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ONLINE CURRICULUM MANAGEMENT WITH DECISION SUPPORT SYSTEM FOR COLLEGE OF COMPUTING STUDIES, ILOCOS SUR POLYTECHNIC STATE COLLEGE STA. MARIA CAMPUS

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Chapter 1

INTRODUCTION

Background of the Study

A decision support system (DSS), is used to improve a business's ability to make decisions. This looks at a lot of data and presents an organization with the best options. In order to provide users with information beyond reports and summaries, decision support systems integrate data and knowledge from various fields and sources. This is meant to support making informed decisions. (TechTarget Contributor, May 18, 2021)

According to Rendong Jin 2019, curriculum management manages all educational activities connected to the curriculum. Teaching is essential to educational activities since instruction is how educational goals are achieved. The subject of curriculum management emerged from the formulation of curricula standards and has mostly concentrated on how to increase educational effectiveness and qualification practically to satisfy industry objectives. American university academics account for a sizable portion of the published research. It is methodical, cross-disciplinary, and gaining popularity on a global scale. Researchers are focusing on how to actually achieve educational goals across all industries as part of their curriculum management study.

In 2016, the work of Venugopal et al. further discussed the concept of micro-level online curriculum management with decision support system. This work discussed the importance of integrating different components and the need for user-centered design to improve and achieve user satisfaction through system use. Understanding the range of assessment students undertake is an area in which curriculum management system and curriculum mapping come into their own. But the value of the curriculum overview extends beyond assessment into the quality of the academic offering as a whole. It is

more transparent and creates accountability. It also become even more necessary for students to receive their grades more quickly and efficiently. In 2019, the work of Anjum et al. introduced the concept of macro to micro online curriculum management with decision support system. This work discussed the importance of the integration of the different components of the system and the need for user-centered design to improve the effectiveness of the system. Marco level enables analytics within the cross institutional level. Macro analytics can become more increasingly real-time and involves more fine data than micro level, while micro level might be the most popular level online curriculum management. It functions by interpreting and monitoring data about specific individuals or learners. Where click-stream data are gathered, analysed, and translated, student achievement or grade are closely associated at this level.

The Online Curriculum Management with Decision Support System stores and helps administer curriculum data. It acts as a reference for curriculum items and as a central store for data pertaining to curriculum topics. It publishes authorized curricular materials to the websites for the programs, courses, and the student administration system when they have been approved. Additionally, it aids educators in managing curriculum components through a database, facilitating communication and information sharing. It is also essential for higher education institutions to makes sure that all of their students get the most out of each course they take.

The College of Computing Studies at ISPSC Sta Maria Main Campus, student's academic standing is determined by student grades, which are recorded on

the report cards and typically distributed at the end of the semester. To get their grades, students must visit their professors, which can be time-consuming because instructors frequently have long wait periods due to the volume of students they are serving. One of the issues with the College of Computing Studies' ISPSC Sta Maria Main Campus present procedure in ISPSC is the difficulty in updating grades. Due to the manual approach used to file and categorize each student's profile, the allocated faculty staffs has a difficult time finding students by name and updating grades. Finding a single student's record takes a lot of time. The manual approach takes one or two lengthy hours to complete while updating a grade.

At this point, educational technologies have the power to transform, to learn, to opening up new opportunities for exploring specific processes and developing digital representations of ideas and skills. The digital native is dependent on new technology and procedures that get formed in people's life. Online systems are commonly used these days to provide quick access to students' subject grades and to encourage instructors to use ways that lessen the workload.

In connection with this, the Institute of Computing Studies has a procedure set to keep the information of students. Due to the reason that these processes are manual, there is a possibility for errors when modifying the prospectus of student information. On the other side, the CCS use the manual procedure of modifying the prospectus. In order to modernize online prospectus of every student from 1st year to 4th year, this will benefit the students and faculty staff in order to make it easier to access instead of going through a long process. To address all of these problems by developing online curriculum management that makes handing out the prospectus to students easier. To better grasp the idea of utilizing an online platform for curriculum management within

the institution, there is little information given on how online curriculum management might benefit an institution. By entering the ID number of the student to the system, in just one click it will appear to the screen. Therefore, our team believes that using this online method will enhance the institution and ease the curriculum staff's burdensome workload.

