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Streamlining Enrollment Processes: Enhancing the Madridejos Community College Enrollment System

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Abstract: Technology is increasingly being used in various aspects of life, including the management of schools. The Municipality of Madridejos Local Government Unit, a semi-private tertiary education institution, has been struggling with the lack of an online enrollment system. This has led to manual assignment of students to different classrooms and the need for paper records. To address this issue, a solid enrollment system has been proposed. The Developmental Research approach was used to develop the system, which was found to be highly usable, secure, and efficient. The system also allows for faster and easier enrollment, reducing paper forms and misplaced forms. Digital innovation has provided a cost-effective solution for many institutions, making online enrollment more efficient and cost-effective. Implementing the Madridejos Community College Enrollment System has made the registration process faster, more enjoyable for staff, and improved accuracy and reduced human errors.

Keywords: Database, Enrollment, MySQL, Software, System, Technology

I. INTRODUCTION

Technology progresses alongside the rest of the world, and companies are moving towards more sophisticated systems that involve the use of computers. Computers are crucial in enabling businesses to provide high-quality public services, and they make our tasks easier while also helping us generate more interesting content for our community. Nowadays, everyone in the community relies on technology to accomplish their goals, and it is widely used in a wide range of transactions. The importance of an enrollment system in school should have the ease of convenience and efficiency. Students are not only looking for personalized attention at

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each step but also looking to get it quick. This is why the inter-connectivity of computers and the web can now be integrated.

The State Universities and Colleges continuously working on the implementation of information systems particularly the enrolment system. This effort among educational institutions to automate enrolment system integrates various processes into an information system which consolidates data into a database server, thus, access to data and information becomes more efficient. The implementation of such systems also lessens time requirement for a certain transaction to finish and therefore increases personnel efficiency and productivity.

The Municipality of Madridejos Local Government Unit governs and oversees Madridejos Community College (MCC), a semi-private tertiary education institution that falls under the Local Universities and Colleges (LUC) category. Although this school has been open for over a decade, there is no online enrollment system in place, which makes it difficult to keep track of students' records. Therefore, our goal is to create an Enrollment System for Madridejos Community College. Currently, students are manually assigned to different classrooms by the lecturers because there are no automated or mechanized ways to accomplish this task. Additionally, school manuals are tracked using paper records such as logbooks, which are easy to lose or damage. However, this problem can be solved with a solid enrollment system. An online enrollment system can organize all of the data in one place, making it simple to access and update. School workers will no longer need to update student files manually, as the computerized enrollment process will be the solution to the school's concerns.

1.1 OBJECTIVES OF THE STUDY

This study aims to create an Enrollment System for Madridejos Community College.

SPECIFICALLY, IT AIMS TO:

1. Manage records of students: create/enroll, read and update information.
2. Display data on the dashboard based on:
a. Total number of enrolled students
b. Number of enrolled male and female students respectively.
3. Generate Reports
a. COR
b. List of official lists (per year/course, per subject, per semester)
4. Determine the quality of the developed system based on the ISO/IEC 25010:2011 Systems and Software Quality Requirements and Evaluation (SQuaRE) Quality Model.
5. Determine the usability of the developed system based on the following criteria: Usefulness; Satisfaction; Ease of Use and Learning.

II. METHODS

The Developmental Research approach was used in this investigation. It is the systematic study of establishing, evaluating, and designing instructional programs, processes, and products that must meet internal consistency and effectiveness standards. In addition, the data in this study is presented using a descriptive kind of analysis via the system's dashboard.

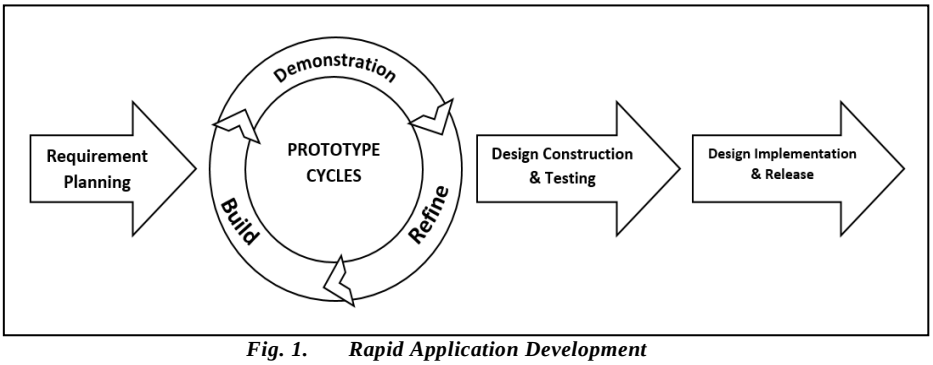

Fig. 1. Rapid Application Development

Stage 1. Requirement Planning

Existing challenges in the enrollment process components of the institution that require automation of records and data processing were properly discussed with the administrators at this stage. The response to the current and foreseeable challenges of the manual enrollment process was decided by setting goals and expectations. Planning for the construction of the system was thoroughly completed in collaboration with

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enrollment employees, office administrators, and the researcher, and needed needs were carefully reviewed and study objectives were explicitly specified for targets.

