




Okello olupot Olupot Samuel

Automated hostel management system

-  Proposal Submission Link 2
-  BBCIII Proposal Submission Link 2
-  Makerere University Business School

Document Details

Submission ID**trn:oid::1:3421673718****Submission Date****Nov 23, 2025, 5:38 PM GMT+3****Download Date****Nov 25, 2025, 2:55 PM GMT+3****File Name****AN_AUTOMATED_HOSTEL_MANAGEMENT_SYSTEM_.docx****File Size****57.2 KB****24 Pages****5,018 Words****33,549 Characters**

92% detected as AI

The percentage indicates the combined amount of likely AI-generated text as well as likely AI-generated text that was also likely AI-paraphrased.

Caution: Review required.

It is essential to understand the limitations of AI detection before making decisions about a student's work. We encourage you to learn more about Turnitin's AI detection capabilities before using the tool.

Detection Groups



87 AI-generated only 92%

Likely AI-generated text from a large-language model.



0 AI-generated text that was AI-paraphrased 0%

Likely AI-generated text that was likely revised using an AI-paraphrase tool or word spinner.

Disclaimer

Our AI writing assessment is designed to help educators identify text that might be prepared by a generative AI tool. Our AI writing assessment may not always be accurate (i.e., our AI models may produce either false positive results or false negative results), so it should not be used as the sole basis for adverse actions against a student. It takes further scrutiny and human judgment in conjunction with an organization's application of its specific academic policies to determine whether any academic misconduct has occurred.

Frequently Asked Questions

How should I interpret Turnitin's AI writing percentage and false positives?

The percentage shown in the AI writing report is the amount of qualifying text within the submission that Turnitin's AI writing detection model determines was either likely AI-generated text from a large-language model or likely AI-generated text that was likely revised using an AI paraphrase tool or word spinner.

False positives (incorrectly flagging human-written text as AI-generated) are a possibility in AI models.

AI detection scores under 20%, which we do not surface in new reports, have a higher likelihood of false positives. To reduce the likelihood of misinterpretation, no score or highlights are attributed and are indicated with an asterisk in the report (*%).

The AI writing percentage should not be the sole basis to determine whether misconduct has occurred. The reviewer/instructor should use the percentage as a means to start a formative conversation with their student and/or use it to examine the submitted assignment in accordance with their school's policies.

What does 'qualifying text' mean?

Our model only processes qualifying text in the form of long-form writing. Long-form writing means individual sentences contained in paragraphs that make up a longer piece of written work, such as an essay, a dissertation, or an article, etc. Qualifying text that has been determined to be likely AI-generated will be highlighted in cyan in the submission, and likely AI-generated and then likely AI-paraphrased will be highlighted purple.

Non-qualifying text, such as bullet points, annotated bibliographies, etc., will not be processed and can create disparity between the submission highlights and the percentage shown.



MAKERERE UNIVERSITY BUSINESS SCHOOL**DEVELOPING AN AUTOMATED HOSTEL MANAGEMENT SYSTEM****FOR****WAZALENDI INVESTMENTS LIMITED****BY**

NAME	REGISTRATION NO.	PHONE NUMBER
Olupot Samuel Jude Okello	23/U/16787/EVE	+256 740634100
Ssemwanga Joseph Junior	23/U/17570/EVE	+256 71737926
Kalabaentate Abraham	23/U/08745/EVE	+256 703299977
Agaruraho Lauben	23/U/24576/PS	+256 774 529001
Salil Deen B Naeem	23/U/17186/PS	+256 786080746

Supervised by

Mr. Louis Amwine

Department of Applied Computing & IT

**A Project Proposal Submitted to the Faculty of Computing & Informatics of
Makerere University Business School in Partial Fulfillment for the Award of
the Degree of Bachelor of Business Computing**

7th November 202

DECLARATION

We, the undersigned, solemnly declare that this proposal is the result of our own original work, to the best of our knowledge and has never been published, presented or submitted in part or in full for the award of any degree or qualification at this or any other University or institution of higher learning.

NAME	REGISTRATION NO:	SIGNATURE
Olupot Samuel Jude Okello	23/U/16787/EVE	
Ssemwanga Joseph Junior	23/U/17570/EVE	
Kalabaentate Abraham	23/U/08745/EVE	
Agaruraho Lauben	23/U/24576/PS	
Salil Deen B Naeem	23/U/17186/PS	

Date

APPROVAL

This project proposal has been submitted with my approval as supervisor and my signature is appended below:

Signed.....