Conceptual Framework of the Study

Figure 1 shows the conceptual framework of the study. It served as the outline on how the researchers conducted the study.

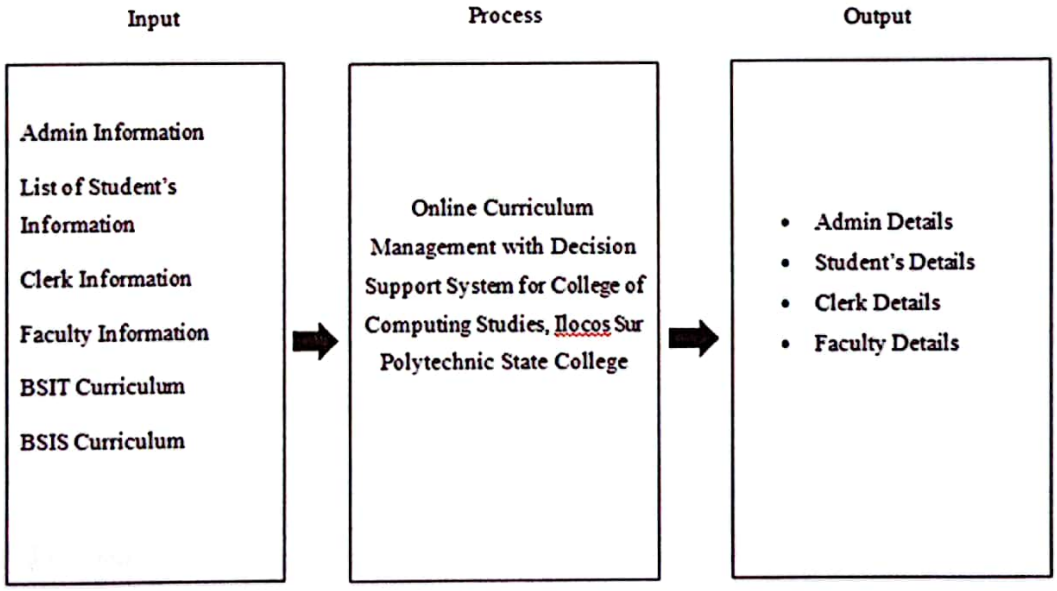

Figure 1. Conceptual Framework

The figure 1 presents the conceptual framework that shows the concept structure of the study from input, process, and output. The input utilized by determining the admin, students, clerks, and faculty information. The BSIT and BSIS Online Curriculum give an efficient and flexible solution that comes with updating grades for students prospectus. Thus, the process used to ensure that the website for the online curriculum was accessible and sufficiently relevant in the framework real time processing

information. As things of, an curriculum emphasizes the importance of proper workflow from the very start to the last step, which serves to ensure features work effectively.

Objectives of the Study

The study aimed to develop an Online Curriculum Management with Decision Support System for the College of Computing Studies (CCS) at Ilocos Sur Polytechnic State College Sta. Maria Campus.

Specifically, the study aimed to:

1. To determine the existing process of managing curriculum for the CCS.
2. To elicit the features and requirements proposed of the Online Curriculum Management with Decision Support System.
3. To evaluate the acceptability of the develop system.

Scope and Limitation the Study

This system used exclusively by the College of Computing Studies for the BSIT and BSIS programs. The students were able to access or inquire easily about their grades through curriculum.

This was sought by students who have IP or INC and was Dean's Lister. The students cannot edit and generate reports of their prospectus.

Importance of the Study

The study is beneficial to the following:

The **Online Curriculum Management with Decision Support System Owner** can easily monitor and view prospectus of the students and responses based on the information provided by the user.

Dean/Program Head can easily trace the prospectus of the students and aid them to accurately identify the prospectus of BSIT and BSIS students.

Faculty the results of the study help them to monitoring, updating, and easily print and distribute the grades of the students.

Researcher: The researchers could apply their knowledge and capabilities of what they learned. It enhances their ideas, skills, and knowledge to develop a system that is beneficial to be students and faculty members.

