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Paperless Enrollment System: Functionality and Credibility as an Online Platform

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ABSTRACT: *It is a fact that dozens of Universities and Colleges already have the online platform long before the pandemic. They both have an online enrollment system and electronic learning for online classes however this way of learning is in least priorities since the usual way is by going to school premises and process the enrollment physically. Face to face classes as well is the focus of every school organization since it promotes personal interaction which is essential to develop and boost confidence among students. This usual way of learning needs an immediate change and require an effective solution during the pandemic. It puts everybody on their individual houses and stops us to almost everything we are doing outside our home. A rapid fall to every country's economy and a widespread scarcity for food is one of the main problem we face. Online processes is the key in order not to violate all safety protocols being implemented. Online Enrollment System is needed to be prioritize and improve as students can't afford to discontinue and skip taking their remaining semester and subjects in school. Creating the Online System is a huge advantage for parents, students and to the school itself. Since it is an online platform, it can cater all incoming students, current students and returnees which will ease the hustle as it is a comfortable way in terms of filing documents for enrollment.*

Keywords: *Electronic learning/e-learning, pandemic, Universities and Colleges.*

I. INTRODUCTION

One of the ripple effects of the stifling competition for education institutes is the growing necessity for schools to enhance their mechanisms for better serving applicant's queries and objections. This is where enrollment systems come into play, simplifying and accelerating student enrollment (Meenu, 2021).

Adapting to change is one of the most important factor in order to survive and to stay in the competition. It plays a vital role in some aspects of life whether in human evolution or in business industry. Today, we are still facing the infectious virus that we first encounter 2 years

ago. COVID-19 is still a threat to humanity even after the vaccines arrived and already available in the market. The usual enrollment process were done at the school site which could violate the COVID-19 safety protocol if not address properly. Moreover it will place not just the students but also the school personnel at risks since they'll be vulnerable to virus infection. Creating an online platform of an enrollment system is what we need to continue assisting students, both existing and new enrollee's without compromising the safety of everybody since they can enroll while they are in the comfort of their home.

Have you ever stepped foot into a school secretary's office between 7:30am-4pm? Chances are things are a bit hectic with the many, many important tasks that must be performed each day. With an online enrollment system, all the information stays together in one confidential and secure location. No need to look for signed "Release of Records" forms or enrollment packets. Instead, all the enrollment information is safely gathered in the online system (Top 5 Benefits To Having An Online Enrollment, n.d.).

Online enrollment has always offered convenience and efficiency, and today's parents are busier than ever. They expect the convenience and ease of submitting their paperwork online, but the benefits of online enrollment systems are not limited to just parents. Administrators and students also benefit from these systems. (Curacubby Team, 2020).

The web application not only supports PC/laptop based display but also devices with much smaller screens such as mobile phones and PDA. These diverse interfaces provides portable access for overseas and local students regardless where they are and what device they are using (Patrick, 2006).

An enrollment system plays a great role in school population growth. It is designed to help store, access and retrieve student and enrollee accounts. The enrollment system provides an effective and essential source of enrollee and students' information (Edward, 2020). When the students access the system online, they will be given an option to fill up a form requiring them to enter their personal data and an option to review and submit when done. An email will be required since a confirmation will be sent to them once enrollment is being process and subject for validation. Their personal information should contain the required documents for enrollment by uploading a clear and readable picture of the documents (e.g. High school Diploma). This will ensure credibility for each of the enrollee's. The Registrar's Office will be the one who check all the information from the enrollment system and confirms it.

Objective of the Study

This project has specific objectives which aims to:

1. Provide convenient to both the parents, students and school personnel by speeding up the enrollment processes.
2. Create a secure and reliable storage of student records without losing any important documents.
3. Make and produce accessible student records including enrollment status, balances, and school announcements regarding with the enrollment.

Scope and Limitations

This capstone project will be limited only on the computerized enrollment system and record keeping of the school. The researchers will focused in gathering relevant data such as data of the

students, computation of necessary fees, handling of student grades, preparing reports, and generate student's credentials.

The database maintenance feature of the proposed system will focus on adding, and editing students' records, students' grades, maintaining and managing table entries of users and user's log; and monitoring of the changes done by authorized users in the system.

The proposed project will be implemented through web-based architecture and will employ the needed computers to the respective office to monitor the system once deployed therefore it is accessible through the World Wide Web and only the administrator who has access to the Administrator's Module has the full access of the different features of the system.