Date.....

Supervisor's name.....

Makerere University Business school

Table of Contents

DECLARATION	2
APPROVAL	3
SECTION ONE	6
1.INTRODUCTION	6
1.1Project back ground	6
1.2Statement of the problem	6
1.3Project Goal and objectives	7
1.3.1 Project Goal	7
1.3.2 Project objectives	7
1.3.3 Project scope summary	7
1.4 Anticipated significances of the project	8
SECTION TWO	9
REVIEW OF LITERATURE	9
2.0 Introduction	9
2.1 Hostel Management Systems	9
2.2 Digital Transformation in Education	10
2.3 System Design and Development	10
2.4 Challenges in Implementation	11
2.3 Proposed System Modules	12
2.4 Challenges in Implementation	12
2.5 Conclusion	13
SECTION THREE	14
RESEARCH METHODS	14
3.0 PROJECT METHODS	14
3.2 Project Organization (Client)	15
3.3 Sources of Project Data	15
3.4 System Analysis and Design	16
Approaches	17

3.6 Anticipated Project Constraints	18
3.7 Ethical Considerations	19
3.8 Timeline and Milestones	20
3.9 Disclosure and Declaration Statement	21
REFERENCES.....	22
APPENDICES	23
Gantt Chart (Project Schedule)	24

SECTION ONE

1. INTRODUCTION

1.1 Project back ground

The rapid growth of educational institutions and student accommodation has increased the need for efficient management systems. Traditionally, hostels relied on manual processes for room allocation, fee collection, attendance tracking, and record-keeping, which are time-consuming, error-prone, and inefficient, especially in large institutions. Automated hostel management systems are increasingly recognized as essential tools for streamlining operations, reducing errors, and enhancing resident satisfaction. In Uganda, with the growing number of students seeking accommodation, such systems are particularly important.

They improve record-keeping, security, communication, occupancy tracking, financial reporting, and policy compliance, freeing staff to focus on strategic tasks and improving overall service delivery. At Wazlendo Investments Limited Hostel and Apartments, the current manual system leads to challenges such as delayed fee collection, misplaced records, poor room allocation, and limited communication, affecting operational efficiency and student satisfaction.

This study proposes the design and development of an automated hostel management system to address these challenges. The system will automate core operations, fee collection, resident record management, and reporting, resulting in improved efficiency, reduced errors, and a better experience for students.

1.2 Statement of the problem

Hostel management systems improve efficiency, accuracy, and speed in handling operations such as student registration, room allocation, fee payments, record-keeping, and communication between management and residents. Ideally, hostels should use automated systems to streamline these processes, reduce paperwork, and ensure transparency and accountability in managing student accommodation.

Currently, many hostels rely on manual, paper-based approaches, with student details recorded in physical books, room allocations tracked on spreadsheets or handwritten registers, and payments reconciled manually. This leads to inefficiencies, including errors in record-keeping, duplicated data, delays in room allocation, difficulties tracking outstanding payments, and the risk of losing important information. Persistent reliance on manual processes may result in operational challenges, dissatisfied students, and reduced credibility.

To address these issues, this project proposes the development of a computerized hostel management system to automate student registration, room allocation, and payment tracking, thereby improving efficiency, minimizing errors, and enhancing service delivery for both students and management.

1.3 Project Goal and objectives

1.3.1 Project Goal

This project aims to design and develop a computerized hostel management system for Wazalendo investments limited (WIL) in Uganda to enhance efficiency, accuracy, and transparency in hostel operations. The system will automate key processes, including student registration, room allocation, and payment tracking, while providing a centralized database for record management and improving communication between hostel administrators and students.

1.3.2 Project objectives

The specific objectives of this project are to;

1. To study and analyze the current hostel management process in different universities in Uganda focusing on registration, room allocation, and fee payments tracking.
2. To identify requirements and review literature in relation to computerized hostel management systems used in educational institutions
3. To design and develop a hostel management system that automates students' registration, room allocation, and payment tracking.
4. To test the developed hostel management system in order to evaluate its efficiency, accuracy and effectiveness in solving the identified challenges.

