

**KENDU ADVENTIST SCHOOL OF MEDICAL SCIENCES RESULT MANAGEMENT SYSTEM**

BY

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ATTACHMENT

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**DECLARATION:**

I hereby declare that the project titled “**KASMS Portal management system**” is my own work. To the best of my knowledge and belief, this work contains no material previously published or written by another person except where due reference is made.

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# **CHAPTER 1: INTRODUCTION**

## **ORGANIZATION INTRODUCTION**

The Kendu Adventist School of Medical Science (KASMS) has been providing quality education since 1948,dedicated to delivering quality education in fields such as Clinical Medicine and Nursing. Serving over 300 students, it offers diploma programs. The institutions administrative processes, including course registration, grade management, and fee tracking, have relied on manual or semi-automated systems, leading to inefficiencies, errors, and delays. The Kendu Adventist School Of Medical Sciences Portal Management System (KASMS) is a web based platform designed to automate these processes, offering role-based access for students, instructors, finance staff, heads of departments (HODs), registrars, and administrators to enhance efficiency and user experience.

## **SYSTEM INTRODUCTION**

The growing complexity of academic management necessitates advanced systems to improve accountability and streamline operations. KASMS automates tasks such as course registration, grade entry, fee tracking, and administrative oversight, addressing the needs of a tech-savvy academic community. By leveraging web technologies, KASMS ensures secure data management, responsive interfaces, and seamless integration of academic and financial processes, replacing outdated manual methods.

## **Problem Statement**

Manual academic management at KASMS results in significant challenges, including errors in course registration, delays in grade dissemination, and inefficient fee tracking. Students struggle with accessing results, submitting academic leave requests, or obtaining clearance, while instructors and finance staff face time-consuming manual data entry. Registrars and administrators encounter difficulties in managing student records and course assignments, leading to operational bottlenecks and user dissatisfaction. An automated, integrated system is essential to address these issues and improve institutional efficiency.

## **Proposed Solutions**

KASMS proposes the following solutions to enhance academic and administrative processes:

* Role-Based Dashboards: Customized interfaces for students, instructors, finance staff, HODs, registrars, and administrators.
* Automated Course Registration: Supports a minimum of 6 units per semester with dynamic unit selection.
* Grade and Fee Management: Version-controlled updates for marks (CAT1) and fees to ensure data integrity.
* PDF Generation: Automated generation of exam results, fee statements, and exam cards (conditional on 98% fee payment).
* Student Self-Service: Features for academic leave, clearance requests, surveys, and password resets.
* Security Measures: BCRYPT password hashing and custom session handling for secure access.

## Objectives

**Main Objective:** To develop an efficient, user-friendly academic management system for KASMS.

**Specific Objectives:**

1. Develop an intuitive, role-based interface for all users.
2. Create a robust MySQL database to store and manage academic and financial records.
3. Establish guidelines for secure and compliant system operations.
4. Define requirements, policies, and procedures for KASMS management.
5. Develop and test a fully functional KASMS system.

# **CHAPTER 2: LITERATURE REVIEW**

## **INTRODUCTION**

Web-based academic management systems are increasingly adopted globally to streamline educational processes. Systems like Moodle and Blackboard have improved efficiency, but many lack integrated financial and administrative features. KASMS aims to address these gaps by providing a comprehensive solution tailored to **Kendu Adventist School of Medical Science needs.**

## **Traditional Academic System**

Traditional academic management at KASMS relies on paper-based records and spreadsheets. Key processes include:

* Manual course registration with paper forms.
* Handwritten grade entries and physical result slips.
* Manual fee tracking and clearance processes.

These methods lead to errors, misplaced records, and delays, necessitating a digital solution.

## **Some Existing Systems**

### Moodle

Moodle is an open-source learning management system used by educational institutions.

* Strengths:
  + Extensive course management features.
  + Wide community support and plugins.
  + Accessible across devices.
* Weaknesses:
  + Limited financial management capabilities.
  + Complex setup for non-technical users.
  + Lacks integrated registrar and administrative tools.

### **Banner by Ellucian**

Banner is a comprehensive student information system used by universities.

* Strengths:
  + Robust student and financial management.
  + Supports large-scale institutions.
  + Integrates with other administrative systems.
* Weaknesses:
  + High implementation and maintenance costs.
  + Steep learning curve for users.
  + Limited customization for specific institutional needs.

