

**SYSTEM MANAGEMENT FOR THE BSIT DEPARTMENT
OF STRATFORD INTERNATIONAL SCHOOL**



In Partial Fulfilment of the Requirements in Capstone Project and Research I
Bachelor of Science in Information Technology

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Abstract

This study focused on the development and evaluation of a Web-Based IT Management System designed for the BSIT Department of Stratford International School to address the need for a centralized, secure, and accessible information portal. Utilizing a Rapid Application Development (RAD) framework and a multi-layered architecture including a PHP-based logic layer and a MySQL database—the system integrates Role-Based Access Control (RBAC) to ensure data privacy and departmental compliance. The system was evaluated by a total of 15 respondents, consisting of six Administrators/Major Officers and nine BSIT Students, using a 5-point Likert scale instrument. Statistical analysis revealed a Grand Total Mean of 4.32, which is interpreted as Strongly Agree, indicating high levels of effectiveness across all domains, including functional efficiency, technical reliability, and user experience. The findings confirm that the system provides a robust solution for departmental governance while significantly improving information accessibility for the student body.

Keywords: Web-Based Management System, BSIT Department, Rapid Application Development (RAD), Role-Based Access Control (RBAC), Information Accessibility, Weighted Mean, MySQL Database.

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CHAPTER I

Introduction

In a tech-driven environment like BSIT, sticking to manual methods presents a significant challenge. Currently, the BSIT Department at Stratford International School manages its core functions – monitoring lab equipment, tracking student attendance, and maintaining faculty records – using outdated methods. These include paper logs and disconnected spreadsheets. While these approaches may have sufficed previously, they fall short for a department aiming to embrace technological advancement.

The core problem is fragmentation. When information is scattered across various folders or managed by different individuals without a central hub, staying organized becomes a challenge. A treasurer, for instance, might update an inventory list before the admin has a chance to see it, or attendance records could go missing, leading to inaccuracies in departmental reports. This lack of synchronization leads to avoidable delays and increases the likelihood of errors. The solution lies in moving away from manual tracking and embracing a web-based management system.

By consolidating departmental data into a unified, secure platform, we can eliminate existing information silos. This integrated system is essential for several reasons: it establishes accountability through role-based access, ensures data integrity via a centralized database, and accelerates report generation through automation. The primary objective of this research is to develop a digital infrastructure that effectively represents the BSIT department. Consequently, this will demonstrate our commitment not only to technology education but also to its practical application in enhancing our school's community.

Statement of the Problem

The BSIT Department of Stratford International School currently faces challenges in managing departmental records and IT laboratory assets due to a lack of a centralized, secure digital platform. Manual methods of tracking inventory and academic data often lead to inconsistencies, data redundancy, and a higher risk of unauthorized access or accidental modification of sensitive information.

Specifically, this study seeks to answer the following questions:

1. How can the system be developed using the RAD model to ensure the final product accurately mirrors the actual workflows of the BSIT Admin and Officers?
2. How well does the RBAC hierarchy keep unauthorized users from accessing data while still letting different user roles have a smooth experience?
3. What is the level of user acceptance and perceived usefulness of the system in terms of reducing manual errors and improving the speed of departmental transactions?

Objectives of the Study

The primary goal of this research is to develop, implement, and evaluate a secure System Management for the BSIT Department of Stratford International School that centralizes departmental records and IT laboratory inventory, featuring a hierarchical access system that ensures data integrity and operational efficiency for the BSIT department.

Specific Objectives:

1. To design and build the system using the RAD model through iterative prototyping to meet departmental needs.
2. To program an RBAC hierarchy that secures data while providing a seamless interface for different user roles.

3. To evaluate the system's user acceptance and utility in improving departmental record-keeping speed and accuracy.

CHAPTER II

Review Related Literature

This chapter presents the relevant literature and studies that provide the theoretical and technical foundation for the development of the System Management for the BSIT Department of Stratford International School.

Management Information Systems (MIS)

A Management Information System (MIS) is a critical tool for organizational problem-solving that transforms raw data into useful information. In an educational setting, centralizing departmental records eliminates the inefficiencies and human errors found in manual, paper-based tracking. This is supported that the quality of such systems directly impacts organizational performance; when a system accurately handles inventory and records, it enhances the overall productivity of the department and ensures that resources are managed more effectively (Al-Mamary et al., 2014).

Automated Inventory Control

The transition from manual to automated systems is essential for modern institutions. Argues that web-based platforms offer superior accessibility and time efficiency, providing real-time documentation that manual spreadsheets cannot match. By digitizing the tracking of IT laboratory assets, schools can monitor the condition and location of equipment instantaneously. This automation ensures that departmental heads have a clear view of their resources, preventing the over-ordering or loss of critical technology tools (Setyawati, 2021).

Efficiency in Reporting

It emphasizes that automating departmental reports can save significant administrative time—up to ten hours a month—by allowing one-click generation of inventory audits. Manual reporting often involves consolidating multiple paper logs, which are prone to data entry errors and delays. An automated web system ensures that reports are generated directly from the live database, providing the BSIT department with instant, accurate summaries for faculty meetings or accreditation audits (Taylor, n.d.).

Security through Role-Based Access Control (RBAC)

To protect sensitive school data, advocate for the use of Role-Based Access Control (RBAC). Their research suggests that assigning permissions to roles (such as the Admin and 5 Major Officers) rather than individuals simplifies security management. This hierarchical approach ensures that users only access the specific modules required for their jobs. By limiting write/edit access to only five authorized officers, the system prevents unauthorized tampering and ensures that the system remains a single source of truth for departmental data (Kuhn, 2021).

Legal Compliance and Data Privacy

In the local context, the National Privacy Commission highlights the importance of the Data Privacy Act (RA 10173). Philippine schools are legally required to implement technical safeguards to protect student and faculty information. A web-based system with restricted access levels serves as a primary defence against data breaches. By ensuring that only the 5 Major Officers can modify sensitive information, the BSIT department fulfils its legal obligation to maintain data integrity and confidentiality in accordance with national standards (National Privacy Commission, 2022).

Rapid Application Development (RAD) Framework

The development of this system follows the Rapid Application Development (RAD) model, which is defined as a methodology focusing on iterative prototyping and constant user feedback. Unlike traditional models, RAD allows the Admin and 5 Major Officers to test early versions of the system and suggest refinements. This iterative process ensures that the software is tailored specifically to the unique needs of Stratford International School, rather than being a generic, one-size-fits-all solution (Sommerville, 2021).

Prototyping and User Design

The prototyping phase is crucial for bridging the gap between developer ideas and user expectations. By creating visual mock-ups, the researchers can demonstrate how the 5 Major Officers will interact with the inventory screens before any coding begins. This reduces feature creep and ensures that the navigation is intuitive. Research shows that systems developed with high levels of user involvement in the design phase have a significantly higher success rate and faster adoption within organizations (Crelin, 2024).

Local Server Hosting with XAMPP

For departmental systems that do not require global internet access, local server environments provide a cost-effective and secure solution that discusses the benefits of using XAMPP for local deployment, noting that it provides a stable environment for running PHP and MySQL applications within a school's internal network. This setup allows the BSIT department to maintain its records locally, ensuring that the system remains accessible even if the external internet connection is down, while keeping sensitive data within the school's physical premises (Smith, 2021).

Database Management and Integrity

The use of MySQL as a relational database management system highlights the reliability of SQL for handling large datasets. A well-structured database ensures that inventory records and student information are linked correctly through unique identifiers. This prevents data redundancy—where the same information is entered multiple times—and ensures that when an officer updates an item status, that change is reflected instantly across all related reports and dashboards (Bernardo, 2022).

Socio-Technical Systems (STS) Theory

The development of a Web-Based IT System Management platform is grounded in Socio-Technical Systems (STS) Theory, which posits that organizational performance stems from the reciprocal interaction of people and technology. As highlighted, a common pitfall in system design is technological determinism, where the focus remains solely on software capabilities while ignoring the social environment (Baxter & Sommerville, 2011). By applying the STS framework, this study treats the web-based tool not merely as a technical artefact, but as a component of a larger system that includes the Technical Subsystem (software, hardware, and network infrastructure) and the Social Subsystem (user roles, management processes, and organizational goals).

This dual perspective ensures that the proposed management system is jointly optimized, meaning the technical features—such as real-time monitoring and database automation—are designed to enhance, rather than disrupt, the human decision-making and communication workflows of the IT department. Ultimately, adopting this theory justifies the research emphasis on management as a core pillar, ensuring the final web platform is both technically robust and operationally effective within a professional IT setting.

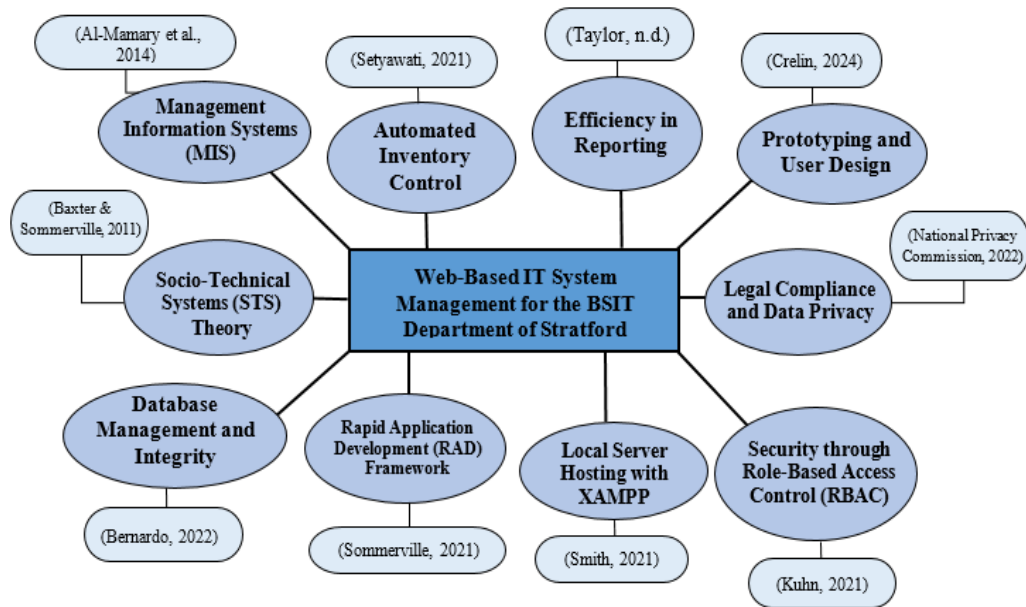


Figure 1. *Literature Map*

This diagram illustrates the conceptual framework of the System Management for the BSIT Department of Stratford. It highlights key components such as Management Information Systems (MIS), Automated Inventory Control, Efficiency in Reporting, Prototyping and User Design, and Database Management, supported by theories like Socio-Technical Systems (STS) and the Rapid Application Development (RAD) framework. The figure also emphasizes system infrastructure (local server hosting via XAMPP), security through Role-Based Access Control (RBAC), and adherence to legal compliance and data privacy standards, showing how these elements collectively contribute to an efficient, secure, and user-centered IT management system.

Synthesis

The reviewed literature and related studies establish a comprehensive foundation for the development of a System Management for the BSIT Department. The integration of Management Information Systems (MIS), automated inventory control, and efficient reporting mechanisms underscores the necessity for accuracy, efficiency, and streamlined operations within institutional processes. The application of Socio-Technical Systems (STS) Theory highlights the interdependence between human factors and technological components, while the Rapid Application Development (RAD) framework supports iterative design and user-centred development. Furthermore, the incorporation of database management, local server hosting, and Role-Based Access Control (RBAC) ensures system reliability, data integrity, and security. Adherence to legal compliance and data privacy standards reinforces the system's accountability and trustworthiness. Collectively, these concepts demonstrate that a well-integrated, secure, and user-oriented web-based system.

Gap Bridged

The identified gaps in existing systems, particularly in terms of limited integration, inefficiencies in inventory and reporting processes, and insufficient attention to data security and user-centered design, are addressed through the proposed System Management. By integrating Management Information Systems (MIS), automated inventory control, efficient reporting mechanisms, and secure access through Role-Based Access Control (RBAC), the system aims to enhance operational efficiency and data accuracy. Furthermore, the application of the Socio-Technical Systems (STS) Theory and the Rapid Application Development (RAD) framework ensures a balanced approach between technologi-

cal functionality and user needs. This study, therefore, bridges the gap by providing a comprehensive, secure, and user-oriented solution tailored to the specific requirements of the BSIT department.

Related Studies

Web-Based Asset Management for Higher Education

The transition from manual, paper-based recording to a centralized web-based framework is a mechanical necessity for modern universities (Kusumojati & Mediawati, n.d.). The study emphasizes that a System of Asset Management Information (SIMA) acts as a single source of truth, preventing the information silos that occur when different faculty members keep separate logs. For a BSIT department, this ensures that high-value assets—such as servers and specialized laboratory workstations—are tracked through their entire lifecycle, from procurement to retirement. The research concludes that digital centralisation not only improves data longevity but also simplifies the mandatory auditing processes required by educational governing bodies.

Web-Based Information Systems for College Departments

This study examined the technical efficiency of using the LAMP stack (Linux, Apache, MySQL, PHP) for departmental resource management (Professor, 2013). The researchers found that a web-based approach allows for a modular design, where features like faculty attendance, asset management, and student project repositories can be integrated into a single unified interface. The study highlights that this all-in-one accessibility significantly reduces the administrative burden on IT faculty, allowing them to focus on instruction rather than manual data management and report generation.

Intelligent Web-Based Inventory Control

It introduced the concept of intelligent reordering within departmental inventory systems (A, n.d.). The study explores mathematical models that predict when consumable supplies—such as networking cables, thermal paste, and printer toners—will run out based on historical usage data. By setting minimum threshold alerts, the system automatically flags items for purchase before they are fully depleted. This ensures that the BSIT department never faces a stock-out during critical periods like midterms or capstone project weeks, while simultaneously preventing the financial waste associated with overstocking unnecessary items.

Efficiency Gains in University Resource Tracking

The research conducted provides a quantitative analysis of the impact of digital tracking (Ramos-Miller & Pacheco, 2023). Their findings showed a staggering 86% improvement in overall management effectiveness when manual logs were replaced by a web platform. The study specifically highlights Role-Based Access Control (RBAC) as a key security benefit; because every transaction is logged with a specific timestamp and user ID, the occurrence of lost or misplaced IT equipment was almost eliminated. This creates a culture of accountability among both the student assistants and the official IT staff.

Cloud-Based Inventory System with QR Tagging

This study explores the development of a cloud-based inventory system specifically designed for technology workshops. The researchers successfully implemented a framework that uses cloud databases to store equipment data, making it accessible from any device (mobile, desktop, or laptop) via the web. The study found that by moving the data-

base to the cloud, the institution eliminated the need for expensive physical server maintenance while ensuring real-time synchronization between the administrator's dashboard and the mobile QR scanners used in the field. This research directly supports the feasibility of your project goals for Stratford International School (Crist et al., n.d.).

Automated Monitoring Systems in IT Infrastructure

It argued that web-based management should move beyond static lists and into active infrastructure monitoring (Lhyn & Mindaña, 2020). This research details how automated scripts can be integrated into the web dashboard to ping departmental hardware, checking for uptime and performance bottlenecks. By incorporating these health checks, IT administrators receive instant notifications regarding hardware failures or network drops. This proactive approach transforms the IT department from a reactive team into a predictive one, allowing them to resolve technical issues before they disrupt student laboratory sessions or critical faculty work.

Synthesis of the Related Study

The evolution of IT management systems involves replacing handwritten logs and paper trails with a modern, centralized web-based system. This system breaks down information silos by consolidating all hardware and software records into one database. This provides departments with a real-time, updatable, and easily accessible system of records, viewed from any computer on campus. Virtually streamlining a previously tedious administrative task.

The system's core focus is smart data management with secure, role-based access. This allows for system transparency by ensuring that only designated personnel can change sensitive data. This is complemented by established accountability at no loss of system

functionality. Each update is linked to a specific user via time stamp, creating a digital log. This system shift allows administrators to be proactive by creating instant reports, focusing time on enhancing student success and faculty productivity.

Gap Bridged in the Study

The development of IT management systems has primarily focused on replacing handwritten logs and other paper-based systems with a modern, centralized, web-based solution. Such a solution integrates IT asset and software records to eliminate information silos and provides a record system that can be updated and accessed in real time by authorized users from any computer on campus. This system, which virtually eliminates a formerly time-consuming administrative chore, provides a record system that can be updated and accessed in real time, streamlining record keeping.

The system's primary focus is on intelligent data management with secure role-based access. This approach balances system transparency and data protection, allowing only authorized users to make changes to sensitive data. This system is designed to facilitate accountability without sacrificing system functionality. Each update can be attributed to a user and is time-stamped, thus creating a digital record. With this shift in systems, administrators can focus on creating instant reports that enhance student success and faculty productivity.

Theoretical and Conceptual Framework

Theoretical Framework

The Sociotechnical Systems (STS) theory argues that for any technology (the technical system) to be successful, it must be developed and optimized in tandem with the social system of the organization it serves. This means that a web-based system for the BSIT department cannot just be viewed as software (coding and database); its design must respect the human roles (the hierarchy), the internal politics (officer interactions), and the physical requirements (manual logs and asset tracking) of Stratford International School.

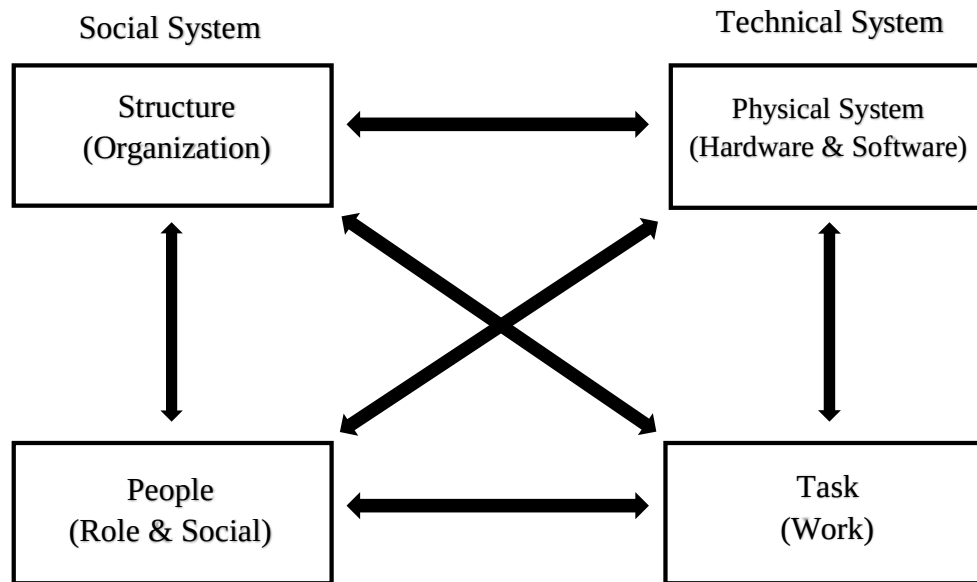


Figure 2. *Theoretical Framework*

The study relies on Sociotechnical Systems (STS) theory, which claims that all organizational technology succeeds when social and technical components are integrated. The theory of STS gives us enough academic evidence to balance user engagement and tool/software engagement. This is a representation of the Centralized Administration Layer, which includes the structure, the administration, and five primary officers of the

Stratford BSIT department. The goal is to streamline existing workflows and ensure compliance with security measures. ‘People’ denotes the actual users, and holds the concern that students will not find the “read-only” interface and the system user. The Physical System comprises the computer hardware, local networks, and the tech stack (PHP and MySQL) that serve as the system’s physical and digital infrastructure.

