



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

### WEB-BASED STUDENT AFFAIRS AND SERVICES DEPARTMENT MANAGEMENT SYSTEM WITH FILE ENCRYPTION

#### A Capstone Project Proposal

Submitted to the Faculty of  
The College of Computing Studies  
**PAMANTASAN NG CABUYAO**

City of Cabuyao, Laguna

In Partial Fulfillment  
of the Requirements for the Degree:  
**BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

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December 2024



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PNC:PRE-F0-44 rev.0 03082023



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(UNIVERSITY OF CABUYAO)  
Planning, Research, and Extension Division  
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### Approval Sheet

This research paper titled, Web-based Student Affairs and Services Department Management System with File Encryption prepared and submitted by Justine Jay P. Dacocos, Harold P. Galang, and Gelvi Ryan P. Rosaria, has been accepted and approved as a final requirement for Student Research Program of the Pamantasan ng Cabuyao.

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### CERTIFICATION OF ORIGINALITY AND AUTHENTICITY

Research Title: Web-based Student Affairs and Services Department Management System with File Encryption

Department: College of Computing Studies

I hereby declare that this submission is my own work, original, and authentic and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which, to a substantial extent, has been accepted for the award of any other degree or diploma of a university or other institute of higher learning, except where due acknowledgment is made in the text. The author takes full responsibility for the accuracy of the data and the interpretation of findings.

I hereby confirm that all the data collected, analyzed, and interpreted in this submission are original and of high quality.

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Pamatasan ng Cabuyao (University of Cabuyao) is hereby granted the right to publish the research work, either in full or in part, in any academic or scientific publication.

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### EXECUTIVE SUMMARY

**Title:** Web-based Student Affairs and Services Department Management System with File Encryption

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**Degree Program:** Bachelor of Science in Information Technology

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The research focuses on developing a centralized and secure platform to streamline the operations of the Student Affairs and Services Department (SASD) at the University of Cabuyao. By integrating an Event Management System (EMS), a Document Management System (DMS), and Advanced Encryption Standard (AES)-based file encryption, the system addresses inefficiencies in manual processes. Its features include digital workflows for managing student activities, scholarships, assistantships, discipline, and document handling while ensuring data confidentiality. Using the Agile Process Model, the system was iteratively designed with feedback from end-users and IT experts, ensuring compliance with ISO 25010 quality standards. This initiative aims to improve institutional efficiency, reduce administrative workload, and provide an intuitive, secure platform for students and staff.

**Keywords:** Student Affairs, Document Management System, Event Management System, File Encryption, University Management, Advanced Encryption Standard (AES), Digital Security



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### ACKNOWLEDGEMENT

The successful completion of this research would not have been possible without the guidance, and encouragement by various individuals. The proponents extend their heartfelt gratitude to the following:

The Almighty Creator, whose guidance gave strength and inspiration to complete this study;

Dr. Zandra N. Maningas, for her unwavering support and for providing a strong foundation that ensured this research aligned with the highest standards;

Dr. Gima B. Montecillo, for offering a broader perspective and inspiring the researchers to consider the larger impact and context of this work;

Prof. Joseph D. Cartagenas, for his guidance and expertise, which influenced the development of the system and enriched the researchers' understanding;

Prof. Arcelito A. Quiatchon, for their dedication in mentoring and guiding the researchers through the complexities of this journey;

Prof. Fe Hablanida, Prof. Melissa A. Dimaculangan, and Mr. Fernan Christopher Capito, for their critical evaluation and constructive feedback, which strengthened the framework and implementation of the study;

Engr. Florante M. Andaya, for being the cornerstone of this project, as his vision and input provided the essential context for the system's development.



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### DEDICATION

This paper is a testament of the collective efforts and dedication of the researchers. It is wholeheartedly dedicated to those who supported, loved, and encouraged the researchers throughout this journey.

Their families, closest friends, colleagues, and significant others.

The researchers are eternally grateful.



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### CHAPTER I

#### THE PROBLEM AND ITS BACKGROUND

This chapter introduces the rationale, objectives, and significance of the study, as well as the overview of the studied company.

##### Introduction

In today's fast-paced digital landscape, educational institutions require an effective management system within their academic offices to achieve student satisfaction and enhanced efficiency. To organize an institution's structures and processes, a management system must be used to achieve a systematic, smooth process and planned results [1]. This study integrates three essential components to manage the processes of the Student Affairs and Services Department of the University of Cabuyao: an Event Management System (EMS), a Document Management System (DMS), and File Encryption.

The current trend of implementing management systems in a college institution is becoming prominent because it provides a streamlined workflow for its users in managing its processes digitally. A few of these studies include [2], which developed a College Management System that manages student information along with their corresponding fees and provides an integrated inquiry system regarding college students. On the other hand, [3] focused on streamlining their college's event organization, which allows students to register online, receive approval from the principal, and communicate directly with event coordinators.



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These researchers provided a platform that manages and organizes their college's processes and streamlines its workflows. However, data security must be emphasized to ensure that sensitive information uploaded to these systems will not be vulnerable to security risks like data theft, data tampering, and unauthorized access [4].

The existence of sensitive and confidential files online is the reason why file encryption should be used to protect a system's data. Using file encryption reduces cybersecurity risks and protects the organization from potential attacks [5]. File encryption works by converting files into unreadable data [6], which can only be accessed by the authenticated user. File encryption consists of different algorithms, one of which is the Advanced Encryption Standard (AES). The AES algorithm encodes and decodes data using a symmetric key technique that employs 128, 192, or 256 bits of variable key sizes with a fixed block size of 128 bits [7].

The Student Affairs and Services Department (SASD) is an office from the University of Cabuyao (Pamantasan ng Cabuyao) that handles various student affairs, including its activities, organizations, assistance and scholarships, and disciplinary matters. The SASD is composed of five (5) divisions, namely, Student Organization and Activities, Student Scholarship and Financial Assistance, Student Discipline, Student Publication, and Arts and Culture Affairs.

The SASD office manages its documents and processes through various methods, including paper, online systems, and a combination of both. The challenge arises, however, in the staff structure and the manual processes of the office. Three out of five divisions have only one staff member, which can lead to long processing times for approvals and applications. Additionally, the manual process of documents on both paper and online submissions increases the risk of errors and creates a stressful workload for the staff.



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This study provides the Student Affairs and Services Department (SASD) a platform to digitize, centralize, and streamline their workflows and documents to implement an efficient business process. The system consists of an event management system for the proposals of student organizations, a document management system for the management of their documents, and file encryption using the AES algorithm to promote data security and integrity.

### Objectives of the Study

The main objective of the study is to develop a management system for the Student Affairs and Services Department of the University of Cabuyao (Pamantasan ng Cabuyao) that will streamline their business processes and transactions in the following context: event management, document handling, and security. Specifically, the study aims to accomplish the following objectives:

1. Determine the current practices and problems encountered by the Student Affairs and Services Department with regard to their manual processes in terms of:
  - 1.1. event approval by the student organizations;
  - 1.2. document handling;
  - 1.3. registering and monitoring student scholarships and student assistantships;
  - 1.4. filing student discipline reports; and
  - 1.5. implementing data security for documents.
2. Develop the proposed system that solves the problems encountered by the Student Affairs and Services Department through:
  - 2.1. an event management system;



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- 2.2. document management system;
- 2.3. student scholarship monitoring and student assistantship registration;
- 2.4. handling student discipline records; and
- 2.5. file encryption
3. Determine the assessments of the end users of the proposed system in terms of:
  - 3.1. Usability; and
  - 3.2. Functional Suitability.
4. Determine the assessments of the system development experts to the proposed system based on the following criteria of ISO 25010:
  - 4.1. Functional Suitability;
  - 4.2. Security;
  - 4.3. Performance Efficiency; and
  - 4.4. Usability.

### Scope and Limitation

The study focuses on the development of a secure web-based management system for the student services processes of the Student Affairs and Services Department to innovate its business processes and transactions. The researchers will conduct the study at the University of Cabuyao (Pamantasan ng Cabuyao) under the office of the Student Affairs and Services Department. The study will start on the 2nd Semester of A.Y. 2023-2024 until the 1st Semester of A.Y. 2024-2025.



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The core features of the system include an event management system, a document management system, and file encryption to streamline transactions and organize documents. These features were derived from the business processes of the Student Affairs and Services Department.

The following are the specific processes of the office of SASD, that will be implemented in the system: Code of Student Conduct, Student Discipline, Student Grievance, Recognition and Renewal of Student Organizations, Scholarships Program and Services, and Managing In-Person and Remote Student Activities.

The event management system will be used to handle the event proposal of the Student Organization and Activities division. Furthermore, the system will also employ post-event evaluation that enables students to submit their evaluation directly through the platform.

The document management system will be used to store and manage the documents of the office of the SASD. These documents include application forms, organization files, and many more. This will ensure that the files from every division are centralized and easy to access. The system will implement online submissions for the student scholarship, student assistantship, and student discipline divisions, wherein the submitted applications will be managed and approved here.

The file encryption feature is a security measure that will be used to protect the confidentiality of the documents uploaded to the system. The researchers will implement the AES algorithm (Advanced Encryption Standard) using the OpenSSL library to ensure both efficiency and security in every data transaction. The uploaded files are encrypted using a randomly generated 256-bit key with an Initialization Vector (IV) before being stored in the database. An unauthorized file download from the system will display as random data, making the file's actual content unreadable. The files that will be encrypted are documents uploaded by the students and employees, containing personal data and records.



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The system will also employ report generation to allow users to download a report from a specific aspect of the system. The system will be able to generate the following reports: Event Evaluation, Student Organizations, Scholarship Applicants and Recipients, Student Assistants, and Student Referrals.

The system will be a web-based application, utilizing PHP for the server side, JavaScript for the client side, and SQL for database manipulation. Figma will be used to design the user interface prototype, and the Integrated Development Environment (IDE) will be Visual Studio Code.

The system will be evaluated based on the ISO 25010 software quality model in terms of its functional suitability, security, performance efficiency, and usability. The participants who will be evaluating the system are the staff of the Student Affairs and Services Department and the students of the University of Cabuyao, together with I.T. experts who have completed a Bachelor's Degree in Information Technology or other computing courses with at least five years of experience in the industry.

The limitations of the study are as follows: The event management aspect of the system will only cover the event handling and the post-event evaluation of the events. Venue and equipment reservations will not be included in the system because this process is not scoped under the SASD office. Attendance monitoring will also not be included since the office already use a standard paper-based attendance sheet; implementing both online and printed attendance monitoring might cause redundancy and additional effort in consolidating the data for the activity report. Additionally, only the president of each student organization will be allowed to submit events. This is to avoid redundancy and ensure a coordinated event proposal process within each organization.

The system will exclusively monitor and handle the Sui Generis and CHED Tulong Dunong Scholarship. These are the current scholarships managed by the SASD as of A.Y. 2024-2025.



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The Pamantasan ng Cabuyao Student Elections, which is also a process of the Student Affairs and Services Department, will not be included in the system. The University of Cabuyao already employs a system for student elections named "iVote". Implementing this feature in the system will cause redundancy and potentially cause confusion.

Lastly, the file encryption aspect of the system will implement access control features to restrict document access based on user roles and permissions. Only the authorized user will be allowed to view or download the encrypted documents. The system, however, will not be able to detect data tampering after a document is downloaded and decrypted from the system. Once the file leaves the system's secure environment, its integrity will become the user's responsibility.

### Significance of the Study

The study aims to develop a web-based management system to manage event proposals and documents for the Student Affairs and Services Department (SASD). This study is expected to be beneficial to the following:

**University of Cabuyao.** The development of this system can help the university gain a more competitive advantage over other universities that rely on traditional methods. This system provides users with streamlined document management and event proposals that will improve internal workflow and promote overall institutional efficiency.

**Student Affairs and Services Department.** The system provides the staff with an essential tool for managing business documents, transactions, and approvals. This can simplify document handling, minimize paperwork, and reduce staff workload which results in a more efficient and responsive department.



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**Student Organizations.** The event management feature of the system will streamline the student organizations' event proposal process to eliminate repetitive paperwork and revisions. This provides student organizations more free time to focus more on the event planning itself.

**Students.** The system provides the students with a platform where they can access information about upcoming events, scholarships, and financial assistance opportunities. The system also includes an online registration feature for scholarships and financial assistance to make the registration process more time-saving for the students.

**Researchers.** The development of this system will help the researchers apply their theoretical and practical learnings in a real-world setting. The experience in developing this system will help the researchers gain valuable knowledge that will enhance their skill set for their future endeavors.

**Future Researchers.** This study can be used as a reference by future researchers who are interested in conducting a similar study.



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### Definition of Terms

This section defines the terms used to provide a clear and consistent understanding of the study. The terms are defined conceptually and technically.

The following terms are conceptually defined based on their use and relevance to the proposed system:

**Code of Student Conduct** refers to a set of policies implemented by the University of Cabuyao with the aim to develop their student's personal integrity, attitude, and values while also maintaining their academic, physical, and psychological fitness.

**Document Management System** a centralized system that stores and organizes digital documents. It acts as a single digital repository to facilitate control, discoverability, and collaboration of an organization's documents. [8]

**Event Management System** a platform that streamlines the process of planning, organizing, and execution of an event. [9]

**Functional Suitability** refers to the system's ability to provide functions that cater to the user's stated and implied needs. [10]



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<b>ISO 25010</b>	Systems and software engineering - Systems and software Quality Requirements and Evaluation (SQuaRE) - System and software quality models, a software quality standard that consists of characteristics that ensure the quality of developed systems. [10]
<b>Management System</b>	organizes a business' structures and processes to implement a systematic and smooth process. [1]
<b>Managing In-Person and Remote Student Activities</b>	refers to the process of conducting and approving student activities led by the student organizations
<b>Performance Efficiency</b>	refers to the performance of the system in terms of its resource usage. [10]
<b>Recognition and Renewal of Student Organizations</b>	a compliance by student organizations under the University of Cabuyao wherein a newly formed or an existing organization submits a set of requirements to be recognized as an official student organization of the university for the current academic year.
<b>Scholarships Program and Services</b>	a program provided by the University of Cabuyao that aims to assist, support, and recognize students with good academic standing but who are financially challenged in supporting their activities.



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<b>Security</b>	refers to the system's ability to protect its information and data from threats and vulnerabilities. [10]
<b>Student Discipline</b>	refers to the standards for student conduct and behavior in and out of the campus.
<b>Student Grievance</b>	refers to the complaint of a student against another student, administrator/teaching/non-teaching, or personnel/other stakeholders.
<b>Usability</b>	refers to the system's ability to achieve the organization's goals effectively, efficiently, and satisfactorily. [10]

The following terms are technically defined from past literature works:

<b>Advanced Encryption Standard (AES)</b>	an encryption algorithm that symmetrically encrypts and decrypts data. This algorithm is the standard security measure of the US government to protect confidential information. [11]
<b>Agile Process Model</b>	a software development model that implements iterative development by breaking project tasks into small iterations. [12]
<b>Decrypt</b>	a process of converting unreadable data back to its readable form. [13]
<b>Encrypt</b>	a process of converting data into unreadable text to hide its content. [14]



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<b>File Encryption</b>	a method that transforms data into a ciphertext that can only be decoded by an authorized user. [15]
<b>Web-based Application</b>	refers to a program that is accessed and executed inside a web browser. [16]



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### CHAPTER II

#### REVIEW OF RELATED LITERATURE AND STUDIES

This chapter reviews related literature and studies relevant to the proposed study to gather ideas from existing local and international research conducted by different authors. By analyzing these past studies, it identifies similarities and differences that equipped the researchers with the knowledge necessary to develop the proposed system.

##### Conceptual Literature

An Event Management System (EMS) is software that is used to streamline the process of conducting an event. This type of system employs a range of features such as event registration, ticketing, venue selection, scheduling, attendee engagement, and post-event analysis [9]. Event organizers use this software to consolidate all aspects of their event, making it easier and more efficient to stay organized and reduce risks of errors and mishaps [16]. This saves time, cuts costs, increases engagements, and analyzes and improves [18] event planning and execution.

Document Management System (DMS) is a type of software that centralizes an organization's documents in one digital storage. This system brings an organized and secure way of filing digital documents, discoverability, and control to the documentation of an organization [8]. Storing printed documents requires significant space and cost, so using this system can integrate various documents to improve information retrieval, security, governance, and lower cost [19]. Document



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Management System employs features like cloud integration, automation capabilities, robust search abilities, permissions level, version control, [20] and many more.

File Encryption, also known as Data Encryption, is a security method that transforms data into ciphertext to preserve data confidentiality. It uses an encryption key which, only allows the authorized user to decrypt the encrypted data [21]. This is used as a measure to ensure the confidentiality, integrity, authentication, and non-repudiation of the data [15], creating a secure environment online for the transaction and exchange of data. It is used in businesses, organizations, enterprises, and agencies that need safeguarding of their data. National and global policies have required its use, making file encryption a key pillar of security, such as the California Consumer Privacy Act of 2018 (CCPA), USA's Healthcare Insurance Portability and Accountability Act (HIPAA), EU's General Data Protection Regulation (GDPR), and Canada's Federal Information Processing Standards (FIPS) [22].

AES (Advanced Encryption Standard) is a widely used encryption method. This method of encryption ensures the security of transactions and exchanges of data across devices by encrypting data multiple times and dividing that data into bits [11]. It operates on fixed-size data blocks (128 bits each) and uses a series of linked operations, including substitution, permutation, and XOR. AES ensures data confidentiality and integrity, making it crucial for secure communication and data protection [23].

ISO/IEC 25010 is a product or software quality model that is developed by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). It consists of 8 characteristics that specify, measure, and evaluate a system and software product quality [10]. These characteristics include functional suitability, reliability, performance efficiency, usability, security, compatibility, maintainability, and portability.



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### Research Literature

#### Review of Related Literature

**Event Management System.** According to [24], there has been an increase in the use of event management systems tailored for academic institutions, which offer features that address the challenges of colleges in organizing events. Its key features, such as automated registration and ticketing, scheduling and calendar integration, attendee management, analytics and reporting, and venue management [25], simplify the process of conducting an event, making it less hassle and time-consuming. This, encourages more organizers to use this system. According to [26], the market size of event management software was estimated at USD 6.97 in 2022. It is expected to reach a compound annual growth rate of 12.5% from 2023 to 2030. These show how event management systems have become relevant to streamline event planning.

**Document Management Systems.** According to [27], the rapid digitalization of the world, together with the massive amounts of business documents led to the significance of implementing a document management system. Its features, such as web access, document search, embedded viewer and editor, versioning, and file sharing and locking [28], enable a business to be efficient in managing its files. One industry that manages massive amounts of documents is the healthcare industry. According to [29]'s analysis, this system helps users simplify the creation of electronic patient records, minimize the risk of documentation loss, and increase document security. The researcher also emphasized the market volume of the system, which is expected to grow annually to USD 657 billion in 2023 at 14.5%.

**File Encryption.** According to [30], the increased demand for cloud platforms should be paired with a secured platform for its users. The researchers then explored encryption using the AES algorithm on cloud computing platforms to prevent data theft. The researchers used this algorithm because of its efficiency and ability to



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encrypt large data while using fewer resources. The researchers' study provided insights into the importance of using encryption to ensure data security on cloud computing platforms. The researchers concluded by emphasizing the use of the AES algorithm due to its good security features. One of these features is the symmetric block encryption of AES that operates on 8-bit or higher operations.

### Review of Related Studies

**Event Management System.** According to [3], “the lack of a centralized platform in event management often results in miscommunication, time delays, and conflicts in resource utilization”. This culminated in the development of their system—a college event management System that automates event processes and streamlines the approval workflow and communication among users, administrators, and the principal. The researchers' system aims to efficiently manage event logistics, progress, and tasks, and implement participant features regarding the event's information. Implementing an event management system simplifies the workflow of event coordinators and provides organized planning within the campus.

Additionally, the system [31] developed employs an SMS notification feature to notify their client's employees about important events and announcements. The researchers utilized the use of SMS to notify the users because it is quick and efficient in delivering messages and does not require an internet connection. The challenge, however, in this system is its compatibility issues. The system is a software application that requires specific computer specifications to run effectively, which can exclude users with older computers.

On the other hand, [32] proposed a system that resolves transaction-based issues for event organizations with Smart Budgeting using Apriori Algorithm. This algorithm will be used by the system to predict cost and identify potential savings by identifying frequent patterns using large sets of data. The project implemented an



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appointment, billing, inventory, and reporting module to coordinate with different clients and suppliers in conducting an event.

**Document Management System (EDMS).** The functionality of the system developed by [33] centers around the management of documents across five campuses in conducting their extension projects. The document approval between each campus experienced delays because of their physical distance. Their research developed a web application that streamlines the operations and transactions of their extension office. Using a document management system can improve an organization's business processes. However, the lack of security, like file encryption, is a threat to these systems, considering these documents are confidential and should be kept from other users.

Alternatively, [34] took a different approach by implementing Blockchain and InterPlanetary File System (IPFS) in their Document Management System to address document forgery. The researchers used Blockchain technology to immutably store document identifiers to prevent document tampering. The InterPlanetary File System (IPFS), on the other hand, is a distributed file storage system that contains the actual document. Using this type of file storage ensures the document's availability if some of the nodes fail. The researchers were able to develop a robust system by combining Blockchain and IPFS. However, there was a drawback to implementing these features. The system lacks integration with existing document management systems that organizations are already using. One aspect to consider in this system is its real-world application in document management and its transfer workflows.

**File Encryption.** [35] evaluated the encryption and decryption accuracy and computational efficiency of encryption algorithms in machine learning. The researchers evaluated the following algorithms: Data Encryption Standard (DES), Advanced Encryption Standard (AES), and Homomorphic Encryption (HE) techniques. The researchers found a significant evaluation of the tested algorithms. In terms of performance, AES provides fast encryption and decryption speeds while



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maintaining high security. In terms of accuracy and efficiency, AES and DES showed high accuracy in encrypting and decrypting. However, AES consumed the least CPU. Lastly, in terms of security, AES supports 128, 192, and 256-bits compared to DES with shorter key lengths. Based on the following results, the AES algorithm showed the fastest speed while maintaining high security and low CPU consumption.

Furthermore, [36] focused on the management of securing large files using a Reduced-Round Permutation-Based AES File Management System. The researchers explored and modified this algorithm to study its impact on encrypting medium to large-sized files. Based on their algorithm, the researchers were able to achieve a significant improvement in computational effectiveness, gaining a 38.8% speed in encryption and a high 44.86% improvement in decryption for medium to large-sized files.



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### Conceptual Framework

The Agile Process Model is a software development approach that implements iterative development by breaking project tasks into smaller iterations [12]. This framework ensures that the developed system meets the organization's needs and adapts to its requirements. It provides a realistic approach to software development because of its continuous feedback and iterative development [37].



**Figure 1. Agile Process Model [37]**

Figure 1 shows the model consisting of six (6) phases: requirements gathering, design, development, testing, deployment, and review. These phases will be repeated until the system is refined and ready to be deployed. This allows the developers to produce a higher-quality system that will cater to the users' needs and business requirements.



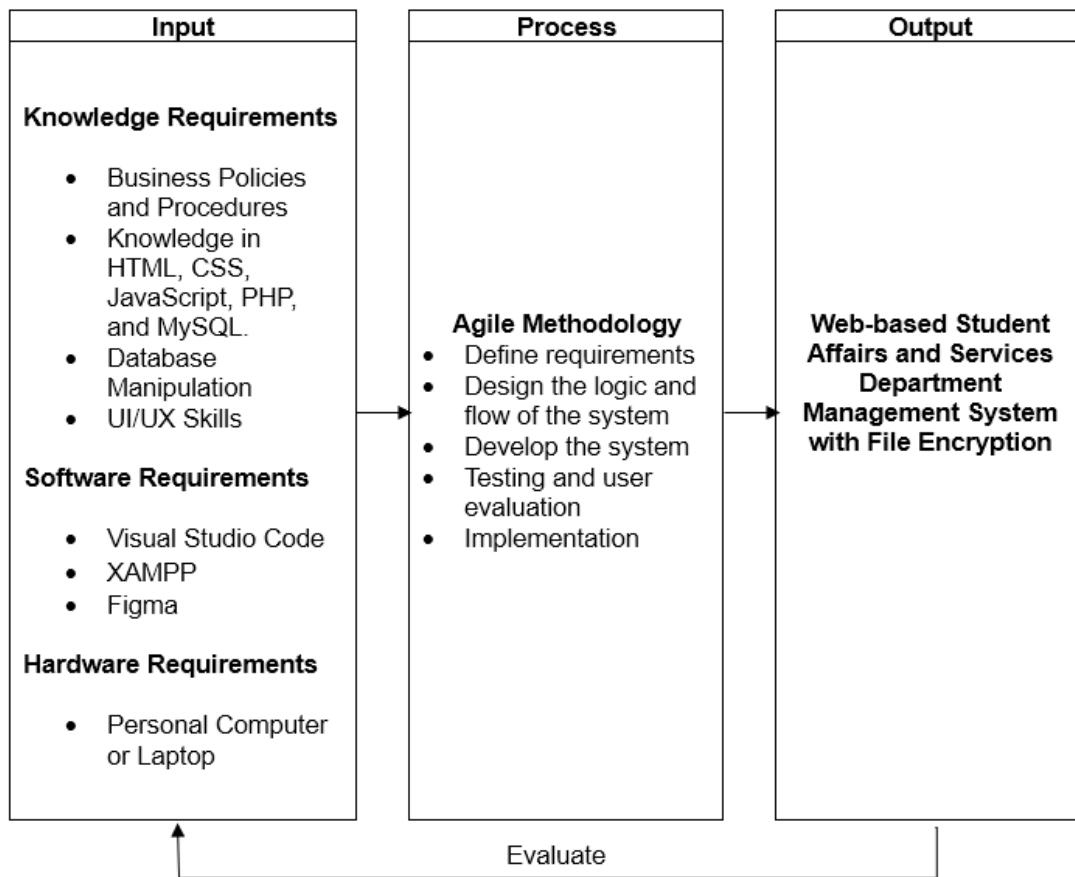
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### Conceptual Paradigm



**Figure 2. The conceptual paradigm of the study**

Figure 2 presents the conceptual paradigm of the study using the Input-Process-Output (IPO) model. The input consists of knowledge requirements, which will be the basis of the study; software requirements, such as Visual Studio Code, XAMPP, and Figma for the development; and hardware requirements, such as a computer or laptop, to access the system.

The Agile Methodology, an application development methodology, will be implemented in the process phase of this study. This guides the researchers in



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developing the system; this includes defining the requirements, designing the logic and flow of the system, developing the system, testing, and user evaluation, and implementing the system. The researchers chose this methodology because it provides a structured and iterative flow on the development of the system. This approach allows the researchers to adjust to necessary modifications from the user and expert's feedback during the development phase.

The output of this study would be the Web-based Student Affairs and Services Department Management System with File Encryption, which is a web application that will help the organization streamline its processes and provide a centralized workflow for the students of the University of Cabuyao.

