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Course:	Bachelor of Science in Information Technology	**School**:	Sorsogon State University – Bulan Campus
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Cloud-Based Web Application System for Capstone Project Monitoring, Managing, and Evaluating with Plagiarism Checker

Capstone Project Title

Introduction

Capstone Project is a partial requirement undertaken by student taking Computer Studies degree programs like BSIT and BSIS. Students and faculty members face problems in submitting, managing deliverables, and monitoring progresses when using manual or semi-computerized method. With the rise of technologies, students are expected to be knowledgeable and be able to experience the benefits of new technologies. Sorsogon State University – Bulan Campus, specifically the ICT Department, experiences these problems and does not have an online centralized system for the various activities involved in completing capstone projects.

Statement of the Objectives

This proposed capstone project aims to design and develop a cloud-based web application for monitoring, managing, and evaluating capstone projects with an external integrated plagiarism checker. Specifically, it seeks to (1) carry out and deliver the following features and modules related to monitoring, managing, and evaluating capstone projects electronically: (1.1) project progress monitoring, (1.2) topic/title proposal, (1.3) adviser and panelists selection, (1.4) task and activities management, (1.5) deliverable's submission, monitoring, and management, (1.6) defense scheduler and manuscript evaluation, (1.7) user's management, (1.8) grades management, (1.9) student management, (1.10) capstone project guide and formatting, and (1.11) discussion forum; (2) integrate an existing plagiarism checker that will check the manuscript for plagiarism, locate it, and report via the percentage of the amount of plagiarized content; and (3) Test and evaluate the proposed project, based on ISO/IEC 25010 Software Product Quality, in terms of: (3.1) functional stability, (3.2) performance efficiency, (3.3) compatibility, (3.4) usability, (3.5) reliability, (3.6) security, (3.7) maintainability; and (3.8) portability of the system.

Significance of the Study

The purpose of this study was to develop a cloud-based web application system for a capstone project monitoring, managing, and evaluating with plagiarism checker to help students and faculty members of Sorsogon State University – Bulan Campus under Information and Communication Technology Department.

The features and advantages that the system can provide can be beneficial the following:

Students. They can quickly generate and organize their capstone project using this system. They'll be able to select the topic or title they want to work in,

their preferred adviser and panelist, submit deliverables, monitor their progress, and view their grades.

Capstone Professors. This system can act as a single venue for monitoring, management, and evaluation of capstone projects which can benefit Capstone Professor by having one system that can assist him/her from the start of the project (grouping the students) up to the end (manuscript evaluation).

Faculty. The faculty, regardless of their role (adviser/panelist), can benefit from this system by being able to monitor and manage their advisory group/s easily and/or comment and evaluate their manuscript.

Department Dean. The system can help the dean of the department easily manage the faculty eligible to advise and/or become an evaluator of capstone projects. This system also enables the dean to select the faculty who will become the Capstone Professor, granting him/her additional privileges and control in the Capstone Project Management.

Future system developers. This project can help prospective developers who will conduct studies related to this system. They can make the present system their reference in improving monitoring, managing, and evaluating capstone projects

Brief Review of Relevant Literature

Capstone Project, as defined by [9], is a required terminal project in courses like Bachelor of Science in Information Technology. It is equivalent to the Thesis of other programs. With this project, students will be able to demonstrate their knowledge acquired during their studies under their area of studies and in research methodologies. It also allows them to apply the concept and methods to a specific problem in their area of specialization.

The purpose of a monitoring system in a project-based activities is to track and monitor the activities and tasks to ensure efficiency and effectiveness of the project [7]. A project management system contains subsystems that can facilitate the organization, has a project planning, control capability, includes an information subsystem and the techniques and methodology to accomplish the project [2]. On the other hand, a project evaluation system is a system that can systematically and objectively assess an ongoing or completed project [10].