Conceptual Framework

The Input-Process-Output (IPO) model provides a functional structure for developing a centralized management system within the BSIT department. This research focuses on creating a systematic framework for both the development and evaluation of the proposed web-based IT management system. The Input phase encompasses the fundamental prerequisites for project initiation, including technical specifications, knowledge components, and user profiles. These elements then progress to the Process phase, where an iterative development lifecycle is employed to design, construct, and refine the system’s architecture, incorporating user feedback. The ultimate Output demonstrates the successful construction of a functional, secure platform that satisfies the department’s operational requirements. Consequently, this has resulted in digitized records and specialized access portals tailored for the department’s diverse stakeholders.

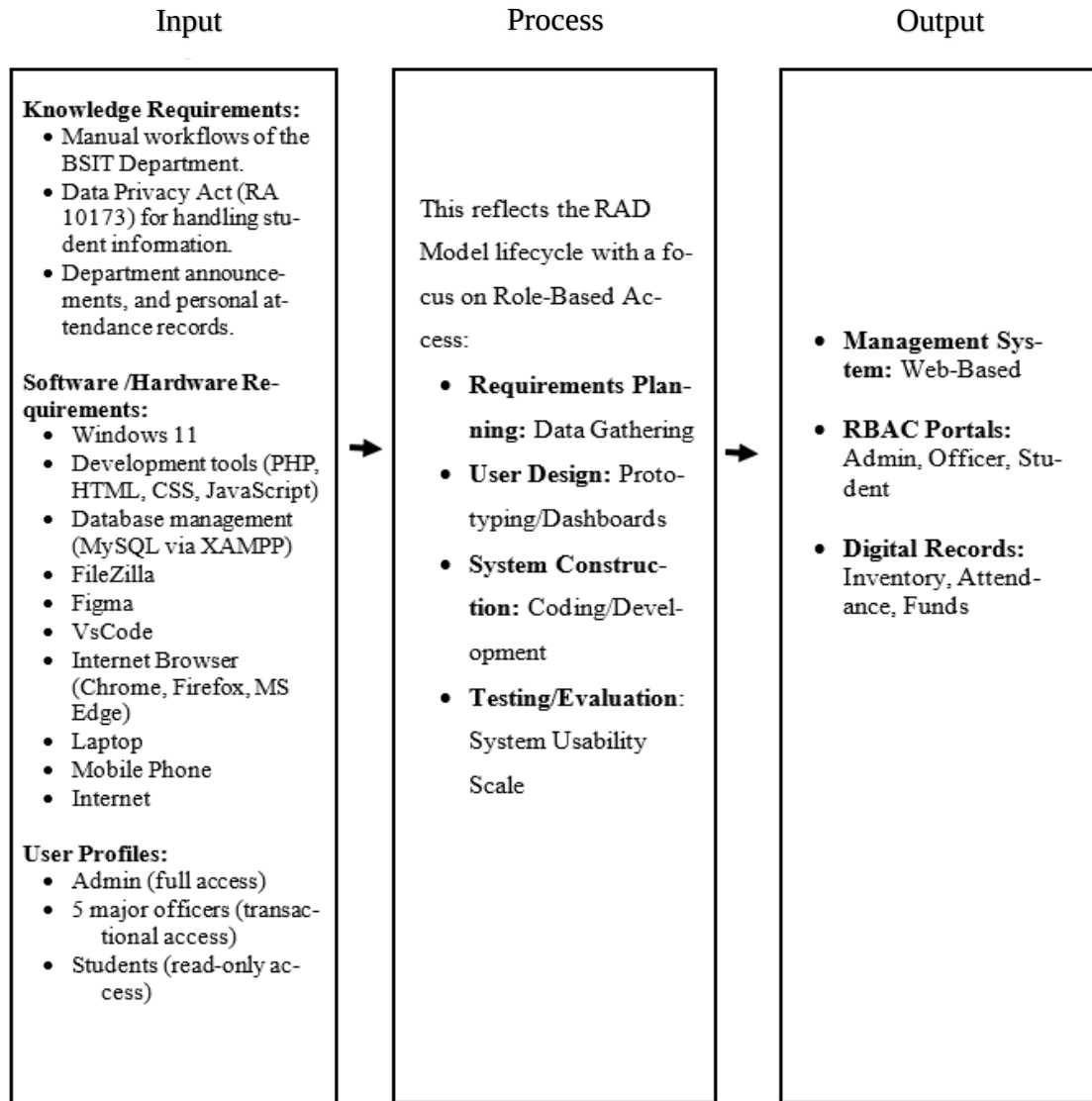


Figure 3. *Conceptual Framework of the Study*

This figure illustrates how it uses a structured Input-Process-Output (IPO) model to turn the needs of the department into a working digital solution. The Input phase is made up of three main parts: Knowledge Requirements, which include the BSIT Department's manual workflows and following the Data Privacy Act (RA 10173); Software and Hardware Requirements, which list the technical stack needed for construction, such as development languages (PHP, JavaScript), database management (MySQL), and design tools

(Figma/VsCode); and User Profiles, which set the access levels for the Admin, five Major Officers, and the student body. The Process phase systematically handles these inputs. The Rapid Application Development (RAD) lifecycle facilitates a precise methodology for prototyping, coding, and usability testing. The ultimate deliverable is the deployment of the Web-Based Management System, encompassing tailored RBAC Portals and digitized record-keeping modules designed for inventory management, attendance tracking, and financial management. Consequently, Stratford International School's administrative environment is rendered both secure and efficient.

Significance of the Study

The development of the System Management is expected to provide significant improvements in the administrative and academic operations of the BSIT Department by fostering a more efficient and technologically integrated environment. The system streamlines administrative tasks for the five main student officers by replacing manual logs and separate spreadsheets with a single portal. This portal allows for real-time tracking of attendance, financial transactions, and the use of laboratory equipment.

BSIT students, the primary stakeholders, experience a more transparent and structured environment, benefiting from simplified access to departmental communications and attendance data. Concurrently, the automated maintenance tracking ensures the optimal functionality of the technical laboratory equipment. Moreover, the system aids the IT head and school administration in their dedication to Education 4.0 and digital transformation. By fostering a paperless workflow, the project improves the institution's operational cost-effectiveness and bolsters Stratford International School's standing as a technologically progressive institution. Ultimately, this study furnishes a valuable architectural framework

for future researchers, establishing a basis for incorporating department-specific requirements—such as IT asset tracking—into more comprehensive, scalable school management systems.

Scope and Limitation

The central objective of this research is the creation of a System Management platform for the BSIT Department at Stratford International School. This system is intended to consolidate departmental records, automate asset tracking, and enhance administrative communication, achieved through three principal modules: User Management and Security (RBAC), Record Management for attendance and IT fund payments, and an Automated Reporting Module for inventory and audits.

To ensure data integrity, the system implements a rigorous permission hierarchy. At the top of this hierarchy is the System Administrator, who holds comprehensive superuser privileges for account management and database administration. Following this, the five Major Officers are given Write Access. This allows them to handle data and generate reports pertinent to their specific responsibilities. Minor Officers, on the other hand, are restricted to Read-Only Access. This allows them to view statuses and announcements. General BSIT students have the most restricted access. They're limited to only seeing their own profiles and announcements, with no access to administrative or inventory information.

Conversely, the research is constrained by specific delimitations; the system functionality excludes tuition payment processing and the handling of physical cash, as it is focused exclusively on departmental administration and asset management. Moreover, the system's application is restricted to the BSIT Department, and it will not interface with

other university departments, including Education, Criminology, or Psychology. Operationally, the platform requires an active internet or Local Area Network (LAN) connection to function, and while it tracks the maintenance status of IT equipment, it cannot perform automated software repairs or hardware diagnostics.

Operational Definition of Terms

Admin (IT Head)	The super user has full control over all system data.
Automated Reporting	Instant digital generation of inventory and attendance summaries.
BSIT Department	The academic unit and primary user of the developed system.
CRUD	Standard functions to create, read, update, and delete records.
Data Integrity	The accuracy and consistency of information stored in the database.
Five (5) Major Officers	Student leaders are authorized to update specific laboratory modules.
Inventory Control	The digital tracking and management of laboratory equipment assets.
Localhost (XAMPP)	An offline server environment is used to run the application locally.
RAD Model	A methodology focusing on fast prototyping and user feedback.
Read-Only Access	A restricted permission level allowing users to view data only.
RBAC	Security that limits system access based on user roles.
System Usability Scale (SUS)	A tool used to measure the system's user acceptance.

CHAPTER III

Design and Methodology

This chapter presents the systematic approach used to develop and evaluate the System Management for the BSIT Department of Stratford International School. It details the research design, the setting where the study was conducted, the technical tools utilized for development, and the timeframe for the project's completion.

Research Design

This study is best classified as a Mixed-Methods Research design, as it combines the qualitative depth of system requirement gathering with the quantitative precision of performance testing. The initial phase of the study is predominantly qualitative, focusing on the Developmental Research of the platform. By utilizing the Rapid Application Development (RAD) model, the research identifies the specific functional needs of the Stratford International School BSIT department through interviews and process observations. This allows for the creation of a tailored Role-Based Access Control (RBAC) architecture, where the “write” privileges of the five major officers and the read-only status of students are defined by the qualitative organizational structure of the department rather than numerical data.

By analyzing these data points through descriptive statistics, the study can objectively determine if the web-based IT management system meets the required performance benchmarks. This dual approach ensures that the system is not only built to the correct qualitative specifications of the BSIT department but is also quantitatively proven to be a robust and efficient tool for academic administration.

Respondent of the Study

The respondents for this study consist of a purposively selected group from the BSIT department of Stratford International School, specifically categorized by their interactive roles within the system. The primary respondents include the System Administrator and the five major officers who serve as the core power users with full write and administrative access; their participation is critical for evaluating the system management features and data entry workflows. Additionally, the study includes the remaining BSIT student body as secondary respondents. These individuals provide essential feedback from a read-only perspective, ensuring the platform's information dissemination is clear, accessible, and secure. By involving both the high-level administrators and the end-user students, the research captures a comprehensive view of the system's effectiveness across all levels of the departmental hierarchy.

Sampling Technique

The study employs a purposive sampling technique, a non-probability method strategically chosen to ensure that the data gathered aligns with the specific functional roles defined within the BSIT department's hierarchy. This approach deliberately selects the System Administrator and the five major officers as key informants due to their exclusive write privileges and specialized oversight of the system's backend management. To complement this expert perspective, a stratified random sampling approach may be applied to the remaining student officers and the general BSIT student body, ensuring that the read-only user experience is evaluated across various year levels. By focusing on these specific cohorts, the sampling design guarantees that the feedback is both technically relevant and representative of the distinct access levels established in the system's architecture.

Research Instrument

The research instrument for this study is a structured, researcher-developed evaluation survey designed to provide a comprehensive assessment of the web-based IT system's performance and user experience within the BSIT department. To ensure technical precision, the instrument is strictly aligned with the quality model, utilizing a five-point Likert scale to quantitatively measure the six core dimensions of functionality, reliability, usability, efficiency, maintainability, and portability. The instrument is strategically bifurcated to accommodate the system's Role-Based Access Control (RBAC) architecture; specific sections are tailored to the five major officers to evaluate administrative write capabilities, while a separate set of criteria focuses on the read-only accessibility and navigational clarity for the general student body. This dual-layered design ensures that the data collected is both statistically rigorous and contextually grounded in the unique operational requirements of Stratford International School.

Data Gathering Procedure

The data gathering procedure for this study follows a structured, three-stage approach designed to ensure both the technical integrity and the operational alignment of the IT management system within the Stratford International School BSIT department. In the Initial Elicitation Phase, the researchers conduct a series of requirement gathering sessions and semi-structured interviews with the System Administrator and the five major officers to define the core administrative workflows and specific write access parameters. During the Developmental Phase, the Rapid Application Development (RAD) model is employed, where iterative prototypes are presented to these stakeholders for qualitative feedback, en-

sure that the Role-Based Access Control (RBAC) architecture remains secure and functional. This systematic procedure ensures that the final system is validated against international software quality standards while remaining deeply rooted in the actual needs of the academic environment.

Analysis Data

This study utilized a descriptive and inferential statistical approach to evaluate the efficacy and user acceptance of the web-based IT management system within the Stratford International School BSIT department. To process the qualitative data gathered during the initial requirement stages, the researchers use thematic analysis to categorize the specific administrative needs and security constraints identified by the System Administrator and the five major officers. For the quantitative component, the responses collected from the Likert-scale instruments are analysed using weighted mean and standard deviation to determine the overall performance rating of the system across its various functional dimensions. Furthermore, a comparative analysis is conducted to highlight the distinct user experiences between those with write administrative privileges and the read-only student body, ensuring that the Role-Based Access Control (RBAC) architecture fulfils its intended purpose. This comprehensive analytical framework ensures that the conclusions drawn are both statistically significant and directly applicable to the department's operational goals.

Research Methodology

This study employs a Developmental Research design to address the administrative requirements of the Stratford International School BSIT department. To ensure the systematic creation of the web-based IT management system, the study adopts the Rapid Application Development (RAD) model, which prioritizes an iterative cycle of prototyping and user feedback. This methodology allows for the continuous refinement of the platform's features, specifically focusing on the integration of a Role-Based Access Control (RBAC) framework.

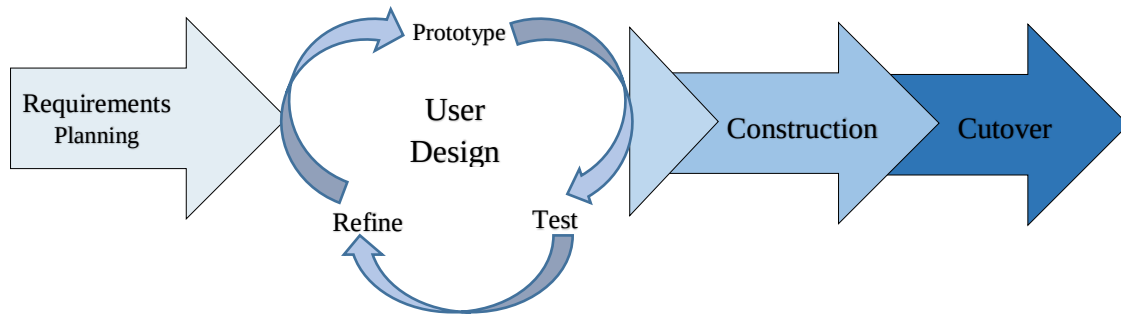


Figure 4. *Rapid Application Development (RAD)*

The study utilizes the Rapid Application Development (RAD) model to expedite the creation of the web-based IT management system through an iterative, high-speed development cycle (Gumonan & Fabregas, 2021). By utilizing this phased approach, the research transitions from initial requirement elicitation to active construction and final evaluation, ensuring the software is technically sound and precisely aligned with the department's operational hierarchy.

1. Requirements Planning

- This is the foundational stage where the researchers and the system users (BSIT Admin and Officers) meet to define the project's objectives. During

this phase, the manual pain points—such as lost logbooks, slow inventory counting, and disorganized officer reports—are identified.

2. User Design- The User Design phase follows an iterative cycle of prototyping, refinement, and testing to ensure the system aligns with both technical requirements and departmental workflows.

- **Prototype:** Visualizing the digital transition of manual logs.
- **Refine (Sociotechnical Systems):** Harmonizing the software with departmental work habits.
- **Test:** Confirming the system is easy to navigate and useful.

3. Construction

- The researchers translate the visual designs into a functional system using HTML, CSS, and JavaScript for the frontend, and PHP with a MySQL database for the backend. Role-Based Access Control (RBAC) is programmed at this stage to ensure that the Admin and 5 major officers see only the modules relevant to their roles.

4. Cutover

- The system is deployed on the department's local server. This stage includes final integration testing, data migration (transferring existing manual records into the new database), and user training for the BSIT staff. The researchers conduct a final evaluation to ensure that the system is fully operational and meets the administrative standards of Stratford International School.

Requirements Gathering

1. Data Gathering Techniques

- **Interviews:** The researchers conducted structured interviews with the Admin and Major Officers to understand the daily pain points of manual record-keeping.
- **Observation:** The researchers shadowed the current departmental workflow to see how logbooks are handled, identifying risks like data loss, unauthorized access, and slow report generation.
- **Document Analysis:** Reviewing existing physical forms (attendance sheets, inventory lists) to ensure the digital database fields match the department's actual data needs.

2. System Requirements Specification- The gathered data resulted in two categories of requirements:

▪ **Functional Requirements:**

- **Secure Authentication:** Role-based login for Admin and Officers.
- **Inventory Management:** A module to track, add, and update departmental equipment.
- **Attendance Tracking:** A digital log for student and staff activity.
- **Automated Reporting:** Real-time generation of synced reports for the Admin and 5 major officers.

▪ **Non-Functional Requirements (How the system performs):**

- **Usability:** Minimalist UI design (via Figma).

- **Security:** Role-Based Access Control (RBAC) to protect sensitive records.
- **Availability:** Localized hosting via XAMPP/MySQL for offline reliability.

System Flowchart

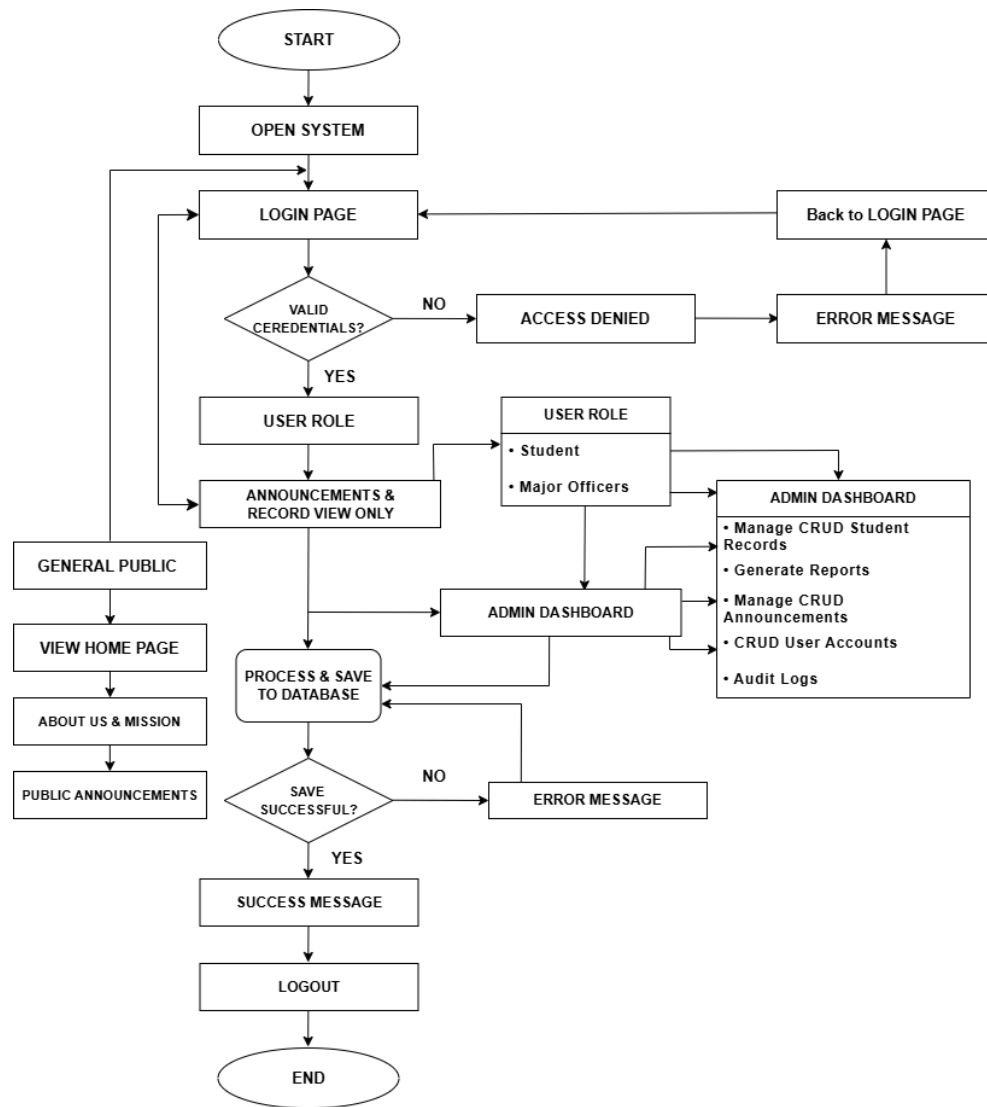


Figure 5. *Development Model of the Study*

This system flowchart diagram meticulously details the sequential operations and procedural logic governing the proposed Web-Based IT Management System, which is structured into distinct administrative and general user pathways. The flow begins with a conditional check to identify whether the user is an Admin (Department Head/Officer) or a General User (Student), which determines their subsequent access rights. Admins pro-

ceed to a secure login interface where Role-Based Access Control (RBAC) is strictly enforced; successful authentication provides exclusive access to the specialized officer module for managing inventory records and reporting. Conversely, verified Students are routed directly to the public user module, granting them simplified read-only permissions to view inventory and submit feedback. By mapping these specific operational loops and conditional decisions, this figure visually demonstrates how the system's backend logic prevents unauthorized manipulation of departmental data while maintaining high information transparency for the student body.