## **Advantages of the Proposed System**

1. Enhances efficiency through automated course registration, grade entry, and fee tracking.
2. Reduces errors with version-controlled data updates and secure storage.
3. Improves accessibility with responsive, web-based interfaces.
4. Enhances security using BCRYPT hashing and custom session management.
5. Saves time by streamlining administrative tasks and reporting.

## **Disadvantages**

1. Training Costs: Staff and students require training to use KASMS effectively.
2. Maintenance Costs: Ongoing updates and server maintenance incur expenses.
3. Dependency on Technology: Requires stable internet and hardware, which may pose challenges in remote areas.

# **CHAPTER 3: METHODOLOGY**

## **Introduction**

This chapter outlines the research and development methods used to design KASMS, focusing on system analysis, modeling, and methodology to achieve the projects objectives.

## **Research Methodology**

The research methodology involved a multi-faceted approach to gather requirements and ensure KASMS meets user needs:

1. **Interviews:**
   * Conducted with students, instructors, finance staff, HODs, registrars, and administrators.
   * Gathered insights on manual process challenges and desired features.
   * Key responses:
     + Users requested a simple, intuitive interface.
     + Emphasis on secure data handling, especially for financial and academic records.
     + Need for automated reporting and self-service features.
2. **Observation:**
   * Analyzed existing workflows for course registration, grade entry, and fee processing.
   * Identified inefficiencies, such as manual data entry and delays in clearance.
3. **Documentation Review:**
   * Reviewed academic records, fee ledgers, and course catalogs.
   * Extracted data structures and process requirements.
4. **Surveys and Questionnaires:**
   * Distributed to stakeholders to quantify preferences and pain points.
   * Highlighted demand for mobile-friendly interfaces and automated notifications.

## **Development Methodology**

### **Importance of a Methodology**

A structured methodology ensures:

* High-quality system development aligned with global standards.
* Integration of user feedback to enhance satisfaction.
* Accurate cost, time, and quality estimation for project control.

### **Agile Methodology**

KASMS adopts an Agile methodology, emphasizing iterative development and user feedback:

* Values:
  + Prioritizes user interaction over rigid processes.
  + Focuses on functional software over extensive documentation.
  + Encourages continuous stakeholder collaboration.
  + Adapts to changing requirements.
* Process:
  + Develops prototypes for user feedback.
  + Iteratively refines modules (e.g., login, dashboards, reporting).
  + Conducts simultaneous development and testing to ensure quality.
  + Engages stakeholders for regular reviews and adjustments.

# **CHAPTER 4: BUDGET AND RESOURCES**

## **Budget**

The estimated budget for KASMS development and implementation is outlined below:

Table 1: Budget for the KASMS Project

|  |  |
| --- | --- |
| Expense | Cost (Ksh.) |
| Server Hosting (Annual) | 50,000 |
| Development Software Licenses | 20,000 |
| Hardware (Computers for Testing) | 100,000 |
| Staff Training | 30,000 |
| Maintenance (First Year) | 25,000 |
| Miscellaneous (Documentation, Testing) | 15,000 |
| Total | 240,000 |

# **CHAPTER 5: PROJECT SCHEDULE**

The project is planned over 4 months, with key tasks and durations:

Table 2: Project Schedule for KASMS

|  |  |  |
| --- | --- | --- |
| Task No. | Description | Duration (Weeks) |
| 1 | Requirement Analysis and Planning | 2 |
| 2 | Database Design and Setup | 3 |
| 3 | Development of Authentication and Session Handling | 2 |
| 4 | Development of Role-Based Dashboards | 2 |
| 5 | Development of Course and Grade Management | 2 |
| 6 | Development of Financial and Reporting Modules | 2 |
| 7 | Testing (Unit, Integration, GUI, Performance) | 2 |
| 8 | User Training and Documentation | 1 |
| 9 | Deployment and Maintenance Planning | 1 |
| Total |  | 17 |

# **CHAPTER 6: CONCLUSION**

KASMS portal is poised to transform academic and administrative operations at Kendu Adventist School Of Medical Sciences by addressing inefficiencies in course registration, grade management, and fee tracking. By automating processes, enhancing security, and providing user-friendly interfaces, KASMS will improve stakeholder satisfaction and operational efficiency. Future enhancements could include mobile app support and advanced analytics to further support data-driven decision-making.

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