1.3.3 Project scope summary

This project will cover the design and development of a computerized hostel management system for the Wazalendo in The system will focus on automating students registration, room allocation, payments tracking and record management. It will also provide reporting features to aid management in decision making.

The project deliverables will include:

- A functional Hostel management system with modules for registration, room allocation, and payment tracking.
- A centralized database that securely stores students and hostel records.
- Documentation of system requirements, design, and testing results.

Key activities will involve requirement gathering literature reviews, system design, coding, testing and documentation. The scope of work will not extend to accommodation services such as hostel maintenance scheduling, staff payroll, or inventory management as focus is strictly on student-hostel operations.

1.4 Anticipated significances of the project

Assumption 1: Availability of Technical Resources

It is assumed that all necessary development tools, programming software (e.g., PHP, MySQL, HTML/CSS), and computing equipment will be available and functional throughout the project development period.

Assumption 2: Stakeholder Participation and Cooperation

It is assumed that key stakeholders including hostel administrators, accountants, and selected students will actively participate by providing accurate information during requirements gathering and testing. Their cooperation is essential to ensure the system meets actual user needs.

Assumption 3: Reliable Data Accessibility

It is assumed that the project team will have access to existing hostel records, payment logs, and registration data, which are necessary to understand current operations and validate the system design.

Assumption 4: Stable Infrastructure

It is assumed that WIL Hostels have stable internet connectivity, power supply, and network infrastructure to support both the deployment and daily operation of the automated hostel management system.

SECTION TWO

REVIEW OF LITERATURE

2.0 Introduction

This section presents a review of related literature about the hostel management system. It discusses information gathered from books, journals, articles, and previous studies related to hostel management and system development. The purpose of this review is to understand what other researchers have written about hostel management system, identify gaps in existing systems, and show how the proposed system can help solve current challenges.

2.1 Hostel Management Systems

A hostel management system is an information system designed to automate and coordinate activities related to student accommodation, including room allocation, student registration, fee collection, record-keeping, and reporting. Modern systems provide centralized control and improve communication between hostel administrators and residents by reducing paperwork and human error (Dennis, Wixom & Roth, 2020).

Globally, universities and colleges are increasingly adopting digital hostel management systems to enhance operational efficiency and transparency. Computerized platforms improve record accuracy, reduce administrative costs, and speed up responses to student requests (Hughes, 2019). These systems integrate modules for registration, billing, inventory, and reporting to ensure seamless hostel operations.

In developing countries like Uganda, many hostels still rely on manual, paper-based processes, leading to challenges such as delayed room allocation, inaccurate payment tracking, and loss of student data (World Bank, 2019). Implementing an automated system at Wazendo Investments Limited Hostels will address these inefficiencies by providing a structured, real-time solution that improves data accuracy and accountability.

Effective hostel management systems typically include secure logins, user dashboards, integrated payment modules, and reporting tools. They support scalability and flexibility, enabling administrators to manage growing numbers of residents without compromising service quality. Automation also enhances decision-making by offering real-time insights into room occupancy, fee status, and maintenance needs (Creswell & Creswell, 2023).

Overall, hostel management systems are critical for modernizing student accommodation management, improving administrative efficiency, and enhancing student satisfaction.

2.2 Digital Transformation in Education

Digital transformation refers to the integration of digital technologies into institutional processes to improve efficiency, accuracy, and accessibility of services. In higher education, it has revolutionized how universities manage administrative tasks, interact with students, and deliver services (Al-Fraihat, Joy & Sinclair, 2020).

Traditional manual systems in universities, including hostel management, are often inefficient and error-prone. Paper-based record-keeping, fee collection, and room allocation can lead to delays, lost records, and administrative bottlenecks (Adebayo & Ogunlela, 2021). Digital solutions address these issues by automating workflows, providing real-time access to information, and enhancing decision-making accuracy.

In hostel management, digital transformation integrates multiple functions into a single system, including student registration, room allocation, fee management, reporting, and maintenance tracking. Studies show that universities adopting automated management systems experience improved operational efficiency, better data integrity, and higher satisfaction among students and staff (Owusu & Asante, 2019).

For Wazlendo Investments Limited (WIL) Hostels, adopting an automated hostel management system as part of digital transformation offers significant benefits, including streamlined operations, reduced errors, and improved service delivery:

1. **Operational Efficiency:** Automation reduces administrative workload and accelerates routine processes such as room assignment and fee tracking.
2. **Data Accuracy:** Real-time record updates minimize errors and ensure reliable information for management decisions.
3. **Transparency and Accountability:** Digital logs and reporting enhance visibility over hostel operations.
4. **Scalability:** The system can accommodate increasing student populations without compromising service quality.