User Flowchart

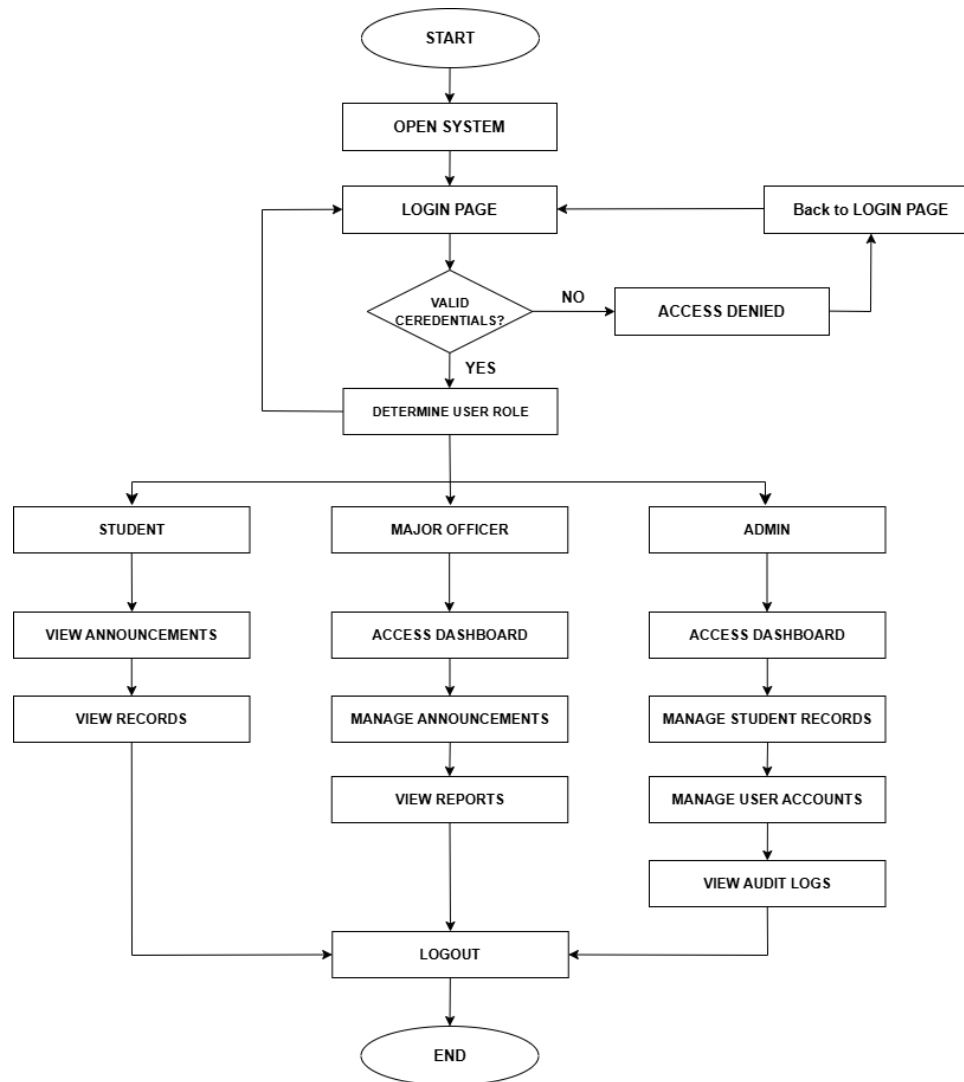


Figure 6. *User Flowchart Diagram*

This user flowchart diagram illustrates the precise, sequential logic governing user interaction and role-based access control (RBAC) within the IT Management System. The process begins with a user-initiated login, which triggers a system authentication check. A critical decision point follows: if the login fails, the user is returned to the main screen, while a successful login leads to a second decision to determine the user's role. The flow splits based on this role—verified students are routed to a dashboard granting read-only

permissions to view inventory and submit feedback, while admins (such as Department Heads and Officers) are directed to a specialized dashboard with add, update, and delete privileges for managing inventory and system logs. This diagram visually demonstrates how the system's backend logic enforces strict security protocols, ensuring that sensitive administrative functions remain restricted from general student access.

Admin Flowchart

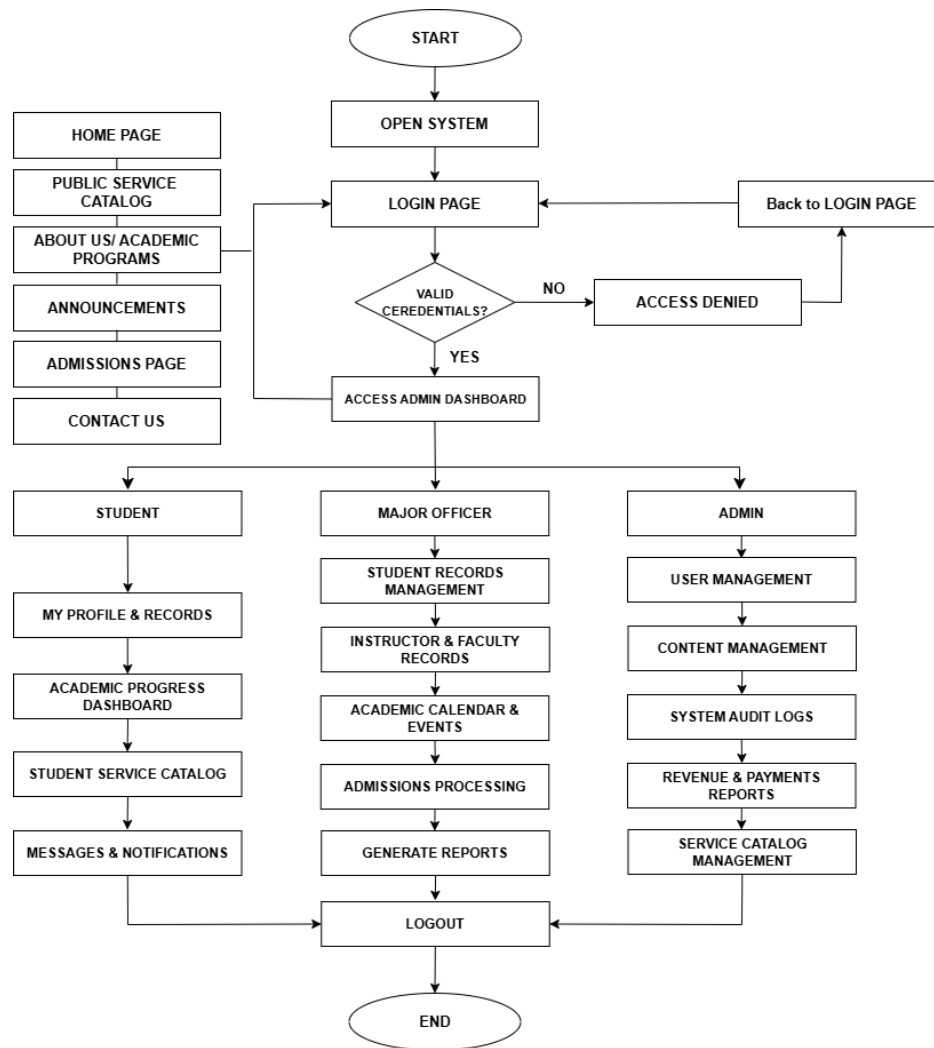


Figure 7. Admin Flowchart Diagram

This admin flowchart diagram illustrates the comprehensive operational logic and sequential processes accessible to the Department Head within the IT Management System.

The flow begins with a conditional check on the user's login, granting full access only upon verified administrative credentials. A decision point follows to select the specific administrative module. The Admin Module enables the Department Head to perform critical system-level functions, including creating user accounts, viewing detailed audit logs (to track system actions), and executing essential backup and recovery procedures for the MySQL database. Alternatively, the Inventory Module provides the full suite of creation, retrieval, updating, and deleting (CRUD) permissions for managing physical assets, as well as the ability to generate reports. By mapping these specific loops and decision pathways, this figure visually demonstrates how the Role-Based Access Control (RBAC) is strictly enforced at the backend level, ensuring that these high-level privileges are reserved solely for the department's authorized personnel.

Context Data Flow Diagram

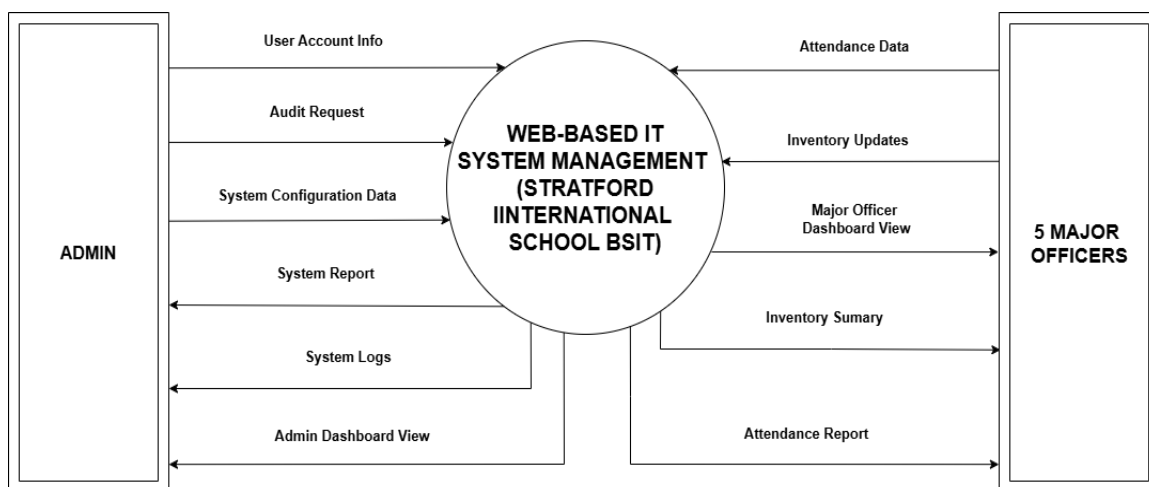


Figure 8. Context Data Flow Diagram

The diagram represents the highest-level view of the Web-Based IT System Management application, establishing the operational boundary between the system and its external entities. The central process, defined as the Stratford International School BSIT System, is shown in the context of two primary actors: The Admin and the 5 Major Officers.

This illustrates that the Admin actor feeds critical System Configuration Data, Audit Requests, and User Account Information into the central process. The system subsequently produces comprehensive System Reports. These are accompanied by System Logs, which provide a detailed, granular perspective, and a custom Admin Dashboard. Concurrently, the 5 Major Officers actor supplies transactional data, encompassing Attendance Data and Inventory Updates. This information is processed, resulting in a consolidated Inventory Summary, an Attendance Report, and a Major Officer Dashboard View, tailored to each role. Ultimately, this Context Diagram visualizes the complete input/output lifecycle of the system, showcasing a centralized data environment that connects functional roles

with a unified MySQL database without detailing the internal database tables or modular processes.

Entity Relationship Diagram

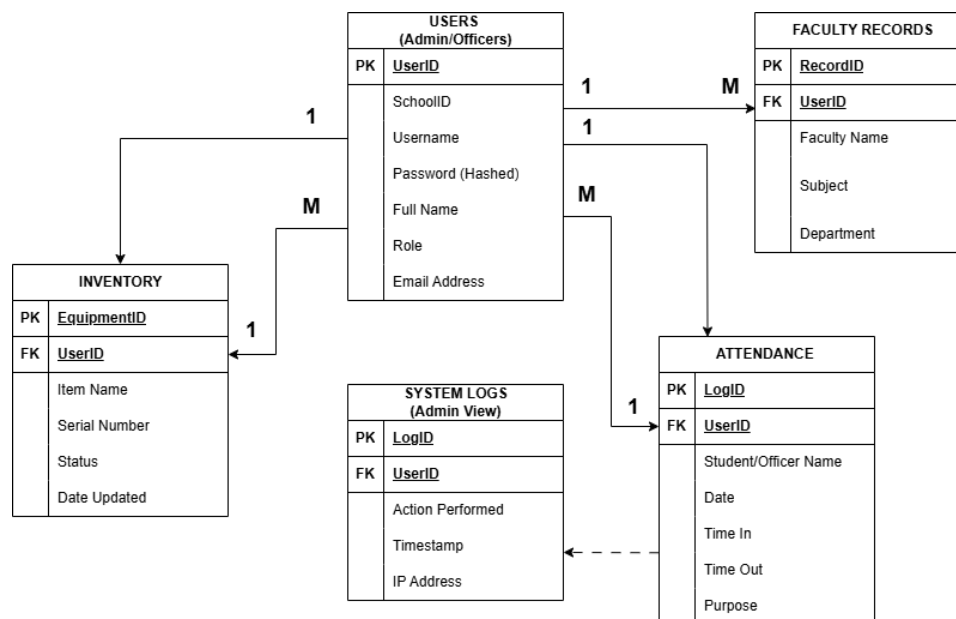


Figure 9. Entity Relationship Diagram

This figure illustrates the logical schema and data architecture of the BSIT Department Management System. The database is centred around the Users Table, which serves as the primary entity for authentication and Role-Based Access Control. A One-to-Many (1:M) relationship exists between the Users table and the Inventory, Attendance, and Faculty Records tables; this signifies that a single user (Admin or Officer) can manage or create multiple records across these modules. Each table utilizes a Primary Key (PK) for unique identification and a foreign key (FK)—specifically, the User ID—to maintain referential integrity across the system. Furthermore, the System Logs table maintains a non-identifying relationship with all entities to provide a comprehensive audit trail of all actions performed within the application, ensuring accountability and data security.

Use Case Diagram

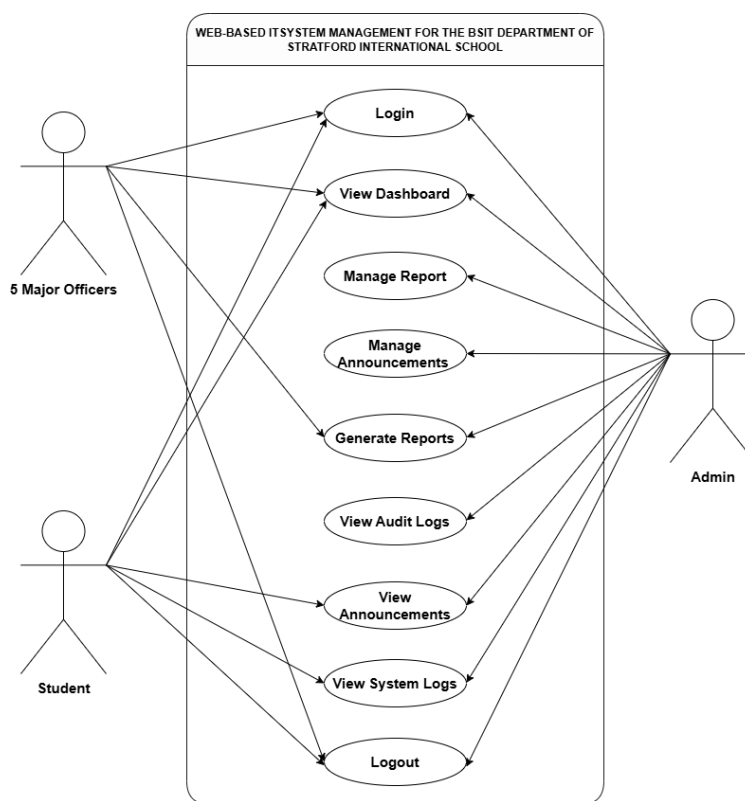


Figure 10. *Use Case Diagram*

The User Case Diagram visualizes the functional scope of the Web-Based IT System Management and explicitly maps the different access levels—and the corresponding actions—defined for the three principal Actors within the system. Within the central large System Boundary, standard UML ovals represent key use cases, starting with Authentication (Login) as the prerequisite for all users. The diagram uses solid lines (Association relationships) to show that the Admin has exhaustive control over administrative tasks like Manage Announcements, Generate Reports, and View System Logs. In contrast, the 5 Major Officers are restricted to specific departmental operations such as Manage Inventory and Manage Reports, while the Student actor holds strictly read-only access, limited to ovals like View Announcements and View Profile. This diagram effectively visualizes the

Role-Based Access Control (RBAC) architecture that governs data integrity and prevents unauthorized access across the different user groups.

Users	Admin and 5 Major Officers
Login Account	Login Account
User Authentication	User Authentication
Record Viewing	User Management
	Inventory Control
	Generate Reports
	View Audit Logs
Logout	Logout

Table 1. *Use Case Table*

This table presents a structured overview of the system's core functional requirements, specifically mapping each Functional Requirement (FR) and its description to its designated User Role. It highlights how the Role-Based Access Control (RBAC) is strictly enforced: critical, system-level tasks are reserved for the Admin (Dept. Head), while day-to-day operational tasks are shared with Officers, and transparency-focused tasks like record viewing are opened to Students.