Future Researchers: This study helps them to enhance their abilities and directs them to value the usage of modern technologies and also may serve as a reference for the future researchers for the improvement of the system in the near future. This study serves as training for the researchers, to enhance their skills in web development.

Chapter 2

METHODOLOGY

This chapter describes the procedure on how the system was developed. This phase discusses the research design, software model/paradigm, project plan, project assignments, population and locale of the study, research instruments and data analysis of this research used in this study.

Research Design

The researchers used the descriptive-developmental type of researcher to organize the presentation, prescription and interpretation of the data and the results served as a basis for the developed system, the Online Curriculum Management with Decision Support System for College of Computing Studies. It is the overall strategy for linking the relevant empirical research to the conceptual research challenges. The term "descriptive method of research" refers to the category of research that sought to learn more about a phenomenon's current state. This kind of study aims to present a precise profile of things, people, or occasions (Rahi, 2017).This method of research helps the researchers to accurately and systematically describe a population as well as the situation or phenomenon of the study. It also helps the researchers to analyze facts and helps them in developing an in-depth understanding of the research problem.

This method makes the researchers have clearer view on the situation of the online curriculum management of CCS in ISPSC Sta. Maria campus. Thus, the researchers formulate and develop a system through planning, analyzing, interpreting and determining the problem, issue or difficulty in getting the prospectus or grades of the CCS students and we the researchers use this method to gather information that the

students encounter in getting their grades. All the gathered information through this method will be analyzed, interpreted and integrated into the proposed system.

Software Model

The study used Rapid Application Development (RAD) model. It is an adaptive methodology of software development, focusing on quickly developing software prototypes and making frequent improvements based on continuous feedback.

The four phases used are as follows:

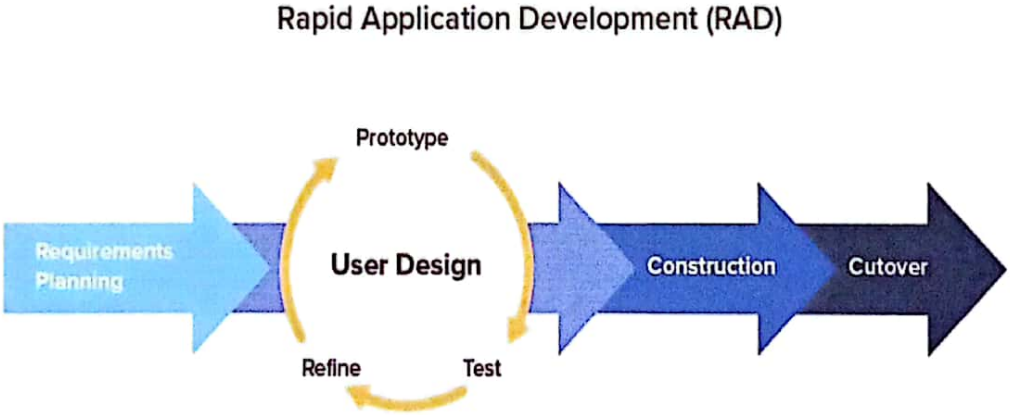

Figure 2. Rapid Application Development

Requirements Planning. In order to seek permission to collect the data required for the study, the researchers prepared a letter approved by the Campus Administrator and the Dean of the College of Computing Studies (CCS). An interview was conducted to acquire the information needed for the suggested system and to identify the possible problems. In addition to conducting observations, data will also be carried out during the interviews. The researchers also gathered information through internet research, historical records, and projects that are significant to the system.

User design. During this phase, the researchers specified the software's flow, the application's primary components, and the system requirements.

Construction. The researchers are intended to work together using PHP, and MySQL for the backend and CSS, JavaScript, Bootstrap, and HTML for the front end.

Cutover. This phase of implementation, the researchers tested the suggested system's functionality in a dry run to identify any potential issues. The finished features integrated will be launched. Transferring data, testing it, and integrating new features are all part of this process.