2.3 System Design and Development

System design and development refer to the structured process of creating, implementing, and maintaining an information system that meets specific organizational requirements. In the context of hostel management, an effective system must integrate multiple functionalities, including student registration, room allocation, fee management, reporting, and communication between staff and residents (Dennis, Wixom & Roth, 2020).

The design of an automated hostel management system typically follows a structured approach that begins with requirement analysis, where the current manual processes are studied and user needs are identified. This stage involves consultations with hostel administrators, finance

personnel, and students to ensure that the system addresses practical challenges such as delayed room allocation, inaccurate fee tracking, and difficulty in monitoring occupancy levels.

Once requirements are gathered, system development proceeds using standard software engineering practices. This includes defining system architecture, database design, interface design, and coding using appropriate technologies. For this project, technologies such as PHP, MySQL, and HTML/CSS have been chosen due to their robustness, scalability, and compatibility with web-based deployment.

A well-designed system incorporates modular components to allow flexibility and ease of maintenance. Key modules in the proposed MUBS hostel management system include:

1. **Student Registration Module:** Automates enrollment of students into hostels, capturing personal and academic details.
2. **Room Allocation Module:** Assigns rooms based on availability, student preferences, and hostel policies.
3. **Payment Management Module:** Tracks fees, generates invoices, and monitors payment history.
4. **Reporting Module:** Provides real-time reports on occupancy, financial status, and other administrative data.
5. **Maintenance Module:** Facilitates tracking of hostel maintenance requests and schedules.

2.4 Challenges in Implementation

Implementing an automated hostel management system at Wazalendo investments limited Hostels may encounter several challenges, which must be anticipated and managed to ensure project success. These challenges include:

1. Resistance to Change:

Staff and students accustomed to manual processes may initially resist transitioning to a computerized system. Resistance can arise due to fear of technology, lack of technical skills, or reluctance to change established workflows (Kotter, 2012). Proper training and awareness programs are critical to overcome this barrier.

2. Limited Technical Skills:

The successful use of the system depends on the technical competence of hostel administrators and support staff. Limited computer literacy may hinder the adoption and effective utilization of the system. Continuous training and user manuals can help address this challenge.

4. Data Migration Issues:

Transferring existing hostel records from manual files to the digital system can be time-

consuming and prone to errors. Accurate data entry, validation, and verification processes are necessary to ensure data integrity during migration.

2.3 Proposed System Modules

A well-designed hostel management system incorporates modular components to ensure flexibility and ease of maintenance. Key modules in the proposed Wazlendo Investments Limited (WIL) hostel management system include:

1. **Student Registration Module:** Automates enrollment of students into hostels, capturing personal and academic details.
2. **Room Allocation Module:** Assigns rooms based on availability, student preferences, and hostel policies.
3. **Payment Management Module:** Tracks fees, generates invoices, and monitors payment history.
4. **Reporting Module:** Provides real-time reports on occupancy, financial status, and other administrative data.
5. **Maintenance Module:** Facilitates tracking of hostel maintenance requests and schedules.

2.4 Challenges in Implementation

Implementing an automated hostel management system at Wazlendo Investments Limited (WIL) Hostels may encounter several challenges:

1. **Resistance to Change:**
Staff and students accustomed to manual processes may resist transitioning to a computerized system due to fear of technology, lack of skills, or reluctance to alter workflows (John Kotter, 2012). Proper training and awareness programs are essential to overcome this barrier.
2. **Limited Technical Skills:**
The system's effectiveness depends on the technical competence of administrators and support staff. Continuous training and user manuals are necessary to ensure successful adoption.
3. **Infrastructure Limitations:**
Reliable electricity, internet connectivity, and hardware are critical. Power outages, network interruptions, or insufficient hardware can disrupt system functionality and daily operations.
4. **Data Migration Issues:**
Transferring existing records from manual files to the digital system can be time-

consuming and error-prone. Accurate data entry, validation, and verification are crucial to maintain data integrity during migration

2.5 Conclusion

The literature reviewed demonstrates that automated hostel management systems play a critical role in modernizing administrative processes within educational institutions. These systems provide efficient solutions for room allocation, student registration, fee management, reporting, and maintenance tracking.