### Synthesis

Based on the studies of [3], [31], and [32], the development of an event management system is an efficient way to streamline the coordination and management of an event. [3] emphasized centralizing the processes of managing an event to avoid miscommunication, time delays, and conflicts in resources. However, [31] showed that there should be a proper assessment of the client's hardware requirements to avoid compatibility issues and ensure that users will be able to use the system.

[33] demonstrated the efficiency of using a document management system to improve the workflows and document approval between different campuses and enhance their communication despite their physical separation. These systems require a secure platform to ensure the confidentiality and security of the organization's data. However, [34] showed that despite the robust security of their system, the integration and real-world application with existing systems should still be considered. Considering these factors can ensure that the system will be used by an organization while promoting security for its data.



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File encryption ensures the data's confidentiality and security, and [30] emphasizes its use on cloud computing platforms to prevent data theft. [30], [35], and [36] displayed the benefits of using the AES algorithm because of its good security features and fast performance. The comparison study of [35] provided more evidence of the benefits of using the AES algorithm over other encryption algorithms.

The collection of the related literature and studies mentioned helped the researchers gain insight into the concepts of event and document management systems and the implementation of file encryption. This study aims to develop a management system with file encryption to streamline the transactions and workflows of the Student Affairs and Services Department of the University of Cabuyao.



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### CHAPTER III

#### METHODS AND PROCEDURES

##### Research Design

The researchers used a descriptive research design to conduct this study. This type of research design uses what, when, and how questions to accurately describe a population, situation, or phenomenon [38]. This research is applicable to this study because it examines and understands the current practices and existing problems of the Student Affairs and Services Department in regard to their business transactions and processes. Identifying these aspects helps the researchers understand why these problems occur and provide solutions to these challenges through this study.

Interviews and observations were conducted to gather primary data for this study. Moreover, the researchers were also able to read documents about the processes and structure of the organization, which helped them understand how the organization operates. For the secondary data, the researchers used past existing literature and studies from books, journals, research, and articles to provide a basis for the features the system will employ. These data collection methods helped the researchers identify the organization's challenges and the solutions the system will provide.

The proposed web-based management system will then be evaluated by web development experts and its end users using questionnaires with a 5-point Likert Scale. This scale helps the researchers identify the user's feedback by answering a question with five options that contain two utmost poles with a neutral option [39]. This method systematically provides a quantitative response from the respondents when evaluating the proposed system.



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### Respondents of the Study

The study will take place at the University of Cabuyao (Pamantasan ng Cabuyao) under the office of the Student Affairs and Services Department (SASD). The respondents of the study will consist of two groups that will evaluate the developed system: end users and web development experts.

The end users have a total number of thirty (30) participants consisting of the staff from the office of the SASD, student officers, and students from the University of Cabuyao. Ten (10) web development experts will also participate in evaluating the study. These experts must be graduates with a bachelor's degree in information technology or other computing courses and have at least five years of experience in the industry. The researchers used Slovin's formula with a 2% margin of error to calculate the sample size of the study.

Table 1 presents the specific number of respondents from each category and the total number of respondents. By using Slovin's formula with a 2% margin of error, the total number of respondents is forty (40), which consists of thirty (30) end users along with ten (10) web development experts.

**Table 1. Respondents of the study**

CATEGORY	NO. OF RESPONDENTS
End users	30
Web Development Experts	10
<b>Total</b>	<b>40</b>



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### Data Gathering Procedure

This section contains the data-gathering tools that will be used for the study, the data analysis plan to measure the collected data, and system development, which contains the technical aspects of the system.

#### Data Gathering Tools

**Interview.** A qualitative data collection method typically involves two people conducting a meeting to gain primary information. Research interviews play an important role because they provide first-hand thoughts, experiences, and perspectives of an individual. This gives the researchers a comprehensive understanding of a complex phenomenon or topic [40]. The researchers will conduct a face-to-face interview with the staff of the office of the SASD to analyze and gain a thorough knowledge of the organization's business processes.

**Observation.** According to [40], a naturalistic observation in which researchers collect data in a systematic approach is often used in both quantitative and qualitative research. In relation to this, the researchers will observe the day-to-day process and manual operation of the Student Affairs and Services Department (SASD) to supply knowledge that benefits the study and will be the basis for innovating the web-based file management system.

**Document Review.** A method in which the researchers will go through documents and involve analysis for accurate facts and quality of the contents [43]. This data-gathering tool will be helpful for the researchers to examine the book of manual processes of the Student Affairs and Services Department (SASD) for event approval by the student organizations, document handling, registering student scholarships and financial assistance, and filing student discipline reports.



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**Questionnaire.** A tool for collecting data with a series of questions related to the research topic [44]. This will determine the assessment of the end users about the system's functional suitability, security, performance efficiency, and usability. Questionnaires will incorporate questions answerable by Strongly Agree (S.A.), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (S.D.) after the system has been implemented. This will also be the medium through which the respondents can give feedback about their experience with the proposed system.

**Online Research.** The majority of the beneficial information that the researchers will use for this study will come from the internet, which will allow them to utilize a resource that is fast and easy [45]. Information from the internet is gathered as part of the research process known as online research. Online research design has become more popular since the introduction of the internet, pushing aside more conventional pen-and-paper research methods. A variety of online research tools, such as focus groups, online polls, questionnaires, and forms, are critical for obtaining the data needed for market research.

### Data Analysis Plan

Once the questionnaires have been completed by both web development experts and end users, the responses will be tabulated and analyzed to discern patterns and trends. The data analysis plan for this study will involve utilizing a five-point Likert Scale to gather and analyze responses from participants regarding their perceptions of the proposed system.

Participants will be asked to rate the evaluation with various statements using the following scale: 5 for Strongly Agree (SA), 4 for Agree (A), 3 for Neutral (N), 2 for Disagree (D), and 1 for Strongly Disagree (SD) [47] as shown in Table 2.



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**Table 2. Five-Point Likert Scale Method**

SCALE	VERBAL INTERPRETATION
5	Strongly Agree (SA)
4	Agree (A)
3	Neutral (N)
2	Disagree (D)
1	Strongly Disagree (SD)

### System Development

The researchers will implement the Agile Process Model as the software development methodology of the system. This model consists of 6 different phases, including defining requirements, designing the logic and flow, developing the system, testing and user evaluation, and implementation of the system.

The requirements are defined in the first phase, where the researchers gather the data to build the foundation of this study. In this phase, the data is collected by interacting with the system's users [48]. This data includes the business processes of the SASD office and the challenges they encounter in their daily transactions. The researchers were able to identify these data by conducting interviews and observations. Based on the findings, the researchers found out that the office of the SASD has five different divisions, three (3) of which are handled by one staff member, who is also the director of the SASD itself. The processes of the office of the SASD are also identified; these are: (1) Code of Student Conduct, (2) Student Discipline, (3) Student Grievance, (4) Recognition and Renewal of Student Organizations, (5) Scholarships Program and Services, and (6) Managing In-Person and Remote Student Activities. The office of the SASD also conducted both manual and online transactions in terms of their transactions, which can cause an inefficient workflow and slower accommodation time.



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The second phase is where the researchers conceptualize and develop the logic and flow of the system that will provide efficiency and streamlined workflow to its users. In this phase, specific diagrams and user interfaces are illustrated to show how the system's features will apply to its users [48]. The researchers created a use case, activity, and sequence diagram for the flow of the system. Additionally, class and entity-relationship diagrams are also created to determine the system's entities and their relationships. Lastly, the user interface is also designed to visualize the system's interface easily. All mentioned diagrams and user interfaces are illustrated in the System Design section of the study. The researchers will be implementing an event management system, document management system, and file encryption. These features were conceptualized based on the needs of the organization while incorporating reviewed literature and studies related to the system.

The development of the system will occur in the third phase, during which the researchers will develop a web-based management system for the SASD office. In this phase, the researchers aim to deploy a working system [48]. The system will be developed using HTML as the structure, CSS for the design, JavaScript for the client side, PHP for the server side, and MySQL for the system's database management.

Once the system is developed, the researchers will conduct a system testing wherein the users will test the entire software application. Conducting a system testing ensures that the developed system meets its functional and non-functional requirements [49]. The researchers will demonstrate and explain the system's features while the users test and evaluate the system.

The system will be evaluated through the following criteria: functional suitability, usability, security, and performance efficiency. These criteria were based on the ISO 25010 software quality model, which will be conducted through survey questionnaires using a five-point Likert Scale. This phase ensures that the system meets the requirements of its users and functions correctly in all possible scenarios [48].



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After a thorough iteration of feedback and evaluation from the users, the system will be refined until it is ready to be implemented. In this phase, the researchers will deploy the working system and implement it [48] in the SASD office. The researchers will deploy the system through the Management Information Systems Department (MISD) of the University of Cabuyao by securing a domain name and hosting the system to enable online user access. Once the system is deployed and implemented, the account credentials of the students and employees from the university's existing systems will be integrated to the proposed system to ensure the exclusivity of the system outside the university.

### System Design

This section contains various UML diagrams to visualize the processes and functionalities of the system. These diagrams include use case, sequence, activity, and entity-relationship diagrams (ERD). The use case diagram visualizes the user's point of view in terms of using the system [50]. Additionally, sequence diagrams demonstrate how users utilize the system as time progresses [51]. An activity diagram, on the other hand, provides a structured view of how the functions will work with the user [52]. Class diagrams map the class' structures, together with its specified attributes, operations, and relationships among objects [53]. Lastly, the Entity Relationship Diagram (ERD) illustrates how the entities of the system relate to one another [54]. These diagrams provided the researchers with a structured visualization of the system's functionalities and how the users will utilize the system.



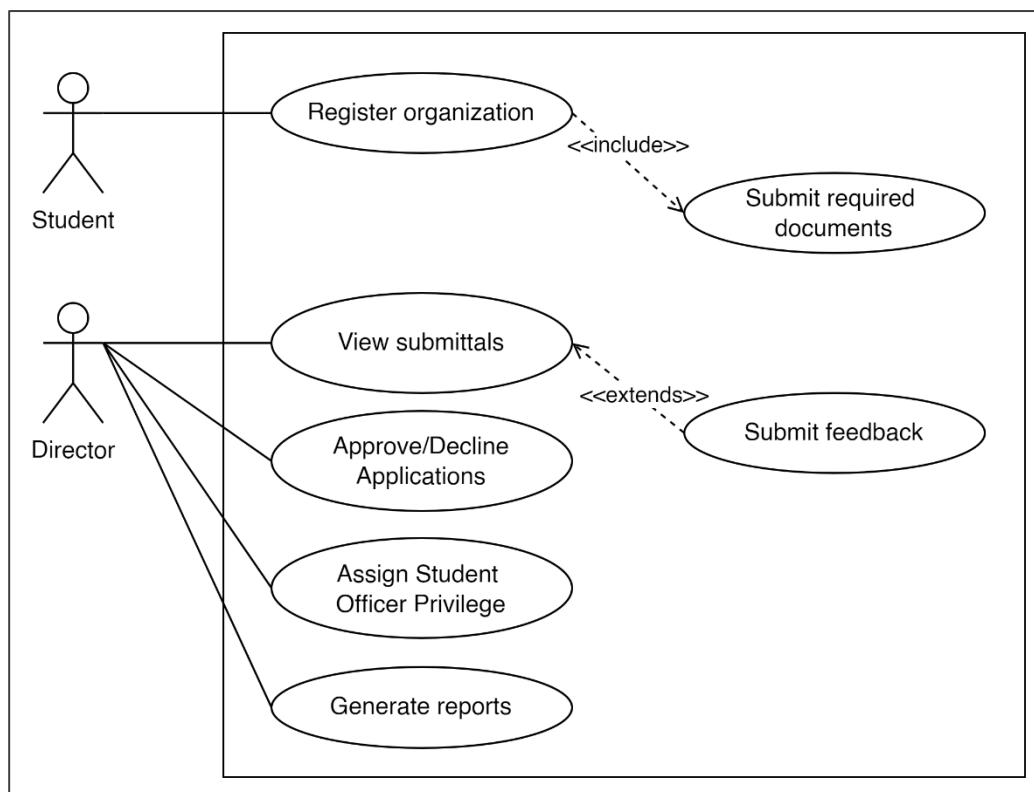
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**Use Case Diagram.** A use case diagram, which shows how users interact with a system visually, is an essential tool in system design. It acts as a guide to help stakeholders communicate and direct the development process by helping to understand the functional needs of a system from the viewpoint of the user [50].



**Figure 3. Use case diagram for student organization's recognition/renewal**

Figure 3 illustrates the use case diagram for the process of student organization recognition/renewal. The student in the organization can register or renew their organization accompanied by the required documents. At the same time, the director will review the student's request and then decide if it is approved or declined. Lastly, the privileges of student officers will be assigned.

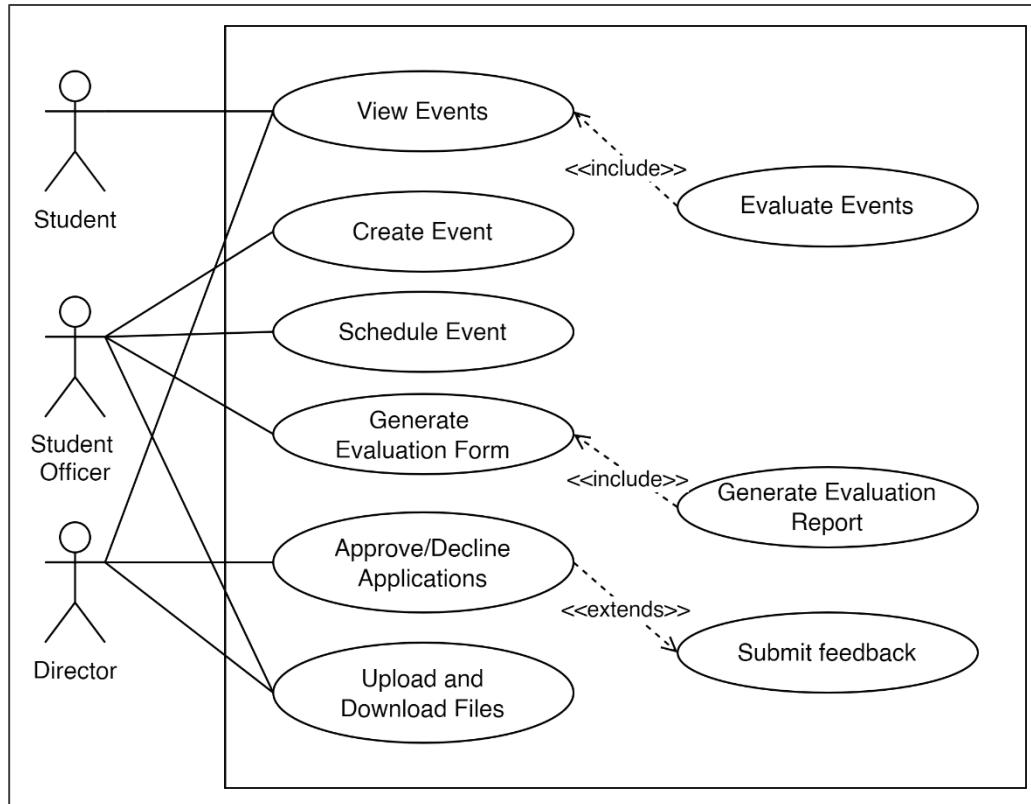


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**Figure 4. Use case diagram for student activities management**

Figure 4 displays the use case diagram for student activities management; in this process, the Student Officer is the one that will propose their desired event. They can create, schedule, generate evaluation forms and reports, and download or upload files for requirements. The director will review the proposed event and files and decide if it is approved or declined. After the event is conducted, the student must evaluate the event for quality assessment.

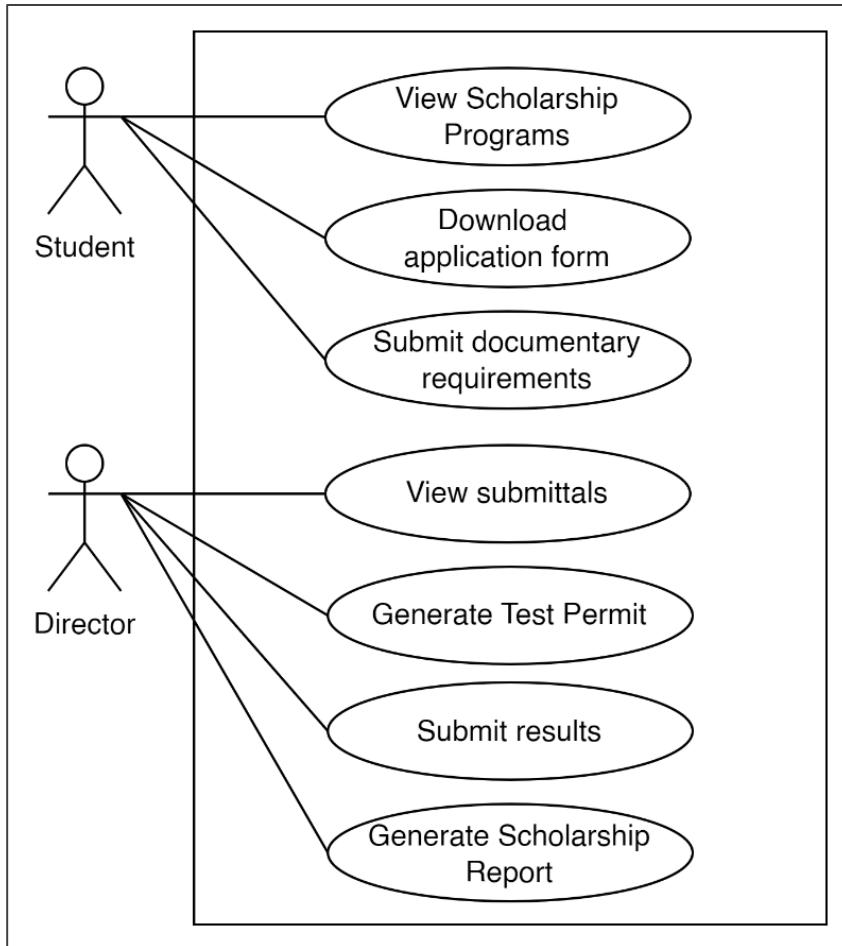


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**Figure 5. Use case diagram for scholarship program application**

The process for applying for the scholarship program is demonstrated in Figure 5, where the student can view and apply for the program, download the application form, and then submit the required documents. At the same time, the director reviews the submittals of the student and generates test permits and scholarship reports.

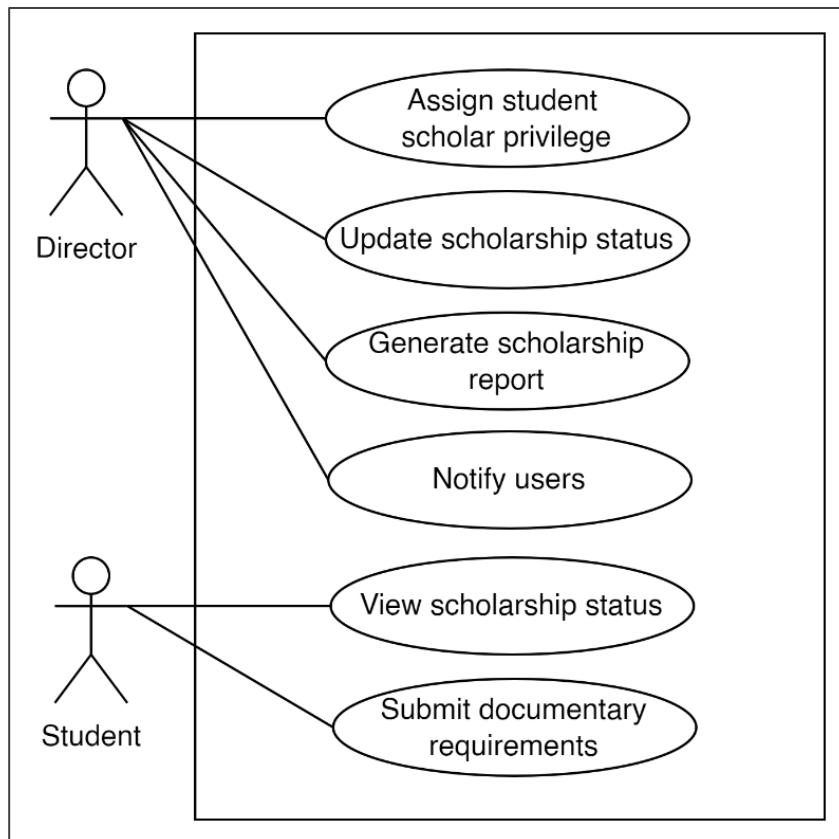


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**Figure 6. Use case diagram for monitoring scholarship recipients under the CHED Tulong Dunong Scholarship**

Figure 6 demonstrates the procedure for monitoring scholarship recipients specifically, under the CHED Tulong Dunong Scholarship. The director can update the student's account as a student scholar, update their scholarship status, generate the scholarship list, and notify the students. The students will then be notified about their scholarship status and will be required to upload the necessary documents to be deemed active for their scholarship status.

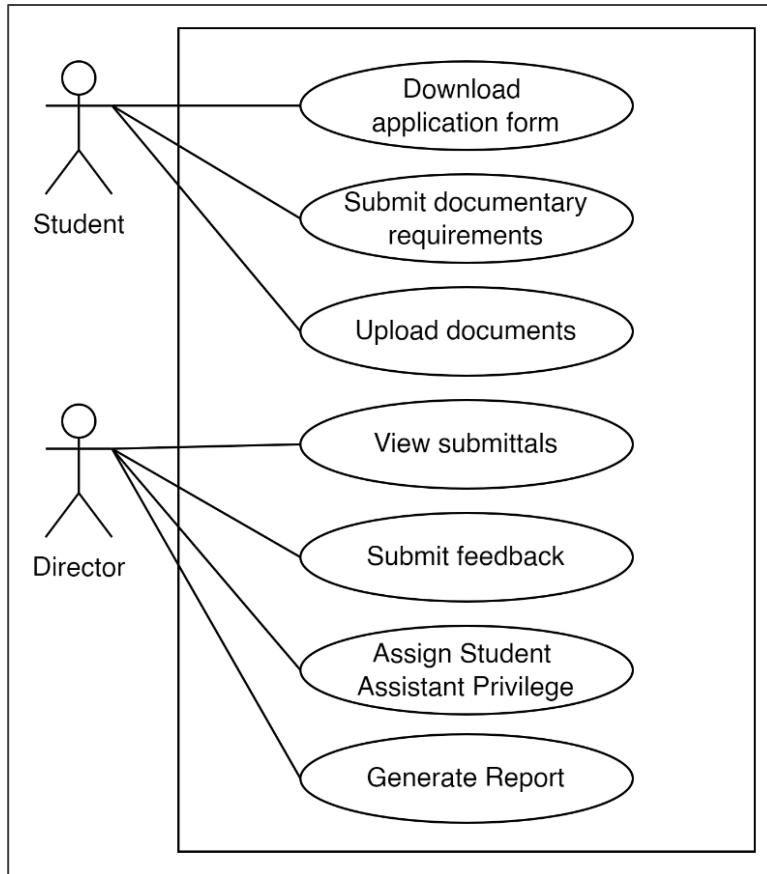


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**Figure 7. Use case diagram for student assistantship application**

Figure 7 displays the use case for the student assistantship application. Students can download the application form and submit the documentary requirements. On the other hand, the director will view the submittals of the student and then provide feedback; if the student passes, the director will then assign the student as a student assistant; if rejected, the director will submit feedback. The director can also generate a report of the list of student assistants.



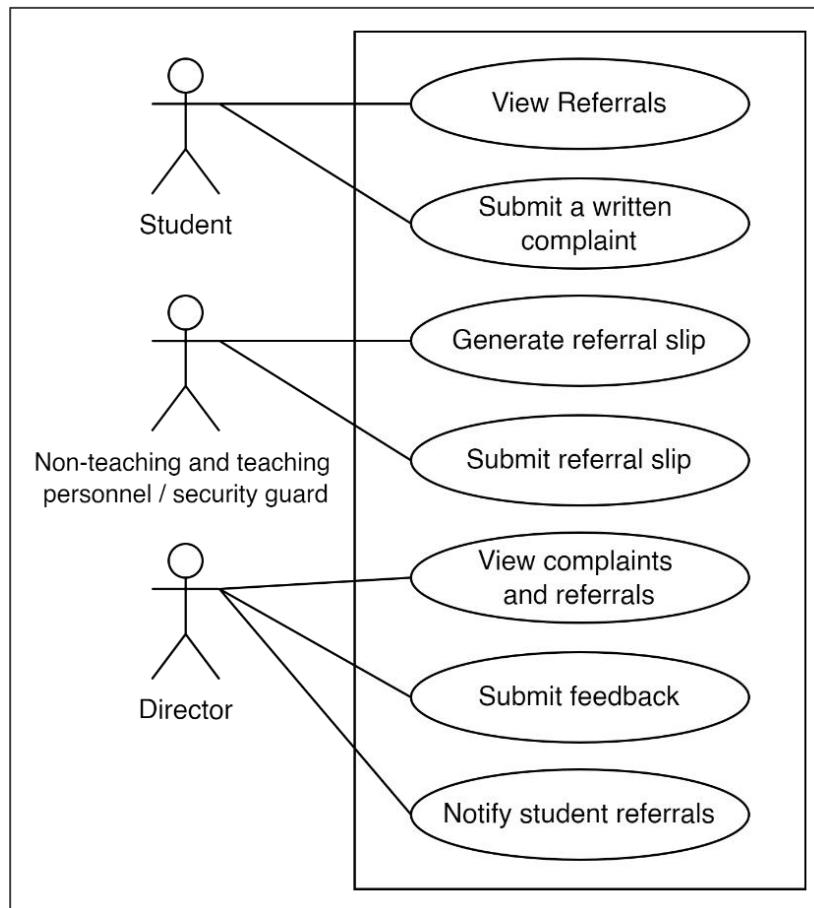
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Figure 8 illustrates the use case diagram for student discipline. The discipline procedure occurs once a student violates a university rule or when someone complains to another student. First, the student can view their referrals and submit a written complaint, while the non-teaching/teaching personnel will download the referral slip and then submit it. The director will view the complaints and referrals slip and will give feedback. Lastly, the director can submit disciplinary action to the students concerned.