Project Plan

Figure 3 shows the timeline that was used as a project management tool to clearly illustrate the status of the process of Online Curriculum Management with Decision Support System for College of Computing Studies, Ilocos Sur Polytechnic State College, Sta. Maria Campus and it displays the sequence and the duration of each of the four phases of the Rapid Application Development (RAD) Model

Online Curriculum Management	September				October				November				December				January			
	W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4
Requirements																				
Planning																				
User Design																				
Construction																				
Cutover																				

Table 1. Project Schedule Gantt Chart

Project Assignments

The project's team members' roles and responsibilities within the proposed system, the Online Curriculum Management with Decision Support System for College of Computing Studies, Ilocos Sur Polytechnic State College Sta. Maria Campus.

Roles	Name	Function
Project Manager	Rosalinda A. Rendon	• In charge of organizing with the project team • Maintain open communications with the team.
System Analyst and Designer	Rosalinda A. Rendon Renielle Dane E. Flores	• Coordinates the technical team's efforts to address problems, making sure that solutions are uniform and applicable.
Programmer and Developer	Renielle Dane E. Flores Rosalinda A. Rendon	• In charge of adding the systems planning, design, and project-building teams.
QA / Tester	Hillary Keith D. Jove Rey Ann I. Torres	• Checking the project's debugging queries is your responsibility. • Assess software requirements and report findings to the project team.
Documenter/Technical Write	Rosalinda A. Rendon Rey Ann Torres Hillary Keith D. Jove Cristine Joy Lopez	• A status report on the whole project. • Publish project plan timeline and project requirement sheet

Table 2. The Role Requirements and Responsibility of the Team Population and Locale

Population and Locale of the Study

The researcher's utilized purposive sampling that helped them determined the distribution of respondents, which will involve 30 BSIT and 30 BSIS students in College of Computing Studies.

Table 2 shows the distribution of the selected respondents to participate in the acceptability of the proposed system. The study involved the participation of the 60 respondents, namely the BSIT and BSIS students, for College of Computing Studies of Ilocos Sur Polytechnic State College, Sta. Maria Campus.

Respondents	N
BSIT students	30
BSIS students	30
Dean CCS	1
Clerk	1
Registrar	1
2 Program Head	2
TOTAL	**65**

Table 3. Distribution of Respondents

Research Instrument

The tools were used in this study are the interview and survey questionnaires, which also involved the participation of the Dean, program head, clerk, and registrar members.

Interview, documentary analysis, internet research/library research and survey questionnaire were the tools that are used in the study, which also involved the participation of the BSIT and BSIS students of CCS.

A centralized CM process was run in parallel as the curriculum was being developed. A searchable database, created after the CM data was uploaded into an electronic curriculum management system, was used to ensure placing, integrating, evaluating and revising the curricular content appropriately.(Al-Eyd G, Achike F, Agarwal M, Atamna H, Atapattu DN, Castro L, et al. Curriculum mapping as a tool facilitate curriculum development: a new School of Medicine experience. BMC Med Educ. 2018)

Data Analysis

Questionnaires and interviews were served as tools in gathering the data. Mean, Frequency Count, and the following indicators: DER- Descriptive Rating, NA- Neither Agree, SA- Strongly Agree and A- Agree of learning were needed to treat the needed data to identify the usability of the proposed system CCS Online Curriculum Management with Decision Support System for BSIT and BSIS in ISPSC Sta. Maria, Campus.

Point Value	Mean Range	Descriptive Rating	Descriptive Interpretation
5	4.21-5.00	Strongly Agree	Very Highly Acceptable
4	3.41-4.20	Agree	Highly Acceptable
3	2.61-3.40	Neither Agreed	Moderately Acceptable
2	1.81-2.60	Disagree	Slightly Acceptable
1	1.00-1.80	Strongly Disagree	Not Acceptable

Table 4. Descriptive interpretation of the proposed system's level of acceptability.

Table 4 showed the descriptive interpretation on the level of acceptability of the proposed system. The data gathered were categorized from Not Acceptable to Very Highly Acceptable. Mean ranges from 1.00-1.80 described as Strongly Disagree and interpreted as Not Acceptable, 1.81-2.60 described as Disagree and interpreted as Slightly Acceptable, 2.61-3.40 described as Neither Agree and interpreted as Moderately Acceptable, 3.41-4.20 described as Agree and interpreted as Highly Acceptable, and 4.21-5.00 described as Strongly Agree and interpreted as Very Highly Acceptable.

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