ENROLMENT MANAGEMENT SYSTEM

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ABSTRACT

An Enrolment Management System enhances the process of enrolment transaction during enrolment period. It was formulated with specific objectives: to determine the effectiveness of the existing and developed enrolment management system as perceived by the respondents along the following quality characteristics of software: functionality, reliability, usability, efficiency, maintainability, and portability; to determine the performance of the existing and developed EMS during enrolment and evaluation process; to determine what features to propose to enhance the effectiveness and performance of the EMS to be developed; to determine if there is a significant difference between the effectiveness of the existing and developed EMS during the enrolment and evaluation process. The Descriptive and Developmental Method of research was used. The respondents were the personnel who have direct stake in the enrolment process. The data used in this study in this study was gathered through the use of interviews, observations and questionnaires. Through the use of percentage formula as the statistical tool, the results were interpreted and analyzed, and the researcher found out that there were various factors that must be considered in developing the system. The result of the study will serve as an advantage to the person-in-charge of the enrolment process. It would provide accurate enrolment results and rapid enrolment transactions during enrolment period. To this end, it is recommended that a comprehensive development program and sound strategies be implemented in order to manage the complexity of the system and to enhance its efficiency and effectiveness. As an improved system design, it will present a user friendly interface. The Enrolment Management System will be made to enhance and speed up the different enrolment transactions and processes.

INTRODUCTION

When man learns to value objects and other people, he strives to develop more effective and efficient measures to keep track of his resources. An old adage says, "If you have difficulty in sleeping, just imagine yourself beside a fence and count all the sheep that jump over the fence. By the time you get to 100 you'll be more or less asleep". This illustrates the hardship in keeping track of resources before the advent of writing was implemented.

Keeping track of resources became better when paper was introduced. The abundance of material for recording allowed the development of different ways of keeping track, cross-referencing and crosschecking. Information storage and retrieval has been revolutionized by the widespread of computers. These remarkable machines have become indispensable tools of modern business systems. Computers have redefined work and organizational structures, flow of work, and outputs of many firms.

The latest trend in information storage is the paperless office, an office where all documents are stored in computers for convenient access. A more sophisticated version would be an online access where the users would be able to transact through the Internet depending on their access rights.

The Internet, particularly the World Wide Web (WWW), started as a means of communication in research laboratories. Millions of people use the Internet today for a variety of reasons. Wherever you are, as long as you have a computer terminal with access to the Internet, you can connect to another remote Internet-connected computer.

Some colleges and universities, about 95 percent in the Philippines have responded to the call towards globalization via computerization. Registration, paying of fees, dropping from enrolment, and other related processes are carried out much easier, faster and more conveniently with computerization. But even with computers, things can still go wrong. Hence, there is a need to seek better ways of catering services to the students or clientele.

Statement of the Problem

Generally, the study focused on the development of an (EMS) Enrolment Management System for Data

Center College of the Philippines – Laoag City.

Specifically, the study addresses the following questions:

1. What is the effectiveness of the existing enrolment management system as perceived by the respondents along the following quality characteristics of a software:
    1.1 functionality;
    1.2 reliability;
    1.3 usability;
    1.4 efficiency;
    1.5 maintainability; and
    1.6 Portability?

2. What is the performance of the existing EMS during the enrollment and evaluation process?

3. What features are proposed to enhance the effectiveness and performance of the EMS to be developed?

4. What is the effectiveness of the developed enrolment management system as perceived by the respondents along the following quality characteristics of a software:
    4.1   functionality;
    4.2   reliability;
    4.3   usability;
    4.4   efficiency;
    4.5   maintainability; and
    4.6   portability?

5. What is the performance of the developed EMS during the enrollment and evaluation process?

6. Is there a significant difference between the effectiveness of the existing and developed EMS along the quality characteristics of software: functionality, reliability, usability, efficiency, maintainability, and portability.

7. Is there a significant difference between the performance of the existing and developed EMS during the enrollment and evaluation process.

METHODOLOGY

Research Design

The Research and Development (R&D) type of research was used in this study. According to Bennof (2005), Research and Development type of research is a creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge is to devise useful materials, devices, and systems or methods, including design, and development of a new processes to meet the specific requirements.

The researcher proposed an Enrolment Management System for Data Center College of the Philippines – Laoag City based on the existing LAN-based enrolment system of the school; it adopted and enhanced some of its processes and functions with additional features that enhanced the existing system as a whole. The researcher also used Descriptive Method and the Developmental Research Method.

The Descriptive Method was used by the investigator to gather information about presenting existing conditions. This method involves collection of data in order to test the purpose or to answer questions concerning the present status of the subject of the study. In this method, the researcher showed the existing system's flow of transaction and operation, its different processes or procedures, and the difficulties or problems encountered by the personnel involved in the enrolment process.