Stage 2. Prototype Cycles (Demonstration, Refine, Build)

The system is scoped out through feedbacks after extensive planning with the administrators, and the creation of the system architecture begins in this step. The researcher will construct a model of the system (prototyping) in this step, and then offer the developed module to the client for testing. All identified faults and defects in the module will be forwarded to the developer for correction. During this phase, the client and the developer collaborate closely and communicate frequently. This sort of procedure iterates until all of the system's scopes are met and the design's expectations are met.

Stage 3. Design Construction and Testing

This phase of the Madridejos Community College Enrollment System is designed to test the system's functionality while verifying that the vast majority of the expected functionalities are operational. Changes, upgrades, and/or extra features and/or modules may be added to the system during this phase in response to client requests and demands. Software testing is the process of comparing a system's requirements to the real requirements to find any flaws, gaps, or missing requirements. The benefits of testing include preventing bugs, reducing development costs and improving performance. There are two forms of software testing: functional testing and non-functional testing.

The researcher permitted the MCC Enrollment Staff to utilize the system and explore its functions and modules to test the System. An evaluation form has been issued to collect input on the system's functionality to make and/or apply any necessary improvements. The USE Questionnaire: Usefulness, Satisfaction, and Ease of Use questions, as well as the ISO/IEC 25010 software characteristics questionnaires, were employed. The ISO/IEC 25010 Software Quality Model questionnaires were utilized by the IT expert group. The Madridejos Community College Enrollment System was put to the test by users and specialists. The system's overall output is 100 percent operational and error-free, based on the system's requirements. The outcome demonstrates that the developer complies with the user's expectations and standards.

Stage 4. Design Implementation and Release

This is the final step before the finalized work is released to the public. It entails data conversion and user training on how to utilize the system. The system is now executing its function, but it must be monitored.

a. SYSTEM

The interface of the system which is visible to the user is being developed using scripting languages such as HTML, CSS, JavaScript, Bootstrap Framework, and JQuery. While for back-end, the programming language that was used is the PHP: Hypertext Pre-processor (PHP) which is much known for its lightweight capability and as an open-source scripting language. Most developers prefer using this scripting language to develop dynamic web pages which are usually being accompanied by Open-Source flexible database management software – MySQL.

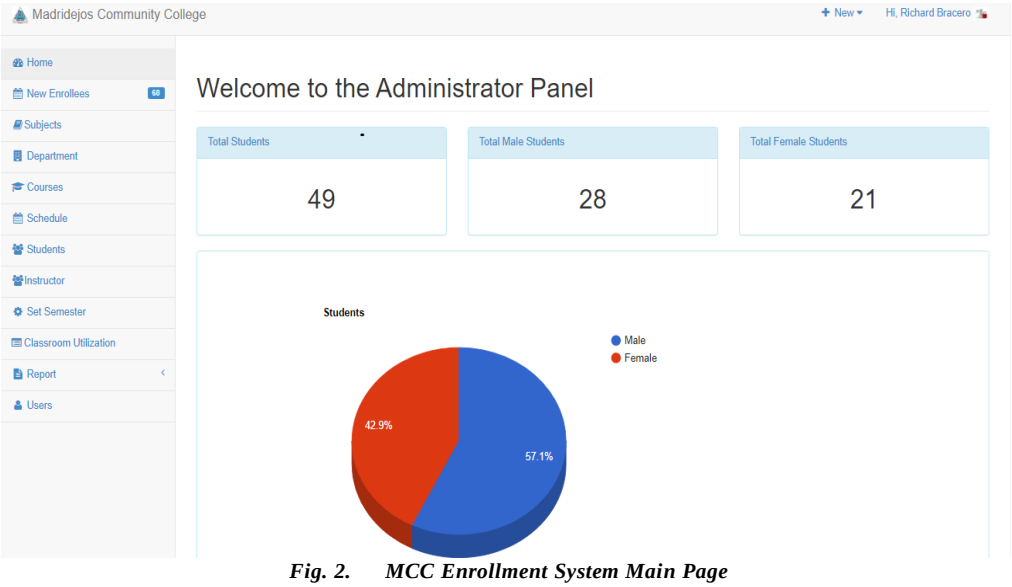

Fig. 2. MCC Enrollment System Main Page

Figure 2 shows the main page of the Madridejos Community College Enrollment System which allows the admin to navigate through various navigations menus like New Enrollees, Subjects, Department, Courses, Schedule, Students, Instructors, Set Semester, and Users.

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III. RESULTS

Table 1. In terms of managing, displaying, updating records, adding of subjects, courses, & class schedules

Criteria	Mean	Verbal Interpretation
It can manage, display, and update student records.	4	Very Satisfactory
It can add subjects by course & year.	4	Very Satisfactory
It can add courses by year.	4.33	Very Satisfactory
Total	**4.17**	**Very Satisfactory**

Table 1 shows the result of the user's feedback in using the Madridejos Community College system in terms of managing, displaying, updating records of students or enrollees, adding subjects by course & year, and in terms of adding courses. The table above shows a mean value of 4.17 which is interpreted as Very Satisfactory.