II. METHODOLOGY

This chapter deals with the method and technique used by the researchers in conducting the study, the system development method, and its results and discussion.

On system development, the researchers will utilize the Systems Development Life Cycle (SDLC) method in the development of the system. The SDLC method is the process employed in the analysis and design of the system as shown in Figure 1.

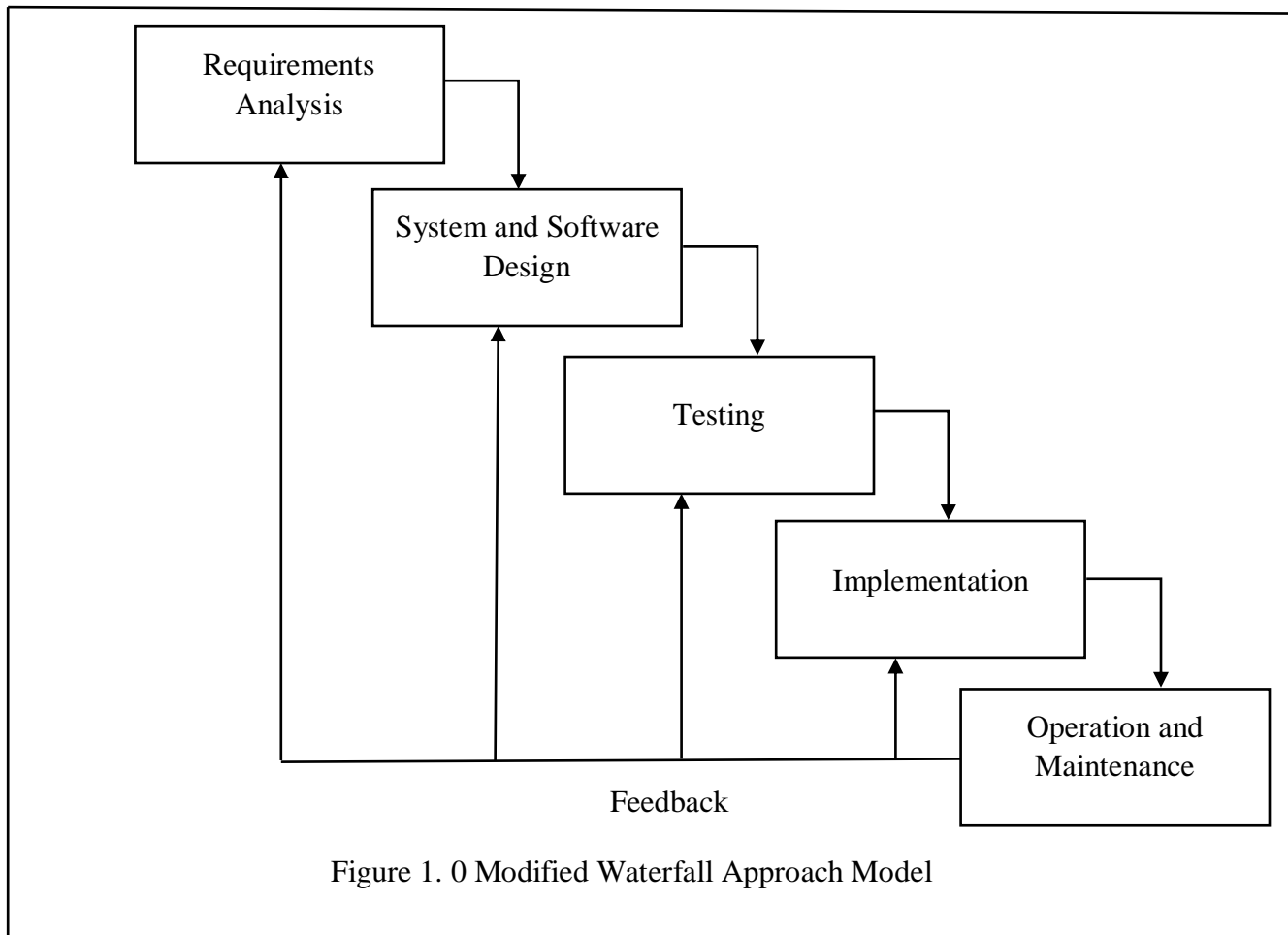


Figure 1. 0 Modified Waterfall Approach Model

Requirement Analysis

In this phase, the proponents will study how the system works. The researchers will interview the school Administrator, Registrar's Office and Accounting Office to find out system requirements. The researchers will also analyze the data and research on related literature and studies. It also involves developing estimates for the work to be performed and finalized the project plan.

