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Online Student Portal

**A Capstone Study
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Bachelor of Science in Information Technology**

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Chapter 1

Problem and its Background

Introduction

In today's digital era, the education sector is continuously evolving to meet the growing expectations of students, faculty, and administrators. One of the key expectations in modern academic institutions is the efficient delivery of student services and real-time access to academic information. However, many schools still rely on manual, paper-based processes and disconnected systems, which often lead to inefficiencies, data inconsistencies, and limited accessibility. As a result, students may experience delays in accessing their grades or financial records, while school administrators struggle with time-consuming data management tasks.

To address these challenges, this study proposes the development of a centralized Online Student Portal System, designed to streamline core academic functions through two main components: the Student Dashboard and the Admin Panel. The portal aims to eliminate redundant processes by allowing students to conveniently view their grades, enrolled subjects, tuition balances, and the academic calendar in one platform. At the same time, it empowers administrators with tools to manage student records, subject schedules, and academic transactions in an organized and efficient manner.

By shifting to a centralized, web-based system, the proposed portal will significantly reduce the need for in-person inquiries, paper-based submissions, and manual record-keeping. This transition is expected to enhance transparency, minimize human error, and improve the overall experience for both students and administrative staff. Ultimately, the Online Student Portal System serves as a practical step toward digital transformation in education, aligning institutional operations with modern technological standards while promoting accessibility, accuracy, and operational efficiency.



Background of the Problem

General Problem: Lack of a Centralized Platform for Academic Information and Student Services

In many academic institutions, student services are still managed through manual or semi-digital systems that require students and administrators to interact with multiple departments to access or update information. For example, students may have to visit the registrar's office to inquire about grades, approach the accounting department for tuition balances, and consult bulletin boards or classroom advisers for academic calendars and schedules. These disconnected processes not only cause inconvenience to students but also place a heavy administrative burden on school personnel, who are tasked with maintaining and updating records across various systems.

Specific Problem

- **Limited Student Access to Information:** Students often have no single point of access to their academic and financial records. Without a centralized system, they must rely on face-to-face transactions or wait for official releases, which can delay decision-making related to their academic progress or financial responsibilities. In urgent situations—such as applying for scholarships, transferring schools, or preparing for graduation—these delays can have significant consequences.
- **Inefficiency in Administrative Workflows:** Administrative staff typically handle large volumes of student data using spreadsheets, printed forms, or isolated desktop applications. This approach requires repeated data entry, verification, and manual monitoring, which is both time-consuming and error-prone. Simple tasks like updating a student's grade or schedule can take hours or even days, especially during peak periods like enrollment or semester-end processing.
- **Increased Risk of Human Error and Data Loss:** With information scattered across various departments and handled manually, the risk of inconsistencies or data loss increases. For instance, a student's grade may be incorrectly recorded,



a tuition balance may not reflect the latest payment, or a schedule change may not reach the student on time. These errors undermine the credibility of the institution and may lead to student dissatisfaction or disputes.

- **Lack of Centralization and Transparency:** Without a unified portal, both students and administrators lack a comprehensive view of academic records. There is no system-wide visibility of student progress, financial obligations, or upcoming academic events. This lack of transparency can lead to miscommunication, missed deadlines, and reduced engagement from students.

Overview of the Current State of the Technology

In many educational institutions, the management of academic information and student services remains largely manual and decentralized. Key student-related processes—such as checking grades, reviewing enrolled subjects, verifying tuition balances, and accessing academic calendars—are often handled through separate departments. Students are typically required to make physical visits or submit paper-based requests to access this information, leading to delays, confusion, and dissatisfaction.

Furthermore, because there is no centralized platform in place, communication between students and school offices is limited. Announcements about schedule changes, important dates, or tuition deadlines may be delayed or missed entirely due to reliance on manual posting or verbal dissemination. This lack of real-time communication further reduces institutional responsiveness and affects the overall academic experience.

In summary, the current system lacks integration, automation, and accessibility. Students have limited access to critical academic and financial information, and school staff struggle with time-consuming, repetitive administrative tasks. These issues underscore the need for a centralized Online Student Portal System that offers both a Student Dashboard and an Admin Panel to streamline access, improve accuracy, and enhance communication within the academic community.



Objectives of the Study

General Objective: Online Student Portal

The primary goal of this study is to develop a centralized Online Student Portal System that will significantly enhance both student and administrative experiences within an academic institution. This system is intended to serve as an all-in-one platform that enables students to conveniently access essential academic information—such as their grades, enrolled subjects, tuition balances, and the academic calendar—without the need for physical visits or manual requests.

In parallel, the system will also empower administrative staff through a dedicated admin panel that allows for the efficient management of student records, subject schedules, and academic transactions. By automating these tasks and consolidating data into a single, web-based system, the portal will minimize human error, reduce processing time, and improve data accuracy and consistency across departments.

