works, difficulty in searching for individual records, loss of data, record misplacements, accidental damage of records, retrieving past records and generating of detailed reports are some of the flaws that the OSCA is experiencing now. These problems were caused mainly by their manual record keeping and transaction system existing in the office and leading to the situations mentioned above which are the effects of the main problem. This reasons and problems lead to the development of the Management System for OSCA with SMS Notification.

A. Research Objectives

The study aims to develop a "Management System for the Office of the Senior Citizens Affair (OSCA) Malolos with SMS Notification."

Specifically, the study will integrate the following significant features needed:

- Information System
- Allowance Monitoring
- Event Content Management System with SMS notification
- Single storage / Collection Point
- Audit Trail
- Report Generation

B. Scope and Delimitation

The system is consisted of enhancements and a total transformation of the organization's process and handling of transactions. The project covered the following main functions: (a) Registration of members. The system covers up the creation and registration of membership based on the credentials needed by the client or the organization itself. (b) Storage of member's credentials. Information of the senior citizens is securely stored in the database. (c)Report Generation. It can generate annual and monthly report if in case needed for assessment. (d) Allowance Monitoring. The system can monitor allowance issued to the senior citizens officers quarterly and monthly. (e) SMS Notification. The events or announcements cannot reach all the members but through the SMS notification, the elected officers will serve as their contact person that will disseminate the

upcoming events and be aware to whatever the present activities of the organization are into the other senior citizens per barangay.

Having administrator and user side, this system has the boundaries set for every users that manipulates data in the system. The following are the general constraints of the system: (a) the system cannot be viewed through the web for it is intended for local use. (b) It is specifically developed and intended for the Office for the Senior Citizens Affairs (OSCA) for Malolos only. (c) The client is not that computer literate, so the system requires an IT employee as the administrator. (d) The system requires a good computer specification for better system performance.

III.METHODOLOGY

A. Methods and Design of the Study

The study followed the process called IPO that stands for Input-Process-Output. The IPO model is a general system model and used to convey systems overview and it is a preliminary investigation tool in system processes as shown in Figure 1a.
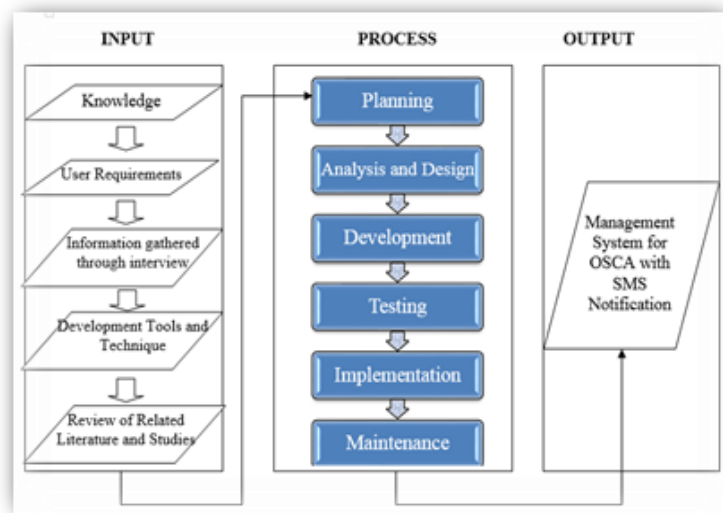

Figure 1a. Conceptual Framework of Management System for OSCA Malolos with SMS Notification

The first frame of the diagram is the input which refers to all raw materials required in the development and producing output. The most common input includes the user requirement, research, data gathered through interview, development tools and techniques, and the review of the related studies and literature that will define the system process.

The second frame is the processing side which involves different stages. The first stage includes planning and analysis which discusses the analysis of the input and converting it into technical aspect resulting of programming and development. During this activity the researchers discovers ambiguities and inconsistencies in their existing manual system particularly in searching and security of files. The result of the analysis is a system model annotated with attributes, operations, and associations.