**Figure 8. Use case diagram for student discipline**



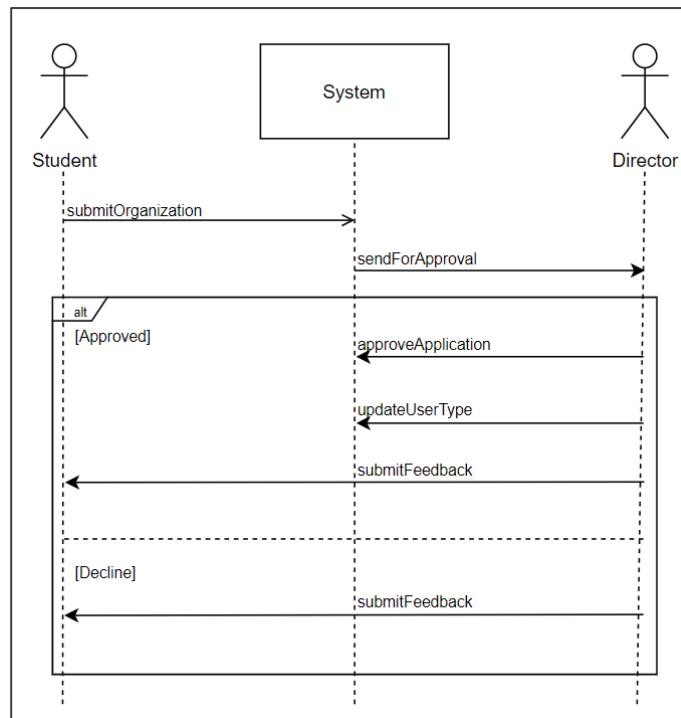
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**Sequence Diagram.** The Sequence Diagram is a system interaction diagram that visualizes how the system's entities interact over time [51]. The following diagrams demonstrate the sequential process of every system use case. The diagrams consist of the following objects: the student, the system, and the director.



**Figure 9. Sequence diagram for student organization's recognition/renewal**

Figure 9 illustrates the sequence of interaction between the student, the system, and the director in terms of registering a new organization. First, the student must submit an application containing the organization's details and its required documents. The application will then be sent to the system, and the director will be notified of its approval. After its evaluation, if the director approves their application, the system will prompt the director to update the student's user type and submit feedback to the student, informing them about the following process. If the application



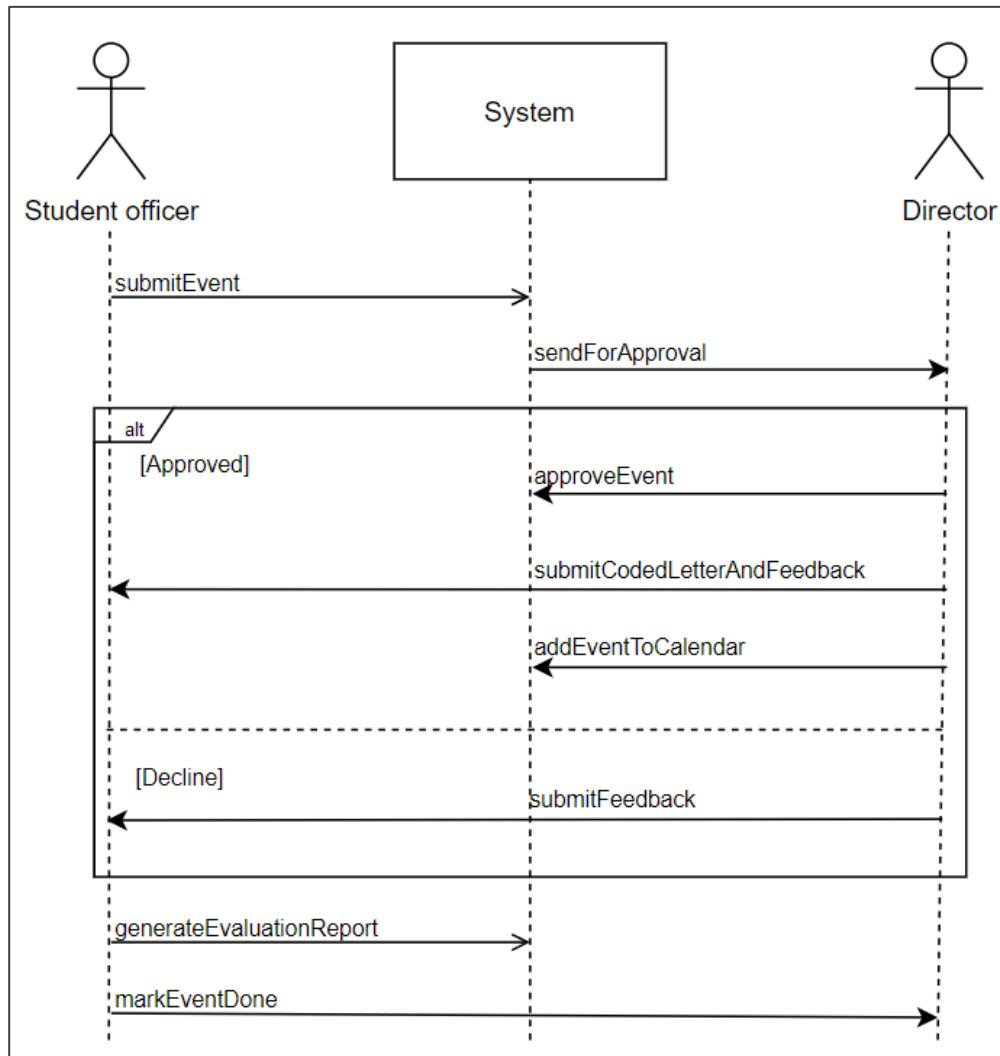
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is declined, the director will submit feedback to the student to request revisions or other documents.



**Figure 10. Sequence diagram for student activities management**

The sequence for Figure 10 illustrates the management of the student activities. First, the student officer submits an event proposal to the system including, its details and required documents. Next, the system will send it to the director for approval. If the event proposal is approved, the director must upload the coded letter



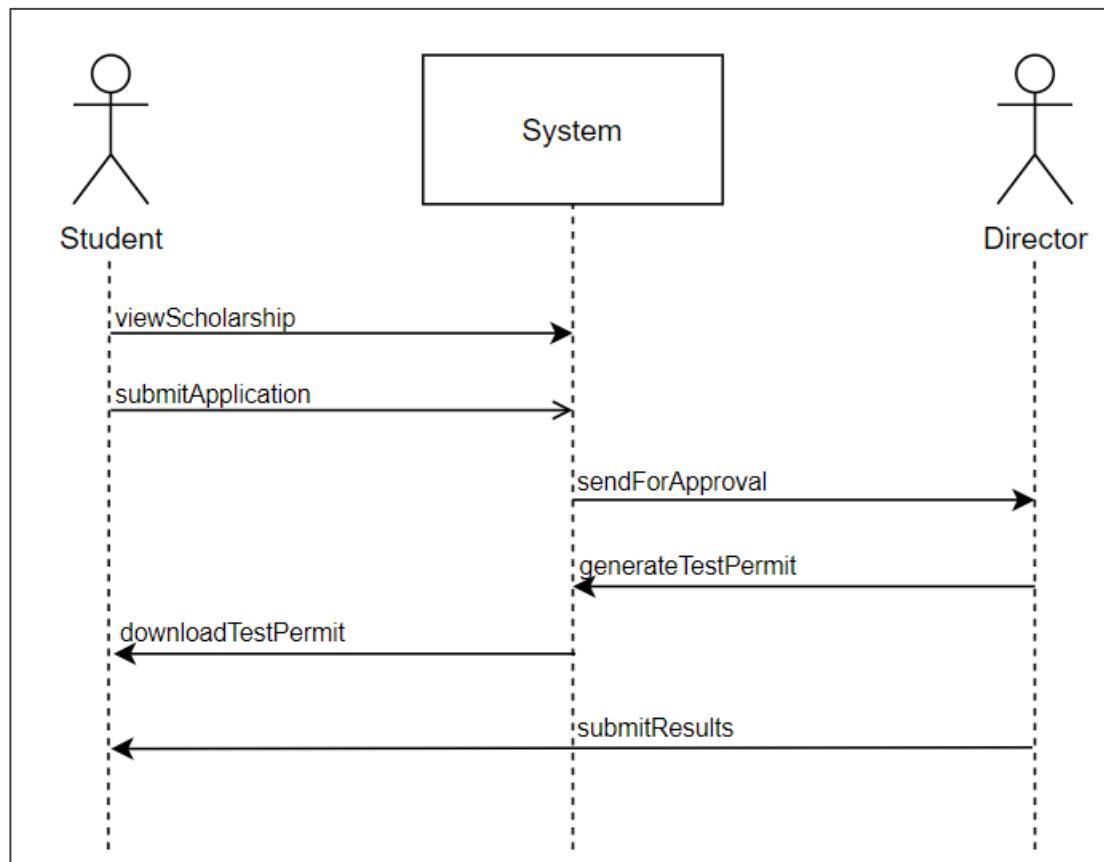
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and send it back to the student. After giving feedback, the event will be displayed in the calendar.



**Figure 11. Sequence diagram for scholarship program application**

The process for the student scholarship application is demonstrated in Figure 11. The student views the available scholarship for its details and submits their application to the system. Their scholarship application will then be sent to the director. After evaluating the student's application, the director will generate the test permit for the student. The student will then download the test permit for their examination. Once the exam results are available, the director will publish them in the system and notify the applicants.

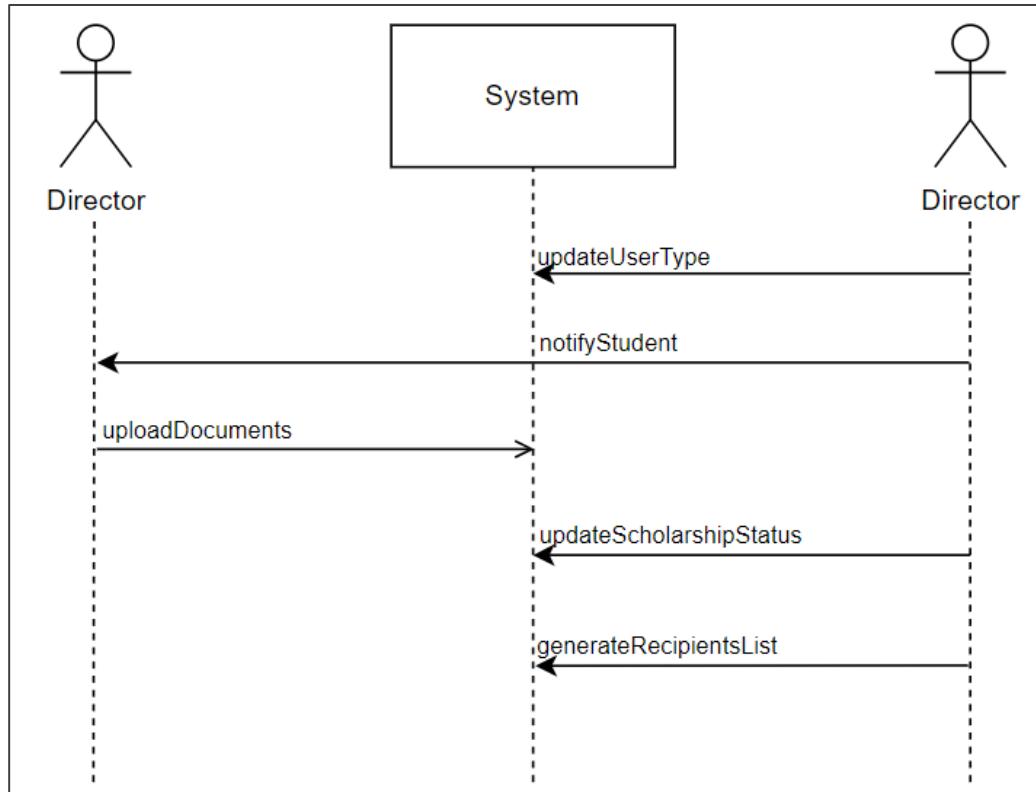


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**Figure 12. Sequence diagram for monitoring scholarship recipients under the CHED Tulong Dunong Scholarship**

Figure 12 illustrates the sequence diagram for monitoring scholarship recipients under the CHED Tulong Dunong Scholarship. In this process, the director updates the user type from student to student scholar for this scholarship. The student will then be notified and prompted to upload the required documents to be considered 'active.' The director can also generate the list of active and inactive scholars under this scholarship.

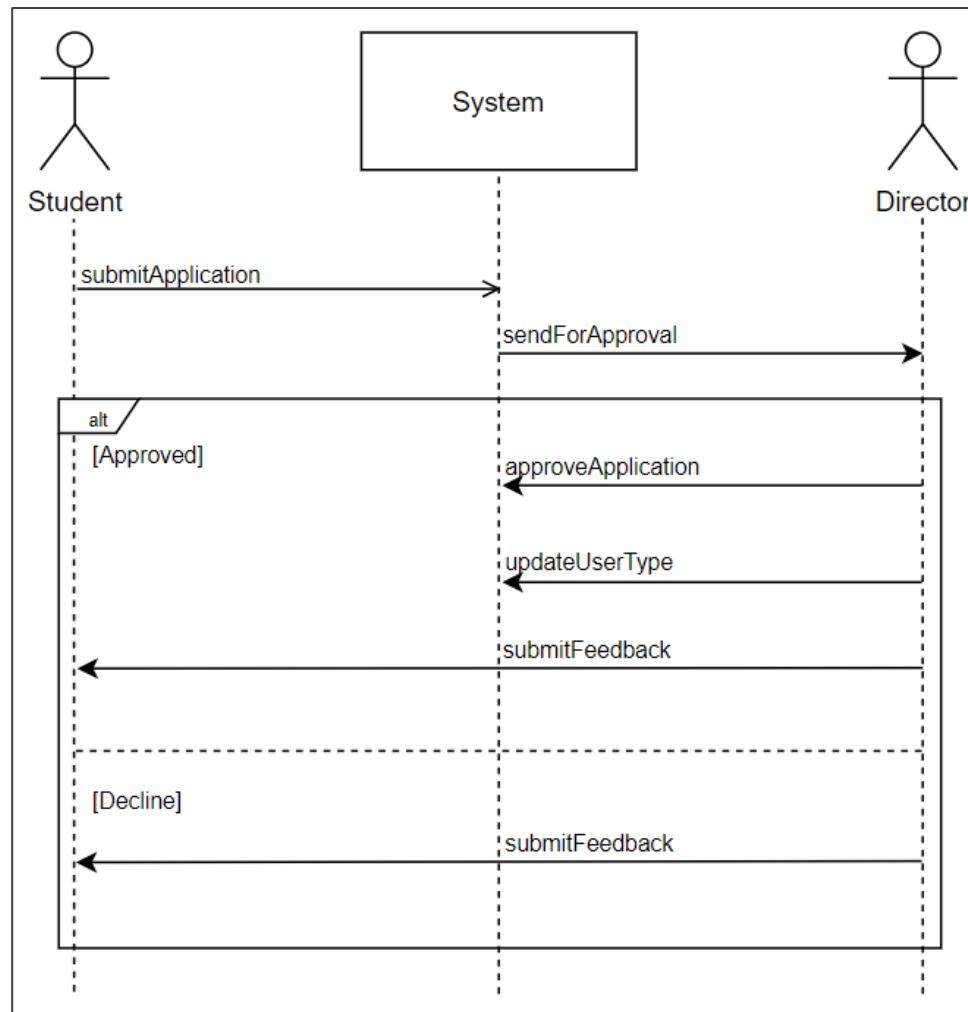


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**Figure 13. Sequence diagram for student assistantship application**

Figure 13 demonstrates the application for the student assistantship program. For this process, the student submits an application containing related documents for the application. The application will then be sent to the director for approval. If the application is approved, the director will be prompted to update the student's user type to the student assistant and notify the user by submitting feedback to the student. If the application is declined, the director shall submit the student's application result.

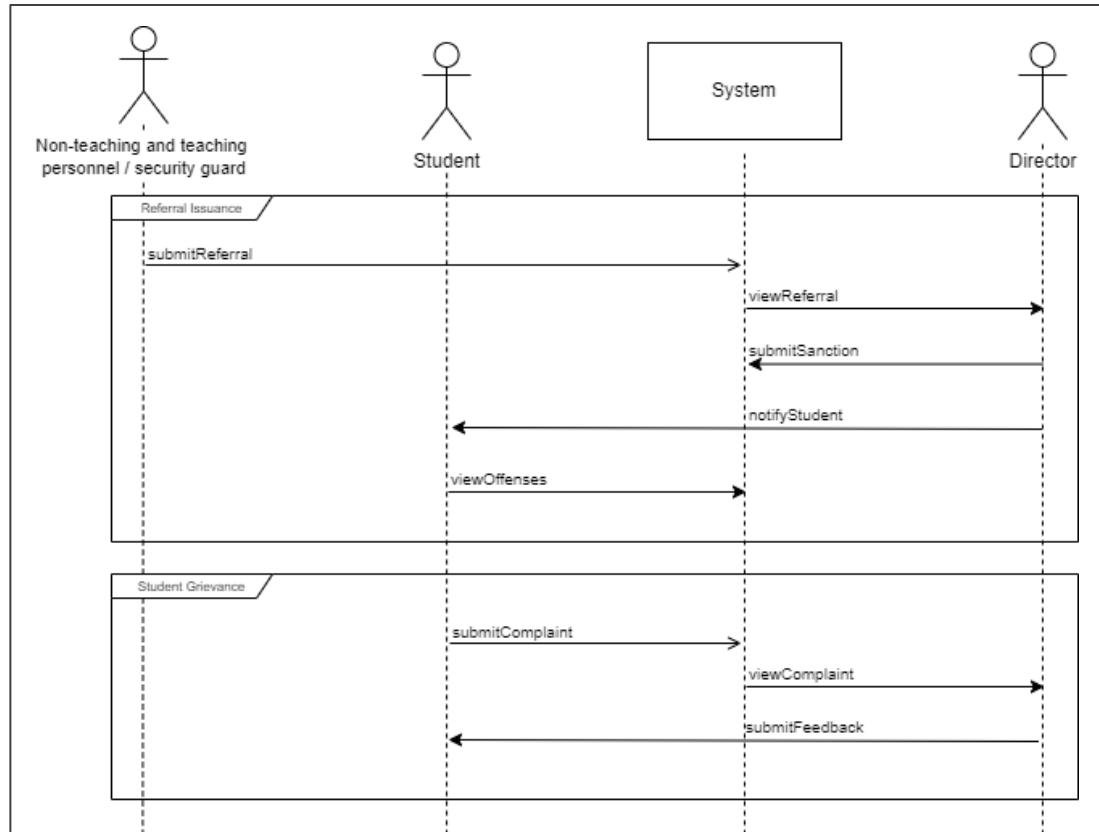


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**Figure 14. Sequence diagram for student discipline**

Figure 14 demonstrates the process for the student discipline. In this aspect, there are two processes: the issuance of referral of staff to the student and the filing of complaints for students. For the issuance of referrals, the staff, specifically the non-teaching and teaching personnel, submits a referral to the system if a student violates a rule. The director monitors the submitted referrals and the students will be notified about their referral. The concerned student will be able to view their referrals issued by the professor.

For the filing of student grievances, if a student has a complaint regarding the school or a staff member, the student shall submit a complaint to the system, which



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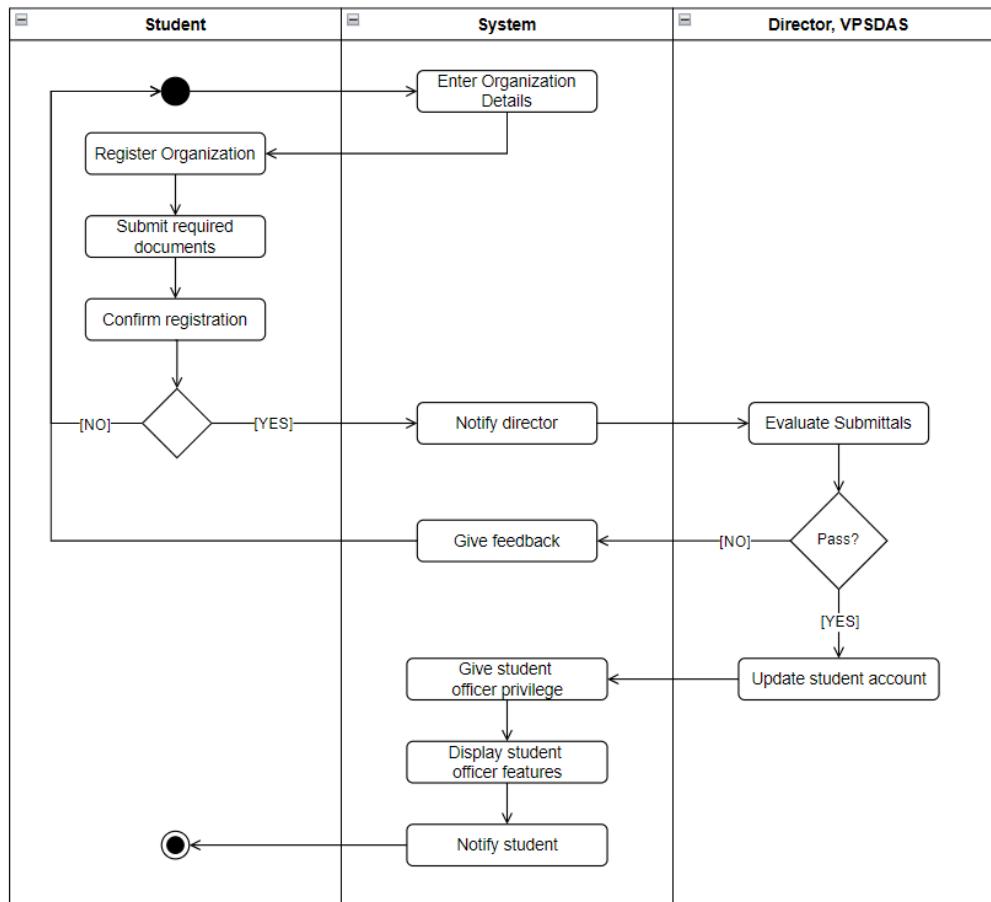
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the director will then review. The director will then submit feedback regarding the student's concerns,

**Activity Diagram.** The Activity Diagram visualizes the behavior of a system in a structured way to demonstrate its processes [52]. The following diagrams consist of the student, the system, and the director as the object of the diagram.



**Figure 15. Activity diagram for student organization recognition/renewal**

Figure 15 demonstrates the registration process for a student organization. The process begins by entering the details of the organization and uploading the required documents. The student then confirms the registration and notifies the



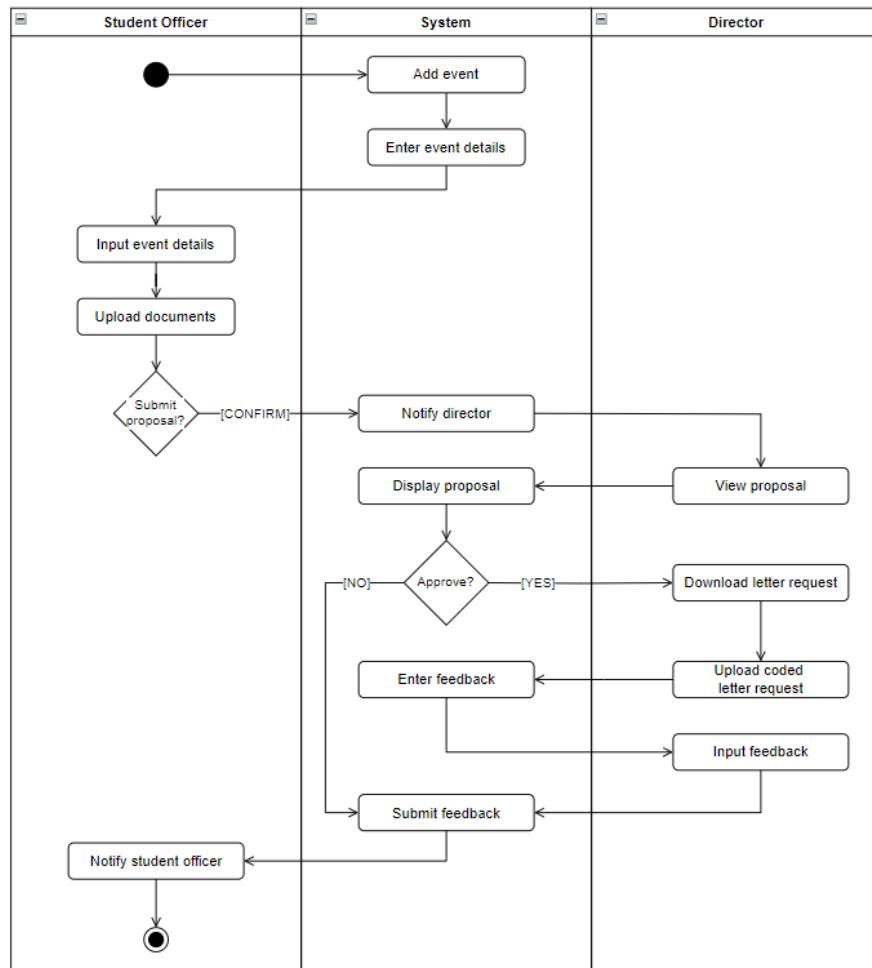
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director. The director will then evaluate the application, and if the application passes, the director will update the student's account to the student officer role. This will give the student the privilege to propose an event on behalf of the organization.



**Figure 16. Activity diagram for student activities management**

Figure 16 illustrates the process for managing student activities. The process begins with the student entering the event details and uploading the required document, such as the letter request. After submitting the proposal, the director will then view the proposal. If the proposal is approved, the director shall download the letter request to edit and upload the coded letter. This coded letter, along with



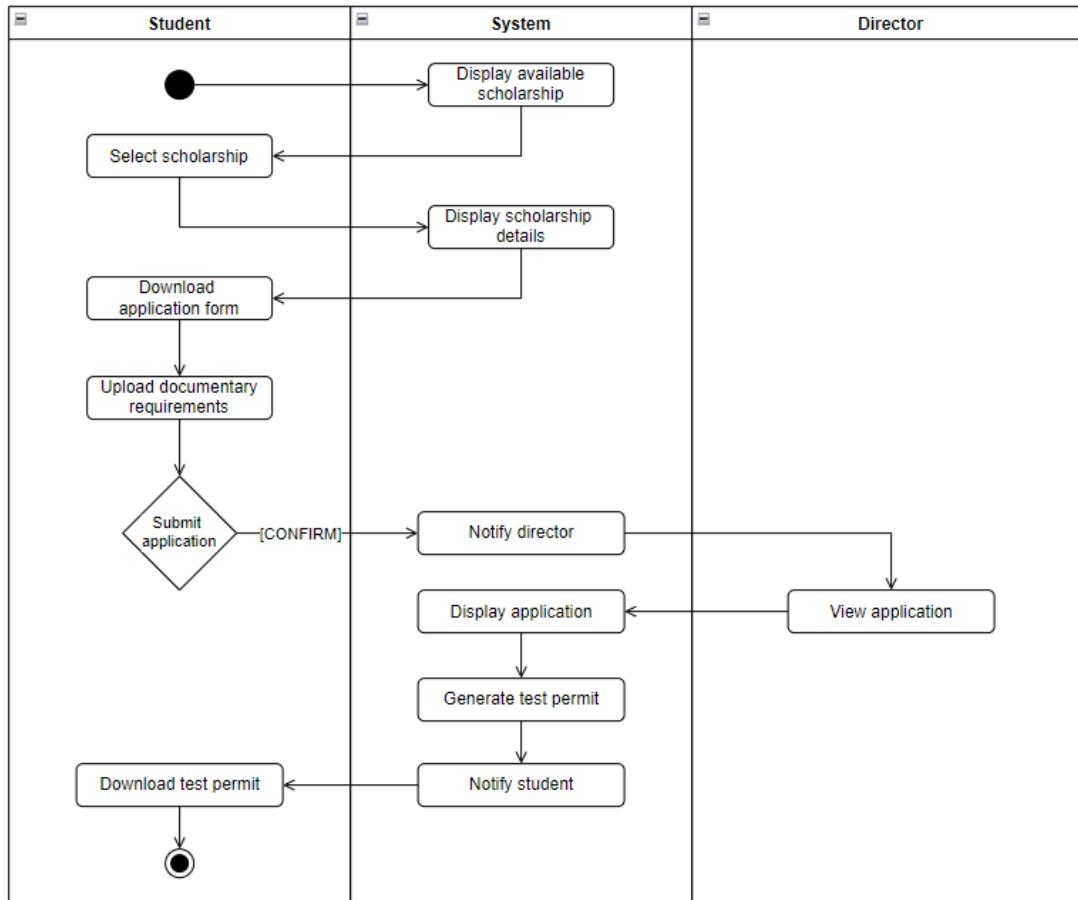
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feedback, is sent back to the student. If the proposal is declined, the director shall send a feedback message stating why it was rejected.