Class Diagram

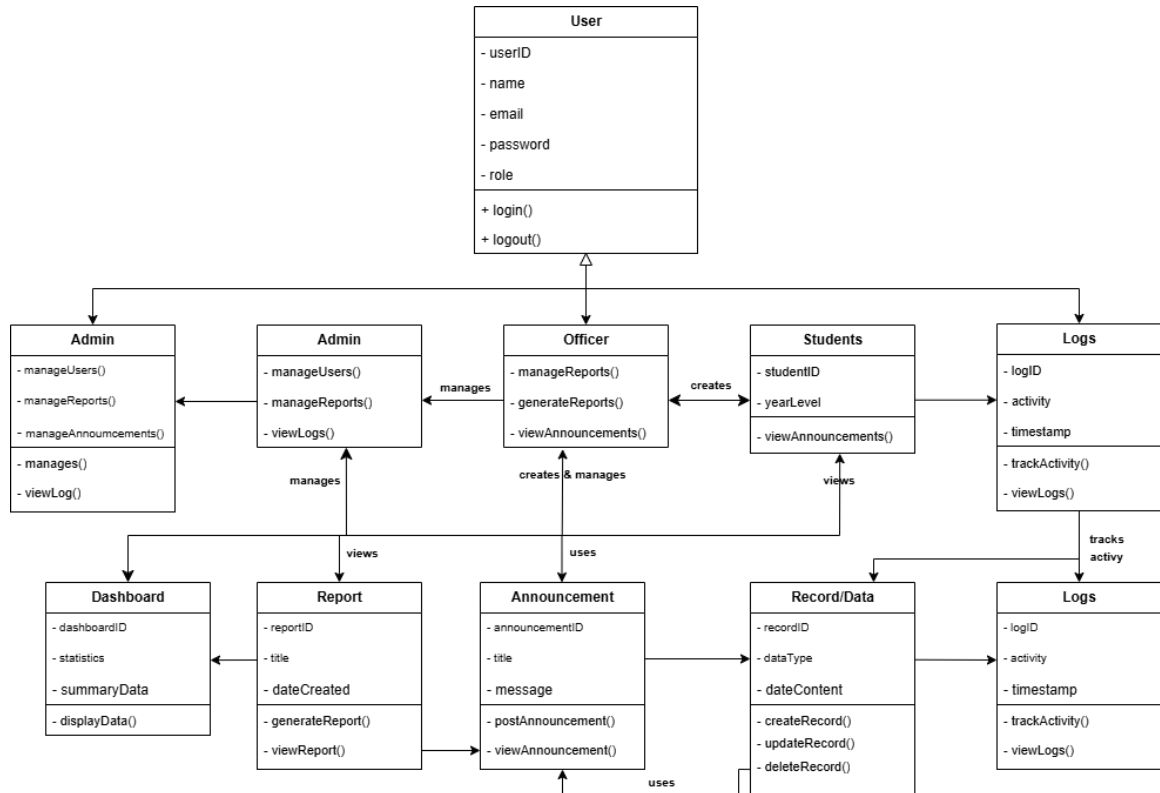


Figure 11. *Class Diagram*

This diagram illustrates the structural architecture and data model of the system, defining the fundamental PHP classes (like Users, Inventory, Students, and Admins), their attributes, and their operations. It visually maps the specific Role-Based Access Control (RBAC) implementation by showing inheritance (signified by arrows) where specialized roles inherit basic properties from the base user class while possessing exclusive methods for higher-level governance, such as audit monitoring or database maintenance. The diagram further details the crucial relationships (associations, aggregations, and compositions) between these classes, demonstrating how user actions in the logical layer securely

interact with the specific MySQL database tables for inventory management, report generation, and student records, ensuring data integrity across the entire BSIT Department information ecosystem.

System Architecture

The Web-Based IT System Architecture serves as the structural blueprint of the study, organizing the system into four distinct layers to ensure a secure, organized, and efficient flow of information for the BSIT Department.

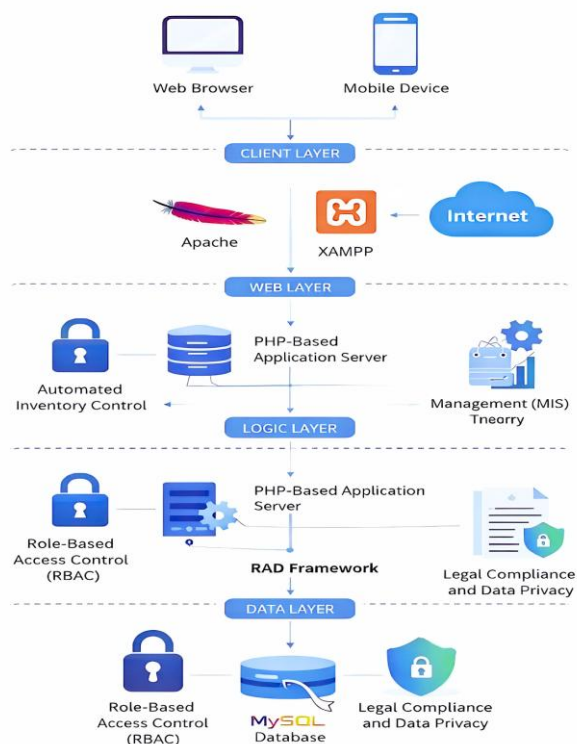


Figure 12. System Architecture

This Figure illustrates, that at the top, the Client Layer manages user interaction through web browsers and mobile devices, connecting to the Web Layer where Apache and XAMPP handle internet requests and server-side operations. The Logic Layer acts as the system's brain utilizing a PHP-based server and the RAD (Rapid Application Development) Framework to execute core departmental functions such as Automated Inventory

Control and Management Information System (MIS) Theory while strictly enforcing Role-Based Access Control (RBAC) to protect administrative tools. Finally, the Data Layer provides a secure foundation using a MySQL Database to store all departmental records, further fortified by legal compliance and data privacy protocols to ensure that sensitive information remains confidential and accessible only to authorized stakeholders.