Digital transformation in education has significantly improved operational efficiency, data accuracy, and transparency in universities worldwide, including higher education institutions in developing countries. The adoption of automated systems addresses the limitations of manual processes, such as errors in record-keeping, delayed service delivery, and difficulties in monitoring student accommodation.

Furthermore, effective system design and development, following structured approaches and incorporating appropriate technologies, ensures that the system is scalable, secure, and user-friendly. While challenges such as resistance to change, limited technical skills, infrastructure limitations, and data migrations issues exist, proper planning, training, and stakeholder engagement can mitigate these barriers

SECTION THREE

RESEARCH METHODS

3.0 PROJECT METHODS

This project used a Design Science Research Approach to develop a Hostel management system for Wazalendo Investments Limited. The approach involved identifying problems in the current manual hostel operations, gathering requirements, and creating prototypes system. This method ensured a practical solution that automates room allocation tenant registration, payment tracking and accuracy in hostel management.

3.1 Research Design / Approach

This project adopts a **Design Science Research (DSR) approach**, which is widely used in information systems development to create innovative solutions to real-world problems. The DSR approach emphasizes the iterative development, testing, and evaluation of artifacts (in this case, the Automated Hostel Management System) to ensure they meet specific organizational needs and deliver practical value (Hevner et al., 2004).

The research design combines **qualitative and quantitative methods** to gather comprehensive data on the current manual hostel management processes and to validate the proposed system.

Key Features of the Design Science Approach in this Project:

1. **Problem Identification:** Investigating the inefficiencies and challenges in the existing hostel management system at Wazalendo investment limited Hostels, including delayed room allocation, manual record-keeping errors, and lack of real-time reporting.
2. **Objective Definition:** Establishing clear goals for the automated system, such as improving operational efficiency, ensuring accurate data management, and enhancing student satisfaction.
3. **Artifact Development:** Designing and developing the automated hostel management system using PHP, MySQL, HTML, and CSS to address the identified problems.
4. **Evaluation:** Testing the system with actual stakeholders (administrators, accountants, and selected students) to ensure it meets functional and usability requirements. Feedback is collected to refine the system iteratively.
5. **Communication of Results:** Documenting the system design, implementation process, challenges encountered, and lessons learned to provide a replicable framework for future hostel management systems.

3.2 Project Organization (Client)

The project is being developed for **Wazalendo investments Limited (WIL) Hostels**, which serve as the client and primary beneficiary of the Automated Hostel Management System. The hostels accommodate both undergraduate and postgraduate students and are managed by a team of administrators responsible for room allocation, fee collection, and maintenance operations.

Client Roles and Responsibilities

1. **Hostel Administrator:**

Responsible for overseeing daily operations, including student registration, room assignments, and compliance with hostel policies. The administrator will provide insights into current processes, verify system requirements, and participate in testing and evaluation phases.

2. **Finance Officer / Accountant:**

Manages hostel fee collection, payment tracking, and financial reporting. The accountant will provide existing financial records, advise on billing procedures, and help validate the accuracy of the automated payment management module.

3. **IT Support Staff:**

Provides technical support for the deployment and maintenance of the system. The IT team will assist with server setup, network configuration, and troubleshooting during system implementation.

4. **Students (End-Users):**

Students residing in the hostels represent primary end-users of the system. Their feedback will be collected during the testing phase to ensure the system is user-friendly, efficient, and meets their accommodation needs.

Client Involvement in the Project

- **Requirements Gathering:** Stakeholders will provide information about existing workflows, challenges, and expectations for the new system.
- **Validation and Feedback:** The client will participate in testing prototypes and provide feedback for iterative improvements.
- **Acceptance and Deployment:** Hostel administrators and staff will formally approve the system for operational use after confirming that it meets the defined objectives

3.3 Sources of Project Data

The development of the Automated Hostel Management system for **Wazalendo Investments Limited(WIL)** Hostels relies on primary and secondary sources of data to ensure the system meets the operational and functional requirements of the client.