**Figure 17. Activity diagram for scholarship program application**

Figure 17 illustrates the process for the application of scholarship programs. The process begins with the student viewing the available scholarships. The student must download the application form from the system and upload the required documents. Once the student confirms their application, the director will be able to view the application and generate a test permit. The generated test permit will be sent to the student and will be available for download.

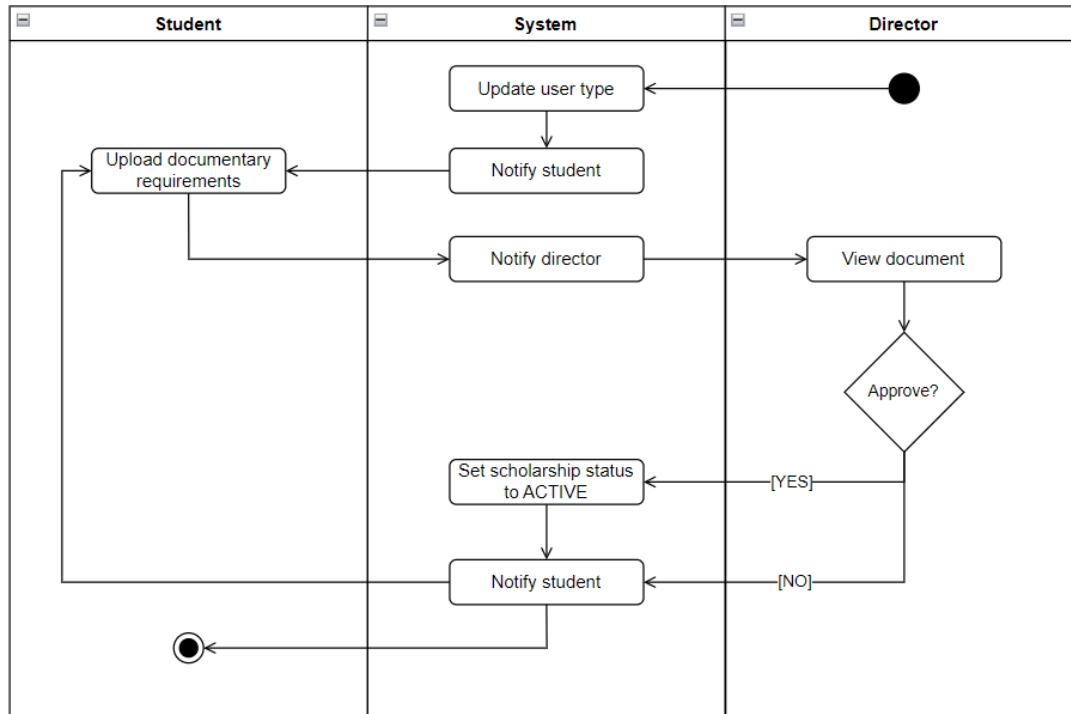


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**Figure 18. Activity diagram for monitoring scholarship recipients under the CHED Tulong Dunong Scholarship**

Figure 18 demonstrates the process of monitoring the scholarship recipients under the CHED Tulong Dunong Scholarship. The process starts with the director updating the student's user type to student scholar. The student will be notified of this change and will be prompted to upload the required documents. Once the student submits their documents, the director will then be notified and evaluate the submitted documents. If the document is approved, the director will update the student's scholarship status to 'Active'. If the document is disapproved, the student will be notified of the director's feedback, prompting them to submit another document.

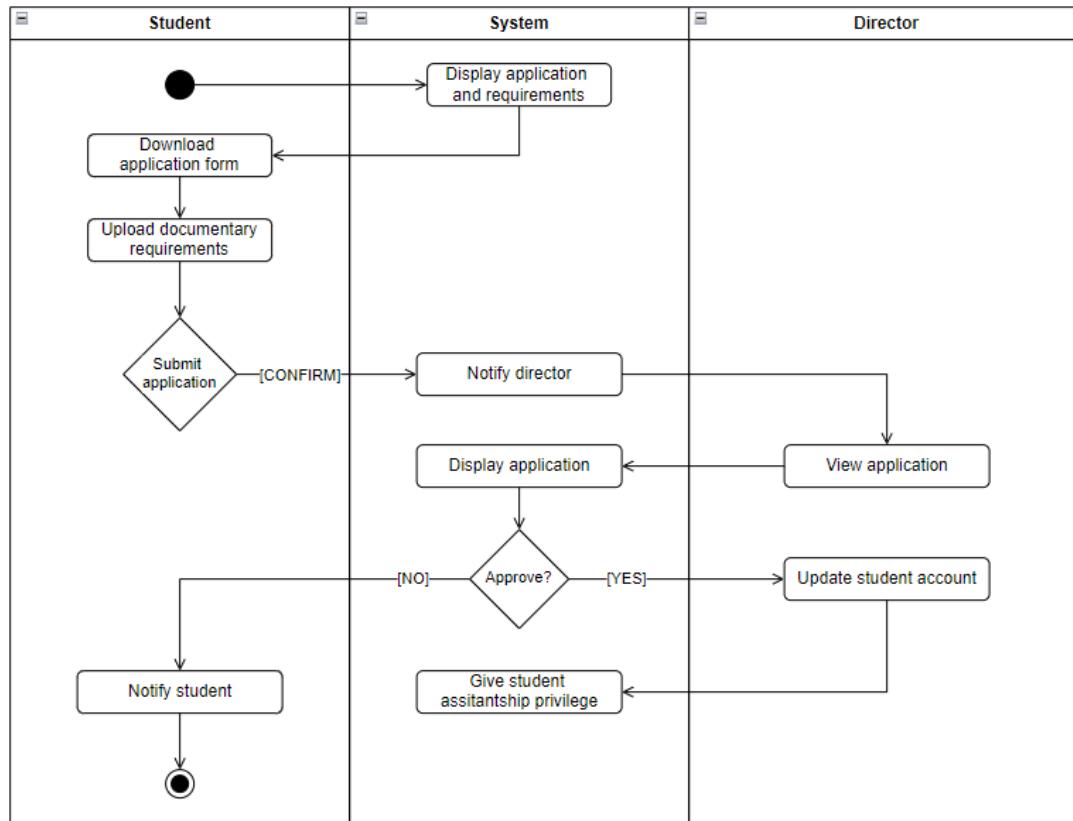


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**Figure 19. Activity diagram for student assistantship application**

Figure 19 illustrates the process for the application for student assistantship. The process begins with the student viewing the program's details and requirements. The student shall download the application form and upload the required documents. After submitting, the director will evaluate the application. If the student is approved, the director shall update the student's account with the student assistant. This will give the student the privilege to upload tracking files for the documentation of their assistance. If the student is rejected, the director will send a notification to the student informing them about the status of their application.

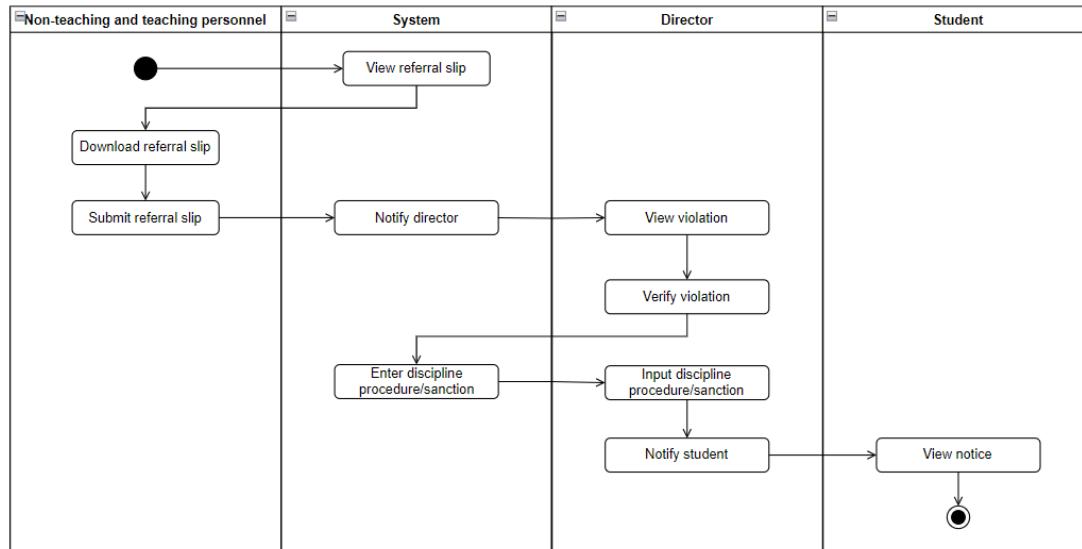


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**Figure 20. Activity diagram for student discipline**

Figure 20 illustrates the process for issuing a referral slip for student discipline. The process begins with the staff viewing and downloading the referral slip. The personnel must fill out the referral slip with the details regarding the student's violation, which will then be uploaded into the system. Once the staff submits their referral slip, the director will then view the report and verify the violation. After reviewing the slip, the director will issue the discipline procedure/sanction to the student. After submitting, the student will be notified of their violation and will be able to view its details.



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## Class Diagram

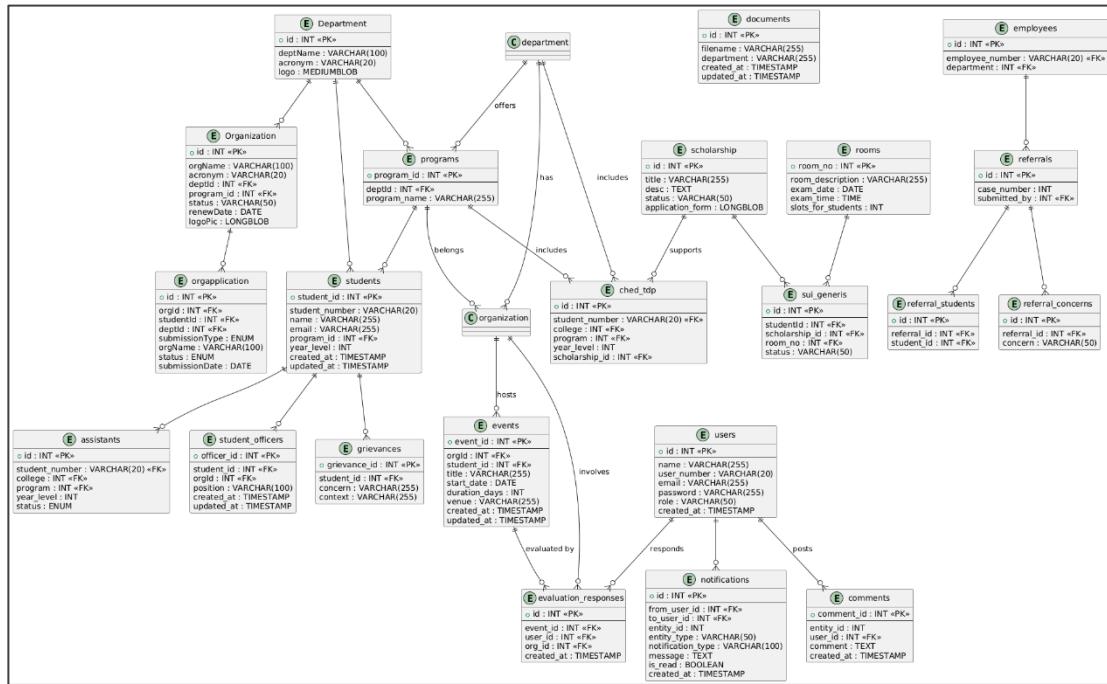


Figure 21. Class diagram of the system

The class diagram is a UML diagram that illustrates the static structure of the system. This diagram shows the system's classes, attributes, operations, and relationships among objects [53]. Figure 21 shows the relationship among the classes of the system. The student class is the parent class of the scholar, officer, and assistant class with a one-to-one relationship. This means that the scholar, officer, and assistant class can inherit the properties of the student class.

The class diagram shows various key relationships between entities in the system. The Student class connects to the Scholar, Officer, and Assistant classes in a one-to-one relationship, allowing students to inherit specific roles. A Scholar is linked to a single Scholarship, while an Employee can handle multiple Referrals, showcasing one-to-many relationships. Officers can propose multiple Events, and each event is



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tied to an Organization, which can only have one Student Officer at a time. Additionally, the Admin oversees the management of Scholars, Scholarships, Students, Events, Organizations, and Grievances in a one-to-many relationship. These connections highlight how the entities interact within the system, ensuring efficient organization and functionality.

### Entity Relationship Diagram

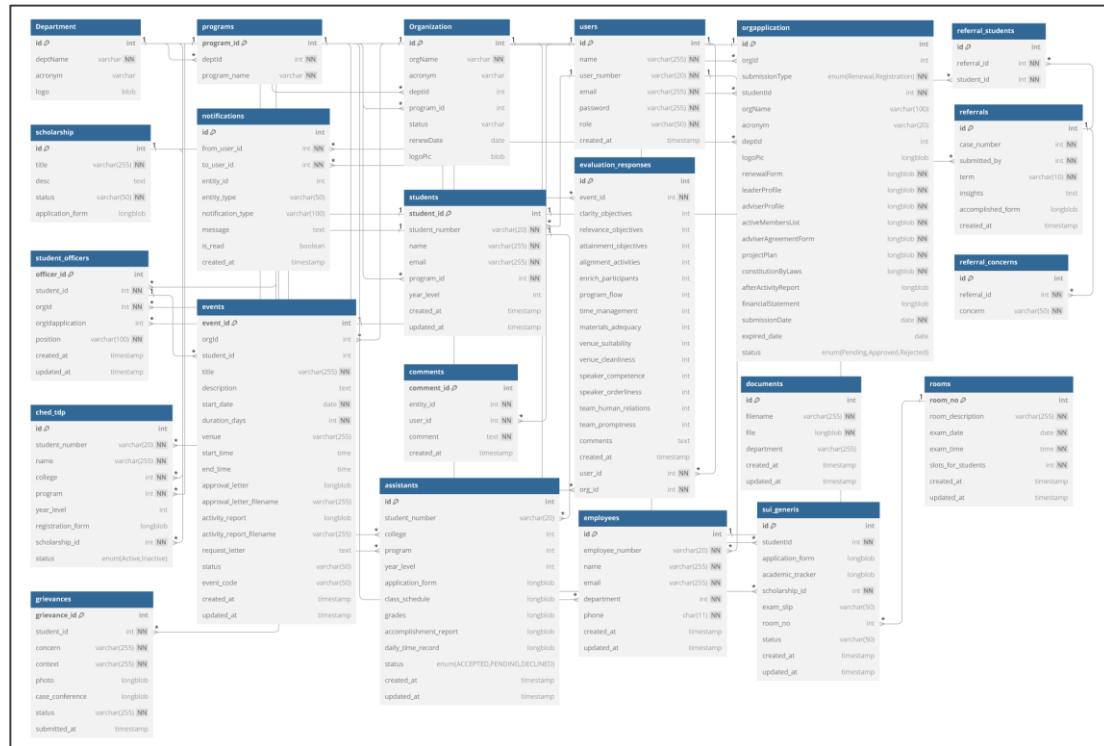


Figure 22. Entity relationship diagram of the system

The Entity Relationship Diagram (ERD) demonstrates the entities' attributes and their relationships within the system [54]. Figure 22 shows the entities of the proposed system based on the office of the SASD's business processes and user attributes.



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The *Student entity* named “students” represents the students who will use the system. Its attributes include the student ID, student number, name, email, program, and year level, which uniquely identify a student. This entity has a one-to-many relationship with the assistants table, as a student can only submit one assistantship application. However, it has a many-to-many relationship with the referrals table through the *referral\_students entity*, enabling students to be referred multiple times by various employees.

The *Scholar entity* named “ched\_tdp” represents students under the CHED Tulong Dunong Scholarship program. Its attributes include the student number, name, program, year level, and scholarship status. A student can have only one scholarship entry in the system.

The *Officer entity* named “student\_officers” represents student officers affiliated with a specific organization. A one-to-many relationship exists between students and officers, meaning a student can hold only one officer position. This entity is also connected to the organization entity, signifying the student officer's membership in one organization.

The *Employee entity* named “employees” represents university personnel, including teaching and non-teaching staff. Employees can create multiple referrals, tracked in the referrals entity, which contains the referral slip, concerns, and additional remarks related to a student.

The *Organization entity* named “organization” represents student organizations. Each organization can have one or more related events, which are planned by the student officers. Events are associated with specific documents and evaluation responses as part of the required submission process.



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The *Referral entity* captures referral data for students. Its associated *referral\_students* table maps referrals to specific students, while *referral\_concerns* records additional details about the referral.

The *Grievance entity* named “grievances” allows students to submit complaints. A student may have multiple grievances, which include a description, supporting files, and the status of each submission.

The *Assistants entity* tracks assistantship applications. It includes information such as the student's application form, grades, and accomplishments. A student's status in this entity can be accepted, pending, or declined. Finally, the *Documents entity* stores uploaded files for various uses across the system, including event proposals and organizational requirements.

### Ethical Considerations

Upon collection of the data needed to complete this study, the researchers will provide consent forms for all the participants to be signed. Intended users will be briefed about the objectives of the research, how their participation will benefit the study, and how their data will be kept confidential without being displayed publicly [55]. Participation of the respondents in this study must be voluntary to protect their right to refuse and if in any case, the respondents wish to withdraw from participating, their information will be removed immediately. In accordance with Section 11 of the Data Privacy Act of 2012, “The processing of personal information shall be allowed, subject to compliance with the requirements of this Act and other laws allowing disclosure of information to the public and adherence to the principles of transparency, legitimate purpose and proportionality” [56]. Therefore, the researchers will not collect any personal data that can pose the risk of the respondents being known. Any leakage of the data will impose a significant responsibility on the researchers to be held liable.



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### Statistical Treatment of Data

#### Population and Sampling

The study population consists of the constituents of the University of Cabuyao, specifically the students and employees. The researchers used non-probability sampling, specifically the purposive sampling method, to select the respondents who would evaluate the proposed system. Purposive sampling is a method used in qualitative research wherein the researchers select a specific group of individuals to participate in the study [57]. The sample consists of the employees and students of the University of Cabuyao, consisting of fifteen (15) student officers, ten (10) students, and five (5) non-teaching/teaching personnel.

#### Evaluation and Scoring

The system will undergo a comprehensive evaluation to determine its effectiveness in streamlining the organization's processes. The following criteria for the evaluation of the system are based on the ISO 25010 software quality model with the following.

For end users:

**Functional Suitability.** Refers to how reliable the system performs its intended tasks and meets the stated and implied user's needs [10].

**Usability.** Refers to how well the system can be used to perform its tasks effectively, efficiently, and satisfactorily [10].

For web development experts:

**Functional Suitability.** Refers to how reliable the system performs its intended tasks and meets the stated and implied user's needs [10].



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**Security.** This refers to how the system defends itself against malicious attacks or has the degree of access to data in terms of its levels of authorization [10].

**Performance Efficiency.** Refers to how the system performs its tasks and functions within a specific time and is efficient in using resources (CPU, memory, storage, network devices, etc.) [10].

**Usability.** Refers to how well the system can be used to perform its tasks effectively, efficiently, and satisfactorily [10].

The research will implement a five-point Likert Scale to rate and compute the degree of the system's evaluation. The scale will have five ranges: 1-1.180 represents strongly disagree, 1.81-2.60 for disagree, 2.61-3.40 for neutral, 3.41-4.20 for agree, and lastly, 4.21-5.00 for strongly agree [58].



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### CHAPTER IV

#### RESULTS AND DISCUSSION

This chapter allowed the researchers to identify the process and how the developed system worked. It discussed every aspect of the client's issues, the structure and description of the system, its capabilities and limitations, installation and testing procedures, and system evaluation.

##### **Problems Encountered by the Student Affairs and Services Department**

The office of the Student Affairs and Services Department is composed of five (5) divisions, namely, Student Organization and Activities, Student Scholarship and Financial Assistance, Student Discipline, Student Publication, and Arts and Culture Affairs. Each division manages documents and processes using various methods, including paper and pen, online systems, and a combination of both.

For the Student Organization and Activities division, the event approval and organization renewal process are conducted both manually and online. Student officers submit documents through the Messenger app for coding. With 39 recognized student organizations at the University of Cabuyao as of A.Y. 2024-2025, it can be challenging to keep track of all submissions, leading to delays. For the renewal of an organization, documents are printed and submitted in person. If any revisions are required, students must reprint and resubmit them until all documents are approved.

In the Student Scholarships and Financial Assistance division, scholarships, and assistantship applications are handled manually. Students complete paper forms and submit them to the SASD office for review. For the Sui Generis Scholarship, students must provide various documents, and once approved, they will receive an



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exam slip to present on their exam day. In the CHED Tulong Dunong Program, the office of the SASD gets a list of recipients from CHED and requires students to provide a current enrollment form to confirm their active status and receive financial assistance. For the Student Assistantship program, students interested in applying submit their printed documents directly to the SASD office.

In the Student Discipline Division, referrals regarding student concerns are submitted by teaching and non-teaching personnel through printed and signed forms. These will then be delivered to the SASD office, where they are stored. All documents for each division are kept on file within the SASD office.

Thus, the system, which consists of an event management system, document management system, student scholarship and assistantship monitoring and registration, and student referrals tracker, will be beneficial in streamlining the business processes and document handling of the Student Affairs and Services Department.

### Features of the Proposed System

The system entitled Web-based Student Affairs and Services Department Management System with File Encryption was developed to help the SASD office in its daily business operations. The features are the following:



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### Event Management System

A screenshot of a web-based event management system. The top navigation bar shows the URL "localhost/thesis/components/admins", the user "Engr. Florante Andaya (admin)", the time "2:11 PM", the date "12/9/2024", and a "Guest" status. The main content area is titled "Student Activities" and "Event Request Table". It includes a "Filter" button and an "Export" button. A table lists seven events with columns for Event Title, Organization, Date Submitted, Venue, Target Event Date, Status, and Action. The events are: Digital Arts Competition (Society of Information Technology Students), Pailaw 2024 (Certified Industrial Engineering Students Organization), iInnovators: Industrial Engineering Innovation Summit (Certified Industrial Engineering Students Organization), Digital Skills Workshop (College of Computing Studies), Denha's Digital Drive (College of Computing Studies), and Digital Arts Competition (Association of Computer Science Students).

Event Title	Organization	Date Submitted	Venue	Target Event Date	Status	Action
Digital Arts Competition	Society of Information Technology Students	November 23, 2024 12:50 PM	MPH	November 28, 2024 01:00 PM	Upcoming	
Pailaw 2024	Certified Industrial Engineering Students Organization	November 21, 2024 02:34 PM	MPH	November 29, 2024 05:00 PM	Upcoming	
iInnovators: Industrial Engineering Innovation Summit	Certified Industrial Engineering Students Organization	November 21, 2024 02:32 PM	GYM 1 PnC	November 22, 2024 08:00 AM	Upcoming	
Digital Skills Workshop	College of Computing Studies	November 21, 2024 02:24 PM	GYM 1 PNC Main	November 27, 2024 08:00 AM	Upcoming	
Denha's Digital Drive	College of Computing Studies	November 21, 2024 02:22 PM	GYM 1 PNC Main	November 25, 2024 08:00 AM	Upcoming	
Digital Arts Competition	Association of Computer Science Students	November 21, 2024 02:18 PM	Online	December 12, 2024 07:00 AM	Finished	

**Figure 23. Events Approval and Monitoring**

Figure 23 displays the event approval of the system. The admin can view, approve, edit, and delete events requested by the student officers. Once the admin approves an event, they will enter the event letter's document code to officially recognize the event.



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A screenshot of a web-based post-event evaluation form. The header shows the University of Cabuyao logo and the title "Event Evaluation". The left sidebar has links for "Student Activities", "Organization", "Scholarship Program", "Student Assistantship", "Student Discipline", and "Account Management". The main content area is titled "Objectives" and contains three rating scales: "Clarity of Objectives" (5 stars), "Relevance of Objectives" (5 stars), and "Attainment of Objectives" (5 stars). Below this is a section titled "Activities" with two rating scales: "Alignments with the objectives" (5 stars) and "The extent to which they enrich participants" (5 stars). The top right corner shows the user is "Guest" at 1:46 AM on 11/27/2024.

**Figure 24. Post-event evaluation form**

Figure 24 shows the form for evaluating a specific event. Students can provide feedback on events, submitting ratings and comments to help student organizations improve. Results from this form is computed where the student officer can see the evaluation report.



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### Document Management System

A screenshot of a web-based document management system. The top navigation bar shows the URL "sasd-pnc.site/components/students", the user "Daniel Matthew Benegas" (Association of Computer Science Students, student officer), and the date/time "1:50 AM 11/27/2024". The left sidebar has a green header "Requests" and a list of other tabs: "Student Activities", "Student Organization", "Organization", "Student Disciplinary Action", "Scholarship Program", "Student Assistanceship", "Student Discipline", and "Account Management". The main content area displays the profile of the "Association of Computer Science Students" (ACSS) with the acronym "ACSS", department "College of Computing Studies", submission type "Renewal", status "Approved", submission date "2024-11-20", and submitted by "Daniel Matthew Benegas". On the right, there's a sidebar titled "Organization's Documents" with links to "Renewal Form", "Leader Profile", "Adviser Profile", "Active Members List", and "Adviser Agreement Form".

Approved

Association of Computer Science Students  
Acronym: ACSS  
Department: College of Computing Studies  
Submission Type: Renewal  
Status: Approved  
Submission Date: 2024-11-20  
Submitted by: Daniel Matthew Benegas

Organization's Documents

- Renewal Form
- Leader Profile
- Adviser Profile
- Active Members List
- Adviser Agreement Form

**Figure 25. Organization profile and documents**

Figure 25 illustrates the profile of a student organization where the details and documents are displayed. This is where the documents of an organization are stored and can be viewed. Student officers can update these documents on the requests tab.