CHAPTER IV

Presentation of Data

Student Interface

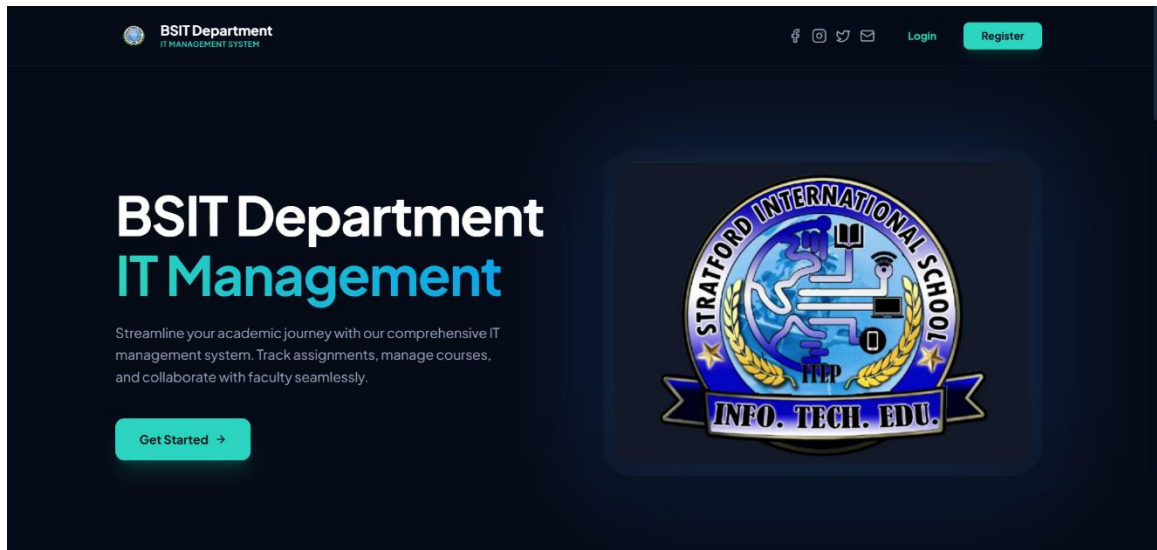


Figure 13. *Student Website Overview Interface*

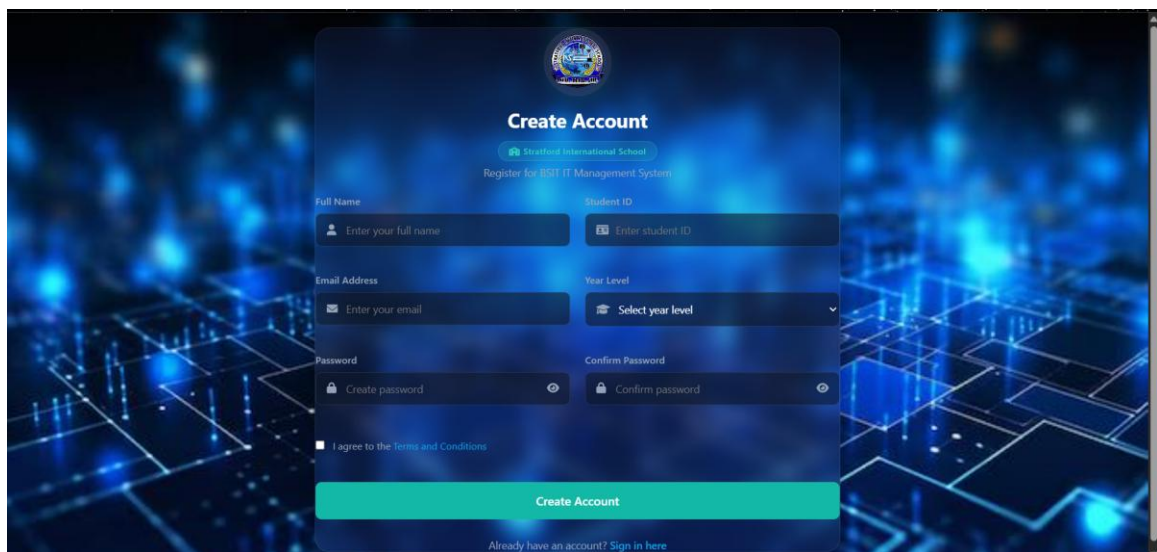


Figure 14. *Student Register Interface*

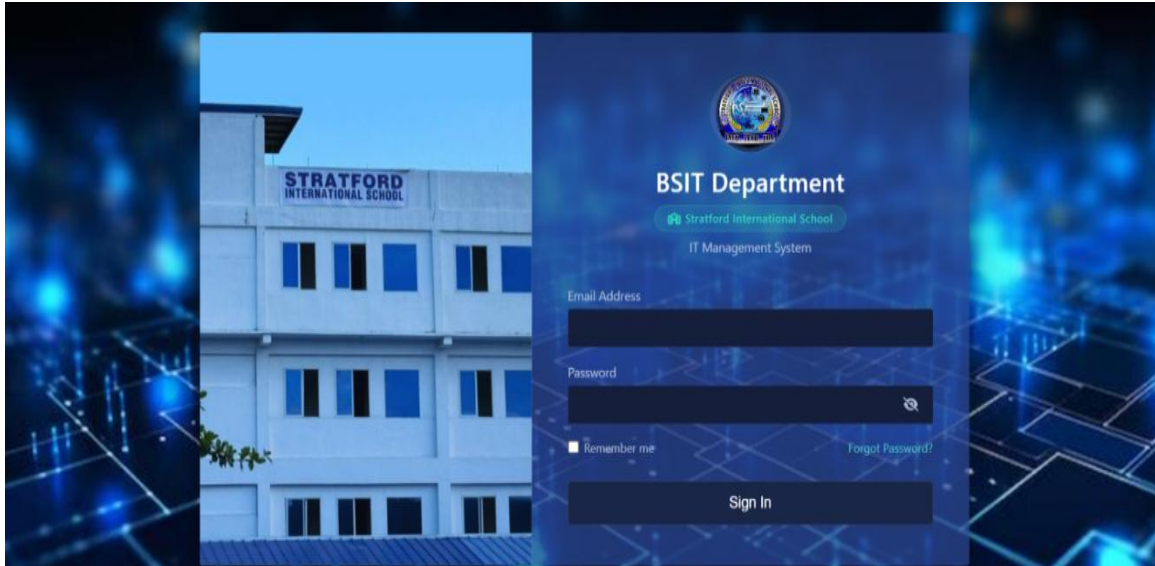


Figure 15. *Student Login Interface*

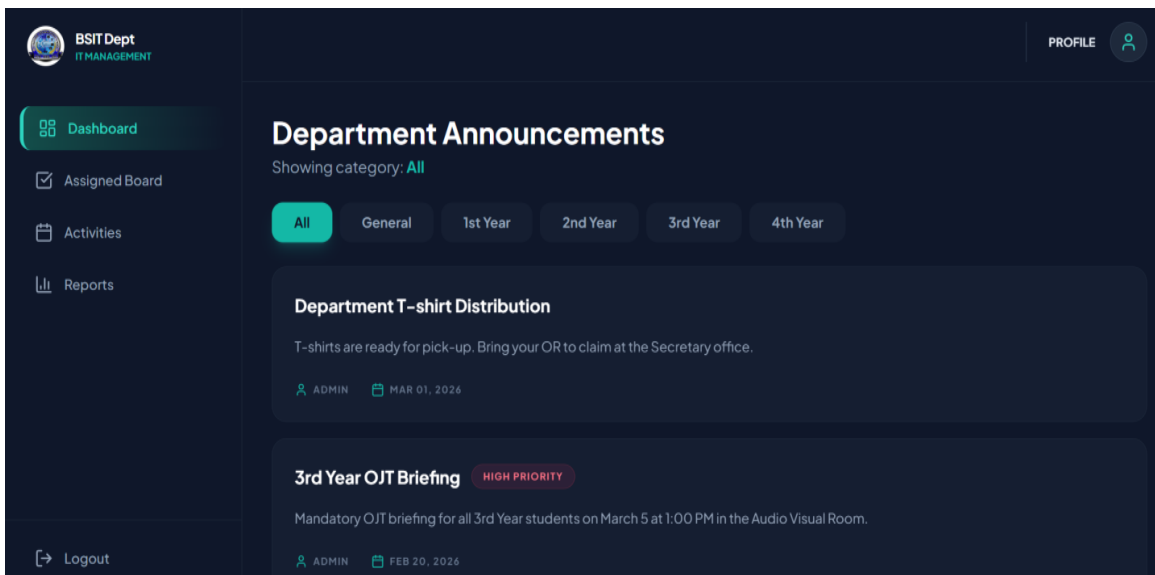


Figure 16. *Student Dashboard Interface*

Admin and 5 Major Officers Interface



Figure 17. Admin and 5 Major Officers' Website Overview

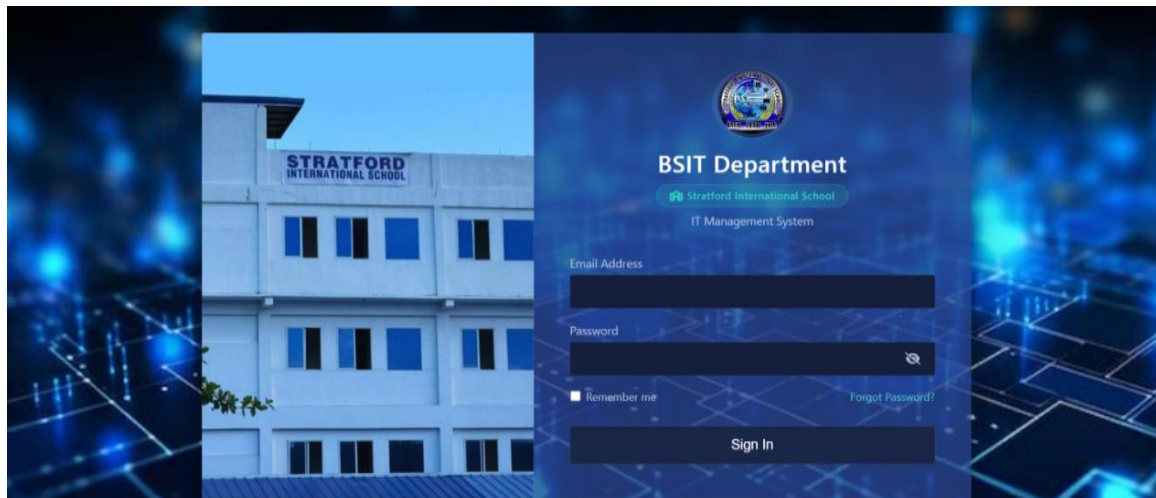


Figure 18. Admin and 5 Major Officers' Login Interface

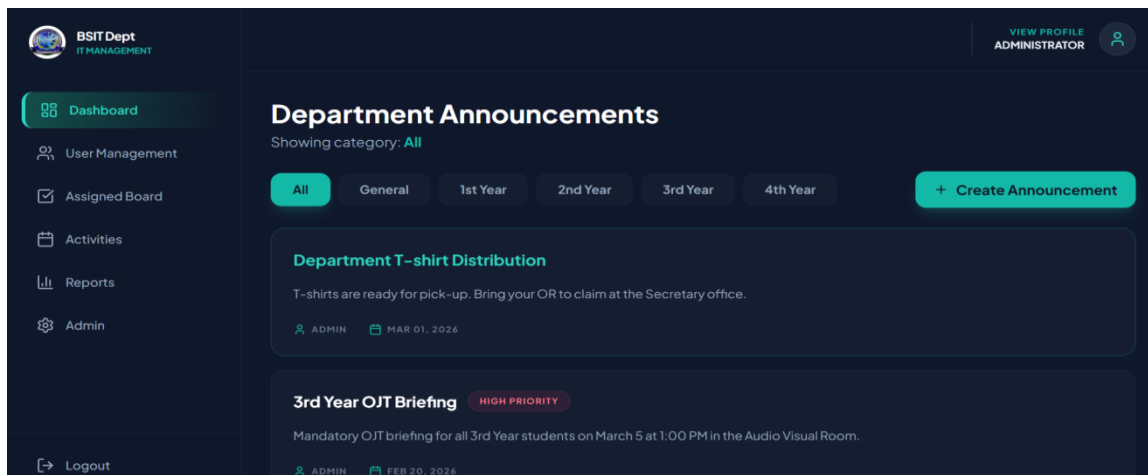


Figure 19. Admin's Dashboard

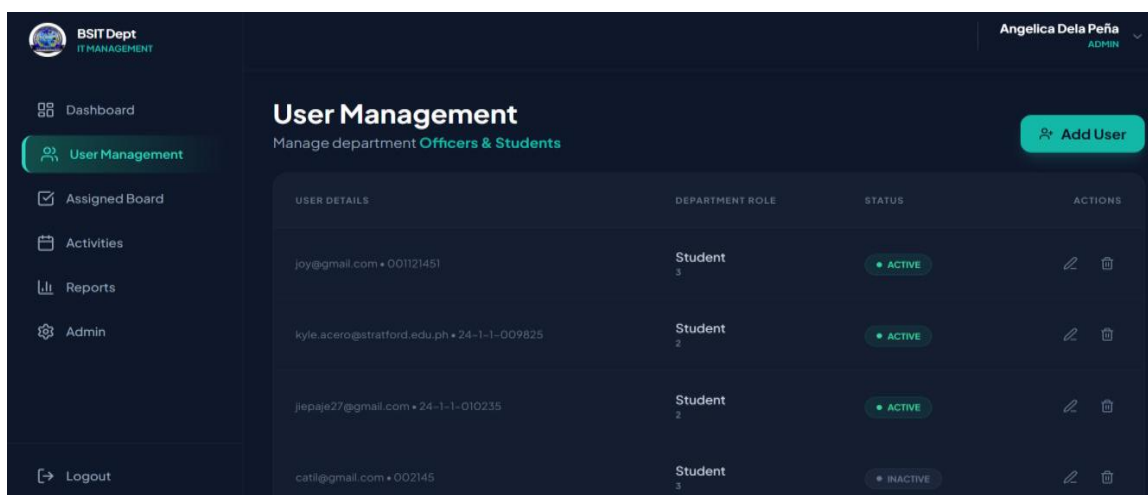


Figure 20. Admin's User Management

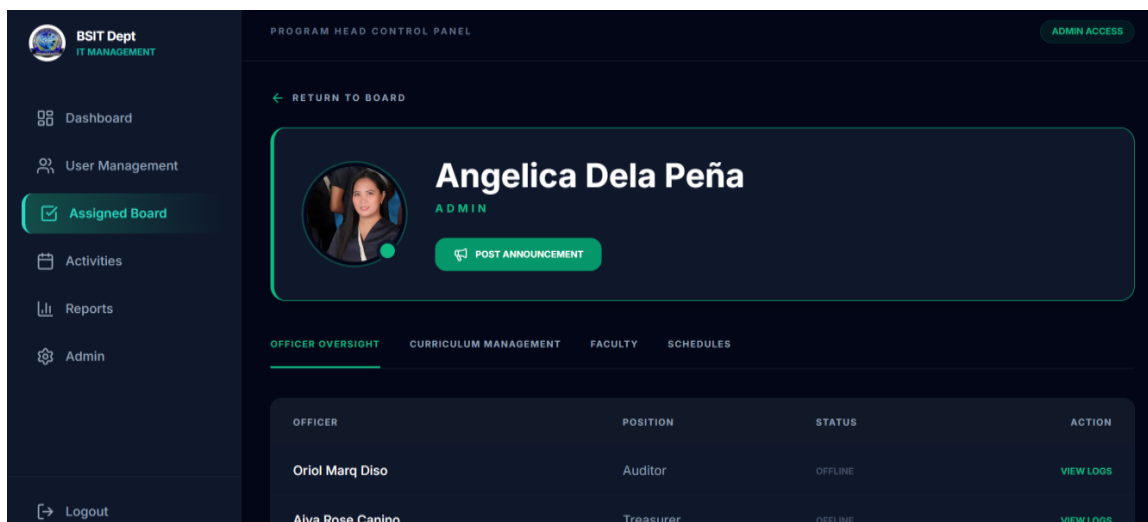


Figure 21. Admin's Assigned Board

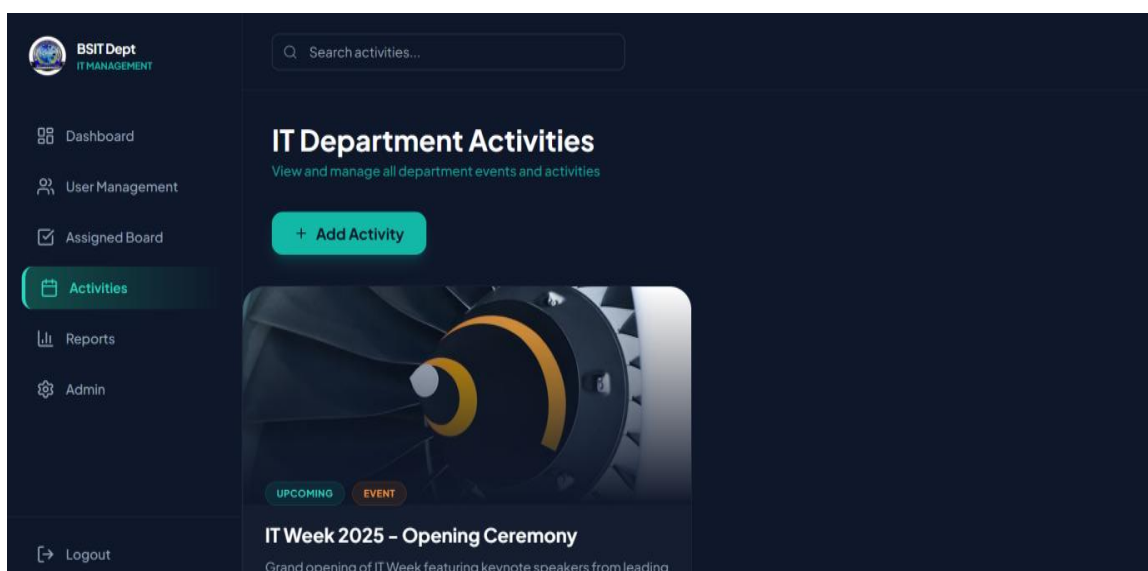


Figure 22. Admin's Activities Interface



Figure 23. Admin's System Report Interface

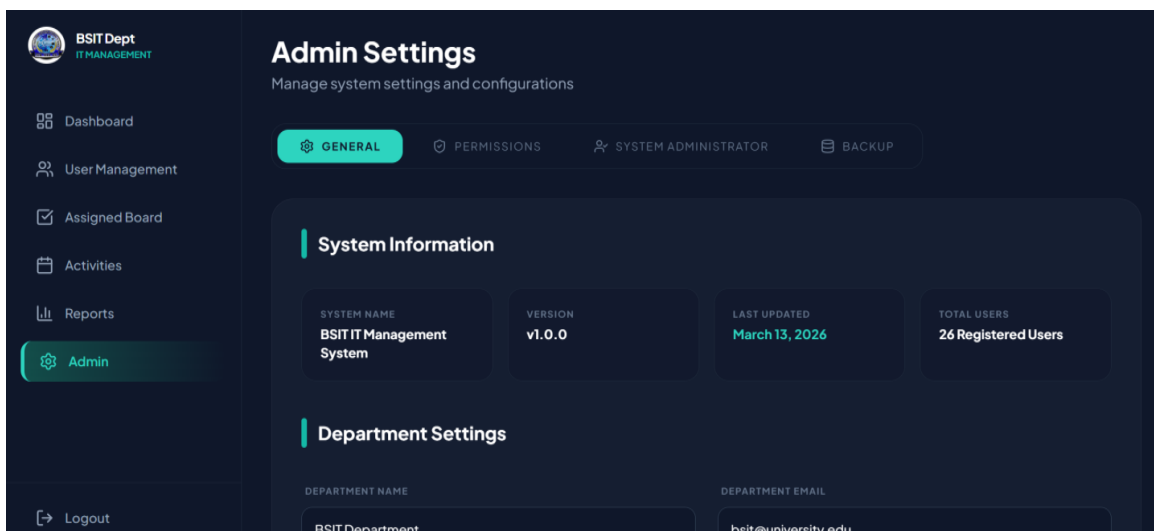


Figure 24. Admin's Settings Interface

Major Officers Interface

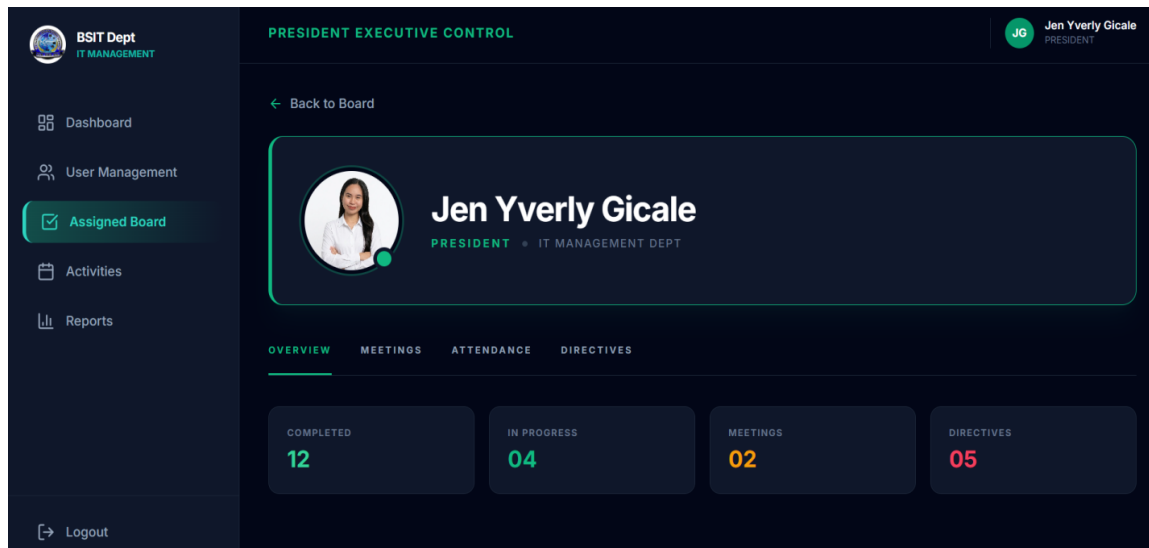


Figure 25. *President's Assigned Board Interface*

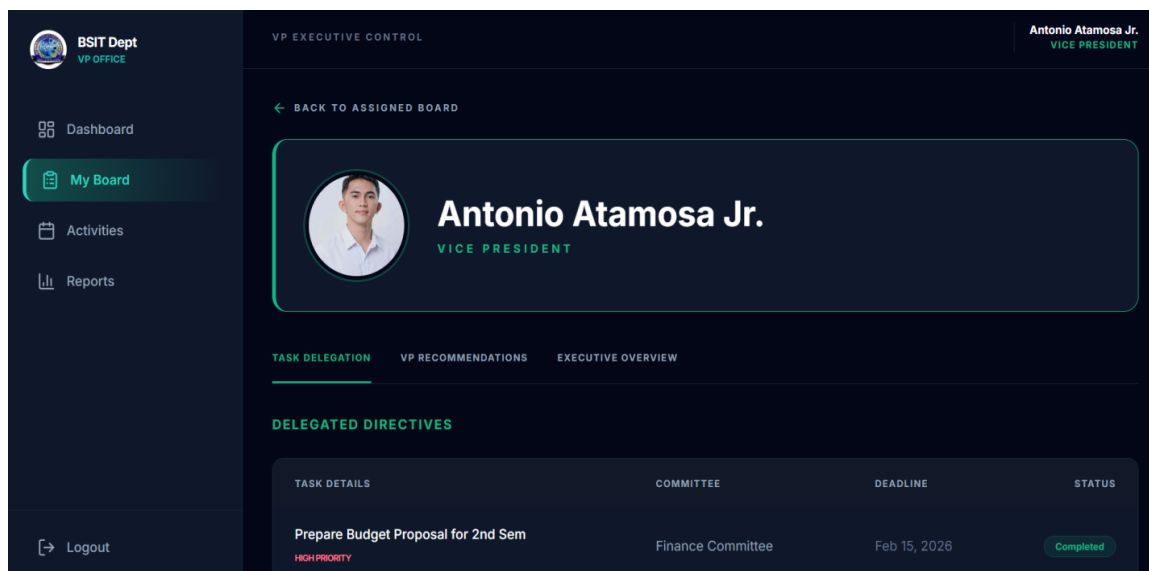


Figure 26. *Vice President Assigned Board Interface*

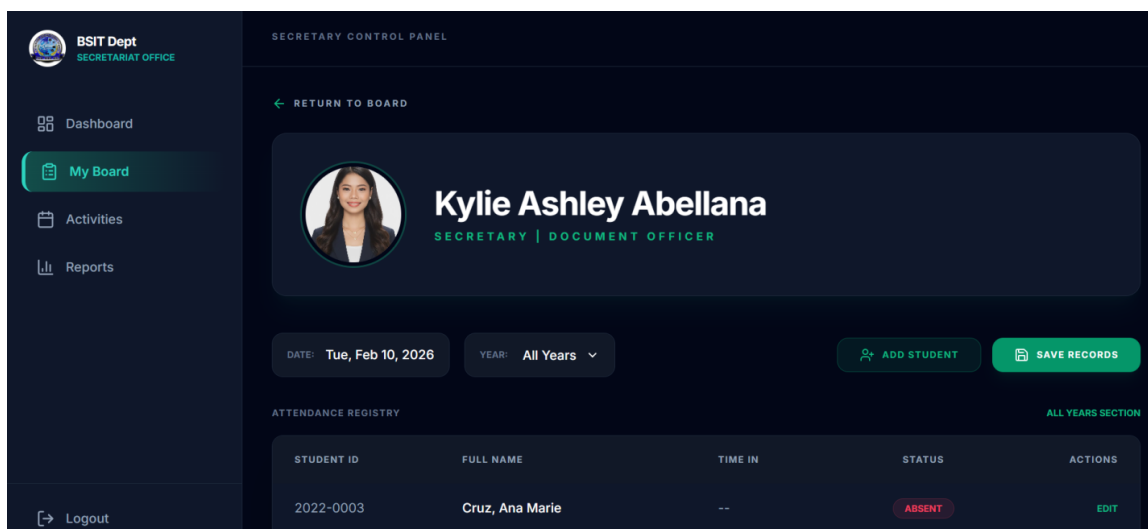


Figure 27. Secretary's Assigned Board Interface

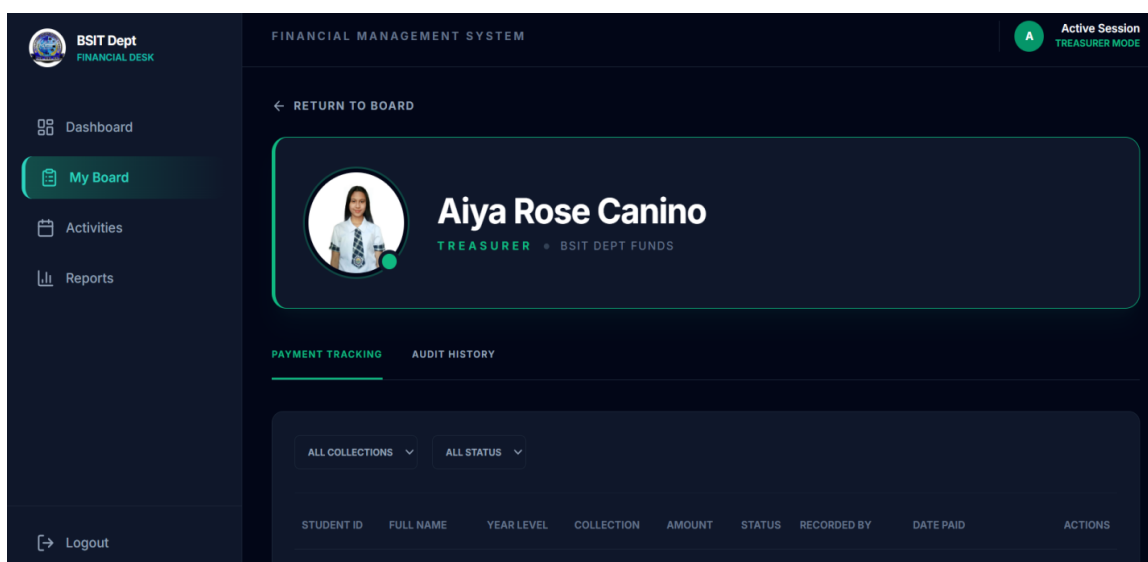


Figure 28. Treasurer's Assigned Board Interface

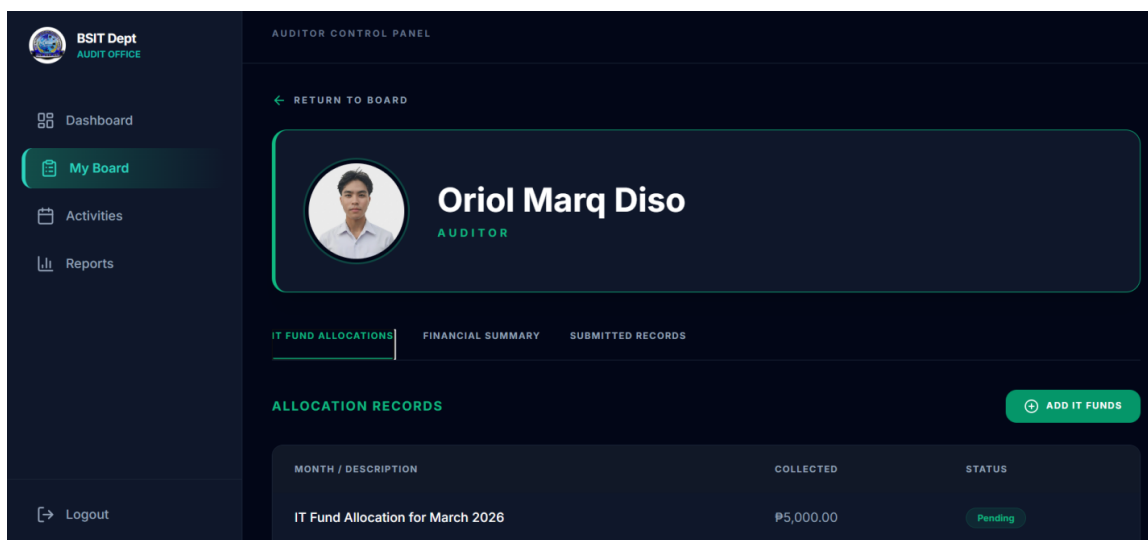


Figure 29. Auditor's Assigned Board Interface

Student's Mobile Interface



Figure 30. Student's Website Overview Mobile Interface



Figure 31. *Student's Login Mobile Interface*

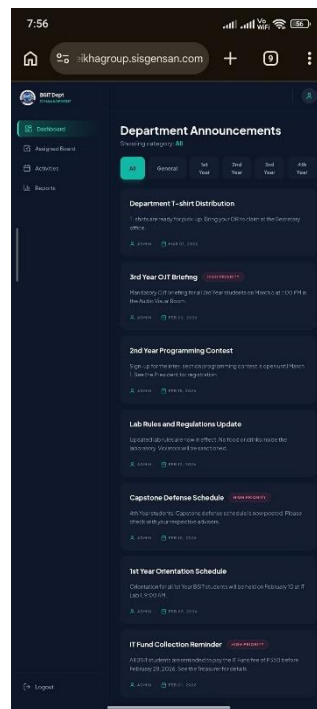


Figure 32. *Student's Dashboard Mobile Interface*

Admin and 5 Major Officers Mobile Interface



Figure 33. Admin and 5 major officer's Website Overview Mobile Interface



Figure 34. Admin and 5 major officer's Login Mobile Interface

CHAPTER V

Result and Discussion

Development testing

The development testing for the System Management followed an iterative process to ensure all features worked correctly before the final evaluation. During the Construction Phase, the researchers conducted unit testing on core modules, such as the Role-Based Access Control (RBAC), to verify that the Administrator, Major Officers, and Students could only access their assigned functions. We used Alpha Testing to catch technical bugs in the PHP code and MySQL database connections, making sure that data like student attendance and inventory records saved properly without errors. This stage was crucial because it allowed us to fix navigation issues and functional glitches early on, ensuring the system was stable and reliable before it was handed over to the 15 respondents for the formal System Usability Scale (SUS) survey.

System Usability Scale

This study uses the System Usability Scale (SUS) as a standardized, reliable, and cost-effective way to measure how easy to use and satisfying the System Management for the BSIT Department is overall. The researchers use a 5-point Likert Scale that goes from Strongly Disagree (1) to Strongly Agree (5) to turn subjective user experiences into objective numerical data. The fifteen individuals took this scale: one Administrator, five Major Officers, and nine BSIT Students. This was done to make sure that the system's interface and features meet the needs of all of its intended users.

Verbal Interpretation	
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Table 2. *Verbal Interpretation Guide for the Likert Scale*

The structured evaluation framework ensures that the collected data goes beyond just adding up numbers. It allows for a meaningful assessment of how well the system works for different users. As a result, this method supports a data-driven analysis. This helps identify system components that meet departmental goals, as well as those that may need technical improvements or changes.

Survey Questionnaire by Admin/5 major officer and Student Perception

Direction: Please rate the following statements based on your experience using the platform (<https://sheikhagroup.sisgensan.com/>).