Table 2. In terms of displaying data of the total number of enrolled students, displaying data of the number of enrolled male and female students, and printing of COR

Criteria	Mean	Verbal Interpretation
It can display the data of total number of enrolled students.	4.33	Very Satisfactory
It can display the data of number of enrolled male & female students.	4.33	Very Satisfactory
It can print the Certificate of Registration.	4.66	Very Satisfactory
Total	**4.44**	**Very Satisfactory**

Table 2 shows the expert's feedback regarding the usefulness of the system based on displaying the total number of enrolled students, and number of enrolled male & female students. Printing of Certificate of Registration is also being rated as Very Satisfactory which garnered an average total of 4.44 which has a verbal interpretation of Very Satisfactory.

Table 3. In terms of the characteristics set in ISO 25010 Software Quality Model

Criteria	Mean	Verbal Interpretation
Functional Suitability	4	Very Satisfactory
Performance Efficiency	3.88	Satisfactory
Compatibility	4.20	Very Satisfactory
Reliability	4.25	Very Satisfactory
Security	4.33	Very Satisfactory
Total	4.13	**Very Satisfactory**

Table 3 shows the result of the IT Experts' feedback in determining the quality of the Madridejos Community College Enrollment System is based on the characteristics set in the ISO 25010 Software Quality Model. In terms of Functional Suitability, Performance Efficiency, and Compatibility, it was rated with a mean value of 4.02, which is interpreted as Very Satisfactory. Regarding Reliability, it was rated with a mean value of 4.25, which is interpreted as Very Satisfactory. As to Security, it was rated with a mean value of 4.33, which is interpreted as Very Satisfactory.

Table 4. In terms of usefulness, satisfaction, and ease of use and learning

Criteria	Mean	Verbal Interpretation
Usefulness	4.29	Very Satisfactory
Ease of Use	4.27	Very Satisfactory
Ease of Learning	4.33	Very Satisfactory
Satisfaction	4.48	Very Satisfactory
Total	**4.34**	**Very Satisfactory**

Table 4 shows the result of the user's feedback in determining the usability of the Web-based Barangay Management System based on usefulness, satisfaction, and ease of use and learning. In terms of Usefulness, it was rated with a mean value of 4.29 which is interpreted as Very Satisfactory. With regards to Satisfaction, it was rated with a mean value of 4.48, which is interpreted as Very Satisfactory. As to Ease of Use, it was rated with a mean value of 4.27, which is interpreted as Very Satisfactory. As Ease of Learning, it was rated with a mean value of 4.33, which is interpreted as Very Satisfactory.

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IV. DISCUSSION

This is a summary based on a thorough presentation, discussions, interpretation, and analysis of the research findings:

1. In terms of managing, displaying, and updating records of students/enrollees, it was rated with a mean value of 4 which has a verbal interpretation of **Very Satisfactory**.
2. In terms of adding subjects by course and year, it was rated with a mean value of 4 which has a verbal interpretation of **Very Satisfactory**.
3. In terms of adding courses by year, it was rated with a mean value of 4.33 which has a verbal interpretation of **Very Satisfactory**.
4. In terms of determining the quality of the MCC Enrollment System with Machine Learning Integration based on the characteristics set in ISO 25010 Software Quality Model, it was rated with a mean value of 4.13, which is interpreted as **Very Satisfactory**.
5. In terms of determining the usability of the MCC Enrollment System based on usefulness, satisfaction, and ease of use and learning, it was rated with a mean value of 4.34, which is interpreted as **Very Satisfactory**.

V. CONCLUSION

The researcher was able to present the enrollment process, manage enrollees, displaying and updating of records or profiles. In addition, the researcher concludes that, based on the thorough evaluation of the IT experts that the Madridejos Community College Enrollment System is highly usable, secured, efficient, and provides a fast and easy way to manage enrollees' records, updating students/enrollees' data, viewing the total number of enrolled students, printing certificate of registration, adding of courses, subjects, and class schedules.

In terms of enrolling, the Madridejos Community College Enrollment System is a fast and effective tool for the enrollment admin and staff. Also, by using this system, enrollment records are held in a single system, which can assist reduce paper enrollment forms, and misplaced forms.

The system can also print the certificate of registration in a manner of seconds. Many institutions are working hard to minimize the costs while retaining high-quality services, and digital innovation has provided the greatest option for many of them. Faster registration is possible with online enrollment methods. Enrollment systems, have several advantages since they let schools organize and manage their enrollment processes, saving time, and money. Therefore, by implementing the Madridejos Community College Enrollment System, online enrollment has made the registration process faster and more pleasant for employees/staff, freeing them from boring tasks by improving accuracy and reducing human errors.

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