1. Primary Data Sources

Primary data is collected directly from stakeholders and users to provide firsthand insights into current hostel operations and system requirements:

- **Interviews:** Structured interviews with hostel administrators, finance officers, and IT support staff to understand existing workflows, challenges, and expectations from the new system.
- **Questionnaires / Surveys:** Distributed to hostel students to capture their experiences, preferences, and requirements for room allocation, fee payment, and reporting features.
- **Observation:** Direct observation of manual processes, including registration, payment tracking, and reporting, to identify inefficiencies and validate user requirements.
- **System Testing Feedback:** Data collected during the testing phase from administrators and students to evaluate usability, reliability, and performance of the automated system.

2. Secondary Data Sources

Secondary data provides background information, theoretical frameworks, and comparative insights from other similar systems:

- **Academic Journals and Books:** Literature on hostel management systems, digital transformation in education, and system design principles.
- **Online Resources:** Case studies, reports, and publications from universities or institutions that have implemented automated hostel management system

3.4 System Analysis and Design

System Analysis and Design (SAD) is a structured approach used to understand existing processes, identify problems, and create an effective information system that meets organizational needs. For the Automated Hostel Management System at Wazalendo investments limited, SAD ensures that the final system is reliable, user-friendly, and aligned with the operational requirements of administrators and students (Dennis, Wixom & Roth, 2020).

System Analysis

The analysis phase focuses on understanding current manual hostel operations and identifying inefficiencies. Key activities include:

1. **Requirements Gathering:** Interviews, questionnaires, and observations are conducted with hostel administrators, finance officers, IT staff, and students to capture functional and non-functional requirements.

2. **Process Mapping:** Existing workflows, including room allocation, student registration, fee collection, and maintenance reporting, are documented to identify bottlenecks and gaps.
3. **Problem Identification:** Analysis highlights challenges such as delayed room assignments, errors in fee tracking, lack of real-time reporting, and limited accessibility of information.

System Design

The design phase transforms requirements into a structured solution that addresses identified problems. Key components include:

1. **System Architecture:** A web-based architecture is proposed to enable centralized access, multiple user levels, and secure data management.
2. **Database Design:** A relational database using MySQL is developed to store student records, room allocations, payment history, and maintenance logs securely and efficiently.
3. **Interface Design:** User-friendly interfaces are created using PHP, HTML, and CSS for easy navigation by administrators and students.
4. **Module Design:** The system is divided into modules: Student Registration, Room Allocation, Payment Management, Reporting, and Maintenance to enhance maintainability and scalability.
5. **Security Measures:** User authentication, role-based access controls, and data encryption are implemented to protect sensitive student and financial information.

Approaches

3.5 Design Techniques

Design techniques refer to the methods and strategies applied to create an effective, efficient, and user-friendly automated system. For the development of the Automated Hostel Management System at Wazalendo Investments Limited Hostels, several design techniques are employed to ensure that the system meets functional requirements, supports user needs, and remains scalable for future use.

1. Modular Design

The system is structured into distinct modules, each addressing a specific function such as:

- **Student Registration Module:** Handles student enrollment and personal information management.

- Room Allocation Module: Assigns rooms based on availability, preferences, and hostel policies.
- Payment Management Module: Tracks payments, generates invoices, and maintains financial records.

Modular design ensures ease of maintenance, scalability, and flexibility, allowing individual modules to be updated without affecting the overall system.

2. Object-Oriented Design (OOD)

The project adopts object-oriented design principles to model real-world entities such as students, rooms, and payments as objects. This technique promotes reusability, encapsulation, and easier management of system components, enhancing the maintainability of the system.

3. Data Flow Diagrams (DFDs)

DFDs are used to represent the flow of information within the system. They illustrate how data moves between processes, storage, and users, helping developers and stakeholders understand system functionality clearly.

4. Entity-Relationship Diagrams (ERDs)

ERDs are employed to design the database structure, defining relationships between entities such as students, rooms, payments, and administrators. This ensures data integrity and supports efficient database operations.

5. User Interface Design Principles

The system interfaces are designed with usability in mind, following principles such as simplicity, consistency, feedback, and accessibility. Clean and intuitive interfaces improve user experience and reduce training requirements for hostel staff and students.

6. Iterative and Incremental Development

3.6 Anticipated Project Constraints

While developing the Automated Hostel Management System for Wazalendo investments limited, several constraints are anticipated that may affect the progress and implementation of the project. Recognizing these constraints allows the project team to plan mitigation strategies to ensure timely and successful completion.