Respondent Type: ☐ Admin/Officer

☐ Student (Read-Only)

Rating Scale:

5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, 1 – Strongly Disagree

Part I: For Administrators & Student Officers

A. System Management & Governance

Statement	5	4	3	2	1
1. The Dashboard provides a clear and comprehensive overview of department activities.					
2. The User Management feature effectively organizes student and faculty records.					
3. Assigning tasks and managing the Assigned Board is intuitive and reduces manual workload.					
4. The system allows for seamless tracking of departmental reports and documentation.					
5. Adding, updating, and deleting records (within my permissions) is straightforward and accurate.					

B. Functional Efficiency

Statement	5	4	3	2	1
1. The system improves the speed of communicating announcements to the BSIT department.					
2. Data entry for student activities and departmental updates is straightforward.					
3. The automated reporting tools are accurate and save time compared to traditional methods.					
4. The system effectively handles the volume of student data within the department.					
5. Using this system significantly reduces the time and effort required to perform my departmental management tasks.					

C. Technical Reliability

Statement	5	4	3	2	1
1. The system is accessible whenever needed without frequent downtime.					
2. Data remains consistent and accurate across different administrative modules.					
3. The system functions consistently across different web browsers (Chrome, Firefox, Safari) and devices (Mobile vs. Desktop).					
4. When a user makes a mistake (e.g., incorrect login or empty field), the system provides clear, helpful error messages rather than crashing.					
5. The system effectively prevents unauthorized users from accessing restricted administrative areas (e.g., Treasurer or Auditor modules).					

D. Overall Acceptability & Impact

Statement	5	4	3	2	1
1. Overall, I am satisfied with the performance of this Web-Based IT System Management.					
2. I believe the system successfully achieves its goal of improving departmental record keeping.					
3. I strongly recommend the permanent adoption of this system for the BSIT Department.					
4. The final system accurately reflects the refinements and feedback provided during the prototype/RAD phases.					
5. The system is reliable enough to be used as the primary tool for departmental record-keeping and inventory management.					

Part II: For Students (Read-Only Users)

A. Information Accessibility

Statement	5	4	3	2	1
1. It is easy to navigate the system to find departmental updates and activities.					
2. The Stay Updated features (announcements) provide timely information.					
3. The interface is clean, minimalist, and easy to understand.					
4. Labels, icons, and buttons are clear and easy to understand.					
5. The system serves as a reliable "one-stop shop" for BSIT department information.					

B. User Experience (UI/UX)

Statement	5	4	3	2	1
1. The website loads quickly on both mobile and desktop devices.					
2. The layout is professional and aligns with the BSIT department's standards.					
3. The registration and login process is secure and user-friendly.					
4. The sidebar and menu categories are logically organized, allowing me to reach any section of the site in three clicks or less.					
5. The most important information (e.g., latest announcements or dashboard stats) is visually prominent and easy to spot immediately upon login.					

Table 3. *Questionnaire Methods*

Formula Used to Solve the Respondent

The researchers employed the Weighted Mean and Grand Mean as the primary statistical tool to evaluate the data gathered from the Administrator, Major Officers, and BSIT Students. This descriptive statistical method is used to determine the average of the responses while accounting for the varying weights of the 5-point Likert scale. While the Grand Mean provides a single, unified score for the entire category or respondent group. By assigning a specific numerical value to each level of agreement—from 5 (Strongly Agree) to 1 (Strongly Disagree)—the formula allows for a precise calculation of the system's performance in areas such as Technical Reliability and Functional Efficiency. This approach ensures that the subjective feedback of the 15 respondents is transformed into an objective numerical index, which is then used to conclude the overall acceptability of the Web-Based IT Management System.

The formulas are expressed as:

$$\bar{x}_w = \frac{\sum(f \cdot w)}{N}$$

Where:

$\bar{x}_w$ (Weighted Mean)	The resulting average score for a specific category.
$\sum$ (Summation)	Represents the total of all calculated products.
f (Frequency)	The number of respondents who selected a particular rating.
w (Weight)	The point value (5, 4, 3, 2, or 1) is assigned to the response.
N (Total Respondents)	The sample size (n=6 for Admin/Officers; n=9 for Students)

$$G_{\bar{x}} = \frac{\sum \bar{x}_w}{n}$$

Where:

- $G_{\bar{x}}$ (Grand Mean)** The Grand Mean represents the overall group rating.
- $\sum \bar{x}_w$ (Summation)** The sum of all the overall total means for each category.
- n (Frequency)** The number of categories evaluated.

Respondent Profile

Demographic Item	Frequency
Level	
Admin	1
Major Officer	5
Students	9
Total	15

Table 4. *Respondent Profile*

Result of the Respondent

The responses collected from a group of individuals who were requested to rate their opinion or level of agreement on a particular topic using a 5-point Likert scale. The results were original and analysed or interpreted.

Part I: For Administrators & 5 Student Officers

A. System Management & Governance

Questions	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean
Q1	4	2	0	0	0	4.67
Q2	1	5	0	0	0	4.17
Q3	0	6	0	0	0	4.00
Q4	0	6	0	0	0	4.00
Q5	1	3	1	1	0	3.67
Overall Mean						4.10

B. Functional Efficiency

Questions	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean
Q1	2	4	0	0	0	4.33
Q2	0	6	0	0	0	4.00
Q3	1	5	0	0	0	4.17
Q4	2	3	0	0	0	4.33
Q5	3	3	0	0	0	4.50
Overall Mean						4.27

C. Technical Reliability

Questions	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean
Q1	1	5	0	0	0	4.17
Q2	2	4	0	0	0	4.33
Q3	1	5	0	0	0	4.17
Q4	0	6	0	0	0	4.00
Q5	1	5	0	0	0	4.17
Overall Mean						4.17

D. Overall Acceptability & Impact

Questions	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean
Q1	3	3	0	0	0	4.50
Q2	2	4	0	0	0	4.33
Q3	2	4	0	0	0	4.33
Q4	2	4	0	0	0	4.33
Q5	3	3	0	0	0	4.50
Overall Mean						4.40

Table 5. *Raw Results of Admin and Major Officer as Respondent's Answer in Part I*

This table presents the evaluation results from the Administrator and five Major Officers ($n=6$) regarding the system's core operational and technical capabilities. Based on the tally, the System Management & Governance category achieved a mean of **4.10**, while

Functional Efficiency and Technical Reliability received scores of **4.27** and **4.17**, respectively. The highest-rated category was Overall Acceptability & Impact with a mean of **4.40**, reflecting a strong consensus on the system's value. Collectively, these scores result in an Overall Grand Mean of **4.24**. This result falls within the Strongly Agree range, indicating that the administrative users found the web-based system to be highly effective, secure, and reliable for managing departmental tasks.

Part II: For Students (Read-Only Users)

A. Information Accessibility

Questions	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean
Q1	5	2	2	0	0	4.33
Q2	5	4	0	0	0	4.56
Q3	5	1	3	0	0	4.22
Q4	7	1	1	0	0	4.67
Q5	3	5	1	0	0	4.22
Overall mean						4.40

B. User Experience (UI/UX)

Questions	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean
Q1	5	3	1	0	0	4.44
Q2	5	3	1	0	0	4.44
Q3	5	2	2	0	0	4.33
Q4	4	3	2	0	0	4.22
Q5	6	2	1	0	0	4.56
Overall mean						4.40

Table 6. *Raw Results of Student as Respondent's Answer in Part II*

This table shows how the nine BSIT students felt about using the system for their school needs. For the Information Accessibility part, the students gave a score of **4.33**, meaning they found it very easy to find the data they were looking for. The User Experience

category got an even higher score of **4.47**, which proves the website is simple to use and has a good design for students. When you combine these two areas, the Overall Grand Mean for Students is **4.40**. This puts them in the Strongly Agree range, showing that the system is not just functional for the officers but also very helpful and user-friendly for the regular student body.

Summary of Evaluation Results

The following table summarizes the Overall Total Means for all categories evaluated by both the Administrator/Officers and the Students.

Respondent Group	Category	Total Mean	Interpretation
Admin/Officers (N=6)	System Management	4.10	Agree
	Functional Efficiency	4.27	Strongly Agree
	Technical Reliability	4.17	Agree
	Overall Acceptability	4.40	Strongly Agree
Students (N=9)	Info Accessibility	4.40	Strongly Agree
	User Experience	4.40	Strongly Agree
OVERALL TOTAL	Entire System	4.32	Strongly Agree

Table 7. Evaluation Results

The researchers calculated the Weighted Mean to convert survey responses into objective data. For the Administrator and Major Officers ($N=6$), the frequencies were multiplied by their respective weights (5 to 1), resulting in category means of **4.10** for System Management, **4.27** for Functional Efficiency, **4.17** for Technical Reliability, and **4.40** for Overall Acceptability. This produced an Admin Grand Mean of **4.24**. Similarly, the BSIT Students ($N=9$) evaluated Information Accessibility and User Experience, both achieving

a mean of **4.40**, leading to a Student Grand Mean of **4.40**. By combining both groups, the study reached a Final Grand Total Mean of **4.32**, which falls within the Strongly Agree range.

CHAPTER VI

Conclusion and Recommendation

Conclusion

The study successfully developed the System Management for the BSIT Department of Stratford International School using the Rapid Application Development (RAD) model. Based on the findings, we conclude that the iterative prototyping process allowed for a system that accurately reflects the department's actual workflows, specifically in inventory and attendance tracking. The implementation of a Role-Based Access Control (RBAC) hierarchy effectively balanced security with user experience, ensuring that sensitive data remains protected while providing a smooth and intuitive interface for the five major officers. Finally, the high Weighted Mean and System Usability Scale (SUS) scores confirm that the system is strongly agree to its stakeholders. It has successfully transitioned the department from labour-intensive manual logging to a centralized, digital environment that enhances operational speed, data integrity, and administrative transparency.

Recommendation

Based on the successful implementation and the delimitations of the current study, the following actions are recommended:

1. **Automated Notifications:** The system could be enhanced by adding an SMS or Email notification module that automatically alerts the IT Head when laboratory equipment is marked as Defective or requires maintenance.
2. **System Archiving (Data Retention)-** Implement an archive function in the Admin Module that allows the Department Head to store records for a minimum of five years, in accordance with standard academic record-keeping policies.

3. **Trash Management System-** The developers should implement a soft-delete mechanism where deleted records are first moved to a Trash or Recycle Bin layer rather than being immediately erased. This allows the Department Head a grace period to restore information if an error occurs.
4. **Implement Multi-Factor Authentication-** It is recommended that the system incorporate an email-based verification layer that requires users to input a unique one-time password (OTP) sent to their registered institutional email during the login process. This security measure provides an additional barrier against unauthorized access, ensuring that even if a password is compromised, the system remains protected by verifying the user's identity through a secondary, authenticated channel.

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Journal of Web Development.

APPENDICES

Appendix A. Letter of Approval

This Capstone Project entitled **System Management for the BSIT Department of Stratford International School**, prepared, and submitted by **Aiya Rose G. Canino, Sheikha A. Lasad, Fryne July V. Maindan, and Alexander John O. Reyna** in partial fulfilment of the requirement for the degree **Bachelor of Science in Information Technology** is hereby accepted.

NORAJED A. MAGUID, LPT, MIT
Adviser

NORAJED A. MAGUID, LPT, MIT
Panel Chair

ANGELICA T. DELA PEÑA, MMSD
Panel Reviewer

NORAJED A. MAGUID, LPT, MIT
Panel Reviewer

Accepted and approved for the conferral of the degree

Bachelor of Science in Information Technology

Appendix B. Invitation to Thesis Panelist

STRATFORD INTERNATIONAL SCHOOL
General Santos City

INVITATION TO THESIS PANELIST

Date: March 21, 2026

To: **ANGELICA T. DELA PEÑA, MMSD**
(Name of Thesis Panelist)

May I invite you to serve as THESIS PANELIST of the following **BSIT** student:

NAMES: CANINO, AIYA ROSE G.
LASAD, SHEIKHA A.
MAINDAN, FRYNE JULY V.
REYNA, ALEXANDER JOHN O.

Thesis Title: Web-Based IT System for the BSIT Department of Stratford International School

Teacher-in-charge: **NORAJED A. MAGUID, LPT, MIT**

As **Thesis Panelist**, please be guided by the following:

1. Thoroughly reviews the research manuscript prior to the actual defense.
2. Must be present during the oral defense; if absent, another panelist may take their place or the meeting may be rescheduled.
3. Should arrive in the defense room at least five (5) minutes before the scheduled time.
4. Focuses on the relevance of the content and the coherence among various sections of the thesis (technical aspects such as grammar, formatting, and spacing can be handled by a language or technical editor).
5. Poses questions that are directly related to the study and offers students options as guidance on how to implement the suggestions.
6. Clearly communicates all recommendations during the formal defense; any individual suggestions made outside the defense that could alter the paper's direction should be avoided.
7. Supports student-researchers appropriately and returns their research-related documents within three (3) days of receipt.

Thank you very much.

ANGELICA T. DELA PEÑA, MMSD
Program IT Coordinator

Noted:

Dr. MEG ESTORNINOS
College of School Dean

NORAJED A. MAGUID, LPT, MIT
Thesis Adviser
(Print Name & Signature)

Date Conformed: _____

INVITATION TO THESIS PANELIST

Date: March 21, 2026

To: **NORAJED A. MAGUID, LPT, MIT**
(Name of Thesis Panelist)

May I invite you to serve as THESIS PANELIST of the following **BSIT** student:

NAMES: CANINO, AIYA ROSE G.
LASAD, SHEIKHA A.
MAINDAN, FRYNE JULY V.
REYNA, ALEXANDER JOHN O.

Thesis Title: Web-Based IT System for the BSIT Department of Stratford International School

Teacher-in-charge: **NORAJED A. MAGUID, LPT, MIT**

As **Thesis Panelist**, please be guided by the following:

1. Thoroughly reviews the research manuscript prior to the actual defense.
2. Must be present during the oral defense; if absent, another panelist may take their place or the meeting may be rescheduled.
3. Should arrive in the defense room at least five (5) minutes before the scheduled time.
4. Focuses on the relevance of the content and the coherence among various sections of the thesis (technical aspects such as grammar, formatting, and spacing can be handled by a language or technical editor).
5. Poses questions that are directly related to the study and offers students options as guidance on how to implement the suggestions.
6. Clearly communicates all recommendations during the formal defense; any individual suggestions made outside the defense that could alter the paper's direction should be avoided.
7. Supports student-researchers appropriately and returns their research-related documents within three (3) days of receipt.

Thank you very much.

ANGELICA T. DELA PEÑA, MMSD
Program IT Coordinator

Noted:

Dr. MEG ESTORNINOS
College of School Dean

NORAJED A. MAGUID, LPT, MIT
Thesis Adviser
(Print Name & Signature)

Date Conformed: _____

Appendix C. Title Approval Sheet

STRATFORD INTERNATIONAL SCHOOL

General Santos City

TITLE APPROVAL SHEET

Date: January 24, 2026

Name of Student: CANINO, AIYA ROSE G.
 LASAD, SHEIKHA A.
 MAINDAN, FRYNE JULY V.
 REYNA, ALEXANDER JOHN

Proposed Titles:

1. Development of a Role Based Entrance Examination System for College Admission
2. Web-Based Digital Student Handbook System at Stratford International School
3. Web-Based IT System for the BSIT Department of Stratford International School

Approved Title No. 3

Remarks:

Panel of Examiners:	Name	Signature
Chairman:	NORAJED A. MAGUID, LPT, MIT	_____
Member 1:	ANGELICA T. DELA PEÑA, MMSD	_____
Member 2:		_____

Noted:	NORAJED A. MAGUID, LPT, MIT Research Instructor (Signature Over Printed Name)	College of School Dean (Signature Over Printed Name)
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Appendix D. Thesis Revision Chart (Proposal Defense)

STRATFORD INTERNATIONAL SCHOOL
General Santos City

THESIS REVISION CHART (Proposal Defense)

Thesis Title	Web-Based IT System for the BSIT Department of Stratford International School	
Researcher	CANINO, AIYA ROSE G. LASAD, SHEIKHA A. MAINDAN, FRYNE JULY V. REYNA, ALEXANDER JOHN O.	Degree: BSIT
Chair	NORAJED A. MAGUID, LPT, MIT	
Reviewers		
Adviser	NORAJED A. MAGUID, LPT, MIT	

Reviewer's Suggestions and Recommendations	Recommended by:	Revisions Made	New Page/s	Reviewer's Approval (Signature)
Title	NORAJED A. MAGUID, LPT, MIT	System management for the BSIT Department of Stratford International School		
Introduction				
Objective of the Study				
Literature Reviews				
Method				

The proposed revisions outlined earlier were carefully examined and determined to align with the expectations of the panel of examiners.

Noted by:

NORAJED A. MAGUID, LPT, MIT
Thesis Adviser

Appendix E. Thesis Revision Chart (Final Defense)

STRATFORD INTERNATIONAL SCHOOL

General Santos City

THESIS REVISION CHART (Final Defense)

Thesis Title	Web-Based IT System for the BSIT Department of Stratford International School	
Researchers	CANINO, AIYA ROSE G	Degree: BSIT
	LASAD, SHEIKHA A.	
	MAINDAN, FRYNE JULY V.	
	REYNA, ALEXANDER JOHN O.	
Chair	NORAJED A. MAGUID, LPT, MIT	
Reviewers		
Adviser	NORAJED A. MAGUID, LPT, MIT	

Reviewer's Suggestions and Recommendations	Recommended by:	Revisions Made	New Page/s	Reviewer's Approval (Signature)
Title	NORAJED A. MAGUID, LPT, MIT	System Management for the BSIT Department of Stratford International School		
Recommendation	ANGELICA T. DELA PEÑA, MMSD	• Automated Notifications • System Archiving (Data Retention) • Trash Management System • Implement Multi-Factor Authentication		

The proposed revisions outlined earlier were carefully examined and determined to align with the expectations of the panel of examiners.

Noted by:

NORAJED A. MAGUID, LPT, MIT

Thesis Adviser

Appendix F. Consultation Record with Thesis Adviser

STRATFORD INTERNATIONAL SCHOOL

General Santos City

CONSULTATION RECORD WITH THESIS ADVISER

Name of Researcher: CANINO, AIYA ROSE G. Course: BSIT
 LASAD, SHEIKHA A.
 MAINDAN, FRYNE JULY V.
 REYNA, ALEXANDER JOHN

Name of Adviser: NORAJED A. MAGUID, LPT, MIT Date: March 21, 2026

	COMMENTS
INTRODUCTION	
Background of the Study	
Objectives	
REVIEW OF RELATED LIT- ERATURE	
RELATED STUDIES	
SCOPE AND LIMITATIONS	include automated notifications, system archiving, implement multi-factor authentication, and a trash management system
SIGNIFICANCE OF THE STUDY	
DEFINITION OF TERMS	
METHOD	

Other Recommendations

Adviser:

NORAJED A. MAGUID, LPT, MIT

Print Name and Signature

Appendix G. Endorsement for Thesis Proposal/Final Defense

STRATFORD INTERNATIONAL SCHOOL
General Santos City

ENDORSEMENT FOR THESIS PROPOSAL/FINAL DEFENSE

Date: March 21, 2026

Dear **ANGELICA T. DELA PEÑA, MMSD:**
(Name of Program IT Coordinator)

This is to endorse the thesis paper of the following student researcher:

- 1) CANINO, AIYA ROSE G.
- 2) LASAD, SHEIKHA A.
- 3) MAINDAN, FRYNE JULY V.
- 4) REYNA, ALEXANDER JOHN O.