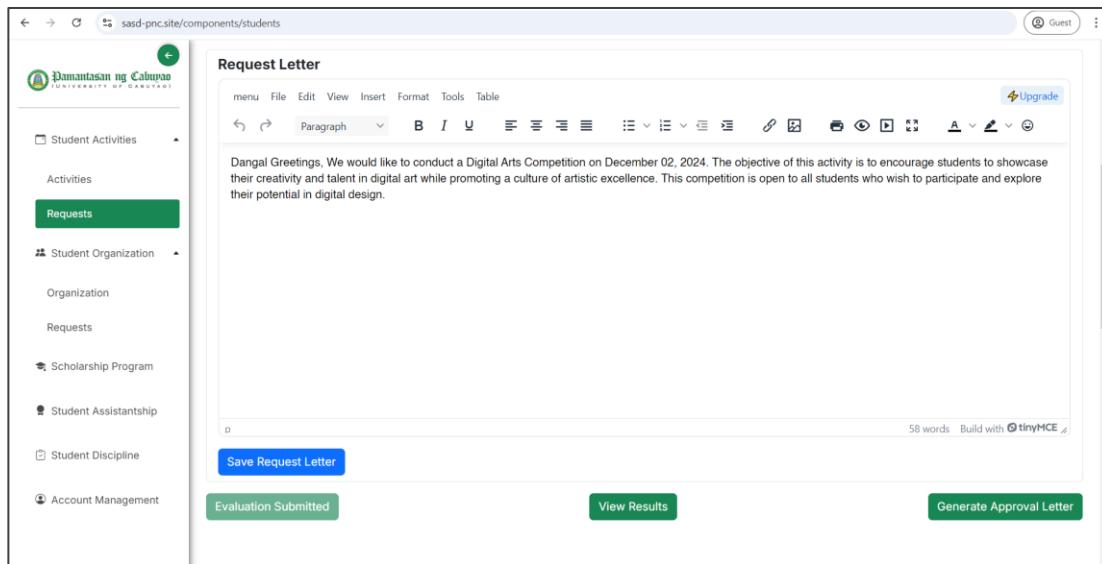


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A screenshot of a web-based application interface titled "Request Letter". The left sidebar shows a navigation menu with "Student Activities", "Activities", "Requests" (which is selected), "Student Organization", "Organization", "Requests", "Scholarship Program", "Student Assistantship", "Student Discipline", and "Account Management". The main content area has a toolbar at the top with options like "menu", "File", "Edit", "View", "Insert", "Format", "Tools", "Table", and "Upgrade". Below the toolbar is a text editor area containing the following text: "Dangal Greetings. We would like to conduct a Digital Arts Competition on December 02, 2024. The objective of this activity is to encourage students to showcase their creativity and talent in digital art while promoting a culture of artistic excellence. This competition is open to all students who wish to participate and explore their potential in digital design." At the bottom of the text editor are buttons for "Save Request Letter", "Evaluation Submitted", "View Results", and "Generate Approval Letter". A status bar at the bottom right indicates "58 words" and "Build with tinyMCE".

**Figure 26. Online text editor for approval letter**

Student officers can edit their approval letter for their event request on the online text editor embedded in the system as shown in Figure 26. This editor can support text formatting which then can be generated into a PDF file ready for signing.



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### Student Scholarship Monitoring

A screenshot of a web-based application interface titled "Sui Generis Scholarship". The top navigation bar shows the user "Engr. George Andaya" and the date "11/15/2024". The left sidebar menu includes "Student Activities", "Student Organization", "Scholarship Program" (which is highlighted in green), "Student Assistantship", "Student Discipline", "Manage Forms", and "Account Management". The main content area displays a table titled "Sui Generis Scholarship Applicants" with three rows of data. The columns are "Student ID", "Student Name", "Department", "Program", "Status", and "Actions". The data is as follows:

Student ID	Student Name	Department	Program	Status	Action
2008	Ally Chen Mercado	College of Education	Bachelor of Secondary Education Major in English	Approved	<button>View</button> <button>Delete</button>
2013	Crispin Basilio	College of Engineering	Bachelor of Science in Industrial Engineering	Approved	<button>View</button> <button>Delete</button>
2001	Justine Jay	College of Computing Studies	Bachelor of Science in Information Technology	Approved	<button>View</button> <button>Delete</button>

Below the table, there is a section titled "Available Examination Rooms" with a "Create Room" button and a table showing room details like Room Number, Description, Exam Date, Exam Time, Max Students, and Action.

**Figure 27. Sui Generis scholarship applicants report**

This report provides information on students who applied for the Sui Generis Scholarship as shown in Figure 27. It allows the admin to manage applicants efficiently, tracking their application status and filtering them by their status. The report is also available for export as an Excel file.



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A screenshot of a web-based administrative system for the University of Cabuyao. The left sidebar shows navigation links for Student Activities, Student Organization, Scholarship Program (which is selected), Student Assistantship, Student Discipline, Manage Forms, and Account Management. The main content area is titled "Scholarship Program" and "Scholars List Table". It displays a table titled "CHED-TDP Recipients" with the following data:

Student Number	Name	College	Program	Year Level	Registration Form	Status	Action
2003	Harold Galang	College of Education	Bachelor of Secondary Education Major in English	4	Not Submitted	Inactive	
2005	Moises Fatal Jr.	College of Engineering	Bachelor of Science in Computer Engineering	2		Inactive	
2004	Daniel Matthew Benegas	College of Computing Studies	Bachelor of Science in Computer Science	3	Not Submitted	Inactive	

**Figure 28. CHED-TDP recipients report**

Figure 28 shows the CHED-TDP Recipients Report wherein it displays the list of students including details like student number, name, college, program, and year level. It allows the admin to track students who still need to submit their registration form, as well as their status. This report can be exported as an Excel file.



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### Student Assistantship Registration

A screenshot of a web-based application for student assistantship registration. The interface is in dark mode. On the left, there's a sidebar with links like 'Student Activities', 'Organization', 'Scholarship Program', 'Student Assistantship' (which is highlighted in green), 'Student Discipline', and 'Account Management'. The main content area has a title 'Apply Student Assistantship' and a subtitle 'Student Assistantship Application'. It contains two numbered steps: '1. Download, print, and fill the application form' (with a link to 'Application form.docx') and '2. Upload the accomplished documents' (with three input fields: 'Application form \*', 'Class Schedule \*', and 'Copy of Grades \*', each with an 'Upload File' button). A 'Submit' button is at the bottom.

**Figure 29. Student assistantship form**

For the Student Assistantship program, interested students can submit their application form, class schedule, and grades as shown in Figure 29. Once the application is approved, they are prompted to upload their Daily Tracking Record (DTR) Form and Accomplishment Report after rendering their service.



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### Managing Student Discipline Records

A screenshot of a web-based application titled "Refer Student" under the "Student Discipline" section. The interface includes a sidebar with links for "Student Activities", "Student Organization", "Student Discipline" (which is highlighted in green), and "Account Management". The main content area shows a title "Refer Student" and "Student Discipline". It has sections for "Term" (radio buttons for 1st, 2nd, or Mid-Year), "Concern" (checkboxes for Discipline Concerns, Behavioral Concerns, Learning Difficulty, Absences/Tardiness, Personal/Emotional Concerns, and Self-Referred), and a text area for "Please indicate significant insights/observations about the student/s being referred:". Below this is a search bar labeled "Search Student: Type student name". At the bottom, there is a table titled "Referees" with columns for Name of Referee, Program/Strand, ID Number, Contact Details, and Action.

**Figure 30. Generating student referrals**

Faculty members can use the form displayed in Figure 30 to raise concerns about students. After filling out the form with all the necessary details, they can generate a referral slip to be signed. The student receives a notification and can view the referral, providing them insight into the concern raised by their professor.

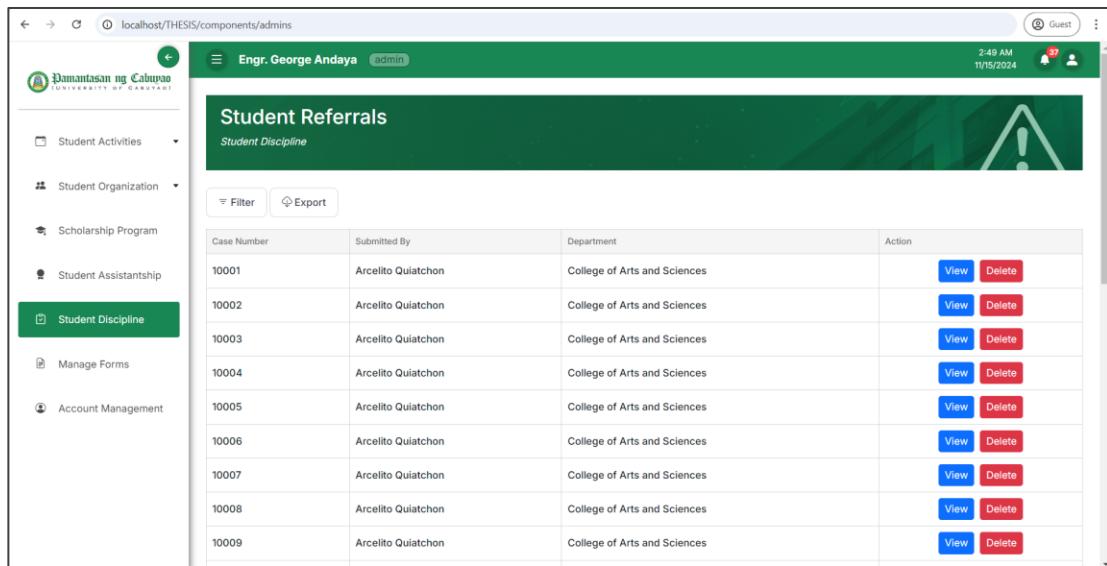


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A screenshot of a web-based administrative application. The header shows the University of Cabuyao logo and the title "Engr. George Andaya admin". The top right corner indicates the user is "Guest" and shows the date and time as "2:49 AM 11/15/2024". The left sidebar has a navigation menu with options like "Student Activities", "Student Organization", "Scholarship Program", "Student Assistantship", "Student Discipline" (which is highlighted in green), "Manage Forms", and "Account Management". The main content area is titled "Student Referrals" under "Student Discipline". It features a table with columns: Case Number, Submitted By, Department, and Action. The table contains 10 entries, all submitted by "Arcelito Quiatchon" from the "College of Arts and Sciences". Each entry has "View" and "Delete" buttons in the "Action" column.

Case Number	Submitted By	Department	Action
10001	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10002	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10003	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10004	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10005	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10006	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10007	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10008	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>
10009	Arcelito Quiatchon	College of Arts and Sciences	<button>View</button> <button>Delete</button>

**Figure 31. Student referrals report**

Figure 31 displays all the referrals made by employees, listing the employee's name, student number, department, concerns, and referral date. It can be generated as an Excel file for further use.



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### File Encryption Using AES (Advanced Encryption Standard)

```
// Define encryption parameters
$encryption_key = getenv(name: 'ENCRYPTION_KEY'); // use the key from the .env file
$encryption_method = 'AES-256-CBC';
$iv_length = openssl_cipher_iv_length(cipher_algo: $encryption_method);
$iv = openssl_random_pseudo_bytes(length: $iv_length);
```

```
$userId = $userData['id'];
$hashedPassword = $userData['password'];
$compositeKey = hash(algo: 'sha256', data: $encryption_key . $hashedPassword); // Derive the composite encryption key
```

**Figure 32. Encryption function of the system**

Figure 32 displays the logic behind the system's encryption method. When a user uploads a file to the system, it encrypts the file using the encryption key in 256 bits and then concatenating it with the user's password. This creates a unique encryption and decryption key for every user that uploads and downloads a file to the system.

### Assessment of the System Users

This section presents the interpretation of the data gathered from thirty (30) end users consisting of fifteen (15) student officers, ten (10) students, and five (5) non-teaching/teaching personnel from the University of Cabuyao (Pamantasan ng Cabuyao).

Table 3 presents the assessment of the system end users on the Functional Suitability of the developed system. The researchers got 87% (SA), 10% (A), and 3% (N) evaluations in Q1. 87% of the end users responded Strongly Agree, while 10% of the users Agreed, indicating that most users felt the system effectively covered all specified tasks related to the organization's business processes. On the other hand, 3% of the end users responded Neutral, indicating uncertainty of the system's



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alignment to the organization's processes. This resulted in a median of 5, which represents Strongly Agree.

For Q2, the researchers got 50% (SA), 47% (A), and 3% (N). 50% of the end users strongly believed that the system provided accurate results. 47% of the users responded Agree, and the last 3% responded Neutral, to which the end user thinks that the system should improve in providing accurate results. Resulting in a median of 5, which represents Strongly Agree.

The researchers got 73% (SA) and 27% (A) evaluation in Q3. 73% of the users responded Strongly Agree and 27% Agreed, to which most of the end users found the system effective in accomplishing the transactions of the office of SASD. This also resulted in a median of 5, or Strongly Agree.

**Table 3. Median for the assessment of the end users under the category of Functional Suitability**

QUESTION	SA (5)	A (4)	N (3)	D (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	26 (87%)	3 (10%)	1 (3%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q2	15 (50%)	14 (47%)	1 (3%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q3	22 (73%)	8 (27%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree

Where:

Q1 - The system covered all the specified tasks based from the organization's business transactions.

Q2 - The system provided accurate results.



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Q3 - The system facilitated in accomplishing the transactions of the Student Affairs and Services Department (SASD).

Table 4 demonstrates the assessment of the system users under the Usability category. The researchers received a 70% (SA), 23% (A), and 7% (N) evaluation in Q1. 70% of the end users responded with Strongly Agree, and 23% agreed showing that most users felt the system successfully met their needs in relation to business transactions. On the other hand, 7% responded Neutral, indicating uncertainty if the system fully met their requirements. This resulted in a median score of 5, which represents Strongly Agree.

For Q2, the researchers obtained 77% (SA), 20% (A), and 3% (N). A significant 77% of end users strongly agreed and 20% agreed that the system's processes were easy to learn, reflecting high confidence in the Usability of the system's functions. Meanwhile, the 3% felt Neutral, perhaps indicating they needed additional assistance. The median for this question was 5, reflecting Strongly Agree.

The researchers received 57% (SA), 37% (A), and 6% (N) evaluation for Q3. 57% of the users strongly agreed that the system was easy to operate and ran smoothly, showing widespread satisfaction with the operational flow. Another 37% agreed, while 6% felt Neutral, possibly finding certain functionalities slightly less intuitive. This question also resulted in a median of 5, representing Strongly Agree.

For Q4, the results were 33% (SA), 63% (A), and 4% (N). In this case, 33% of end users strongly agreed and a significant 63% agreed that the system effectively prevents errors. A small 4% responded Neutral. This resulted in a median of 4, indicating Agree.

The evaluation for Q5 showed 87% (SA) and 13% (A). A dominant 87% strongly agreed and 13% agreed that the system interface was visually appealing and



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user-friendly, showing very high satisfaction with its design and accessibility. The median for this question was 5, which stands for Strongly Agree.

Lastly, Q6 received 73% (SA) and 27% (A). 73% of users strongly agreed that the system could be used by a diverse range of users with different characteristics and capabilities, demonstrating inclusivity. Another 27% agreed, again indicating positive support. The median was 5, representing Strongly Agree.

**Table 4. Median for the assessment of the end users under the category of Usability**

QUESTION	SA (5)	A (4)	N (3)	D (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	21 (70%)	7 (23%)	2 (7%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q2	23 (77%)	6 (20%)	1 (3%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q3	17 (57%)	11 (37%)	2 (6%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q4	10 (33%)	19 (63%)	1 (4%)	0 (0%)	0 (0%)	100%	Agree
Q5	26 (87%)	4 (13%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q6	22 (73%)	8 (27%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree

Where:

Q1 - The system met the users' needs in terms of its business transactions.

Q2 - The system's processes were easy to learn.

Q3 - The system is easy to operate, and its functions run smoothly.

Q4 - The system effectively prevents user errors.

Q5 - The interface of the system is visually appealing and user-friendly.



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Q6 - The system can be used by different users with the widest range of characteristics and capabilities.

### Assessment of the Web Development Experts

This section included data from the ten (10) web development experts' evaluations of the system based on the following criteria: Functional Suitability, Security, Performance Efficiency, and Usability.

In Table 5, the assessment of the web development experts under the Functional Suitability category is presented. The researchers received an 80% (SA), 10% (A), and 10% (N) evaluation on Q1. A total of 80% of web development experts responded with Strongly Agree, and 10% agreed, showing that most web development experts believed that the system covered all the tasks and requirements of the organization based on the indicated objectives. Lastly, 10% of the experts responded Neutral, indicating they were unsure if the system fully met the requirements. This resulted in a median of 5, representing Strongly Agree.

For Q2, the researchers obtained 60% (SA), 30% (A), and 10% (N). 60% of the experts strongly agreed while 30% agreed that the system's functions provided accurate results. 10% were uncertain on the other hand. The median result was 5, representing Strongly Agree.

Lastly, the researchers received 80% (SA) and 20% (A) evaluations in Q3. 80% of the experts responded Strongly Agree, and 20% agreed, indicating that the system accomplished the tasks and objectives of the organization. This results in a median of 5, which represents Strongly Agree.



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**Table 5. Median for the assessment of web development experts under the category of Functional Suitability.**

QUESTION	SA (5)	A (4)	N (3)	D (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	8 (80%)	1 (10%)	1 (10%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q2	6 (60%)	3 (30%)	1 (10%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q3	8 (80%)	2 (20%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree

Where:

Q1 - The functions of the system covered the tasks and requirements of the organization based on the indicated objectives.

Q2 - The functions of the system provided accurate results.

Q3 - The system accomplished the tasks and objectives of the organization.

The evaluation of the web development experts in the security category is presented in Table 6. For Q1, the researchers obtained 70% (SA), and 30% (A). 70% of experts responded with Strongly Agree and 30% with Agree, indicating strong confidence that the system effectively controls access to data and features. This produced a median of 5, representing Strongly Agree.

In Q2, the researchers obtained 60% (SA), 20% (A), 10% (N), and 10% (D). 60% of the experts strongly agreed, and 20% agreed that the system is secure from unauthorized access and breaches. 10% were Neutral, indicating slight concerns and 10% disagreed, believing that the system is not secure. With a median of 5, experts still believed the system was secure.

For Q3, the researchers obtained 50% (SA), 10% (A), 30% (N), 10% (D). 50% strongly agreed, indicating that the system provides clear records of user activity, while



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10% agreed. 30% were Neutral, while 10% disagreed. This shows that while some of the experts believe the system provides clear user activity records, but room for clarity and improvement must be provided. The median was 4 or Agree.

For Q4, the researchers obtained 70% (SA), 10% (A), and 20% (D). 70% strongly agreed that the system detects unauthorized activity effectively, and 10% agreed. 20% disagreed, indicating that the system did not identify any unauthorized user activity. This resulted in a median of 5, resulting in positive feedback on the system's detection ability, but should have improvements.

For Q5, the researchers obtained 50% (SA), 20% (A), 10% (N), and 20% (D). 50% strongly agreed and 20% agreed that user authentication is robust. 10% responded neutral, while 20% disagreed with the statement, indicating that the system does not have any strong user authentication measures. With a median of 4, this reflects the experts' belief in the system's secure access control.

**Table 6. Median for the assessment of web development experts under the category of Security.**

QUESTION	SA (5)	A (4)	N (3)	D (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	7 (70%)	3 (30%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q2	6 (60%)	2 (20%)	1 (10%)	1 (10%)	0 (0%)	100%	Strongly Agree
Q3	5 (50%)	1 (10%)	3 (30%)	1 (10%)	0 (0%)	100%	Agree
Q4	7 (70%)	1 (10%)	0 (0%)	2 (20%)	0 (0%)	100%	Strongly Agree
Q5	5 (50%)	2 (20%)	1 (10%)	2 (20%)	0 (0%)	100%	Agree



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Where:

Q1 - The system effectively controls access to its data and features.

Q2 - The system is secure from unauthorized access and data breaches.

Q3 - The system provides clear records of user activity

Q4 - The system can detect and identify unauthorized user activity.

Q5 - The system has strong user authentication measures.

Table 7 presents the web development experts' assessment of the performance efficiency category. For Q1, the researchers obtained 80% (SA), and 20% (A). 80% responded strongly agreed, and 20% agreed, showing most experts believe the system performs efficiently in terms of latency and processing speed, with a median of 5 or Strongly Agree.

Q2 received 70% (SA), 20% (A), and 10% (N), indicating that most experts feel the system optimizes memory, CPU, and storage well, though some see the potential for further improvement. The median was 5.

In Q3, 40% of experts strongly agreed, and 20% agreed that the system's latency, speed, and throughput are efficient. 20% were Neutral about the system's defined limits and capacity. Lastly, 20% disagreed. This reflects positive feedback on the system's handling of performance limits but suggests some experts want clearer capacity guidelines. The median response was 4, indicating Agree.



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**Table 7. Median for the assessment of web development experts under the category of Performance Efficiency.**

QUESTION	SA (5)	A (4)	N (3)	D (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	8 (80%)	2 (20%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q2	7 (70%)	2 (20%)	1 (10%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q3	4 (40%)	2 (20%)	2 (20%)	2 (20%)	0 (0%)	100%	Agree

Where:

Q1 - The system's latency, processing speed, and overall throughput are efficient.

Q2 - The system utilizes its memory, CPU, and storage resources during execution

Q3 - The system defines its maximum limit and capacity.

The assessment of the web development experts in the usability category is shown in Table 8. For Q1, 80% of experts strongly agreed, and 20% agreed that the system meets user needs, producing a median of 5 (Strongly Agree).

Q2 had 70% (SA) and 30% (A), suggesting most experts believe the system is easy for new users to learn. This led to a median of 5.

For Q3, the researchers received 80% (SA) and 20% (A), showing experts found the system intuitive to operate, with a median of 5.

For Q4, 50% strongly agreed, and 30% agreed that the system reduces user errors and catches incorrect input. 10% responded neutral, and 10% disagreed, indicating that not all the errors or incorrect input were displayed. This shows positive feedback with room for improvements in error handling and yielded a median of 4.



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Q5 had 80% (SA), and 20% (A), showing that most experts found the interface visually appealing and user-friendly. The median was 5.

Lastly, Q6 had responses with 70% (SA) and 20% (A), indicating strong support for the system's flexibility in meeting diverse user needs. Only 10% responded Neutral, indicating uncertainty in accommodating a wide range of user needs. This results in a median of 5.

**Table 8. Median for the assessment of web development experts under the category of Usability.**

QUESTION	SA (5)	A (4)	N (3)	D (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	8 (80%)	2 (20%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q2	7 (70%)	3 (30%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q3	8 (80%)	2 (20%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q4	5 (50%)	3 (30%)	1 (10%)	1 (10%)	0 (0%)	100%	Agree
Q5	8 (80%)	2 (20%)	0 (0%)	0 (0%)	0 (0%)	100%	Strongly Agree
Q6	7 (70%)	2 (20%)	1 (10%)	0 (0%)	0 (0%)	100%	Strongly Agree

Where:

Q1 - The system provided solutions that caters to the need of its users based on the transactions of the organization.

Q2 - The system facilitates a smooth learning curve for first time users.

Q3 - The system is intuitive and straightforward to operate.

Q4 - The system minimizes the risk of user error and rejects incorrect inputs.



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Q5 - The interface of the system provides a visually appealing and user-friendly experience for its users.

Q6 - The system is flexible in accommodating a wide range of user needs and functionalities

Table 9 presents a summary of the results of the overall median of System Users. The overall median indicates that the end users Strongly Agree on the level of acceptability of the web-based system.

**Table 9. Summary table of the median in the level of acceptability of the end users.**

Category	System Users
Functional Suitability	5
Usability	5
<b>Over-all Median</b>	<b>5</b>

Table 10 demonstrates a summary of results of the overall median of Web Development Experts. The overall median indicates that the end users Strongly Agree on the level of acceptability of the web-based system.

**Table 10. Summary table of the median in the level of acceptability of the web development experts.**

Category	System Users
Functional Suitability	5
Security	5
Performance Efficiency	5
Usability	5
<b>Over-all Median</b>	<b>5</b>



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### CHAPTER V

#### SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a brief summary of the findings, conclusions, and recommendations of this research.

##### **Summary of Significant Findings**

The main objective of the study is to develop a "Web-based Student Affairs and Services Department Management System with File Encryption" to streamline their business processes and transactions and create an efficient workflow in handling the different divisions of the Student Affairs and Services Department.

1. The problems encountered by the organization in terms of:
  - a. Event approval by the student organizations. The process for the event approval of student organizations is very tedious and time-consuming. This is because there are currently 39 recognized organizations at the university. Tracking all the event approvals and documents from these organizations leads to inefficient workflow and longer queues.
  - b. Document Handling. There are currently five divisions under the Student Affairs and Services Department. The SASD stores all of the printed records from these divisions inside their office. This can lead to several issues like storage, security, and data retrieval concerns.
  - c. Registering and Monitoring Student Scholarships and Student Assistantships. The office of the SASD currently monitors and registers the scholarships and assistantships of the students through both online and manual processes.



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- d. Filing Student Discipline Reports. Employees file their referrals manually by printing the form PNC SDAS-FO-13 Referral Slip and accomplishing it by writing,
  - e. Implementing Data Security of Documents. The files and records of the Student Affairs and Services Department are stored at their office. This may lead to unauthorized access and storage concerns.
2. How will the developed system solve the problems encountered by the Student Affairs and Services Department?
- a. Provide an event management system. The system was able to track all the event requests from all the organizations, enabling the SASD to streamline their communication and workflow from the 39 registered organizations at the University of Cabuyao.
  - b. Provide a Document Management System. The system was able to store, create, and monitor documents across the different divisions of the Student Affairs and Services Department. This helped the office to track all their applications from each division.
  - c. Provide Student Scholarship Monitoring and Student Assistantship Registration. The system was able to employ an online form for the Sui Generis Scholarship, monitor all the recipients for the CHED Tulong Dunong Program, and manage applicants for the Student Assistantship. This enabled the office to track and monitor all the applications easily with just a click.
  - d. Provide a Platform to Handle Student Discipline Records. The system was able to generate referral slips for employees who want to raise concerns for a student. The users can also monitor all the referrals they were included in, and the admin can monitor all the referrals sent by the employees.
  - e. File Encryption. The system was able to encrypt all the sensitive documents that will be uploaded to the system using an Advanced



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Encryption Standard (AES) Algorithm with 256 key lengths, providing a robust and secure encryption mechanism to avoid unauthorized access to sensitive documents.