The design phase of the study will follow after the analysis, and this includes precisely describing object and subsystem interfaces, selecting off-the-shelf components and restricting the object model for performance. Interface of the system is properly layout as what has been planned during this analysis stage. The designing of the user interface was followed by the start of programming. Development stage includes the programming side

such as the development of the front-end application and back-end application. For better quality, the output testing is being applied under the processing. In this stage, the differences between the system and its model are found by executing the system with the sample input data.
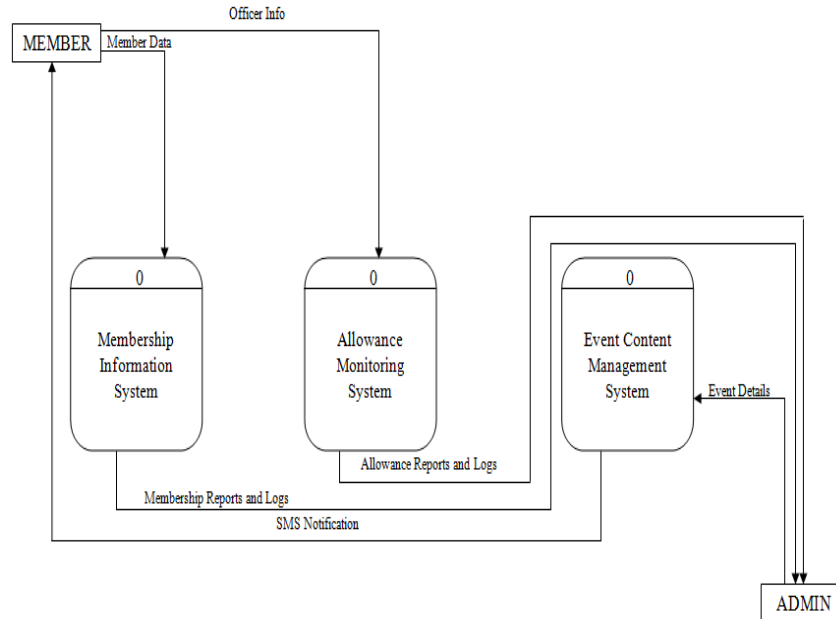

Figure 1b. Context Diagram for the Office for the Senior Citizens Affairs with SMS Notification

Figure 1b shows the flow of connections between the admin user and the individual member of the organization. Listed below are the features of the system:

1. Information System

    1.1 Membership Transaction

    1.2 Profiling

    1.3 Record Keeping

2. Allowance Monitoring

3. Event Content Management System with SMS Notification

    3.1 Capable to post and customize announcements/ reminders.

4. Single storage or Collection point

5. Audit Trail for System Security

6. Report Generation

B. Testing and Evaluation Procedures

After developing the system, the researchers let its end-user to evaluate the system performance and function as part of their evaluation strategy. They provide an evaluation sheet that will help them rate the system acceptability, reliability, availability, maintainability, content and usability. In this way they can determine the

strength and weakness of the system, its quality and its standards. The researchers devised an evaluation instrument based on the evaluation criteria for the following five point likert scale, Poor, Fair, Good, Very Good, and Excellent.

IV. RESULTS AND DISCUSSION

The Management System for OSCA with SMS Notification is a developed system that can enable the organization to have a better record keeping and maintenance in their own locality.

Figure 2. Main Menu

Figure 2 shows the different features of the system after a user successfully logs in.
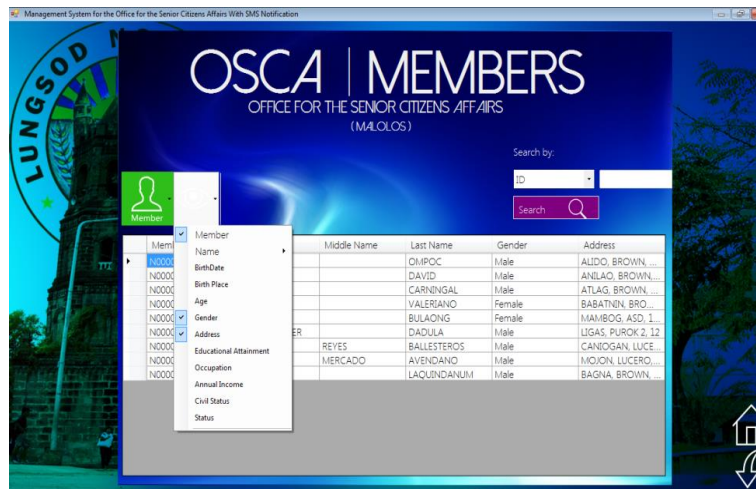