Thesis Title: System Management for the BSIT Department of Stratford International School

() **PROPOSAL Defense** on: January 24, 2026, 1:00 PM at F-109 Room
(Date) (Time) (Venue)

() **FINAL Defense** on: March 21, 2026, 12:30 PM at CCS Room
(Date) (Time) (Venue)

Attached are the four (4) copies of the thesis paper (3 copies for the panelists, and 1 for the thesis adviser).

Thank you very much.

Respectfully,

NORAJED A. MAGUID, LPT, MIT

Instructor, Capstone Project and Research 1
(Subject)

Received by:

ANGELICA T. DELA PEÑA, MMSD
Program IT Head
(Name & Signature)

Date Received

Appendix H. Endorsement for Reproduction of the Thesis Paper

STRATFORD INTERNATIONAL SCHOOL
General Santos City

ENDORSEMENT FOR REPRODUCTION OF THE THESIS PAPER

Date: March 21, 2026

Dr. MEG ESTORNINOS

College of School Dean

Graduate School of **Bachelor of Science in Information Technology**

Dear **ANGELICA T. DELA PEÑA, MMSD**:

Following a detailed review of the revised thesis papers of the students listed below:

1. CANINO. AIYA ROSE G.
2. LASAD, SHEIKHA A.
3. MAINDAN, FRYNE JULY
4. REYNA, ALEXANDER JOHN O.

We are confident that the thesis paper has addressed the corrections and recommendations made by the panel of examiners and has been suitably edited by a skilled language editor.

Thus, we now recommend the final version of the thesis paper for reproduction and hard binding.

For your approval.

NORAJED A. MAGUID, LPT, MIT

Thesis Adviser
(Printed Name and Signature)

NORAJED A. MAGUID, LPT, MIT

Chairman, Panel of Reviewers
(Printed Name and Signature)

ANGELICA T. DELA PEÑA, MMSD

Program IT Coordinator
(Printed Name and Signature)

BEBERLIE D. DIAGBEL, LPT

Language Editor
(Printed Name and Signature)

Approved:

Dr. MEG ESTORNINOS
College of School Dean
Signature

Appendix I. Certificate of Authentic Authorship

STRATFORD INTERNATIONAL SCHOOL
General Santos City

CERTIFICATE OF AUTHENTIC AUTHORSHIP

I hereby affirm that this submission is entirely my/our own work, and to the best of my/our ability, it does not include any materials that have been published or written by someone else, nor does it consist of substantial portions that have been accepted for any other degree or diploma at **STRATFORD INTERNATIONAL SCHOOL** or any other academic institution, unless proper acknowledgment is provided in the thesis. Any contributions from others, with whom I have collaborated at **STRATFORD INTERNATIONAL SCHOOL** or elsewhere, are specifically recognized in the thesis.

Additionally, I declare that the intellectual substance of this thesis stems from my/our efforts, except in cases where help from others in the design and conception of the project, or in terms of style, presentation, and language, is acknowledged.

The Researcher/s:

CANINO, AIYA ROSE G.

LASAD, SHEIKHA A.

MAINDAN, FRYNE JULY V.

REYNA, ALEXANDER JOHN O.

Printed Name & Signature

Appendix J. Survey Questionnaires on Admin/Major Officers

WEB-BASED IT SYSTEM MANAGEMENT FOR THE BSIT DEPARTMENT OF STRATFORD INTERNATIONAL SCHOOL

Survey Questionnaires

Name (Optional): Agelina T. Dela Peña

Direction: Please rate the following statements based on your experience using the platform (<https://shelkhagroup.sispensan.com/>).

Respondent Type: ☒ Admin/Officer
☐ Student (Read-Only)

Rating Scale:
5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, 1 – Strongly Disagree

Part I: For Administrators & Student Officers

A. System Management & Governance

Statements	5	4	3	2	1
1. The Dashboard provides a clear and comprehensive overview of department activities.		✓			
2. The User Management feature effectively organizes student and faculty records.			✓		
3. Assigning tasks and managing the Assigned Board is intuitive and reduces manual workload.		✓			
4. The system allows for seamless tracking of departmental reports and documentation.		✓			
5. Adding, updating, and deleting records (within my permissions) is straightforward and accurate.				✓	

B. Functional Efficiency

Statements	5	4	3	2	1
1. The system improves the speed of communicating announcements to the BSIT department.		✓			
2. Data entry for student activities and departmental updates is straightforward.		✓			
3. The automated reporting tools are accurate and save time compared to traditional methods.		✓			
4. The system effectively handles the volume of student data within the department.					
5. Using this system significantly reduces the time and effort required to perform my departmental management tasks.		✓			

C. Technical Reliability

Statements	5	4	3	2	1
1. The system is accessible whenever needed without frequent downtime.		✓			
2. Data remains consistent and accurate across different administrative modules.		✓			
3. The system functions consistently across different web browsers (Chrome, Firefox, Safari) and devices (Mobile vs. Desktop).		✓			
4. When a user makes a mistake (e.g., incorrect login or empty field), the system provides clear, helpful error messages rather than crashing.		✓			
5. The system effectively prevents unauthorized users from accessing restricted administrative areas (e.g., Treasurer or Auditor modules).		✓			

D. Overall Acceptability & Impact

Statements	5	4	3	2	1
1. Overall, I am satisfied with the performance of this Web-Based IT System Management.		✓			
2. I believe the system successfully achieves its goal of improving departmental record keeping.		✓			
3. I strongly recommend the permanent adoption of this system for the BSIT Department.		✓			
4. The final system accurately reflects the refinements and feedback provided during the prototype/RAD phases.		✓			
5. The system is reliable enough to be used as the primary tool for departmental record-keeping and inventory management.		✓			

**WEB-BASED IT SYSTEM MANAGEMENT FOR THE BSIT DEPARTMENT OF
STRATFORD INTERNATIONAL SCHOOL**

Survey Questionnaires

Name (Optional): Yvett

Direction: Please rate the following statements based on your experience using the platform (<https://sheikhagroup.sispensan.com/>).

Respondent Type: ☒ Admin/Officer
☐ Student (Read-Only)

Rating Scale:
5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, 1 – Strongly Disagree

Part I: For Administrators & Student Officers

A. System Management & Governance

Statements	5	4	3	2	1
1. The Dashboard provides a clear and comprehensive overview of department activities.	/				
2. The User Management feature effectively organizes student and faculty records.		/			
3. Assigning tasks and managing the Assigned Board is intuitive and reduces manual workload.		/			
4. The system allows for seamless tracking of departmental reports and documentation.	/				
5. Adding, updating, and deleting records (within my permissions) is straightforward and accurate.	/				

B. Functional Efficiency

Statements	5	4	3	2	1
1. The system improves the speed of communicating announcements to the BSIT department.	/				
2. Data entry for student activities and departmental updates is straightforward.		/			
3. The automated reporting tools are accurate and save time compared to traditional methods.		/			
4. The system effectively handles the volume of student data within the department.	/				
5. Using this system significantly reduces the time and effort required to perform my departmental management tasks.	/				

C. Technical Reliability

Statements	5	4	3	2	1
1. The system is accessible whenever needed without frequent downtime.	/				
2. Data remains consistent and accurate across different administrative modules.	/				
3. The system functions consistently across different web browsers (Chrome, Firefox, Safari) and devices (Mobile vs. Desktop).		/			
4. When a user makes a mistake (e.g., incorrect login or empty field), the system provides clear, helpful error messages rather than crashing.		/			
5. The system effectively prevents unauthorized users from accessing restricted administrative areas (e.g., Treasurer or Auditor modules).	/				

D. Overall Acceptability & Impact

Statements	5	4	3	2	1
1. Overall, I am satisfied with the performance of this Web-Based IT System Management.	/				
2. I believe the system successfully achieves its goal of improving departmental record keeping.	/				
3. I strongly recommend the permanent adoption of this system for the BSIT Department.	/				
4. The final system accurately reflects the refinements and feedback provided during the prototype/RAD phases.	/				
5. The system is reliable enough to be used as the primary tool for departmental record-keeping and inventory management.	/				

Appendix K. Survey Questionnaires on Students in the BSIT Department

WEB-BASED IT SYSTEM MANAGEMENT FOR THE BSIT DEPARTMENT OF
STRATFORD INTERNATIONAL SCHOOL

Survey Questionnaires

Name (Optional): EARL LOUI ABELLANA JR.

Direction: Please rate the following statements based on your experience using the platform (<https://sheikhagroup.sisgensan.com/>).

Respondent Type: ☐ Admin/Officer
☒ Student (Read-Only)

Rating Scale:
5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, 1 – Strongly Disagree

Part II: For Students (Read-Only Users)

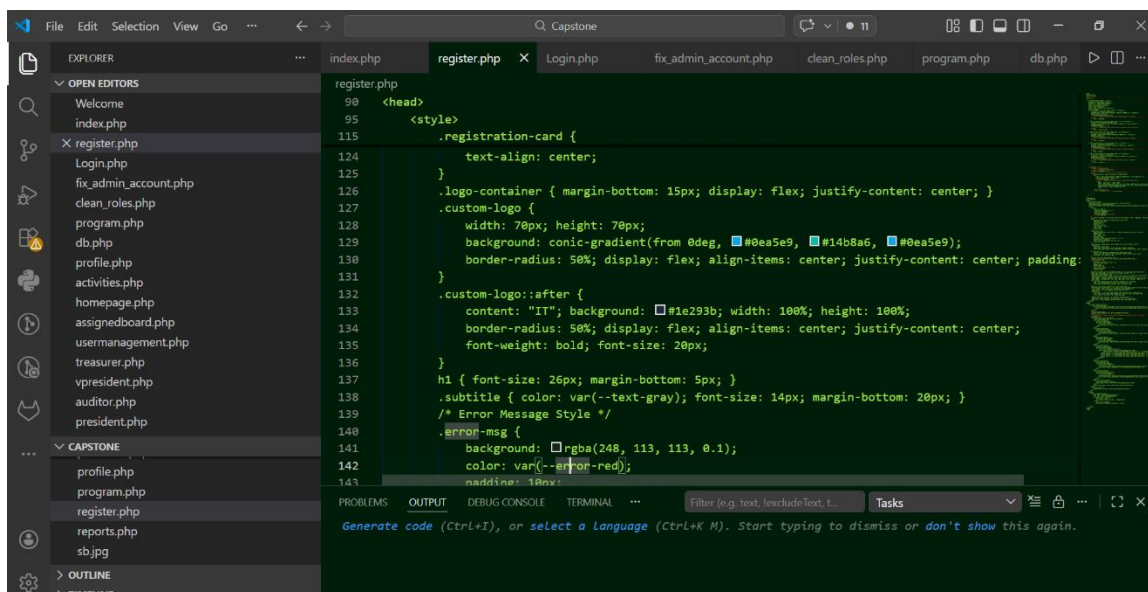
A. Information Accessibility

Statements	5	4	3	2	1
1. It is easy to navigate the system to find departmental updates and activities.		✓			
2. The "Stay Updated" features (announcements) provide timely information.		✓			
3. The interface is clean, minimalist, and easy to understand.			✓		
4. Labels, icons, and buttons are clear and easy to understand.		✓			
5. The system serves as a reliable "one-stop shop" for BSIT department information.		✓			

B. User Experience (UI/UX)

Statements	5	4	3	2	1
1. The website loads quickly on both mobile and desktop devices.		✓			
2. The layout is professional and aligns with the BSIT department's standards.		✓			
4. The registration and login process is secure and user-friendly.			✓		
3. The sidebar and menu categories are logically organized, allowing me to reach any section of the site in three clicks or less.			✓		
5. The most important information (e.g., latest announcements or dashboard stats) is visually prominent and easy to spot immediately upon login.		✓			

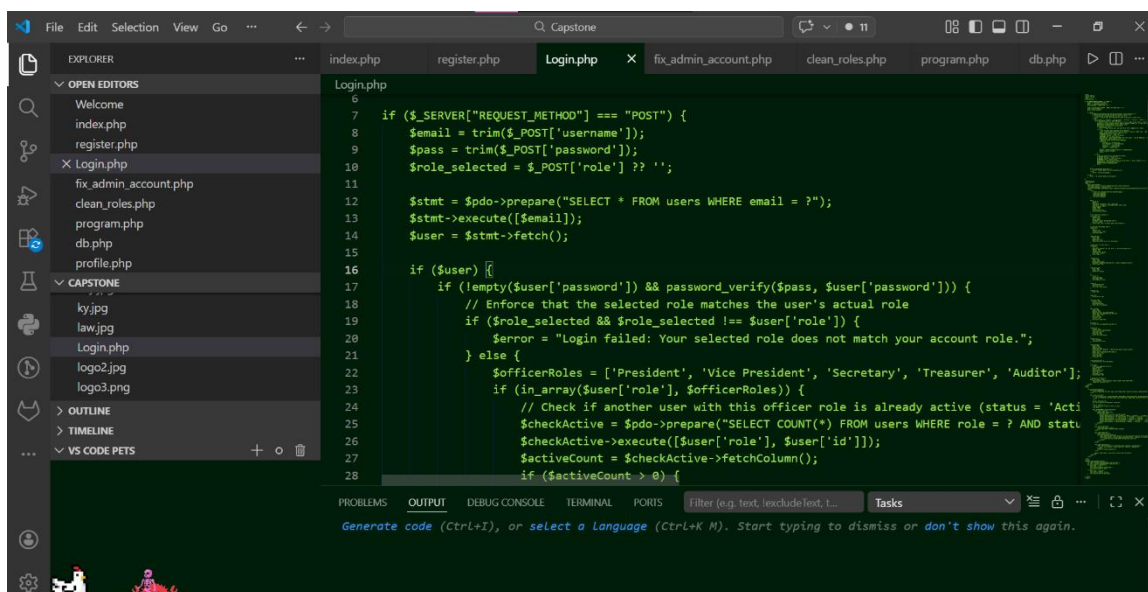
Appendix L. Picture Showing the Actual Form and Code



```

register.php
90 <head>
95 <style>
115 .registration-card {
124     text-align: center;
125 }
126 .logo-container { margin-bottom: 15px; display: flex; justify-content: center; }
127 .custom-logo {
128     width: 70px; height: 70px;
129     background: conic-gradient(from 0deg, #0ea5e9, #14b8a6, #0ea5e9);
130     border-radius: 50%; display: flex; align-items: center; justify-content: center; padding:
131 }
132 .custom-logo:after {
133     content: "IT"; background: #1e293b; width: 100%; height: 100%;
134     border-radius: 50%; display: flex; align-items: center; justify-content: center;
135     font-weight: bold; font-size: 20px;
136 }
137 h1 { font-size: 26px; margin-bottom: 5px; }
138 .subtitle { color: var(--text-gray); font-size: 14px; margin-bottom: 20px; }
139 /* Error Message Style */
140 .error-msg {
141     background: rgba(248, 113, 113, 0.1);
142     color: var(--error-red);
143     padding: 10px;

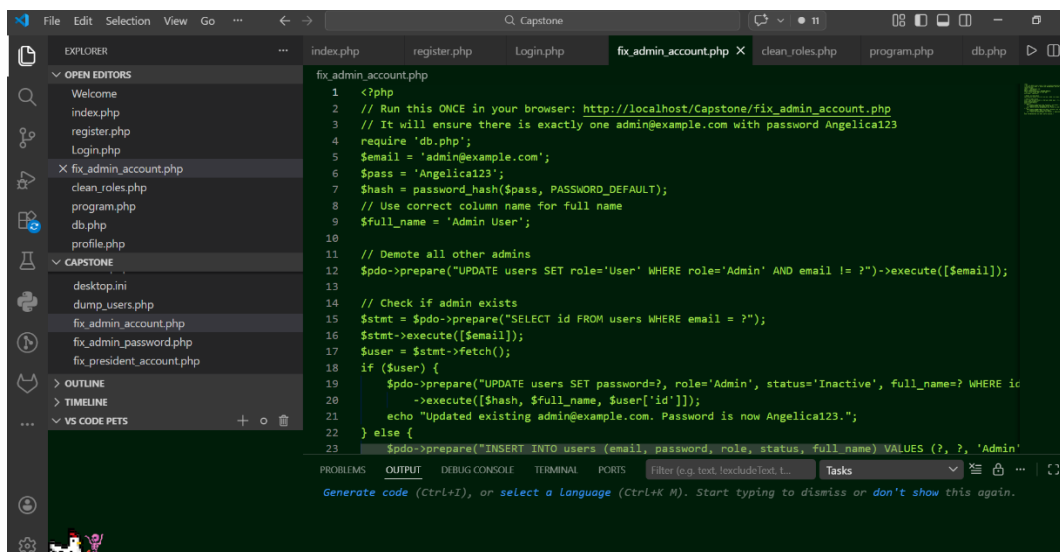
```



```

Login.php
6
7 if ($_SERVER["REQUEST_METHOD"] === "POST") {
8     $email = trim($_POST['username']);
9     $pass = trim($_POST['password']);
10    $role_selected = $_POST['role'] ?? '';
11
12    $stmt = $pdo->prepare("SELECT * FROM users WHERE email = ?");
13    $stmt->execute([$email]);
14    $user = $stmt->fetch();
15
16    if ($user) {
17        if (empty($user['password']) && password_verify($pass, $user['password'])) {
18            // Enforce that the selected role matches the user's actual role
19            if ($role_selected && $role_selected !== $user['role']) {
20                $error = "Login failed: Your selected role does not match your account role.";
21            } else {
22                $officerRoles = ['President', 'Vice President', 'Secretary', 'Treasurer', 'Auditor'];
23                if (in_array($user['role'], $officerRoles)) {
24                    // Check if another user with this officer role is already active (status = 'Active')
25                    $checkActive = $pdo->prepare("SELECT COUNT(*) FROM users WHERE role = ? AND status = 'Active'");
26                    $checkActive->execute([$user['role'], $user['id']]);
27                    $activeCount = $checkActive->fetchColumn();
28                    if ($activeCount > 0) {

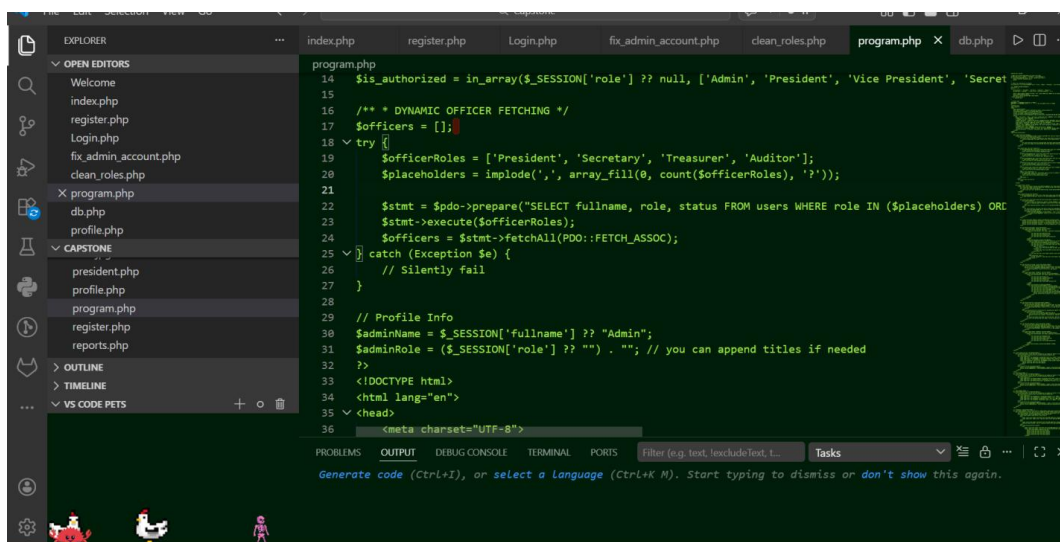
```



```

1 <?php
2 // Run this ONCE in your browser: http://localhost/Capstone/fix_admin_account.php
3 // It will ensure there is exactly one admin@example.com with password Angelica123
4 require 'db.php';
5 $email = 'admin@example.com';
6 $pass = 'Angelica123';
7 $hash = password_hash($pass, PASSWORD_DEFAULT);
8 // Use correct column name for full name
9 $full_name = 'Admin User';
10
11 // Demote all other admins
12 $pdo->prepare("UPDATE users SET role='User' WHERE role='Admin' AND email != ?")->execute([$email]);
13
14 // Check if admin exists
15 $stmt = $pdo->prepare("SELECT id FROM users WHERE email = ?");
16 $stmt->execute([$email]);
17 $user = $stmt->fetch();
18 if ($user) {
19     $pdo->prepare("UPDATE users SET password=?, role='Admin', status='Inactive', full_name=? WHERE id=?")
20     ->execute([$hash, $full_name, $user['id']]);
21     echo "Updated existing admin@example.com. Password is now Angelica123.";
22 } else {
23     $pdo->prepare("INSERT INTO users (email, password, role, status, full_name) VALUES (?, ?, 'Admin', 'Inactive', ?)");
24     $pdo->execute([$email, $hash, $full_name]);
25 }