3. The assessments of the end users regarding the proposed system in terms of Functional Suitability and Usability. The system evaluation of end users resulted in an overall median of five (5), which falls within the range of strongly agree. This indicates that the system developed met the needs of the organization.
  
4. The assessments of the web development experts regarding the proposed system in terms of Functional Suitability, Security, Performance Efficiency, and Usability. The system evaluation of the experts resulted in an overall median of five (5), which falls within the range of strongly agree. This indicates that the system developed met the needs of the organization.

### Conclusions

After developing the system entitled "Web-based Student Affairs and Services Department Management System with File Encryption," the researchers discovered that the system could effectively address the organization's issues and streamline their business processes.

Based on the summary of findings, the following conclusions were drawn.

The current manual processes from each division of the Student Affairs and Services Department were outdated and inefficient. This results in extended wait times, delays in event approvals, and overall inefficiencies across SASD's operations.



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The system entitled "Web-based Student Affairs and Services Department Management System with File Encryption" successfully streamlined the various processes of the SASD office, including event approvals, document handling, scholarship and assistantship management, and student discipline referrals. By centralizing these operations into a single user-friendly platform, with an additional layer of security through file encryption, the system has significantly reduced manual effort and improved overall efficiency of the office.

The assessment feedback from both end users and web development experts, each giving a median rating of five (5), validates the system's effectiveness, showing a clear alignment with the needs of the department and confirming its success in achieving SASD's goals for improved functionality and efficiency.

### Recommendations

Based on the findings and conclusions, the researchers strongly recommend the following:

1. The researchers recommend that the Web-based Student Affairs and Services Department Management System with File Encryption be utilized in the Office of the Student Affairs and Services Department. This system provides aid in streamlining the daily business processes of the organization. This also lessens the use of printed documents and manual input of data, which plays a crucial role in enhancing the overall efficiency of business operations.
2. The researchers recommend staff training and a user guide for the Student Affairs and Services Department on how to use the system. This will help the staff in adjusting to the system and prevent human errors.
3. Integrating a solid backup mechanism into the system is highly recommended, especially for sensitive data like student information, documents, and user



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account details. This measure is crucial to preserve important data and minimize the risk of potential data loss and unauthorized access.

4. The researchers recommend that future developers suggest ongoing enhancements to the developed system. Future researchers must improve the system's data and file validation to protect the user and business information from unauthorized access. Improving the system's security should also be prioritized, such as implementing user activity logs and detecting unauthorized user activity.



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# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

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(PAMANTASAN NG CABUYAO)

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# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

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# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

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## APPENDICES



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

### A. Notarized Copy of Confidentiality and Non-Disclosure Agreement



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

PNC:PRE-FO-68 rev.0 03082023 / Page 1 of 2



Republic of the Philippines  
**Pamantasan ng Cabuyao**  
(UNIVERSITY OF CABUYAO)  
Planning, Research, and Extension Division  
Research and Development Department  
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

### CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT (NDA) ON STUDENT RESEARCH

(PNC is a research data site)

This Confidentiality and Non-Disclosure Agreement ("Agreement") is made and entered into on **May 10, 2024** between **Justine Jay P. Dacocos, Harold P. Galang, Gelvi Ryan P. Rosaria** ("Recipient") and Pamantasan ng Cabuyao (University of Cabuyao) ("Disclosing Party") in connection with the proposed student research project titled "**Web-based Student Affairs and Services Department Management System with File Encryption**".

**Confidential Information.** For purposes of this Agreement, "Confidential Information" means any and all information disclosed by the Disclosing Party to the Recipient, including without limitation, any and all data, research findings, results, and reports related to the proposed student research project.

**Obligations of Recipient.** Recipient agrees to hold all Confidential Information in strict confidence and to take all reasonable steps to prevent unauthorized access or disclosure of such Confidential Information. Recipient agrees not to use any Confidential Information for any purpose other than to complete the proposed student research project.

**Non-Disclosure.** Recipient agrees not to disclose any Confidential Information to any third party without the prior written consent of the Disclosing Party. Recipient further agrees not to disclose any Confidential Information to any employee, agent, or contractor of the Recipient, except on a need-to-know basis and only to the extent necessary to complete the proposed student research project.

**Ownership.** The Disclosing Party retains ownership of all Confidential Information disclosed to the Recipient, including all data, research findings, results, and reports related to the proposed student research project.

**Term.** This Agreement shall remain in effect for a period of **April 2024 – 2025** from the date of execution. Recipient's obligations under this Agreement shall survive the termination or expiration of this Agreement.

**Remedies.** The Recipient acknowledges that any breach of this Agreement may cause irreparable harm to the Disclosing Party. In addition to any other remedies available at law or in equity, the Disclosing Party may seek injunctive relief to prevent any breach or threatened breach of this Agreement.

**Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of Laguna, Philippines without giving effect to any principles of conflicts of law.

**Entire Agreement.** This Agreement constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes all prior negotiations, discussions, or agreements between the parties.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

Pamantasan ng Cabuyao (University of Cabuyao)

Dr. Zandria M. Maningas  
Vice President for Planning, Research, and Extension

Justine Jay P. Dacocos  
  
Harold P. Galang  
  
Gelvi Ryan P. Rosaria  
Student Researchers

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# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

PNC:PRE-FO-68 rev.0 03082023 / Page 2 of 2



Republic of the Philippines  
**Pamantasan ng Cabuyao**  
 (UNIVERSITY OF CABUYAO)  
 Planning, Research, and Extension Division  
 Research and Development Department  
 Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

**LIBRENG  
NOTARYO  
VICE LEIF OPIÑA**

### WITNESSES

Dr. Luvim M. Eusebio  
 Department Chair, BSIT,  
 College of Computing Studies

Dr. Joanna Marie A. de Borja  
 Director, Research and Development

### ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES  
 CITY OF Cabuyao ) s.s.

BEFORE ME, a Notary Public for and in City of Cabuyao, July 06, 2024, personally appeared the following, to wit:

Name	Valid ID / Passport Number	Date and Place Issued
Justine Jay P. Dacocos	P9374377B	March 27, 2022 DFA Manila
Harold P. Galang	3924-8614-6271-6931	November 26, 2022 PESO, Cabuyao City
Gelvi Ryan P. Rosaria	P448871C	June 19, 2023 DFA, NCR South
Dr. Zandra N. Maningas	1917862	MAY 24, 2022

KNOWN TO ME to be the same persons who executed the foregoing Grant Agreement consisting of \_\_\_\_\_ pages including this page and acknowledged to me that the same is their own free act and deed.

JULY 06 2024  
 WITNESS MY HAND AND SEAL on this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

Doc No. 926  
 Page No. 12.  
 Book No. 10.  
 Series of 0024

ATTY. LEIF LAIGLON A. OPIÑA

Notary Public  
 NO. NC-0023-NC  
 Notarial Comm. NO. NC-0023-NC  
 valid until Dec 31, 2025

Roll No. 57081

IBP Lifetime No. 013103; Jan. 03, 2015; Laguna

PTK No. 2042362, 01-10-2025; Cabuyao City

MCLF No. 0028904; V1-0028904;

Issued on April 14, 2024; valid April 14, 2025

2<sup>nd</sup> Fl., ROJULIA Bldg., Rosario Village

Brgy. Salia, City of Cabuyao

opinalawoffice@yahoo.com.ph

Tel. No. (049) 544-8180



**University of Cabuyao**  
(PAMANTASAN NG CABUYAO)

**COLLEGE OF COMPUTING STUDIES**

**B. Letters**



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

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**Pamantasan ng Cabuyao**  
(University of Cabuyao)  
**COLLEGE OF COMPUTING STUDIES**



Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

PNC: AA-LE-225.12  
March 14, 2024

**ENGR. FLORANTE M. ANDAYA**  
Director, Student Affairs and Services Department  
University of Cabuyao (PnC)

Dear Engr. Andaya,

Dangal greetings!

In partial fulfillment of the requirements of ITP108 - Capstone, we, the undersigned 3rd year BSIT students of Pamantasan ng Cabuyao (UC), kindly seek permission to undertake the research study titled "Web-based Student Affairs and Services Department Management System with File Encryption". Our study's primary objective is to implement an event and document management system for the Student Affairs and Services Department office of the University of Cabuyao.

We respectfully request your cooperation in granting us permission to conduct our research within your premises. Please be assured that all data collected will be treated with the utmost confidentiality and used solely for academic purposes only.

Sincerely yours,

**JUSTINE JAY P. DACOCOS**  
dacocosjustinejay59@gmail.com  
09561807490  
Researcher

Noted by:

**PROF. JOSEPH CARTAGENAS**  
Research Adviser, College of Computing Studies

**ASST. PROF. ARCELITO C. QUIATCHON**  
Research Teacher, College of Computing Studies

**DR. GIMA B. MONTECILLO**  
Dean, College of Computing Studies

Approved by:

**ENGR. FLORANTE M. ANDAYA**  
Director, Student Affairs and Services Department  
University of Cabuyao (PnC)

jjpd/03142024



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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC: AA-LE-362.66  
September 30, 2024

*14/01/24*  
ENGR. FLORANTE M. ANDAYA  
Director, Student Affairs and Services Department  
University of Cabuyao (PnC)

Dear Engr. Andaya,

Dangal greetings!

We are the undersigned 4th year BSIT students of Pamantasan ng Cabuyao (UC), enrolled in the Bachelor of Science in Information Technology Program.

We are writing to formally request digital copies of several files needed for the development of our system, entitled "**Web-based Student Affairs and Services Department Management System with File Encryption**" which aims to develop a centralized management system for the office of the Student Affairs and Services Department. This project is part of the fulfillment of our **ITP112 - Capstone Project 2**.

We would greatly appreciate your assistance in providing the following documents to help us achieve our project goals:

File Code	File Name
PNC:SDAS-FO-10	Notice of Disciplinary Action
PNC:SDAS-FO-12	Certificate of Deportment
PNC:SDAS-FO-13	Referral Slip
PNC:SDAS-FO-14	Case Conference Form
PNC:SDAS-FO-18	List of Active Members
PNC:SDAS-FO-21	Activity Financial Statement
PNC:SDAS-FO-22	Evaluation of Adviser
PNC: SDAS-FO-23	Evaluation of Recognized Student Organization/Student Council
PNC:SDAS-FO-24	Application Form for Student Assistantship
PNC:SDAS-FO-25	Student Assistant Class and Duty Schedule
PNC:SDAS-FO-26	Student Assistant Accomplishment Report
PNC:SDAS-FO-27	Student Assistant Daily Time Record (DTR) Form
PNC:SDAS-FO-28	Student Assistant Performance Evaluation Form
PNC:SDAS-FO-29	Sui Generis Scholarship Program (SGSP) Application Form
PNC:SDAS-FO-30	Parental Consent
PNC:SDAS-FO-31	Approved Absence Form
PNC:SDAS-FO-32	Faculty Conforme Form for Off-Campus Activity

These documents will be vital to the proper implementation of the system's various modules and to ensure we meet the project's required functionalities. The respondents are assured that the sensitive data entrusted shall be used with due diligence for the sole purpose of the research study.

As such, by participating in this data gathering, you acknowledge and agree that the information may be used and disclosed by the Pamantasan ng Cabuyao (University of Cabuyao) in accordance with any legal and regulatory standards and in compliance with the University Data Privacy Manual and Data Privacy Act of 2012.

Your courtesy and cooperation with this request will be greatly appreciated. Rest assured that the data we gather will be kept completely confidential and used solely for academic purposes.

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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



We look forward to your positive response and greatly appreciate your support in this academic endeavor.

Thank you for your time and consideration.

Best regards,

**JUSTINE JAY P. DACOCOS**  
Researcher

**GELVI RYAN P. ROSARIA**  
Researcher

**HAROLD P. GALANG**  
Researcher

Noted by:

**PROF. JOSEPH CARTAGENAS**  
Research Adviser, College of Computing Studies

**ASST. PROF. ARCELITO C. QUIATCHON**  
Research Professor, College of Computing Studies

**DR. GIMA B. MONTECILLO**  
Dean, College of Computing Studies

Approved by:

**ENGR. FLORANTE M. ANDAYA**  
Director, Student Affairs and Services Department  
University of Cabuyao (PnC)

jjpd/09302024



# University of Cabuyao

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College of Computing Studies



\* Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025

PNC: AA-LE-174.28  
July 15, 2024

DR. FLORANTE A. MAGNAYE  
Vice President for Academic Affairs – University of Cabuyao

Dear Dr. Magnaye:

Dangal Greetings!

We, the researchers, Justine Jay P. Dacocos, Harold P. Galang, and Gelvi Ryan P. Rosaria from the College of Computing Studies (CCS), would like to formally request permission to conduct a system evaluation within the University for our Capstone 2 – ITP112 project entitled "Student Affairs and Services Department Management System with File Encryption."

The primary objective of our study is to develop and evaluate a management system that will efficiently streamline the business processes of the Student Affairs and Services Department. As part of the system evaluation, we aim to gather data through surveys and user testing to assess the system's functional suitability, security, performance efficiency, and usability in meeting the department's needs.

The evaluation will involve approximately 30 participants consisting of student officers from various Recognized Student Organizations (RSOs) across the University of Cabuyao. We plan to conduct the evaluation in the month of September 2024 during the vacant time of the participants. The collected data will be used to identify areas for improvement and refinement of the system. We assure you that all collected data will be treated with utmost confidentiality and will be used solely for academic purposes.

Thank you for considering our request. We look forward to a positive response and the opportunity to contribute to the improvement of the University's services.

Sincerely yours,

JUSTINE JAY P. DACOCOS  
Student Researcher

HAROLD P. GALANG  
Student Researcher

GELVI RYAN P. ROSARIA  
Student Researcher

Noted by:

PROF. JOSEPH D. CARTAGENA  
Research Adviser, College of Computing Studies (CCS)

DR. GIMA B. MONTECILLO  
Dean, College of Computing Studies (CCS)

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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC:AA-LE-769.7  
October 9, 2024

**PROF. MARVIN H. BICUA**  
College of Computing Studies, Research Validator

Dear Prof. Bicua

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 - Capstone Project 2, are conducting a study titled "**WEB-BASED STUDENT AFFAIRS AND SERVICES DEPARTMENT MANAGEMENT SYSTEM WITH FILE ENCRYPTION**". We are writing to formally request your esteemed assistance in evaluating the research instrument—questionnaires—we have developed for our project.

Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools. The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively assessing the proposed system. Your feedback will help us identify any necessary revisions before we proceed with their use in our research.

The significance of obtaining feedback from experienced individuals like yourself cannot be overstated. Your assessment will play a crucial role in helping us refine our questionnaires to ensure they accurately capture the data needed for our study. This process is essential for enhancing the reliability and validity of our research findings.

Enclosed with this letter, you will find a copy of the research instrument, specifically the questionnaires. We kindly request you to review them and provide your feedback and comments. Your insights will be instrumental in guiding us toward the finalization of our research tools.

Please do not hesitate to reach out to us via email or the contact number provided below if you have any questions or require further information. Your expertise and guidance are highly valued, and we are profoundly grateful for your willingness to assist us in this endeavor.

Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

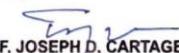
Sincerely yours,

  
**DACOCOS, JUSTINE JAY P.**  
Student Researcher  
dacocosjustinejay59@gmail.com  
09561807490

  
**GALANG, HAROLD P.**  
Student Researcher  
galangharold56@gmail.com  
09198101696

  
**ROSARIA, GELVI RYAN P.**  
Student Researcher  
rosariagelvi07@gmail.com  
09292059295

Noted by:

  
**PROF. JOSEPH D. CARTAGENAS**  
College of Computing Studies,  
Research Adviser

  
**ASST. PROF. ARCELITO C. QUIATCHON**  
College of Computing Studies,  
Research Professor

jipd/10092024



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES



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**University of Cabuyao**  
(PAMANTASAN NG CABUYAO)  
*College of Computing Studies*



PNC-AA-LE-769.5  
October 9, 2024

**PROF. CHRISTIAN M. BAÑA**  
College of Computing Studies, Research Validator

Dear Prof. Baña

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 - Capstone Project 2, are conducting a study titled "WEB-BASED STUDENT AFFAIRS AND SERVICES DEPARTMENT MANAGEMENT SYSTEM WITH FILE ENCRYPTION". We are writing to formally request your esteemed assistance in evaluating the research instrument—questionnaires—we have developed for our project.

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Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

Sincerely yours,

**DACOCOS, JUSTINE JAY P.**  
Student Researcher  
dacocosjustinejay59@gmail.com  
09561807490

**GALANG, HAROLD P.**  
Student Researcher  
galangharold56@gmail.com  
09198101696

**ROSAARIO, GELVI RYAN P.**  
Student Researcher  
rosariagelvi07@gmail.com  
09292059295

Noted by:

**PROF. JOSEPH D. CARTAGENAS**  
College of Computing Studies,  
Research Adviser

**ASST. PROF. ARCELITO C. QUIATCHON**  
College of Computing Studies,  
Research Professor

jjpd/10092024



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**University of Cabuyao**  
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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC-AA-LE- 769.21  
October 9, 2024

**PROF. JOSEPH D. CARTAGENAS**  
College of Computing Studies, Research Validator

Dear Prof. Cartagena

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 - Capstone Project 2, are conducting a study titled "**WEB-BASED STUDENT AFFAIRS AND SERVICES DEPARTMENT MANAGEMENT SYSTEM WITH FILE ENCRYPTION**". We are writing to formally request your esteemed assistance in evaluating the research instrument—questionnaires—we have developed for our project.

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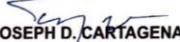
Sincerely yours,

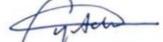
  
**DACOCOS, JUSTINE JAY P.**  
Student Researcher  
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09561807490

  
**GALANG, HAROLD P.**  
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**ROSTARIA GELVI RYAN P.**  
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Noted by:

  
**PROF. JOSEPH D. CARTAGENAS**  
College of Computing Studies,  
Research Adviser

  
**ASST. PROF. ARCELITO C. QUIATCHON**  
College of Computing Studies,  
Research Professor

jpd/10092024

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**College of Computing Studies**

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC-AA-LE- 174.268  
November 14, 2024

**ENGR. ANNA-LIZA F. SIGUE**  
Director, Community Extension and Services Department

Dear Engr. Sigue:

Dangal Greetings!

We, the researchers, Justine Jay P. Dacocos, Harold P. Galang, and Gelvi Ryan P. Rosaria from the College of Computing Studies (CCS) are working on our ITP 112 - Capstone 2 project titled "Web-based Student Affairs and Services Department Management System with File Encryption." As part of our project, we are conducting a comprehensive evaluation to assess the system's functionality, security, efficiency, and usability.

The primary objective of our study is to develop and evaluate a management system that will efficiently streamline the business processes of the Student Affairs and Services Department. As part of the system evaluation, we aim to gather data through surveys and user testing to assess the system's functional suitability, security, performance efficiency, and usability in meeting the department's needs.

The evaluation will consist of a brief user testing session, along with a survey to capture your feedback. We will be flexible in scheduling this session to ensure it accommodates your availability. Please be assured that all information gathered will be treated with strict confidentiality and used solely for academic purposes.

Thank you very much for considering our request. We would be truly grateful for your participation and guidance in this project.

Sincerely yours,

**JUSTINE JAY P. DACOCOS**  
Student Researcher

**HAROLD P. GALANG**  
Student Researcher

**GELVI RYAN P. ROSARIA**  
Student Researcher

Noted by:

**PROF. JOSEPH D. CARTAGENA**  
Research Adviser, College of Computing Studies (CCS)

**ASST. PROF. ARCELITO C. QUIATCHON**  
Research Teacher, College of Computing Studies (CCS)

**DR. GINA B. MONTECILLO**  
Dean, College of Computing Studies (CCS)

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College of Computing Studies



Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025

PNC:AA-LE- 174.263  
November 14, 2024

**PROF. FELIX L. HUERTE**  
Professor, NU Laguna

Dear Prof. Huerte:

Dangal Greetings!

We, the researchers, **Justine Jay P. Dacocos**, **Harold P. Galang**, and **Gelvi Ryan P. Rosaria** from the College of Computing Studies (CCS) are working on our ITP 112 - Capstone 2 project titled "**Web-based Student Affairs and Services Department Management System with File Encryption**." As part of our project, we are conducting a comprehensive evaluation to assess the system's functionality, security, efficiency, and usability.

The primary objective of our study is to develop and evaluate a management system that will efficiently streamline the business processes of the Student Affairs and Services Department. As part of the system evaluation, we aim to gather data through surveys and user testing to assess the system's functional suitability, security, performance efficiency, and usability in meeting the department's needs.

The evaluation will consist of a brief user testing session, along with a survey to capture your feedback. We will be flexible in scheduling this session to ensure it accommodates your availability. Please be assured that all information gathered will be treated with strict confidentiality and used solely for academic purposes.

Thank you very much for considering our request. We would be truly grateful for your participation and guidance in this project.

Sincerely yours,

**JUSTINE JAY P. DACOCOS**  
Student Researcher

**HAROLD P. GALANG**  
Student Researcher

**GELVI RYAN P. ROSARIA**  
Student Researcher

Noted by:

**PROF. JOSEPH D. CARTAGENAS**  
Research Adviser, College of Computing Studies (CCS)

**ASST. PROF. ARCELITO C. QUIATCHON**  
Research Teacher, College of Computing Studies (CCS)

**DR. GINA B. MONTECILLO**  
Dean, College of Computing Studies (CCS)

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### C. Validated Research Instrument/s



# University of Cabuyao

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### Survey Questionnaire

#### Software Evaluation Sheet for Users

Name (Optional): \_\_\_\_\_  
Position: \_\_\_\_\_  
Date: \_\_\_\_\_

This questionnaire serves as an evaluation for the proposed system named "Web-based Student Affairs and Services Department Management System with File Encryption".

**Instruction:** Indicate how strongly you agree or disagree with each of the following statements.

**Legend:**

SA - Strongly Agree  
D - Disagree

A - Agree  
SD - Strongly Disagree

N - Neutral

The following questions are based from the ISO 25010 standard entitled "Systems and software Quality Requirements and Evaluation (SQuaRE) – System and software quality models."

Criteria	SA	A	N	D	SD
<b>Functional Suitability</b> – refers to how well a product or system is able to provide functions that meet the stated and implied needs.					
1. The system covered all the specified tasks based from the organization's business transactions.					
2. The system provided accurate results.					
3. The system facilitated in accomplishing the transactions of the Student Affairs and Services Department (SASD).					
<b>Usability</b> – refers to how well a product or system can be used to achieve specified goals effectively, efficiently, and satisfactorily.					
1. The system met the users' needs in terms of its business transactions.					
2. The system has a smooth-learning curve.					
3. The system is easy to operate and its functions run smoothly.					
4. The system warns users from potential errors and invalid inputs.					
5. The interface of the system is visually appealing and user-friendly.					
6. The system can be used by different users with the widest range of characteristics and capabilities.					



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Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025



### Survey Questionnaire

#### *Software Evaluation Sheet for Experts*

Name (Optional): \_\_\_\_\_

Position: \_\_\_\_\_

Date \_\_\_\_\_

This questionnaire serves as an evaluation for the proposed system named "Web-based Student Affairs and Services Department Management System with File Encryption".

**Instruction:** Indicate how strongly you agree or disagree with each of the following statements.

#### Legend:

SA – Strongly Agree  
D - Disagree

A - Agree  
SD – Strongly Disagree

N – Neutral

The following questions are based from the ISO 25010 standard entitled "Systems and software Quality Requirements and Evaluation (SQuaRE) – System and software quality models."

Criteria	SA	A	N	D	SD
<b>Functional Suitability</b> – refers to how well a product or system is able to provide functions that meet the stated and implied needs.					
1. The functions of the system covered the tasks and requirements of the organization based from the indicated objectives.					
2. The functions of the system provided accurate results.					
3. The system accomplished the tasks and objectives of the organization.					
<b>Security</b> - refers to how well a product or system protects information and data from security vulnerabilities.					
1. The system ensures that its data and features is only accessible to its authorized users.					
2. The system prevents unauthorized access and modification to its data.					
3. The system is able to prove that specific actions were taken by specific users.					
4. The system provides measures to identify the activity of unauthorized users.					
5. The system ensures the validity of the users' identities.					
<b>Performance Efficiency</b> - refers to the performance related to the amount of resources used.					
1. The system's latency, processing speed, and overall throughput is efficient.					
2. The system utilizes its memory, CPU, and storage resources during execution.					
3. The system defines its maximum limit and capacity.					
<b>Usability</b> – refers to how well a product or system can be used to achieve specified goals effectively, efficiently, and satisfactorily.					
1. The system provided solutions that caters the need of its users based on the transactions of the organization.					
2. The system facilitates a smooth learning curve for first time users.					
3. The system is intuitive and straightforward to operate.					
4. The system minimizes the risk of user error and reject incorrect inputs.					
5. The interface of the system provides a visually appealing and user-friendly experience for its users.					
6. The system is flexible in accommodating a wide range of user needs and functionalities.					



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## COLLEGE OF COMPUTING STUDIES

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(UNIVERSITY OF CABUYAO)

Planning, Research, and Extension Division

Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

### RESEARCH INSTRUMENT VALIDATION FORM

Research Title	Web-based Student Affairs and Services Department Management System with File Encryption
Lead Researcher:	Dacocos, Justine Jay P.
Members	Galang, Harold P. Rosaria, Gelvi Ryan P.
Validator	Prof. Joseph D. Cartagenas <i>5-16-24</i>
Affiliation	Research Adviser, Instructor, College of Computing Studies
Type of Research Instrument	Survey

The purpose of this form is to validate the research instrument to ensure its reliability and validity in collecting accurate data. Please rate the research instrument based on the following criteria. Use the following rating scale:

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly Disagree

No.	Review Questions	5	4	3	2	1
1	The research instrument is clear and easy to understand.	/				
2	The research instrument measures what it intends to measure and is relevant to the research questions.	/				
3	The research instrument covers all aspects of the research questions and provides comprehensive data.	/				
4	The research instrument provides consistent results and is reliable.	/				
5	The research instrument measures what it intends to measure and accurately reflects the research questions.	/				
6	The research instrument is appropriate for the research methodology being used.	/				
7	The research instrument provides accurate and precise data.	/				
8	The research instrument encourages participants to provide detailed and insightful responses (for qualitative research instrument)	/				
9	The research instrument produces consistent results regardless of who administers, scores, or interpret is.	/				
10	The research instrument has standardized scoring procedures (for quantitative research instrument)	/				

Please provide any additional comments or suggestions regarding the research instrument.	
--	--

Thank you for your participation in validating this research instrument. Your feedback is appreciated.



# University of Cabuyao

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## COLLEGE OF COMPUTING STUDIES

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Planning, Research, and Extension Division  
Research and Development Department  
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

### RESEARCH INSTRUMENT VALIDATION FORM

Research Title	Web-based Student Affairs and Services Department Management System with File Encryption
Lead Researcher:	Dacocos, Justine Jay P.
Members	Galang, Harold P. Rosaria, Gelvi Ryan P.
Validator	Prof. Marvin H. Bicua
Affiliation	Panel, College of Computing Studies (CCS)
Type of Research Instrument	Survey

The purpose of this form is to validate the research instrument to ensure its reliability and validity in collecting accurate data. Please rate the research instrument based on the following criteria.