System and Software Design

On this phase, the system will be design based on the requirements needed in the system. The researchers will design the database model structure, link the database tables, design the data forms, and prepare the presentation of the project. The evaluation of the design and functionalities of the system will be conducted. The programmer will review and revise the design of the tables and forms of the system, and test the functionalities of the system. The programmer as well, will create the source codes necessary for the system to be constructed.

Testing

This phase includes the process of evaluating a system or application, in order to check whether the application meets all requirements of the client and to detect the errors. Requirements such as software functions and features where checked to determine if it will work according to the specification. This stage ensures that the produced system is complete and performs efficiently, evaluate whether the software perform all activities after integration with the existing operating environment, and measure up the reliability and overall quality of the software.

Implementation

This is the phase when the researchers will conduct the system dry-run and conduct training of the target users of the system. The users of the system will check if the recommended functions and suggestions of the users are met.

Operation and Maintenance

This Phase is to ensure the information system is fully functional and performs optimally until the system reaches its end of life. The Operations and Maintenance Phase comprises the following: management of changes to the system to support end users, monitoring of system performance, and performance of required security activities such as backups, and continuation of end user support.

Requirement Gathering

Approval from the Registrar's Office is necessary in order to obtain the needed data for the project. To achieve this, the proponents together with the Accounting Office collaborate to get the accurate count of existing students. Internet connection as well will be required since it is an online system. The researchers also consult few parents and students about what were the challenges they're facing during the enrollment.

Software Requirement

XAMPP - is a free and open source cross-platform web server solution stack package, consisting mainly of the Apache HTTP Server, MySQL database, and interpreters for scripts written in the PHP and Perl programming languages.

Visual Studio Code - a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.

Hardware Requirement

Below is the list of the entire electronic components and the other material that will support to complete the project.

Minimum Hardware Requirements

- Intel/AMD Quad Core or Higher Processor
- 4 GB Memory (Recommended)
- 500 GB, Hard Disk
- Keyboard
- Mouse
- AVR/UPS
- Monitor
- Printer

Quick Design/Build

The system were built using PHP and JavaScript Programming Language. This will ensure smooth functionality and accuracy as an online platform and will provide the end-user’s convenient.

System Process Model

The researchers present the context diagram of the proposed Enrollment System which show the procedures of each function, the users and the expected outputs.