Figure 3. Members' Records

Figure 3 shows the form where the user of the system could be able to add new record of a member, edit existing record of a member, delete a member and search any record of an existing member.
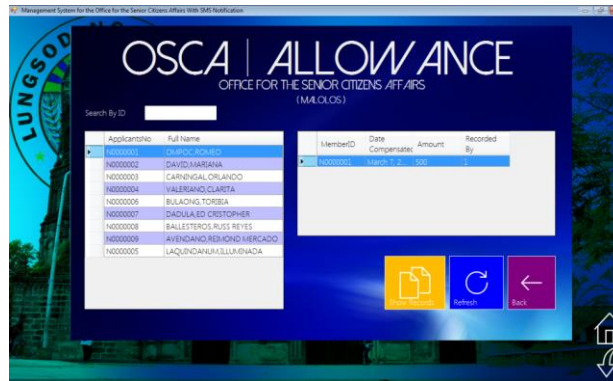
Figure 4. Allowance Monitoring

Figure 4 shows how the user monitors the allowance or financial assistance being given to the indigent members, whether the allowance has been released already or not yet.
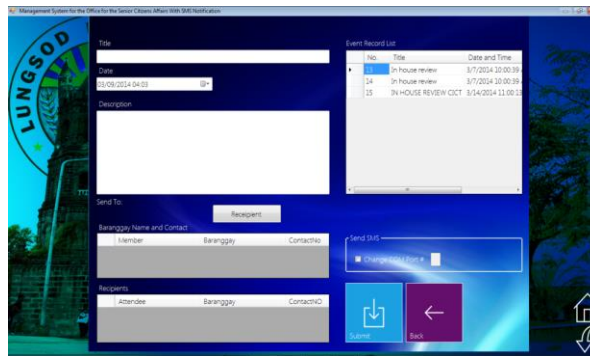

Figure 5. SMS Notification

Figure 5 shows event list form which allows officers in every barannggay to receive event information through SMS notifications. SMS Notification serves as medium to the members who aren't regularly come to the office. This is to inform them to the event announcements or happenings.

Figure 6. Statistics Record

Figure 6 shows the statistics window where the admin or user can view the statistics of records of OSCA.
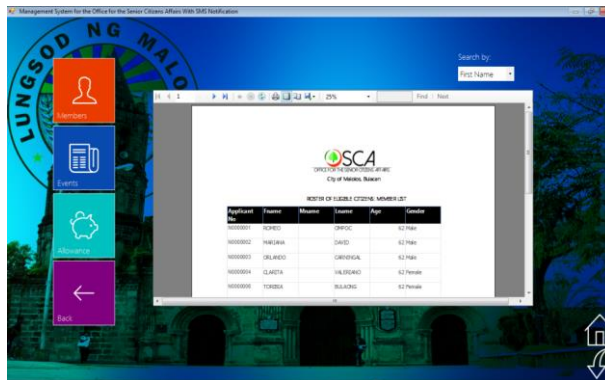

Figure 7. Reports

This figure shows the report generated by the system. These reports can be exported to pdf format and excel and is available for printing.

V. CONCLUSION AND RECOMMENDATIONS

Upon implementation of the integrated system, the objectives were met and the problems occurred before is now given a solution and at present solved. All the features of the system are functional that it runs to its accepted function. The automated system's satisfactory in terms of accuracy, ease of use, manageability, functionality and security.

The researchers suggested that it is more convenient if the operating system of the computer to use is Windows 7 or higher. It will similarly be an advantage to the user if each computer has the same operating system to avoid conflict or any unexpected incompatibility.

The researcher suggested the use of biometrics as an easy detection of the senior's identity and information. It will be an easy way to record the attendance of the board of trustees in the organization. Lastly, to provide computer training for the end users since most of them are senior citizens who will use the system.

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