Use the following rating scale:

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly Disagree

No.	Review Questions	5	4	3	2	1
1	The research instrument is clear and easy to understand.	✓				
2	The research instrument measures what it intends to measure and is relevant to the research questions.	✓				
3	The research instrument covers all aspects of the research questions and provides comprehensive data.	✓				
4	The research instrument provides consistent results and is reliable.	✓				
5	The research instrument measures what it intends to measure and accurately reflects the research questions.	✓				
6	The research instrument is appropriate for the research methodology being used.	✓				
7	The research instrument provides accurate and precise data.	✓				
8	The research instrument encourages participants to provide detailed and insightful responses (for qualitative research instrument).	✓				
9	The research instrument produces consistent results regardless of who administers, scores, or interprets.	✓				
10	The research instrument has standardized scoring procedures (for quantitative research instrument)	✓				

Please provide any additional comments or suggestions regarding the research instrument.

Please See Comments

Thank you for your participation in validating this research instrument. Your feedback is appreciated.

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Planning, Research, and Extension Division  
Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

### RESEARCH INSTRUMENT VALIDATION FORM

Research Title	Web-based Student Affairs and Services Department Management System with File Encryption
Lead Researcher:	Dacocos, Justine Jay P.
Members	Galang, Harold P. Rosaria, Gelvi Ryan P.
Validator	Prof. Christian M. Baña
Affiliation	Panel, College of Computing Studies (CCS)
Type of Research Instrument	Survey

The purpose of this form is to validate the research instrument to ensure its reliability and validity in collecting accurate data. Please rate the research instrument based on the following criteria.

Use the following rating scale:

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly Disagree

No.	Review Questions	5	4	3	2	1
1	The research instrument is clear and easy to understand.	✓				
2	The research instrument measures what it intends to measure and is relevant to the research questions.	✓				
3	The research instrument covers all aspects of the research questions and provides comprehensive data.	✓				
4	The research instrument provides consistent results and is reliable.	✓				
5	The research instrument measures what it intends to measure and accurately reflects the research questions.	✓				
6	The research instrument is appropriate for the research methodology being used.	✓				
7	The research instrument provides accurate and precise data.	✓				
8	The research instrument encourages participants to provide detailed and insightful responses (for qualitative research instrument)	✓				
9	The research instrument produces consistent results regardless of who administers, scores, or interprets it.	✓				
10	The research instrument has standardized scoring procedures (for quantitative research instrument)	✓				

Please provide any additional comments or suggestions regarding the research instrument.

Thank you for your participation in validating this research instrument. Your feedback is appreciated.

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**D. Informed Consent Form**



# University of Cabuyao

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Planning, Research, and Extension Division  
Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

### INFORMED CONSENT FORM

Research Project Title	Web-based Student Affairs and Services Department Management System with File Encryption			
<b>Proponents</b>	<b>Name</b>	<b>Email Address</b>	<b>Contact Number</b>	<b>Department</b>
Research Lead	Dacocos, Justine Jay P.	dacocosjustinejay59@gmail.com	09561807490	College of Computing Studies
Member/s	Galang, Harold P.	galangharold56@gmail.com	09198101696	College of Computing Studies
	Rosaria, Gelvi Ryan P.	rosariagelv07@gmail.com	09292059295	College of Computing Studies
Thesis Adviser (for student research)	Prof. Cartagenas, Joseph D.	jdcartagenas@pnc.edu.ph		College of Computing Studies

You are being invited to participate in a research study. Before you decide whether to participate, it is important that you understand why the research is being done and what your participation would involve. Please read the following information carefully and take time to ask any questions that you may have. You are free to choose whether or not to participate in this study. If you do not want to participate, you do not have to give a reason, and your decision will not affect any relationship you may have with the researchers or the institution.

Purpose of the Study	The purpose of this study is to evaluate and assess the developed management system for the Student Affairs and Services Department at the University of Cabuyao (Pamantasan ng Cabuyao). This assessment is crucial in helping the researchers refine the system to meet the users' needs. This system streamlines the process and transactions of the mentioned department.
Risks, Benefits, or Discomforts of the Study	<p>The following are the potential risks, benefits, or discomforts of participating in this study:</p> <p>Risks. There may be risks associated with participating in this study. We will take all necessary precautions to minimize these risks.</p> <p><input type="checkbox"/> Physical risks include physical discomfort, pain, injury, illness or disease brought about by the methods and procedures of the research. A physical risk may result from the involvement of physical stimuli such as noise, electric shock, heat, cold, electric magnetic or gravitational fields, etc. Engaging a subject in a social situation which could involve violence may also create a physical risk.</p> <p><input type="checkbox"/> Psychological risks include the production of negative affective states such as anxiety, depression, guilt, shock and loss of self-esteem and altered behavior. Sensory deprivation, sleep deprivation, use of hypnosis, deception or mental stresses are examples of psychological risks.</p> <p><input type="checkbox"/> Social/Economic risks include alterations in relationships with others that are to the disadvantage of the subject, including embarrassment, loss of respect of others, labeling a subject in a way that will have negative consequences, or in some way diminishing those opportunities and powers a person has by virtue of relationships with others. Economic risks include payment by subjects for procedures not otherwise required, loss of wages or other income and any other financial costs, such as damage to a subject's employability, as a consequence of participation in the research.</p>

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Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

	<p><input checked="" type="checkbox"/> Loss of confidentiality</p> <p><input type="checkbox"/> Legal risks exist when the research methods are such that the subject or others will be liable for a violation of the law, either by revealing that the subject or others have or will engage in conduct for which the subject or others may be criminally or civilly liable, or by requiring activities for which the subject or others may be criminally or civilly liable.</p> <p>Benefits. You may benefit from this research. However, we cannot guarantee that you will receive any benefits from participating in this study.</p> <p><input type="checkbox"/> Contribute to the advancement of scientific knowledge</p> <p><input checked="" type="checkbox"/> Develop participants' new skills or learn more about themselves.</p> <p><input type="checkbox"/> Receive access to resources, such as support groups or educational materials, that may be beneficial to their health or well-being.</p> <p><input type="checkbox"/> Receive access to interventions or treatments that could improve their health outcomes.</p> <p><input type="checkbox"/> Receive compensation.</p> <p>Discomforts There may be discomfort associated with participating in this study. We will take all necessary precautions to minimize these discomforts.</p> <p><input checked="" type="checkbox"/> Time Commitment: Participating in this study may require a significant amount of time and effort on your part, including attending appointments and completing questionnaires or other assessments.</p> <p><input type="checkbox"/> Emotional Distress: Some participants may find that discussing sensitive topics or answering personal questions can cause emotional distress or discomfort.</p> <p><input type="checkbox"/> Physical Discomfort: Depending on the nature of the study, there may be physical discomfort associated with participating, such as experiencing side effects from medication or undergoing a medical procedure.</p> <p><input checked="" type="checkbox"/> Confidentiality Concerns: While we will take all reasonable steps to protect your confidentiality, there is always a risk that your information could be inadvertently disclosed.</p> <p><input type="checkbox"/> Unforeseen Risks: Despite our efforts to minimize risks and discomforts, there may be unforeseen risks or discomforts associated with participating in this study that we cannot anticipate</p>
Duration of Participation:	Your participation in this study will take approximately a day to complete.
Confidentiality:	We will take all reasonable steps to ensure that your information is kept confidential. However, there are certain circumstances where we may be required to disclose your information, such as if we suspect that you or someone else may be at risk of harm. In addition, your de-identified data may be used in future research.
Voluntary Nature of Participation:	Participation in this study is entirely voluntary, and you have the right to withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled. If you choose to withdraw from the study, any data that you have provided up to that point will still be used in the study, unless you specifically request that it be deleted.
Contact Information:	If you have any questions or concerns about the study, you can contact the researchers at dacocosjustinejay59@gmail.com. If you have any concerns

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	about your rights as a participant, you can contact the Research Ethics Review Committee (RERC) at <a href="mailto:rdd@pnc.edu.ph">rdd@pnc.edu.ph</a>
Consent:	By signing below, you indicate that you have read and understood the information provided above and that you voluntarily agree to participate in this study.

Name of the Research-Participant	Signature	Date
Engr. Florentine M. Andaya		11 - 08 - 2024
Gia Mae L. Gamboa		11 - 12 - 2024
Shan R. Pestaro		11 - 12 - 2024
Christian G. Fabriga		11 - 12 - 2024
Lawrence Jr. C. Bakistic		11 - 12 - 2024
Renz Garcia		11 - 12 - 2024
Jerome L. Paynundo		11 - 12 - 2024
Charles Matthew Dantes		11 / 12 / 2024
John Howell J. Sy		11 / 12 / 2024
Renzo W. Montalusta		11 / 12 / 2024
John Damrell Turangon		11 / 12 / 2024
FATAL, MOISER JR.		11 / 12 / 2024
Jeyvica Diane A. Tipan		11 / 12 / 2024
ARMAN JOSHUA O. UAY		11 / 12 / 2024
LABICADOK, MIG		11 / 12 / 2024
LLAGAS, KERVIE S.		11 / 12 / 2024
PANCILLEKA, KIER Y.		11 / 12 / 2024
KPISTOL, KRISTINA		11 / 12 / 2024
PREGENERO, AIRINE C.		11 / 12 / 2024
QUIATCHON, ARCELITO C.		11 - 12 - 2024
MATILIBU, BUMULUMA A.		11 - 12 - 2024
Dinaculungan, Melissa		11 / 12 / 2024

Use Another page, if needed.

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**University of Cabuyao**  
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**E. User's Manual**



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

A screenshot of a web-based login interface. At the top left is the university's logo with the text "Pamantasan ng Cabuyao (UNIVERSITY OF CABUYAO)". Below it, the text "Student Affairs and Services Department" is displayed in a large, bold, dark green font. To the right of this text is a "Log in" section. Inside the "Log in" section, there are two input fields: "User Number" and "Password", each preceded by a small numbered circle (1 and 2) with an arrow pointing to the field. Below these fields is a large green "Login" button. To the right of the "Password" field is a small eye icon for password visibility. On the left side of the main content area, there is a light gray illustration of a student sitting at a desk with books and a lamp, writing in a notebook.

### Log In Page

1. Enter your user number.
2. Enter your password.
3. Click the Login button after entering the right credentials to access the system.



# University of Cabuyao

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## COLLEGE OF COMPUTING STUDIES

The screenshot shows a user interface for managing student activities. On the left, there's a sidebar with a logo and several dropdown menus: 'Student Activities' (selected), 'Activities', 'Requests', 'Student Organization' (with a dropdown for 'Scholarship Program', 'Student Assistantship', 'Student Discipline', and 'Account Management'), and 'Add Event'. The main area is titled 'Student Activities' and shows a calendar for December 2024. The calendar grid has columns for Sun, Mon, Tue, Wed, Thu, Fri, and Sat. Specific dates are highlighted: December 1st is 'Digital Arts Competition', December 4th is another event, and December 22nd is labeled '2024'. Navigation buttons include 'today', '<', and '>'. At the top right, it shows '10:06 PM' and '12/4/2024'.

### Student Activities Page

1. Click the 'Student Activities' dropdown to display the options for the Student Activities.
2. To access the calendar of approved events, click the 'Activities' tab on the 'Student Activities' dropdown. In this calendar, the user can view all of the approved events under the University of Cabuyao.
3. To see your requested events, click the 'Request' tab.
4. Click an event on the calendar to view the event details.
5. To add an event, click the 'Add Event' Button to enter the event details.
6. The 'Today', '<', and '>' buttons are used to navigate the calendar to different months.



# University of Cabuyao

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## COLLEGE OF COMPUTING STUDIES

Add Event

Event Title 1

Description 2

Start Date 3 mm/dd/yyyy 4

Number of Days 5

Venue 6

Start Time 7 End Time 8

Request Letter 9 10

Close Add Event

### Add Event Modal

1. Enter the name of the event title on the 'Event Title' field.
2. In the description, provide a brief description of the event and your objectives.
3. Enter the start date of your event in the 'Start Date' field.
4. The number of days should be entered in the 'Number of Days' field.
5. Enter the venue of your proposed event in the 'Venue' field.
6. Enter the start time of your event.
7. Enter the end time of your event.
8. Provide the content of your request letter in the 'Request Letter' field. This request letter is entered for users to generate and print their letter in the system, and then signed by the concern individuals.
9. To close the modal, click the 'Close' button.
10. After filling all the details, click the 'Add Event' button to submit your proposed event to the admin.



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES

A screenshot of a web application interface titled "Student Activities". On the left, there's a sidebar with "Student Activities" and "Requests" highlighted. The main area shows a table with one row of data: "Event Title" (Digital Arts Competition), "Organization" (Association of Computer Science Students), "Date Submitted" (11/21/2024 02:18 PM), "Venue" (Online), "Target Event Date" (12/02/2024 07:00 AM), and "Status" (Finished). To the right of the table are three buttons: "Action" (green), "Edit" (blue), and "Delete" (red). Arrows numbered 1 through 7 point to various UI elements: 1 points to the "Requests" tab in the sidebar; 2 points to the "Filter" button in the table header; 3 points to the "Export" button in the table header; 4 points to the "Event Title" column in the table; 5 points to the "Action" button; 6 points to the "Edit" button; and 7 points to the "Delete" button.

### Events Request Page

1. To access the events request page, click the 'Requests' tab on the 'Student Activities' tab.
2. To filter your requests by status, click the filter button.
3. Clicking the 'Export' button will download an Excel file of the request table.
4. In the events table, users can see the requested events and their details.
5. Click the Eye Button to view the details of the event.
6. Click the Pencil Button to edit the event details.
7. Click the Delete Button to delete the selected event.



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The screenshot shows a web-based application interface for managing student activities. On the left, a sidebar menu includes "Student Activities", "Activities", "Requests" (which is selected), "Student Organization", "Organization", "Requests", "Scholarship Program", "Student Assistantship", "Student Discipline", and "Account Management". The main content area displays the details of a competition:

- Digital Arts Competition** (Status: FINISHED) ← 1
- Association of Computer Science Students 2
- Date: December 2, 2024 (7:00 AM - 5:00 PM) | Location: Online
- Description: A creative competition showcasing the digital art talents of students. Participants will create original artworks based on a given theme, with entries judged on creativity, technique, and interpretation. This event aims to inspire artistic expression and celebrate digital artistry.
- No Approval Letter Uploaded Upload Approval Letter
- Request Letter** ← 3
- Text editor toolbar: menu, File, Edit, View, Insert, Format, Tools, Table. Upgrade
- Text content: Dangal Greetings. We would like to conduct a User Interface (UI) Design Seminar on February 15, 2025. The objective of this activity is to educate students on the fundamentals of UI design and equip them with the skills to create user-friendly and visually appealing digital interfaces. This seminar is open to all students interested in developing their skills in design and technology. Sincerely.
- Word count: 63 words. Build with tinyMCE.
- Buttons: Save Request Letter ← 4, Evaluate Event 5, View Results 6, Generate Approval Letter 7.
- Comments**: No comments available. Add a Comment. ← 8
- Buttons: Submit Comment

### Event Details Page

1. In this page, you can view the details of the event such as the title, status, the host of the event, date and time, venue, and the description of the event.
2. To upload your signed and accomplished Approval Letter, click the 'Upload Approval Letter' button.
3. Users can edit and format their request letter in the page by using the text formatter in the Request Letter section.
4. Once the user clicks save, it will save the latest text that is in the text box.
5. To evaluate an event, click the 'Evaluate' Button.
6. The results of the students' evaluation on a specific event can be viewed by clicking the 'View Results' button.



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7. To generate your saved approval letter, click the 'Generate Approval Letter' button to display and download a generated request letter by the system.
8. The admin and officer can also comment on a specific event to communicate with each other.

The screenshot shows the 'Organization' page of the university's system. On the left, a sidebar menu lists various categories: Student Activities, Requests, Student Organization, Organization (which is selected and highlighted in green), Requests, Scholarship Program, Student Assistantship, Student Discipline, and Account Management. The main content area features a banner for the 'College of Computing Studies' (CCS) with the text 'IT IS'. Below the banner, a yellow box labeled 'Renewed' is positioned above a table of student activities. The table has columns for Event Title, Venue, Event Date, Status, and Action. Two rows of data are visible:

Event Title	Venue	Event Date	Status	Action
Denha's Digital Drive	GYM 1 PNC Main	November 25, 2024	Upcoming	[Eye icon]
Digital Skills Workshop	GYM 1 PNC Main	November 27, 2024	Upcoming	[Eye icon]

Annotations with numbers 1 through 6 point to specific elements: 1 points to the 'Organization' tab in the sidebar; 2 points to the 'Renewed' button; 3 points to the 'Filter' button; 4 points to the 'Export' button; 5 points to the table header; 6 points to the 'Action' column header.

**Organization Page**

1. To access the organization page, click the 'Organization' tab and select the department and organization.
2. The status of the organization is displayed in the button.
3. The user can also filter the events by their status by clicking the 'Filter' button.
4. To download an excel file of the events table, click the 'Export' button.
5. The table displays all the events of the organization and its details.
6. To view a specific event, click the eye button.



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## COLLEGE OF COMPUTING STUDIES

### Renew Student Organization

College of Arts and Sciences



Submit all the documents needed for the Renewal of your Organization.  
The student who submitted the documents will be the student officer in-charge for booking the events of their organization.

← Back

4

<a href="#">Renewal Form</a> <a href="#">Upload PDF</a>	<a href="#">Student Leaders Profile</a> <a href="#">Upload PDF</a>	<a href="#">Adviser's Profile</a> <a href="#">Upload PDF</a>	<a href="#">Active Members List</a> <a href="#">Upload PDF</a>	<a href="#">Adviser's Agreement Form</a> <a href="#">Upload PDF</a>
<a href="#">Annual Project Plan</a> <a href="#">Upload PDF</a>	<a href="#">Constitution by Laws</a> <a href="#">Upload PDF</a>	<a href="#">After-Activity Report</a> <a href="#">Upload PDF</a>	<a href="#">Activity Financial Statement</a> <a href="#">Upload PDF</a>	1 2
<a href="#">Submit</a>	3			

### Renew Student Form

1. To apply for a renewal of an organization, download the required documents and accomplish it by clicking the links.
2. After accomplishing all the files, upload them by clicking the 'Upload PDF' button.
3. Once the files are all uploaded, click the 'Submit' button to submit the application to the admin.



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## COLLEGE OF COMPUTING STUDIES

A screenshot of a university management system interface. The left sidebar shows navigation options like Student Activities, Requests, Student Organization, Scholarship Program (which is highlighted), Student Assistantship, Student Discipline, and Account Management. The main content area is titled 'Sui Generis Application' and shows a sub-section for 'Student Scholarship'. Step 1: 'Download, print, and fill the application form' with a link to 'Application.form.docx'. Step 2: 'Upload the accomplished forms' with two upload fields: 'Application form \*' and 'Updated Academic Tracker \*'. Step 3: A 'Submit' button at the bottom right. The top bar shows the user's name 'Daniel Matthew Benegas', their role 'student officer', the date '12/4/2024', and the time '10:57 PM'.

1. Download, print, and fill the application form  
[Application.form.docx](#)

2. Upload the accomplished forms

Application form \*      Updated Academic Tracker \*

Upload File      Upload File

Submit

### Sui Generis Application Page

1. To access the Sui Generis Application page, click the 'Scholarship Program' tab, and select 'Sui Generis Scholarship'.
2. Download the 'Application form.docx' by clicking the link and fill all the required fields.
3. Upload the required PDF files by clicking the 'Upload File' button.
4. After uploading all the required files, click submit for the admin to review your application.



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## COLLEGE OF COMPUTING STUDIES

**CHED-TDP Scholarship**  
*CHED-TDP Recipient Profile*



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Name	Moises Fatal Jr.	1
College	College of Arts and Sciences	
Program	Bachelor of Science in Psychology	
Year Level	2	
Status	Inactive	

Upload Registration Form:

Choose File No file chosen

Upload  2 3

### CHED-TDP Scholarship Page

1. This page is for the recipients of the CHED-TDP Scholarship. Students can view their information on this page.
2. Upload your registration form by clicking the 'Choose File' button and selecting your file.
3. After uploading the file, click the 'Upload' button to submit your registration form to the admin.



# University of Cabuyao

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## COLLEGE OF COMPUTING STUDIES

A screenshot of a web-based application interface for student assistantships. The left sidebar shows navigation links like 'Student Activities', 'Activities', 'Requests', 'Student Organization', 'Scholarship Program', 'Student Assistantship' (which is highlighted in green), 'Student Discipline', and 'Account Management'. The main content area has a header 'Apply Student Assistantship' and 'Student Assistantship Application'. It contains four numbered steps: 1. Download, print, and fill the application form (with a link to 'Application form.docx'), 2. Upload the accomplished documents (with three input fields for 'Application form', 'Class Schedule', and 'Copy of Grades', each with an 'Upload File' button), and 4. Submit (a green button). The top right of the screen shows the user's name 'Daniel Matthew Benegas', their role 'student officer', the date '12/4/2024', and the time '10:57 PM'.

1. Download, print, and fill the application form  
[Application form.docx](#) ← 2

2. Upload the accomplished documents  
Application form \* ← 3  
Class Schedule \* ← 3  
Copy of Grades \* ← 3  
[Upload File](#) [Upload File](#) [Upload File](#)

Submit ← 4

### Student Assistantship Application Page

1. Click the 'Student Assistantship' tab to access the student assistantship application page.
2. Click the 'Application form.docx' link to download and fill all the required fields.
3. Upload the required PDF files by clicking the 'Upload File' button.
4. After uploading all the files, click submit for the admin to review your application.



# University of Cabuyao

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## COLLEGE OF COMPUTING STUDIES

A screenshot of a university digital platform interface. At the top, there is a header bar with the university's name and a user profile for "Daniel Matthew Benegas". Below the header is a navigation sidebar on the left containing links for "Student Activities", "Activities", "Requests", "Student Organization", "Organization", "Requests", "Scholarship Program", "Student Assistantship", "Student Discipline" (which is highlighted in green), and "Account Management". The main content area is titled "Student Discipline" and includes a sub-header "University Policies and Support". It features three buttons: "File a Complaint" (with a video camera icon), "Student Handbook" (with a book icon), and "View Referrals" (with a warning sign icon). Arrows numbered 1 through 4 point from the numbered steps in the instructions below to these respective elements.

**Student Discipline Page**

1. Click the 'Student Discipline' button to access the different features regarding student discipline matters.
2. If a student wants to submit a complaint, click the 'File a Complaint' button.
3. To view the student handbook, click the 'Student Handbook' button.
4. To view the referrals submitted by your professors, click the 'View Referrals' button.



# University of Cabuyao

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## COLLEGE OF COMPUTING STUDIES

### File a Complaint

*Student Discipline*

Sent Complaints (0) 1

← Back

#### Grievance Form

Concern:

What is your concern about? 2

Describe your concern more:

Please provide more details 3

Upload Photo (optional):

Choose File 4

Submit Complaint 5

### Student Grievance Form

1. To view your submitted complaints, click the 'Sent Complaints' button.
2. Enter a brief title of the complaint.
3. Elaborate the complaint in the field and provide details.
4. The student can submit photos for additional context by clicking the 'Choose File' button.
5. After entering all the fields, click the 'Submit Complaint' button to submit the complaint to the admin.



# University of Cabuyao

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## COLLEGE OF COMPUTING STUDIES

A screenshot of a web-based account management system. On the left is a sidebar with various student services: Student Activities, Requests, Student Organization (Organization, Requests), Scholarship Program, Student Assistantship, Student Discipline, and Account Management (highlighted with a green box). Step 1 is indicated by an arrow pointing up to the Account Management button. The main content area is titled "Account Management" and "Account Profile". It contains two sections: "Student Information" and "Change Password". Step 2 is indicated by an arrow pointing left from the "Student Information" section. Step 3 is indicated by an arrow pointing left from the "Change Password" section. Step 4 is indicated by an arrow pointing left from the "Update Password" button. The "Student Information" section displays the following details:

Student Number: 2003  
Name: Daniel Matthew Benegas  
Email: benegasdanielmatthew10@gmail.com  
Program: Bachelor of Science in Computer Science  
Department: College of Computing Studies  
Year Level: 3

The "Change Password" section includes fields for Old Password and New Password, with a note below stating: "Password must be at least 8 characters long, contain uppercase and lowercase letters, numbers, and special characters." A blue "Update Password" button is at the bottom.

### Account Management Page

1. To access the account management page, click the 'Account Management' button.
2. Users can view their account information on the 'Student Information' section.
3. To change your password, enter your old and new password. The password must be 8 characters long, contains upper case and lower case letters and special characters.
4. After entering the required fields, click the 'Update Password' button to change the password into the new one.