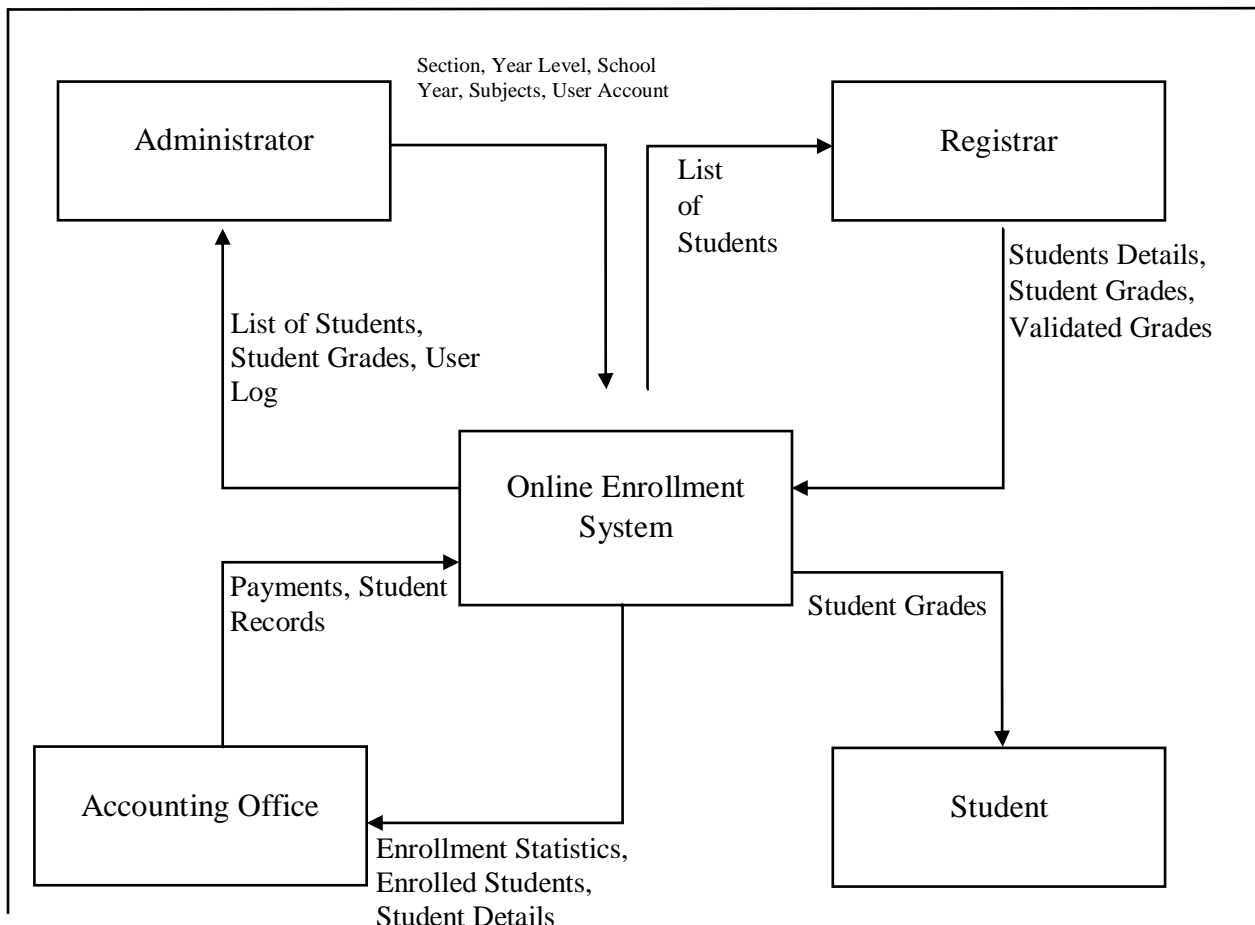


Figure 2.0 Context Diagram of the Proposed Online Enrollment System

The context diagram in Figure 2.0 shown above illustrates the authorized users input to the system and the expected output information to the users. The target users are the following: administrator, registrar, and cashier. The expected outputs of the proposed system are the following: List of enrolled students, enrolled student complete details, student grades and credentials, user log report, and enrollment statistics.

Respondents of the Study

There were three (3) kinds of respondents of the study, one of those is the Accounting Office since they are the one who manage the system and received the data being sent from the enrollees. Secondly the parents, since sometimes they process the enrollment for their kids and lastly the students, because most of the time they are the one who will process their enrollment online.

Table 1.0 Summary of Respondents

| CATEGORIES | NUMBER OF RESPONDENTS |
|-----------------------------|------------------------------|
| Accounting Office Personnel | 3 |
| Parents | 35 |
| Students | 50 |
| Total | 88 |

Operation and Maintenance Phase

After deployment, the system may include changes and enhancements before its decommissioning. The system performance is closely monitored to ensure that it is accordance with user requirements, and needed system modifications are also incorporated. The operational system is periodically assessed to determine how the system can be made more efficient and effective. Operations continue as long as the system can be effectively adapted to respond to an organization's needs. When modifications or changes are identified as necessary, the system may re-enter the planning phase.

In the software life cycle, the maintenance phase is the last stage of the cycle. After the system passes the design stage and is implemented, the maintenance phase begins. The maintenance-phase consists of maintenance-tasks to keep the system up and running. Understanding the characteristics of the maintenance phase of the software allows individual tasks with analyzing the performance of the software after deployment to correctly resolve issues that arise. Maintenance is always necessary to keep system usable and useful.

III. Results and Discussion

The performance of the Online Enrollment System was evaluated through questionnaires whether this has significance to the students or beneficial to the students or not. The survey was given to 88 respondents through distribution of questionnaires. Each respondent according to the details above was given one questionnaire to fill up. Hence, the result of the survey is summarized in tables 1. Table 2 is the table of description of the ratings obtained from the results.