Colleges and Universities around the world uses a different management, monitoring, and evaluation system to handle their thesis or Capstone Projects. The systems are usually a web system that can automates the capstone thesis or project process. They include the ability to store data, read, mark and comment on the project which includes a progress monitoring, and a messaging capability between the student and their advisers [1, 3, 4, 5, 6, 8, 11, 12, 13, 14, 15]

Methodology

In the span of two semesters, the proponents will develop the system using Iterative approach for the development life cycle where the flow of development focuses on an initial, simplified implementation, which then progressively gains more complexity and a broader feature set until the final system is complete; Object-Oriented for the analysis and design applying object-oriented programming; and Bottom-up as the development approach. The system will be verified, validated, and tested using client and users survey and interview, functional and non-functional validation, and positive and negative testing.

Schedule of Activities

- June 3, 2021 – Capstone Project Proposal Defense

- September 7-10 and 13-15, 2021 – 1st Prototype Checking
- October 4-8, 2021 – 2nd Prototype Checking
- November 2-5, 2021 – 3rd Prototype Checking
- November 15-19, 2021 – Alpha Testing of the Project
- November 22-26, 2021 – Capstone Project Final Oral Defense
- December 13-17, 2021 – Submission of hardbound copies of the manuscript

Noted by:

Signature of Scholar

Anthony S. Gacis, MIT
Printed Name and Signature of Capstone Project Adviser

30 October 2021
Date

30 October 2021
Date

References

[1] Desislava Baeva. Management of graduate student's thesis writing through a specialized software system. Journal of International Scientific Publications: Educational Alternatives, 14(1000021):336–341, 2016.

[2] Cleland, D. I. (1977). Defining a project management system. *Project Management Quarterly, 8*(4), 37–40. Available at https://www.pmi.org/learning/library/defining-project-management-systems-approach-1752.

[3] James Grooms, Douglas Kline, and Jeffrey Cummings. Streamlining the capstone process: A time-saving approval system for graduate theses/projects. Information Systems Education Journal, 14(4):81, 2016.

[4] James Grooms, Douglas Kline, Jeffrey Cummings, and Devon Simmonds. A web application for capstone management for the mscsis program. Annals of the Master of Science in Computer Science and Information Systems at UNC Wilmington, 8(1), 2014.

[5] Omar Talal Hamid. Design and implementation a novel research management system. Cihan University-Erbil Scientific Journal, 3(2):21–24, 2019.

[6] Dan Chia-Tien Lo and Orlando Karam. Enhance capstone projects with a new online collaboration system. In 2013 IEEE 13th International Conference on Advanced Learning Technologies, pages 217–218. IEEE, 2013.

[7] Total eBiz Solutions. Project Management Software. Available at https://www.totalebizsolutions.com/products/project-management-software/.

[8] Juan José Olarte, César Domínguez, and Francisco José García-Izquierdo. A tool for capstone project management in computer science engineering. In 2014 International Symposium on Computers in Education (SIIE), pages 65–68. IEEE, 2014.

[9] Commission on Higher Education. Revised policies, standards, and guidelines for bscs, bsis, and bsit programs. Memorandum Order Number 25, 2015.

[10] Internation Labour Organization. ILO Development Cooperation Manual. Available at https://www.ilo.org/pardev/development-cooperation/WCMS_452076/lang--en/index.htm (22 December 2017)

[11] Michael Orozco. Web-based thesis/capstone project defense evaluation system of the css binan. Unpublished Manuscript, 2016.

[12] Philip Owusu-Afriyie. Capstone management system. Ashesi Institutional Repository, 2020.

[13] Mohammad Thalhah Amir Bin Abdul Rabman. UMP Thesis Management System. PhD thesis, Universiti Malysia Pahang, 2012.

[14] Leoven Torrechiva, Marc Christian Orais, Ken Gabaca, Ronald Ian Gabutan, Jhury Espinosa, Celso Malinao Jr, and Melvin Niñal. Online uc-cics capstone projects monitoring and management system. Unpublished Manuscript, 2012.

[15] Yanhua Zong. A Thesis Evaluation System. PhD thesis, Purdue University Graduate School, 2019