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## COLLEGE OF COMPUTING STUDIES

### F. Program Listing



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## COLLEGE OF COMPUTING STUDIES

### Login.php

```
<?php
require 'check_auth.php'; // Include the auth check with session start

// Include the database connection script
include '../connection.php'; // Adjust path as necessary

// Set the maximum number of login attempts and lockout duration
$maxAttempts = 3;
$lockoutDuration = 60; // 1 minute lockout

// Function to check if the user has submitted any organization application
function checkUserApplication($studentId, $conn)
{
    $sql = "SELECT COUNT(*) as count FROM orgapplication WHERE studentId = :studentId";
    $stmt = $conn->prepare($sql);
    $stmt->bindParam(':studentId', $studentId, PDO::PARAM_INT);
    $stmt->execute();
    $result = $stmt->fetch(PDO::FETCH_ASSOC);
    return $result['count'] > 0; // Returns true if there's at least one application
}

// Function to check if the user has submitted any assistantship application
function checkAssistantshipApplication($studentId, $conn)
{
    $sql = "SELECT id FROM assistants WHERE student_number = :studentId LIMIT 1";
    $stmt = $conn->prepare($sql);
    $stmt->bindParam(':studentId', $studentId, PDO::PARAM_STR); // Change
    PARAM_INT to PARAM_STR
    $stmt->execute();

    if ($stmt->rowCount() > 0) {
        $result = $stmt->fetch(PDO::FETCH_ASSOC);
        return $result['id']; // Return the application ID
    }

    return false; // No application found
}

// Function to authenticate user login
function authenticateUser($studentNumber, $password, $conn)
```



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## COLLEGE OF COMPUTING STUDIES

```
{  
    // Query to join users, students, and Organization tables based on program_id  
    $sql = "SELECT u.id, u.name, u.role, u.password, s.student_id,  
    s.student_number, d.acronym,  
    oa.orgId AS application_orgId, o.id AS organization_id  
    FROM users u  
    LEFT JOIN students s ON u.user_number = s.student_number  
    LEFT JOIN organization o ON s.program_id = o.program_id  
    LEFT JOIN orgapplication oa ON s.student_id = oa.studentId  
    LEFT JOIN department d ON o.deptId = d.id  
    WHERE u.user_number = :studentNumber";  
  
    $stmt = $conn->prepare($sql);  
    $stmt->bindParam(':studentNumber', $studentNumber);  
    $stmt->execute();  
  
    // Check if user exists  
    if ($stmt->rowCount() > 0) {  
        $row = $stmt->fetch(PDO::FETCH_ASSOC);  
        $hashedPassword = $row['password'];  
  
        // Verify password  
        if (password_verify($password, $hashedPassword)) {  
            // Password correct, set session variables for user  
            $_SESSION['user_id'] = $row['id']; // Store user ID in session  
            $_SESSION['user_role'] = $row['role']; // Store user role in session  
            $_SESSION['user_name'] = $row['name']; // Fetch user name and store it in session  
            $_SESSION['student_id'] = $row['student_id']; // Store student_id in session  
            $_SESSION['student_number'] = $row['student_number']; // Fetch student number and store it in session  
            $_SESSION['org_id'] = $row['application_orgId'] ?? $row['organization_id']; // Use orgId from orgapplication if available, else fallback to Organization id  
            $_SESSION['dept_acronym'] = $row['acronym'];  
  
            // Now pass the student's ID to checkUserApplication  
            $_SESSION['has_application'] = checkUserApplication($row['student_id'],  
$conn);  
  
            // Check if user has an assistantship application  
            $assistantshipApplicationId =  
            checkAssistantshipApplication($row['student_id'], $conn);  
            $_SESSION['has_assistantship_application'] = $assistantshipApplicationId  
            !== false; // True or false
```



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## COLLEGE OF COMPUTING STUDIES

```
$_SESSION['assistantship_application_id'] = $assistantshipApplicationId; //  
Store the application ID in the session  
  
// Reset failed attempts on successful login  
unset($_SESSION['failed_attempts']);  
unset($_SESSION['locked_until']);  
  
    return true; // Authentication successful  
} else {  
    return false; // Password incorrect  
}  
} else {  
    return false; // User not found  
}  
}  
  
// Handle form submission  
if ($_SERVER["REQUEST_METHOD"] == "POST") {  
    // Retrieve form data  
    $studentNumber = $_POST['student_number'];  
    $password = $_POST['password'];  
  
    // Check if the account is locked  
    if (isset($_SESSION['locked_until']) && time() < $_SESSION['locked_until']) {  
        $timeLeft = $_SESSION['locked_until'] - time();  
        echo json_encode(['status' => 'error', 'message' => "Account is locked. Try again in $timeLeft seconds."]);  
        exit;  
    }  
  
    // Validate if fields are not empty  
    if (empty($studentNumber) || empty($password)) {  
        // Respond with JSON  
        echo json_encode(['status' => 'error', 'message' => 'Please enter both student number and password.']);  
        exit; // Stop further execution  
    }  
  
    // Call authenticateUser function  
    $authenticated = authenticateUser($studentNumber, $password, $conn);  
  
    // Handle authentication result  
    if ($authenticated) {  
        // Prepare the redirect URL based on user role
```



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```
$redirectUrl = "";
if ($_SESSION['user_role'] == 'student') {
    $redirectUrl = 'components/students';
} elseif ($_SESSION['user_role'] == 'admin') {
    $redirectUrl = 'components/admins';
} elseif ($_SESSION['user_role'] == 'student officer' || $_SESSION['user_role']
== 'student scholar' || $_SESSION['user_role'] == 'student assistant') {
    $redirectUrl = 'components/students';
} elseif ($_SESSION['user_role'] == 'employee') {
    $redirectUrl = 'components/employees'; // Adjust this if you have an
employee index file
}

// Send success response with the redirect URL
echo json_encode(['status' => 'success', 'redirect' => $redirectUrl]);
exit; // Stop further execution
} else {
    // Increment failed attempts and check lockout condition
    if (!isset($_SESSION['failed_attempts'])) {
        $_SESSION['failed_attempts'] = 0;
    }

    $_SESSION['failed_attempts']++;

    // If the user reached max attempts, lock the account
    if ($_SESSION['failed_attempts'] >= $maxAttempts) {
        $_SESSION['locked_until'] = time() + $lockoutDuration;
        echo json_encode(['status' => 'error', 'message' => 'Too many failed
attempts. Account locked for 1 minute.']);
    } else {
        $remainingAttempts = $maxAttempts - $_SESSION['failed_attempts'];
        echo json_encode(['status' => 'error', 'message' => "Incorrect student number
or password. You have $remainingAttempts attempt(s) left."]);
    }
}
?>
```



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## COLLEGE OF COMPUTING STUDIES

### **Check\_auth.php**

```
<?php
session_start(); // Start the session

function checkAuth($requiredRole = null, $additionalRoles = []) {
    // Check if the user is authenticated
    if (!isset($_SESSION['user_id'])) {
        header("Location: http://$_SERVER[HTTP_HOST]/login");
        exit();
    }

    // Check if the user has the required role or is in the list of additional roles
    if ($requiredRole && $_SESSION['user_role'] !== $requiredRole &&
!in_array($_SESSION['user_role'], $additionalRoles)) {
        // Set an error message in session
        $_SESSION['error_message'] = "You do not have permission to access this
page./";

        // Redirect to error page
        header("Location:
http://$_SERVER[HTTP_HOST]/PHP/SASD/THESIS/components/error_auth.php");

        exit();
    }
}
?>
```

### **Activities\_calendar.php**

```
<?php
require '../../../check_auth.php'; // Include the auth check
// Call the function to enforce authentication with dynamic role
checkAuth("student", ["student officer", "student scholar", "student assistant"]);

$user_role = $_SESSION['user_role'] ?? 'student';
?>

<!DOCTYPE html>
<html>

<head>
    <!-- Bootstrap CSS and JS -->
    <link rel="stylesheet" href="../assets/css/style.css">
```



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## COLLEGE OF COMPUTING STUDIES

```
<link rel="icon" href="../assets/img/UC.png" sizes="16x16" type="image/png">
<link rel="stylesheet"
      href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" />
<script
      src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
<title>SASD: Student Affairs and Services Development Management
System</title>
<!-- Updated to local JS FullCalendar --&gt;
&lt;script src="../vendor/fullcalendar-6.1.15/dist/index.global.min.js"&gt;&lt;/script&gt;

&lt;script&gt;
  var userRole = '&lt;?php echo $user_role; ?&gt;'; // Use PHP to echo the role into a JS
variable
&lt;/script&gt;
&lt;/head&gt;

&lt;body&gt;
&lt;div class="banner-header"&gt;
  &lt;div class="banner-header-container"&gt;
    &lt;i class="bi bi-calendar4-week icon-style"&gt;&lt;/i&gt;
    &lt;div class="header-title text-white"&gt;
      &lt;h3&gt;Student Activities&lt;/h3&gt;
      &lt;p class="fst-italic"&gt;S.Y. 2024-2025&lt;/p&gt;
    &lt;/div&gt;
  &lt;/div&gt;
&lt;/div&gt;

&lt;div class="row"&gt;
  &lt;div class="col-lg-12"&gt;
    &lt;div class="header"&gt;
      &lt;!-- Conditionally hide the button based on user role --&gt;
      &lt;button id="add-event-btn" class="add-event-btn"&gt;
        &lt;i class="bi bi-calendar2-plus"&gt;&lt;/i&gt;
        Add Event
      &lt;/button&gt;
    &lt;/div&gt;
    &lt;div id="calendar"&gt;&lt;/div&gt;
  &lt;/div&gt;
&lt;/div&gt;

&lt;!-- Add Event Modal --&gt;
&lt;div class="modal fade" id="addEventModal" tabindex="-1" aria-
labelledby="addEventModalLabel" aria-hidden="true"&gt;</pre>
```



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```
<div class="modal-dialog">
  <div class="modal-content">
    <div class="modal-header">
      <h1 class="modal-title fs-5" id="addEventModalLabel">Add Event</h1>
      <button type="button" class="btn-close" data-bs-dismiss="modal" aria-
label="Close"></button>
    </div>
    <div class="modal-body">
      <form id="addEventForm" enctype="multipart/form-data">

        <div class="form-group mb-3">
          <label>Event Title</label>
          <input type="text" class="form-control" id="eventName" name="eventName"
        />
        </div>

        <div class="form-group mb-3">
          <label>Description</label>
          <textarea class="form-control" id="eventDescription"
name="eventDescription" rows="3" style="resize: vertical"></textarea>
        </div>

        <div class="form-group mb-3">
          <label>Start Date</label>
          <input type="date" class="form-control" id="eventStartDate"
name="eventStartDate" />
        </div>

        <!-- new field -->
        <div class="form-group mb-3">
          <label>Number of Days</label>
          <input type="number" class="form-control" id="eventDurationDays"
name="eventDurationDays" min="1" />
        </div>

        <div class="form-group mb-3">
          <label>Venue</label>
          <input type="text" class="form-control" id="eventVenue"
name="eventVenue" />
        </div>

        <div class="form-group mb-3">
          <div class="time-label">
            <label>Start Time</label>
```



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```
<label>End Time</label>
</div>
<div class="time-input">
    <input type="time" class="form-control" id="eventStartTime"
name="eventStartTime" />
    <input type="time" class="form-control" id="eventEndTime"
name="eventEndTime" />
    </div>
</div>

<!-- Added request letter field -->
<div class="form-group mb-3">
    <label>Request Letter</label>
    <textarea class="form-control" id="eventRequestLetter"
name="eventRequestLetter" rows="5" style="resize: vertical"></textarea>
</div>

</form>
</div>
<div class="modal-footer">
    <button type="button" class="btn btn-secondary" data-bs-
dismiss="modal">Close</button>
    <button type="button" class="btn btn-primary" id="addEventButton">
        Add Event
    </button>
    </div>
</div>
</div>

<!-- Response Modal -->
<div class="modal fade" id="responseModal" tabindex="-1" role="dialog" aria-
labelledby="responseModalLabel" aria-hidden="true">
    <div class="modal-dialog" role="document">
        <div class="modal-content">
            <div class="modal-header">
                <h5 class="modal-title" id="responseModalLabel">Response</h5>
                <button type="button" class="btn-close" data-bs-dismiss="modal" aria-
label="Close"></button>
            </div>
            <div class="modal-body" id="responseModalBody">
                <!-- Response message will be injected here -->
            </div>
            <div class="modal-footer">
```



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

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```
<button type="button" class="btn btn-secondary" data-bs-
dismiss="modal">Close</button>
</div>
</div>
</div>
</div>

<!-- Confirmation Modal --&gt;
&lt;div class="modal fade" id="confirmModalAddEvent" tabindex="-1" role="dialog"
aria-labelledby="confirmModalLabel" aria-hidden="true"&gt;
&lt;div class="modal-dialog" role="document"&gt;
&lt;div class="modal-content"&gt;
&lt;div class="modal-header"&gt;
&lt;h5 class="modal-title" id="confirmModalLabel"&gt;Confirm Action&lt;/h5&gt;
&lt;button type="button" class="btn-close" data-bs-dismiss="modal" aria-
label="Close"&gt;&lt;/button&gt;
&lt;/div&gt;
&lt;div class="modal-body"&gt;Are you sure you want to perform this
action?&lt;/div&gt;
&lt;div class="modal-footer"&gt;
&lt;button type="button" class="btn btn-secondary" data-bs-
dismiss="modal"&gt;Cancel&lt;/button&gt;
&lt;button type="button" class="btn btn-primary confirm-
action"&gt;Confirm&lt;/button&gt;
&lt;/div&gt;
&lt;/div&gt;
&lt;/div&gt;

<!-- Spinner --&gt;
&lt;div id="spinnerOverlay" style="display: none; position: fixed; top: 0; left: 0; width:
100%; height: 100%; z-index: 9999; text-align: center;"&gt;
&lt;div class="spinner-border text-success" role="status" style="width: 6rem; height:
6rem; margin-top: 20%;"&gt;
&lt;span class="visually-hidden"&gt;Loading...&lt;/span&gt;
&lt;/div&gt;
&lt;/div&gt;

&lt;script src="https://code.jquery.com/jquery-3.5.1.min.js"&gt;&lt;/script&gt;
&lt;script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"&gt;&lt;/
script&gt;

&lt;script&gt;</pre>
```



# University of Cabuyao

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```
$(document).ready(function() {
    // Check localStorage for last visited page
    var lastPage = localStorage.getItem("lastVisitedPage");

    var addEventModal = new
bootstrap.Modal(document.getElementById('addEventModal'));
    var confirmModalAddEvent = new
bootstrap.Modal(document.getElementById('confirmModalAddEvent'));
    var responseModal = new
bootstrap.Modal(document.getElementById('responseModal'));

    // Function to display events
    display_events();

    // List of roles that should hide the add button
    const rolesToHide = ['student', 'student scholar', 'student assistant'];

    // Hide the add button if the user role matches any in the list
    if (rolesToHide.includes(userRole)) {
        $('#add-event-btn').hide();
    }

    // Function to disable past dates for start date
    function disablePastDates() {
        const today = new Date().toISOString().split('T')[0]; // Get today's date in YYYY-
MM-DD format
        $('#eventStartDate').attr('min', today);
    }

    disablePastDates();

    $('#add-event-btn').on('click', function() {
        addEventModal.show();
    });

    $("#addEventButton").on("click", function() {
        var formData = new FormData($("#addEventForm")[0]);

        const requiredFields = [
            "#eventName",
            "#eventDescription",
            "#eventStartDate",
            "#eventDurationDays",
            "#eventTime"
        ];
        ...
    });
});
```



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### G. User's Acceptance Certificate



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(PAMANTASAN NG CABUYAO)

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Republic of the Philippines  
**Pamantasan ng Cabuyao**  
(UNIVERSITY OF CABUYAO)  
College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025



### USER'S ACCEPTANCE CERTIFICATE

This is to certify that the Research of the following students, Justine Jay P. Dacocos, Harold P. Galang, Gelvi Ryan P. Rosaria, entitled Web-based Student Affairs and Services Department Management System with File Encryption, was accepted in our company/establishment for deployment effective now.

  
**ENGR. FLORANTE M. ANDAYA**  
Director, Student Affairs and Services Department  
(Signature over Printed Name)

**FOR THE HOST-COMPANY (Please fill out):**

Name of Company: Student Affairs & Services Department  
Address: Bonay Banay Cabuyao City  
Name of Supervisor: Engr. Florante M. Andaya  
Position: Director  
Contact Number/s: 09213184701 Fax No.:   
E-mail Address: fmandaya@pnc.edu.ph

I agree to the collection and processing of my data for the purpose of facilitating the Capstone Project of Pamantasan ng Cabuyao interns. I understand that my personal information is protected by RA 10173, Data Privacy Act of 2012, and that I am required to provide truthful information.



**University of Cabuyao**  
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**H. Short report of Plagiarism Software**



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

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### Similarity Report

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Title: Web-based Student Affairs and Services Department Management System with File Encryption  
Author(s): Dacocos Justine Jay Coordinator: Asst. Prof. Arcelito Quiatchon  
Organizational unit: CCS

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2	<a href="https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf">https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf</a>	36	0.15 %
3	<a href="https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf">https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf</a>	35	0.15 %
4	<a href="https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf">https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf</a>	35	0.15 %
5	<a href="https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf">https://elarta.tntu.edu.ua/bitstream/lib/41813/1/2023_KRB_SNs-41_Vyrsta_VM.pdf</a>	35	0.15 %
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9	<a href="http://repository.usd.ac.id/46196/1/9519_Exploring%2BEFL%2BTeacher%25E2%2580%2599s%2BAgency%2Band%2BSelf-efficacy.pdf">http://repository.usd.ac.id/46196/1/9519_Exploring%2BEFL%2BTeacher%25E2%2580%2599s%2BAgency%2Band%2BSelf-efficacy.pdf</a>	23	0.10 %
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4	Optimizing Educational Institutions: Web-Based Document Management Melissa Indah Fianty,Muhammad Hanif Triyana;	6 (1)	0.03 %
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3	<a href="https://pdfs.semanticscholar.org/13a6/40d543ad6d8b5d0443541be9bf26398049.pdf">https://pdfs.semanticscholar.org/13a6/40d543ad6d8b5d0443541be9bf26398049.pdf</a>	56 (5)	0.24 %
4	<a href="https://privacy.gov.ph/wp-content/uploads/2023/05/NPC-18-142-MSH-vs-TCC.pdf">https://privacy.gov.ph/wp-content/uploads/2023/05/NPC-18-142-MSH-vs-TCC.pdf</a>	43 (2)	0.18 %
5	<a href="http://math.bu.edu/people/szczesny/Teaching/242S13/sec1_2ov.pdf">http://math.bu.edu/people/szczesny/Teaching/242S13/sec1_2ov.pdf</a>	42 (7)	0.16 %
6	<a href="https://www.perforce.com/blog/gac/what-is-iso-25010">https://www.perforce.com/blog/gac/what-is-iso-25010</a>	40 (3)	0.17 %
7	<a href="https://www.grandviewresearch.com/industry-analysis/event-management-software-market-report">https://www.grandviewresearch.com/industry-analysis/event-management-software-market-report</a>	35 (4)	0.15 %
8	<a href="https://revistas.unsm.edu.pe/index.php/rksi/article/view/521">https://revistas.unsm.edu.pe/index.php/rksi/article/view/521</a>	31 (1)	0.13 %
9	<a href="https://www.irit.fr/recherches/lCS/projects/twintide/upload/435.pdf">https://www.irit.fr/recherches/lCS/projects/twintide/upload/435.pdf</a>	26 (2)	0.11 %
10	<a href="http://elartu.tntu.edu.ua/bitstream/lib/31254/2/MR_SemeniukVV2.pdf">http://elartu.tntu.edu.ua/bitstream/lib/31254/2/MR_SemeniukVV2.pdf</a>	23 (3)	0.10 %
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14	<a href="https://www.joiv.org/index.php/joiv/article/download/2336/773">https://www.joiv.org/index.php/joiv/article/download/2336/773</a>	22 (2)	0.09 %
15	<a href="https://discovery.researcher.life/article/neural-network-based-data-encryption-a-comparison-study-among-des-aes-and-he-techniques/06ee10dea5bf3ce49ba2f005580c7057">https://discovery.researcher.life/article/neural-network-based-data-encryption-a-comparison-study-among-des-aes-and-he-techniques/06ee10dea5bf3ce49ba2f005580c7057</a>	21 (2)	0.09 %
16	<a href="https://mafiadoc.com/proceedings_5c5b6de6097c4799288b45e8.html">https://mafiadoc.com/proceedings_5c5b6de6097c4799288b45e8.html</a>	20 (3)	0.08 %
17	<a href="https://essuir.sumdu.edu.ua/bitstream/123456789/98558/1/Novikova_bac_rob.pdf">https://essuir.sumdu.edu.ua/bitstream/123456789/98558/1/Novikova_bac_rob.pdf</a>	19 (2)	0.08 %
18	<a href="https://www.studocu.com/ph/document/sorsogon-national-high-school/education-major-in-english/local-media-4257466545935359909/79928648">https://www.studocu.com/ph/document/sorsogon-national-high-school/education-major-in-english/local-media-4257466545935359909/79928648</a>	18 (2)	0.08 %
19	<a href="http://repo.darmajaya.ac.id/797/8/1/ampiran%20%28Coding%20program%29.pdf">http://repo.darmajaya.ac.id/797/8/1/ampiran%20%28Coding%20program%29.pdf</a>	18 (3)	0.08 %
20	<a href="https://dukti.edu.ua/repozitorii/pz/2023/%D0%9F%D0%94%2041/%D0%9A%D0%BE%D0%B2%D0%9B%D0%BB%D0%85%D0%9C%D1%81%D1%8C%D0%BA%D0%B0%20%D0%AE.%20%D0%A1%20.pdf">https://dukti.edu.ua/repozitorii/pz/2023/%D0%9F%D0%94%2041/%D0%9A%D0%BE%D0%B2%D0%9B%D0%BB%D0%85%D0%9C%D1%81%D1%8C%D0%BA%D0%B0%20%D0%AE.%20%D0%A1%20.pdf</a>	18 (1)	0.08 %
21	<a href="https://jeeecs.iaescore.com/index.php/IJEECS/article/download/21732/14213">https://jeeecs.iaescore.com/index.php/IJEECS/article/download/21732/14213</a>	17 (3)	0.07 %
22	<a href="https://techcolleague.com/sha-vs-aes/">https://techcolleague.com/sha-vs-aes/</a>	17 (2)	0.07 %
23	<a href="https://journals.pnu.ac.ir/article_7244.html">https://journals.pnu.ac.ir/article_7244.html</a>	17 (2)	0.07 %
24	<a href="https://essuir.sumdu.edu.ua/bitstream/123456789/88940/1/Gagenko_bac_rob.pdf">https://essuir.sumdu.edu.ua/bitstream/123456789/88940/1/Gagenko_bac_rob.pdf</a>	15 (2)	0.06 %
25	<a href="https://dev.to/feolwaisaiah/simplifying-api-calls-and-promises-with-asyncawait-in-javascript-2ida">https://dev.to/feolwaisaiah/simplifying-api-calls-and-promises-with-asyncawait-in-javascript-2ida</a>	14 (1)	0.06 %
26	<a href="https://stackoverflow.com/questions/23593052/format-javascript-date-as-yyyy-mm-dd">https://stackoverflow.com/questions/23593052/format-javascript-date-as-yyyy-mm-dd</a>	12 (2)	0.05 %
27	<a href="http://icmai.in/upload/Students/Syllabus-2012/Study_Material_New/Inter-Paper9.pdf">http://icmai.in/upload/Students/Syllabus-2012/Study_Material_New/Inter-Paper9.pdf</a>	6 (1)	0.03 %
28	<a href="https://core.ac.uk/download/pdf/323525691.pdf">https://core.ac.uk/download/pdf/323525691.pdf</a>	5 (1)	0.02 %

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(PAMANTASAN NG CABUYAO)

**COLLEGE OF COMPUTING STUDIES**

**I. Curriculum Vitae**



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES



### CONTACT

- ✉ dacocosjustine@gmail.com
- 📞 09561807490
- 📍 Butong, Cabuyao, Laguna

### EXPERTISE

#### Hard Skills

- Graphic Design
- Video Editing
- Workflow Automation
- Web Design using Figma, GoHighLevel
- Programming Languages PHP, Laravel, Vue
- Database Management MySQL and SQL Server Management

#### Soft Skills

- Project Management
- Creative Direction
- Client Communication
- Leadership
- Attention to Detail
- Problem Solving
- Community Engagement

### REFERENCES

**Asst. Prof. Arcelito C. Quiatchon**  
IT Department Chair  
Pamantasan ng Cabuyao  
09053172709



PNC:AA-FO-27 rev.0 02012023

## JUSTINE JAY P. DACOCOS

A passionate IT professional and graphic designer with expertise in web development, graphic design, and digital marketing. I have designed and launched dynamic websites, automated workflows, and created visually compelling marketing assets for various businesses. I thrive on combining creativity with technical precision to deliver impactful solutions. My leadership experience in student organizations has further honed my skills in project management, client communication, and community engagement.

### EDUCATION

**Bachelor of Science in** 2020-2025

**Information Technology**

Pamantasan ng Cabuyao (University of Cabuyao)

**Upper Secondary (SHS)**

2018-2020

STI Santa Rosa

- With Honors

**Secondary**

2014-2018

Hosanna Technological School of Arts and Sciences

- With Honors

**Elementary**

2013

Jeremiah Montessori School

- With Honors

### WORK EXPERIENCE

**Digital Marketing Designer**

2024

Ideal Design Solutions

- Launched websites and automated client communication workflows for various businesses using GoHighLevel and designed a wide range of marketing assets, including logos, promotional videos, and social media content etc.

**Graphic Designer**

2024

Blueberry Eleven Inc.

- Designed layouts and page elements for university yearbooks, managing and optimizing data for over 4000+ students.

### LATEST SEMINAR ATTENDED

#### College of Computing Studies

21<sup>st</sup> Century Soft Skill & Standard Labor Education

- December 6, 2024

#### DEVCON Laguna Chapter

"The Fusion of AI and Blockchain: Unleashing New Frontiers in Technology

- June 24, 2024



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

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### CONTACT

✉ galangharold56@gmail.com  
📞 09198101696  
📍 578 Purok 4, Brgy. Gulod, Cabuyao City, Laguna

### TECHNICAL SKILLS

- Creative Web Design
- Front End Developer
- Video Editing
- Graphic Designing



PNC:AA-FO-27 rev.0 02012023

## HAROLD P. GALANG

Specializes in front-end developing, graphic designing, video editing. I find interest in digital arts and wanting to explore new things one of that is 3d modeling and currently an aspiring music producer. Posses' skillset in terms of creative designing. Provide support for coworkers as a team and satisfaction to clients.

### EDUCATION

#### Bachelor Program

Pamantasan ng Cabuyao (University of Cabuyao)

2021 - Present

#### Upper Secondary

Citi Global College

2018 - 2020

#### Lower Secondary

Gulod National Highschool

2014 - 2018

#### Elementary

School

2007 - 2014

- Grade School 5<sup>th</sup> Top Class

### WORK EXPERIENCE

#### Inbound Quality Checker

Lazada e-Logistics

2020

#### Customer Service Representative

ShoppingSpree

2020

### LATEST SEMINAR ATTENDED

#### Pamantasan ng Cabuyao

Mental Health Awareness Month Webinar

- November 8, 2024

#### TESDA and Telecall Laguna

Training for Work Scholarship Program – Creative Web Design

- July 4, 2023



# University of Cabuyao

(PAMANTASAN NG CABUYAO)

## COLLEGE OF COMPUTING STUDIES



### CONTACT

✉ rosariagelvi07@gmail.com  
📞 09292059295  
📍 Blk 34 Lot 17 Mabuhay  
City, Mamatid, Cabuyao,  
Laguna

### EXPERTISE

- Logical Thinker
- Structured Development
- Communication skill
- Web Development
- Adaptability

### REFERENCES

#### MR. WILLIAM LOPEZ

Pastry chef (Tinapay Corner)  
0917-760-1296

#### MR. BERNARD MELANDRES

Staff (Paseo Uno De Calamba)  
0947-824-4211



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## GELVI RYAN P. ROSARIA

A highly dedicated and detail-oriented Junior Developer with a strong passion for web development, both front-end and back-end. I thrive on step-step process of development, ensuring consistency and quality in every project. I possess experience in various programming language, like Java, PHP, and python.

### EDUCATION

#### Bachelor of Science Major in Information Technology

Pamantasan ng Cabuyao

2025

#### Secondary

Gulod National High School

2018

#### Elementary

San Isidro Elementary School

2014

### WORK EXPERIENCE

#### Handover

Lazada eLogistics Philippines

2023

- Indicate your accomplishments

#### Kitchen crew

Generation One Resource Service (Jollibee)

2022

- Early Bee award
- Best fry award
- Most improved crew

### LATEST SEMINAR ATTENDED

#### Organization

Computer Literacy Program  
• 2018

Creative Web Design  
• 2024