Table 1
Measures of Central Tendency Results

| Questions | Mean | Median | Mode |
|--|-------------|-------------|-------------|
| 1. The Online Enrollment System of CPSU San Carlos Campus saves time effectively. | 8.48 | 8.83 | 9.15 |
| 2. The Online Enrollment System is considered as an effective tool in enrollment. | 8.72 | 8.91 | 9.15 |
| 3. The Online Enrollment System is user-friendly and the user can easily understand without difficulty | 8.36 | 9.40 | 8.43 |
| 4. The Online Enrollment System is a huge advantage in school's population growth. | 8.75 | 8.79 | 9.18 |
| 5. The Online Enrollment System is check thoroughly and implemented strictly. | 8.45 | 8.83 | 9.17 |
| 6. The Online Enrollment System is vital to the student, to the parents and or to the guardian. | 8.75 | 8.91 | 9.13 |
| 7. The Online Enrollment System plays an important role in sorting and retrieving student account. | 8.63 | 8.74 | 8.95 |
| 8. The Online Enrollment System makes the school modernize in terms of enrollment procedure. | 8.90 | 9.14 | 9.34 |
| Average Score | 8.63 | 8.94 | 9.06 |

Table 2
Description of Ratings

| Range 1 | Range 2 | Description Equivalent |
|---------|---------|---------------------------|
| 0.500 | 2.499 | Poorly acceptable |
| 2.500 | 4.499 | Fairly acceptable |
| 4.500 | 6.499 | Moderate acceptable |
| 6.500 | 8.499 | Satisfactorily acceptable |
| 8.500 | 10.499 | Highly acceptable |

Based from the results given from Table 1, it shows that the answers are ranging from 8.3 to 9.4. This means that the questions floated to the respondents were answered as highly acceptable. All answers from the participants belonged in the Highly Acceptable scale. Therefore, it is concluded that the present enrollment systems of Central Philippines State University – San Carlos Campus has high performance and it is therefore recommended to continue with the present online enrollment system.

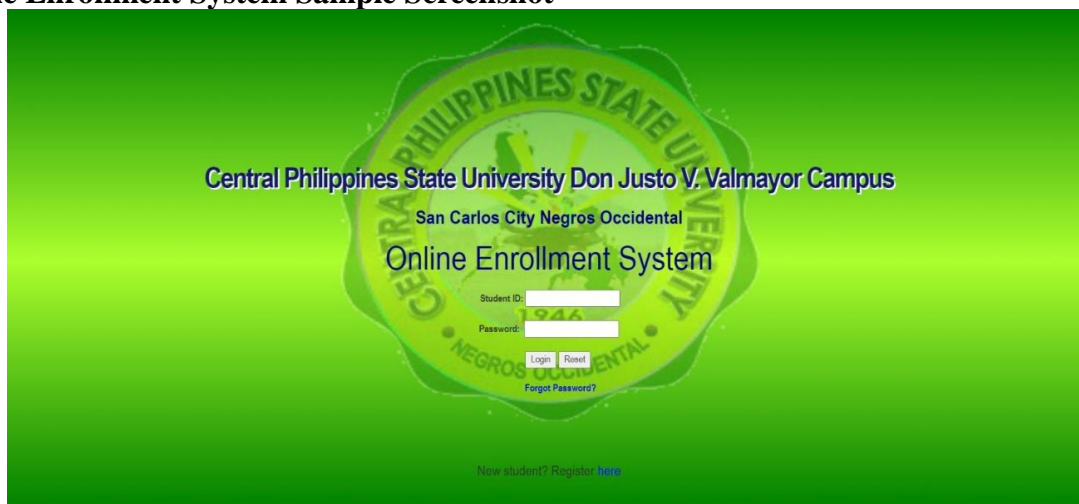
IV. Conclusions and Recommendation

The research was an effective tool for the students, enrollees, parents and to the campus. Therefore, the researcher concluded that Central Philippines State University San Carlos Campus Online Enrollment System was efficient, effective, user-friendly and easy to understand. The enrollment procedure is a huge help to the student, parent and to the school. The students of CPSU San Carlos Campus easily understands the content and meaning of each enrollment procedures implemented online. The students also agreed that the online enrollment system saves time effectively. The school provides wide access and stores accurate student accounts with the help of the enrollment methods implemented online. Through the help of an online enrollment system, the school can easily track and monitor the needs of the school and the student. The implementation is highly suggested by the respondents to go on due to the efficiency of the said online system.

For the future enhancement and improvement of the Online Enrollment System, the following statements are recommended:

1. The online enrollment system must always maintain its efficiency and effectiveness to the student or enrollees.
2. This must be used as a basis of the administration on what are the weak points to be improved.
3. There must be continuity of this study to maintain its high performance.
4. Assessment should also be done by other extension campuses and the main campus in order to get other feedbacks.

Online Enrollment System Sample Screenshot



Central Philippines State University San Carlos Campus Online Enrollment System log in page.

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