The Developmental Research Method was used to document the development of a system for the design, including the unit of analysis, participants, software approach, data sources, collection procedures, and data analysis for each case. In this method, the researcher performed this by the use of the Software Development Life Cycle (SDLC) to ensure that end-state solutions meet or even exceed the user's requirements in support of business strategic goals and objectives. The SDLC also serves as a detailed guide to help Program Managers with all aspects of IT system development, regardless of the system size and scope.

Participants of the Study

For the needs assessment, the researcher included respondents involved in the operation of the enrolment and evaluation system of the college to get the necessary information needed for the research/ study. The personnel included in the process of getting the baseline information were the college registrar, the front desk personnel, the college cashier, dean/ advisor/evaluator, the programmer and the different departments involved in the enrolment.

Research Instruments and Data Collection

The instruments were based on PIECED Framework by Wetherbe (2002). Relevant data were gathered using questionnaires and through observations and interviews. These instruments were utilized to collect sufficient information needed for the study.

Observation. This is an approach of analyzing computer system requirements. This extensively helped the researcher in terms of step-by-step proceeding in developing the system. The researcher used this method to supplement the facts that were adopted in this study. The researcher personally observed and experienced how the job would be handled, performed and accomplished in the workplace by the respondents.

Interviews. The research used this method in gathering significant facts and information that were utilized in the study. Casual interviews were administered to the students and personnel involved during enrolment period who have a direct involvement in the proposed system in order to understand the current system and determined their opinions towards the proposed Enrolment Management System.

Questionnaires. These instruments were used to gather additional data and information needed for the study. The survey questionnaires were constructed based on ISO 9126, a model to standardize the quality factors of software (Aggarual & Sirgh, 2005). This tool was the primary source of data and information. The proponent prepared set of questionnaires that was validated by her adviser and distributed to the respondents.

Statistical Treatment

The frequency, percentage and mean were the statistical measures applied to measure the effectiveness and performance of the proposed enrolment management system.

The frequency summarizes the distribution of attributes by reporting the number of cases contained in each category of the attributes which were treated in numbers 1 to 7 on the statement of the problems. Percentages would supply the frame of reference for reporting research results in the sense that they standardize the raw data: percentages to the base of 100 problems were treated. Mean average called the arithmetic average (x), which is by far the most commonly measure central tendency were utilized for problems 1 and 7.

Data Analysis

To quantify the effectiveness of the existing system and the effectiveness of the developed system, the following weighted means and interpretations were followed.

Scale	Weighted Means	Interpretation
5	4.20 – 5.00	SA– Strongly Agree
4	3.40 – 4.19	A– Agree
3	2.60 – 3.39	MA– Moderately Agree
2	1.80 – 2.59	D– Disagree
1	1.00 – 1.79	SD–Strongly Disagree

Computed t-value was used to determine if there is a significant difference between the effectiveness of the existing and developed EMS along the quality characteristics of software and if there is significant difference between the performance of the existing and developed EMS during the enrollment and evaluation process.

RESULTS AND DISCUSSION

The effectiveness of the existing enrolment management system as compared to the developed enrolment management system as perceived along the quality characteristics of a software in terms functionality, it was revealed there is no significant difference between the existing over

the proposed EMS. On the other hand, the other quality characteristics of software namely: reliability; usability; efficiency; maintainability; and portability were found to have significant difference between the proposed and existing enrolment management system. Along with these attributes on the software quality characteristics, the proponent found out that only the assessment process is applicable in this area during enrollment transactions. The existing student registration process of DCCP is done manually.
In the existing system, only on the assessment area was fully computerized with regards to the assessment of tuition fees and other fees.

In the existing enrolment management system, there are glitches encountered such as the manual grade evaluation of students and limited number of personnel in-charge of the different enrolment transactions.

The features of the proposed Enrolment Management System of DCCP, are: provides registration enrolment form online, provide users a confirmation of the registration process through e-mail, views list of the courses and subjects offered, views user's status regarding their subjects, schedules and grade evaluation, determines student allowed to enroll subjects with their pre-requisites, views student grades entered by the instructors, and reports generation on demand.

The proposed Enrolment Management System is an enhancement to the performance as regards to enrolment transactions by the College.

CONCLUSIONS

After careful analysis, the proponent comes up with these conclusions:

The developed Enrolment Management System has the capability to evaluate grades of students including their pre-requisites, as well as to assess their fees.

Based on the assessment results or the effectiveness of the existing and the developed Enrolment Management System of DCCP-LC, the system functions as specified and can be adopted for implementation by the college.

RECOMMENDATIONS

Based on the conclusions, the following recommendations are presented to maximize the efficiency of the proposed system.

1. The system is implemented by the Registrar's office of Data Center College of the Philippines, Laoag City.

2. To effectively run the program, the software and hardware requirements cited are relevant for use.

3. For the system to work well and be more beneficial to the College, the person-in-charge must have enough knowledge in using the propose system. Training with user's manual must be provided by the college.

4. Student records (hard copy) must still be maintained.

5. Further analysis and programming must be made to enhance the capabilities of the system.