```



```

14 $is_authorized = in_array($_SESSION['role'] ?? null, ['Admin', 'President', 'Vice President', 'Secret
15
16 /** * DYNAMIC OFFICER FETCHING */
17 $officers = [];
18 try {
19     $officerRoles = ['President', 'Secretary', 'Treasurer', 'Auditor'];
20     $placeholders = implode(',', array_fill(0, count($officerRoles), '?'));
21
22     $stmt = $pdo->prepare("SELECT fullname, role, status FROM users WHERE role IN ($placeholders) ORC
23     $stmt->execute($officerRoles);
24     $officers = $stmt->fetchAll(PDO::FETCH_ASSOC);
25 } catch (Exception $e) {
26     // Silently fail
27 }
28
29 // Profile Info
30 $adminName = $_SESSION['fullname'] ?? "Admin";
31 $adminRole = ($_SESSION['role'] ?? "") . " "; // you can append titles if needed
32
33 <!DOCTYPE html>
34 <html lang="en">
35 <head>
36     <meta charset="UTF-8">

```

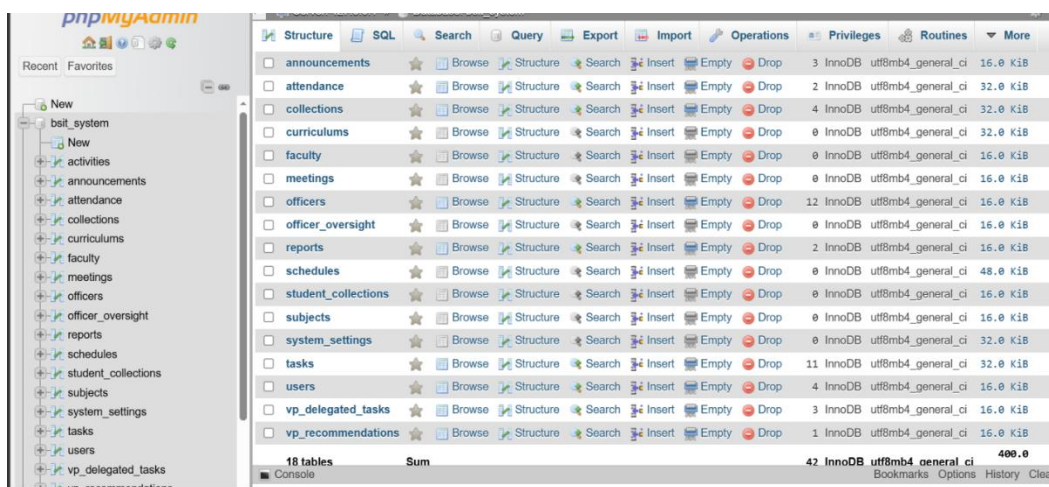


Table	Structure	SQL	Search	Query	Export	Import	Operations	Privileges	Routines	More
announcements	Browse	Structure	Search	Insert	Empty	Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB
attendance	Browse	Structure	Search	Insert	Empty	Drop	2	InnoDB	utf8mb4_general_ci	32.0 KiB
collections	Browse	Structure	Search	Insert	Empty	Drop	4	InnoDB	utf8mb4_general_ci	32.0 KiB
curriculums	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB
faculty	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB
meetings	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB
officers	Browse	Structure	Search	Insert	Empty	Drop	12	InnoDB	utf8mb4_general_ci	16.0 KiB
officer_oversight	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB
reports	Browse	Structure	Search	Insert	Empty	Drop	2	InnoDB	utf8mb4_general_ci	16.0 KiB
schedules	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB
student_collections	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB
subjects	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB
system_settings	Browse	Structure	Search	Insert	Empty	Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB
tasks	Browse	Structure	Search	Insert	Empty	Drop	11	InnoDB	utf8mb4_general_ci	32.0 KiB
users	Browse	Structure	Search	Insert	Empty	Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB
vp_delegated_tasks	Browse	Structure	Search	Insert	Empty	Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB
vp_recommendations	Browse	Structure	Search	Insert	Empty	Drop	1	InnoDB	utf8mb4_general_ci	16.0 KiB
18 tables	Sum						42	InnoDB	utf8mb4_general_ci	400.0

Appendix M. Code in the Backend and Frontend of Login Form

```

<?php

session_start();

require 'db.php';

$error = "";

$role_selected = ""; // preserve dropdown selection


if ($_SERVER["REQUEST_METHOD"] === "POST") {

$email = trim($_POST['username']);

$pass = trim($_POST['password']);

    // keep role dropdown for UI but don't use it for lookup

$role_selected = $_POST['role'] ?? "";


    // lookup by email only to avoid failed logins when wrong role is picked

$stmt = $pdo->prepare("SELECT * FROM users WHERE email = ?");

$stmt->execute([$email]);

$user = $stmt->fetch();

    // Remove debug output for production


if ($user) {

if (!empty($user['password']) && password_verify($pass, $user['password'])) {

    // deactivate all other users with the same role first

```

```
$reset = $pdo->prepare("UPDATE users SET status = 'Inactive' WHERE role = ? AND
id != ?"); $reset->execute([$user['role'], $user['id']]);
```

```
$_SESSION['user_id'] = $user['id'];
```

```
$_SESSION['fullname'] = $user['fullname'];
```

```
$_SESSION['role'] = $user['role'];
```

```
// mark this account active
```

```
$updateStatus = $pdo->prepare("UPDATE users SET status = 'Active' WHERE id = ?");
```

```
$updateStatus->execute([$user['id']]);
```

```
// Redirect all users to dashboard.php after login header("Location: dashboard.php");
```

```
exit();
```

```
} else if (empty($user['password'])) {
```

```
$error = "Account exists but has no password set. Please contact the administrator.";
```

```
} else {
```

```
$error = "Incorrect password.";
```

```
}
```

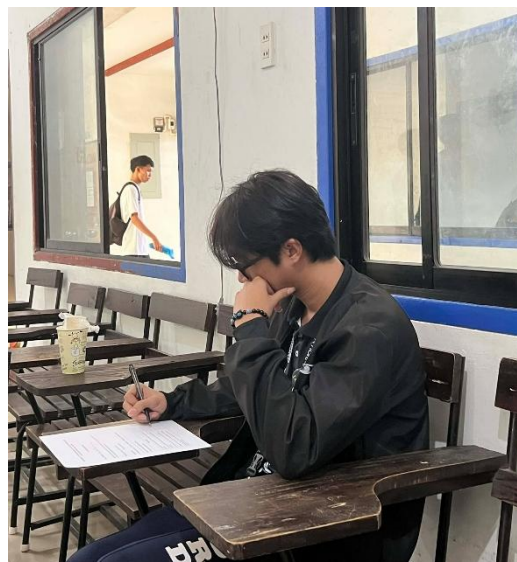
```
} else {
```

```
$error = "No account found with that email.";
```

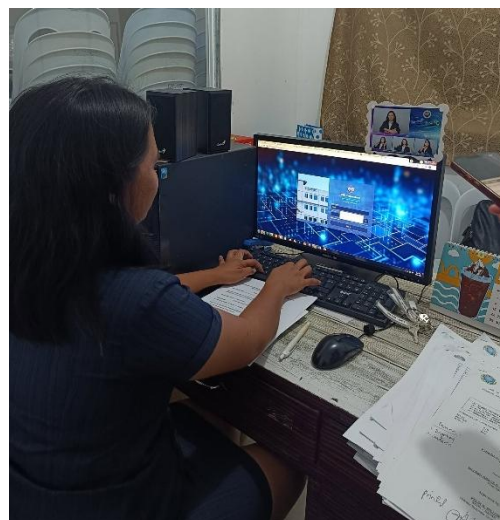
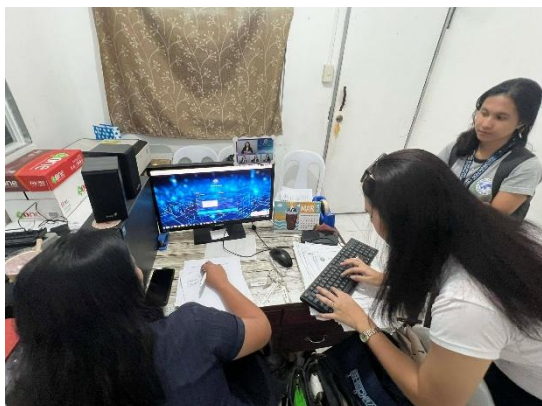
```
}
```

```
} ?>
```

Appendix N. During the Survey of College of IT Students



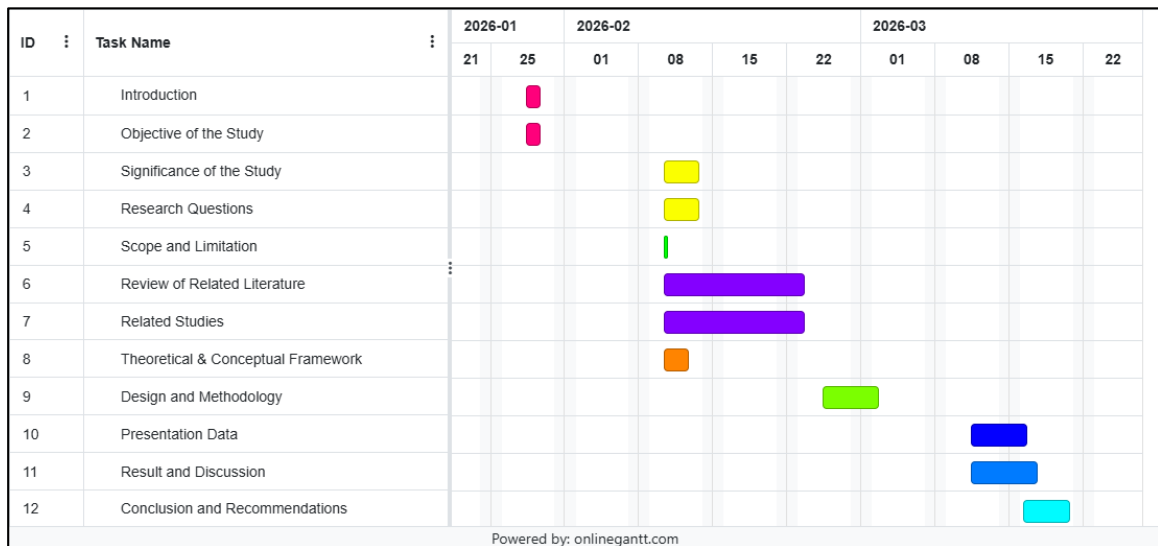
Appendix O. During the Survey of the IT Head and Major Officer



Appendix P. Research Paper Development Timeline



Appendix Q. System Development Life Cycle (SDLC) Gantt Chart



Appendix R. Final Defense



Appendix S. Final Checking

Web-Based IT System Management for the BSIT Department
of Stratford International School



In Partial Fulfilment of the Requirements in Capstone Project and
Research I

Bachelor of Science in Information Technology

AIYA ROSE G. CANINO
SHEIKHA A. LASAD
FRYNE JULY V. MAINDAN
ALEXANDER JOHN O. REYNA

Norajed A. Maguid, LPT, MIT

STRATFORD INTERNATIONAL SCHOOL

March 2026

3/21/2026
[Handwritten signature]
[Handwritten signature]

Appendix T. Curriculum Vitae

AIYA ROSE G. CANINO

TECHNICAL WRITER

ABOUT ME
I am highly proficient in document development with a strong focus on technical writing and strategic project planning.



CONTACT

✉ aiyarose808@gmail.com

☎ 09505112921

📍 Prk.Paglas Bagacay Alabel Sar.Prov

SKILLS

- Document Development
- Project Planning
- Design Planning
- Refining Complex Context

CERTIFICATES

- Software Development and Design Thinking 2025
- The Hour of Code
- Stay Safe Online: Cybersecurity Basics
- Stay Safe Online by DICT
- Introduction to Blockchain and Web 3
- 4-hour Online Information Session and Data Science and Analytics
- Artificial Intelligence for Health Information Technology
- Google Cloud Arcade
- Data Privacy Awareness
- Autocad for Beginners
- Hour of Code Campaign

EDUCATION

TERTIARY	
Stratford International School	2023-2027
SECONDARY	
Alabel National High School	2017-2023
ELEMENTARY	
Vicente Fuentes Elem. School	2012-2017

EXPERIENCE

Capstone Project - IT Management System

Present

- Developed a centralized web application to automate inventory tracking, user management, and support ticketing, streamlining the BSIT Department's administrative and technical operations.

Personal Project - E-Commerce Fitness Shopping

December 18, 2024

- It's a concept often associated with workout equipment or systems designed to maximize efficiency, particularly in smaller or multi-purpose areas like home gyms, apartments, or shared spaces.

REFERENCES

NORAJED A. MAGUID, LPT, MIT
Stratford Internation School
Email: nurjade@gmail.com

ANGELICA T. DELA PEÑA, MMSD
IT Program Head
Stratford Internation School
Email: angelicadelapena@stratford.edu.ph

SHEIKHA A. LASAD

PROGRAMMER

ABOUT ME

A dedicated third-year Information Technology student with knowledge in programming, web development, and database systems. Passionate about learning new technologies and developing efficient IT solutions.



CONTACT

✉ lasadsheikha@gmail.com

☎ 09380107792

📍 Brgy. Sapu masla Malapatan
Sarangani Province

SKILLS

- Programming
- Web Design
- Basic Troubleshooting
- Web Development (HTML, CSS, JavaScript)
- PHP Programming
- MySQL Database Management System Development

CERTIFICATES

- Software Development and Design Thinking 2025
- The Hour of Code
- Stay Safe Online: Cybersecurity Basics
- Stay Safe Online by DICT
- Introduction to Blockchain and Web 3
- 4-hour Online Information Session and Data Science and Analytics
- Artificial Intelligence for Health Information Technology
- Google Cloud Arcade
- Data Privacy Awareness
- Autocad for Beginners
- Hour of Code Campaign

EDUCATION

TERTIARY

Stratford International School 2023-2027

SECONDARY

Datu Pangolima Integrated School 2017-2023
Malapatan National High School

ELEMENTARY

Mama Nawa Elementary School 2012-2017

EXPERIENCE

Capstone Project - IT Management System

Present

- Developed a centralized web application to automate inventory tracking, user management, and support ticketing, streamlining the BSIT Department's administrative and technical operations.

Personal Project - E-commerce Motor Shop

December 2024

- Developed a web-based e-commerce platform for a motor shop that allows customers to browse motorcycle parts and accessories, add items to a cart, and place orders online. The system also includes product management, order tracking, and inventory monitoring to help improve sales and store management efficiency.

REFERENCES

NORAJED A. MAGUID, LPT, MIT

Stratford International School

Email: nurjade@gmail.com

ANGELICA T. DELA PEÑA, MMSD

IT Program Head

Stratford International School

Email: angelicadelapena@stratford.edu.ph

FRYNE JULY V. MAINDAN

WEB DESIGNER

ABOUT ME

An IT student and web designer focusing on user interfaces that are clean and minimalist, have growing focus on UI and UX. Expertise includes UI/UX prototyping and secure system design.



CONTACT

✉ frynejuly21@gmail.com

☎ 09107115605

📍 Phase2b Blk 15 Lot 13, Doña Soledad Subd., Labangal, G.S.C

SKILLS

- Web Design
- Design Thinking
- Wireframe Creation
- Video/Photo Editing
- Adaptability & Flexibility

CERTIFICATES

- Software Development and Design Thinking 2025
- The Hour of Code
- Stay Safe Online: Cybersecurity Basics
- Stay Safe Online by DICT
- Introduction to Blockchain and Web 3
- 4-hour Online Information Session and Data Science and Analytics
- Artificial Intelligence for Health Information Technology
- Google Cloud Arcade
- Data Privacy Awareness
- Autocad for Beginners
- Hour of Code Campaign

EDUCATION

TERTIARY

Stratford International School 2023-2027

SECONDARY

Gensantos Foundation College Inc. 2017-2023

ELEMENTARY

Jose P. Laurel Elementary School 2012-2017

EXPERIENCE

Capstone Project - IT Management System

Present

- Developed a centralized web application to automate inventory tracking, user management, and support ticketing, streamlining the BSIT Department's administrative and technical operations.

Personal Project - E-commerce Meat Shop

December 18, 2024

- Launched an online meat shop. Focused on user experience, this project provides high-quality images and detailed nutritional information to streamline the transition from old-fashioned butchery to modern e-commerce.

REFERENCES

NORAJED A. MAGUID, LPT, MIT

Stratford Internation School

Email: nurjade@gmail.com

ANGELICA T. DELA PEÑA, MMSD
IT Program Head

Stratford Internation School

Email: angelicadelapena@stratford.edu.ph

ALEXANDER JOHN O. REYNA

ABOUT ME

I am taking Bachelor degree in Information Technology. I have foundational skill in specialist with a passion for visual creativity, combining technical expertise with skilled photo editing capabilities.



CONTACT

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📍 Phase2b Block 14 Lot 13, Doña Soledad Subdivision, Labangal, GSC.

SKILLS

- Video Editing
- Design Thinking

CERTIFICATES

- Software Development and Design Thinking 2025
- The Hour of Code
- Stay Safe Online: Cybersecurity Basics
- Stay Safe Online by DICT
- Introduction to Blockchain and Web 3
- 4-hour Online Information Session and Data Science and Analytics
- Artificial Intelligence for Health Information Technology
- Google Cloud Arcade
- Data Privacy Awareness
- Autocad for Beginners
- Hour of Code Campaign

EDUCATION

TERTIARY

Stratford International School 2023-2027

SECONDARY

GenSantos Foundation College, Inc. 2017
Cronasia Foundation College 2018-2023

ELEMENTARY

Jose P. Laurel Elementary School 2012-2017

EXPERIENCE

Capstone Project - IT Management System

Present

- Developed a centralized web application to automate inventory tracking, user management, and support ticketing, streamlining the BSIT Department's administrative and technical operations.

REFERENCES

NORAJED A. MAGUID, LPT, MIT

Stratford Internation School

Email: nurjade@gmail.com

ANGELICA T. DELA PEÑA, MMSD

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