Specific Objective

- **To develop a student dashboard that allows real-time access to academic information.** This objective aims to provide students with a user-friendly online dashboard where they can easily view their grades, enrolled subjects, tuition balances, and the academic calendar. By integrating these key data points in a single platform, students will no longer need to physically visit multiple departments or wait for printed notices to obtain essential academic information. This promotes transparency, convenience, and self-service access.
- **To design an admin panel for efficient student data management.** This objective addresses the need for school administrators to manage academic records more efficiently. The admin panel will enable authorized personnel to update student profiles, encode grades, manage subject schedules, and oversee tuition-related transactions in a streamlined and centralized manner. This will reduce the reliance on spreadsheets and paper records, minimize human errors, and shorten the time needed for processing academic data.



- **To centralize student academic and financial records into one system.** This objective focuses on eliminating fragmented record-keeping by consolidating all relevant student data—such as academic performance, subject loads, schedules, and financial balances—into a unified platform. This centralization will allow both students and administrators to retrieve accurate information instantly, improve consistency across departments, and support better academic planning and reporting.
- **To improve institutional transparency and communication through timely digital updates.** This objective targets the problem of delayed or unclear communication between the school and its students. The system will provide timely and automated updates regarding grades, subject assignments, tuition status, and calendar announcements through the portal. This ensures that students are consistently informed about their academic responsibilities and institutional schedules without relying solely on physical bulletin boards or manual notices.

Key Features of the System

Student Dashboard

- View grades by semester or subject
- Check current and past enrolled subjects
- Monitor tuition balance and payment status
- Access the academic calendar

Admin Panel

- Manage and update student profiles and records
- Set and adjust subject schedules
- Monitor and process academic transactions (e.g., grade submissions, tuition updates)

Scope

1. User Access and Management



- Role-Based Login Authentication
 - Admin
 - Student
- Two-Factor Authentication (2FA)
- Password Recovery

2. Student Dashboard (Frontend Module)

- **Dashboard Overview**
 - View real-time system notifications
 - Display today's class schedule
- **Account/Profile Management**
 - Edit personal information (e.g., contact number, email)
 - Upload or change profile photo
 - Change password
 - Add or update email address
- **Grades Viewer**
 - View individual subject grades
 - View grades by semester
 - View General Weighted Average (GWA) per semester or academic year
- **Class Schedule Viewer**
 - View list of enrolled subjects
 - View subject schedules including days, time, and room assignments
- **Tuition Balance Inquiry**
 - View total assessed fees
 - View current outstanding balance
 - View due dates for payments
- **Academic Calendar Viewer**
 - Access official academic calendar
 - View dates for enrollment, exams, holidays, and deadlines

3. Admin Panel (Backend Module)



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- **User and Role Management**
 - Create, view, and manage user accounts
 - Assign role-based permissions (Admin, Student)
- **Student Records Management**
 - Add, update, or deactivate student profiles
 - View student information including course, year level, and contact details
- **Grade Management**
 - Input, edit, and verify grades
 - Finalize and publish grades for student viewing
- **Subject and Schedule Management**
 - Add, edit, and assign subjects
 - Set up class schedules and link subjects to instructors
- **Tuition and Balance Management**
 - Assess tuition fees per student
 - Record and update payment transactions
 - Adjust and reflect outstanding balances in the student dashboard
- **Academic Calendar Setup**
 - Define institutional academic calendar
 - Publish official schedules to the student dashboard

Limitation

- **No Online Enrollment Feature:** The system does not support online subject selection or enrollment. Students will still need to enroll manually or through existing institutional procedures. The portal only displays currently enrolled subjects but does not allow students to modify or add them.
- **No Online Payment or Billing Gateway:** Although students can view their tuition balances, the system does not support online payment processing, such as debit/credit card transactions, mobile banking, or integration with payment



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platforms like GCash. All tuition payments must still be made through the institution's cashier or designated channels.

- **No Document Request or Issuance Module:** The system does not support online requests or issuance of academic documents such as transcripts of records (TOR), certificates of enrollment, or good moral certificates. These services remain manual and must be requested through traditional office procedures.
- **No Messaging or Notification System:** There is no built-in messaging feature for communication between students and administrators, nor does the system send notifications for new grades, schedule changes, balance updates, or calendar events. Users must manually check the portal for updates.
- **No Mobile App Version:** The system is currently designed for web browsers only and does not include a dedicated mobile application. While it may be accessible via mobile browsers, full responsiveness and mobile optimization are not guaranteed in this version.
- **No Attendance or Learning Management System (LMS) Integration:** The system does not track class attendance, handle assignment submissions, or support online learning features such as quizzes, modules, or class discussions.
- **Limited Editing Rights for Students:** Students can only update limited fields in their profile (e.g., contact information, profile photo). Critical data such as full name, course, year level, and student number must be updated by an administrator and are locked from student-side editing.
- **No Real-Time Chat or Support System:** There is no live support feature or chatbot integration for technical help or real-time inquiry handling. Technical support must be addressed through external or existing institutional communication channels.
- **No Audit Trail or Activity Logging:** The system does not include a built-in audit trail feature to track changes made by users, such as who updated grades or edited a student record. This limits accountability in data handling.



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- **No Multi-Language or Accessibility Features:** The portal is available in English only and does not support additional languages or accessibility tools for users with visual, auditory, or cognitive impairments.
- **No External API or System Integration:** The current version is a standalone system. It does not integrate with existing school information systems, financial systems, or government databases. All data must be entered and maintained within the portal manually.