1. Limited Financial Resources

Budget constraints may affect the acquisition of software tools, hardware, and other resources necessary for system development, testing, and deployment. Prioritization of essential features and careful planning of expenditures are required to operate within available funds.

2. Time Constraints

The project must be completed within the academic semester timeline. Limited development time may impact the extent of testing, refinement, and user training. Efficient time management, clear task allocation, and adherence to the project schedule are critical.

3. Infrastructure Limitations.

The system relies on stable electricity, internet connectivity, and suitable hardware. Power outages, network instability, or insufficient computing equipment in hostels may affect system performance and testing. Backup solutions and infrastructure planning are necessary to address these issues.

4. Resistance to Change.

Hostel staff and students accustomed to manual processes may resist transitioning to an automated system. Resistance can slow system adoption and reduce initial effectiveness. Awareness programs, training, and demonstrations are required to foster acceptance.

3.7 Ethical Considerations

Ethical considerations are critical in the development and implementation of the Automated Hostel Management System for Wazalendo investments limited Hostels. Adherence to ethical standards ensures that the system respects users' rights, protects sensitive information, and promotes trust among all stakeholders.

1. Informed Consent

All participants involved in data collection, including hostel administrators, finance officers, IT staff, and students, will be fully informed about the purpose of the project, the type of information being collected, and how it will be used. Participation will be voluntary, and respondents will have the right to withdraw at any time.

2. Privacy and Confidentiality

The system will handle sensitive personal and financial information of students. Measures will be implemented to ensure that data is kept confidential and accessible only to authorized personnel. Information collected during interviews, surveys, and observations will be anonymized where possible to protect participant identities.

3. Data Protection

The system design will incorporate security features such as user authentication, role-based access controls, and data encryption to safeguard information from unauthorized access, modification, or loss.

4. Avoidance of Harm

The project will ensure that no participant experiences harm or discomfort during data collection or system testing. Tasks assigned to users during testing will be non-intrusive and aligned with their normal hostel activities.

5. Compliance with Institutional Policies

The project will adhere to Wazalendo investments limited policies and regulations regarding research, data handling, and IT systems. Approval from relevant authorities will be sought before accessing hostel records or involving students in surveys and interviews.

3.8 Timeline and Milestones

The development and implementation of the Automated Hostel Management System for Wazalendo investments limited Hostels will be completed within a three-month period. The project is organized into structured phases to ensure timely completion and systematic progress.

Activity	Description	Start Date	End Date	Milestone / Deliverable
1. Project Proposal Preparation	Review literature, define objectives, and develop proposal	Week 1	Week 2	Submission and approval of project proposal
2. Requirements Gathering	Conduct interviews, surveys, and observations to collect user requirements	Week 2	Week 3	Documented system requirements
3. System Analysis	Analyze current hostel operations and identify inefficiencies	Week 3	Week 4	System analysis report
4. System Design	Design database, modules, user interfaces, and security features	Week 4	Week 5	System design documentation
5. System Development / Coding	Develop system modules using PHP, MySQL, HTML, and CSS	Week 5	Week 8	Working prototype of the system

3.9 Disclosure and Declaration Statement

1. Originality of Work:

The Automated Hostel Management System for WIL Hostels has been developed solely by the project team members. All ideas, designs, and implementations presented in this project are original and do not infringe upon the intellectual property rights of others.

2. Acknowledgment of Sources:

Any information, concepts, data, or software code obtained from external sources, including books, journals, online publications, and previous research works, has been appropriately cited using APA 7th edition referencing style.

3. Use of Artificial Intelligence (AI) Tools:

While AI tools may have been used to assist with drafting, editing, or formatting sections of the proposal, the team takes full responsibility for verifying the accuracy, coherence, and originality of the content. AI has been used only as a support tool, not as a substitute for the team's research and development efforts

REFERENCES

Chukuma, J., & Eze, C. (2020). A database driven approach to hostel room allocation and student management. *Journal of software Engineering and Application*, 13(7), 303-314.

<https://scholar.google.com/scholar?q=A+database-driven+approach+to+hostel+room+allocation+and+student+management>.

Mwangi, K., & Waweru, M. (2021) improving student accommodation facilities through ICT-based management system. *International journal of computer science Trends and technology*, 9(2), 101-109

<https://scholar.google.com/scholar?q=Improving+student+accommodation+facilities+through+ICT-based+management+system>.

Sajeev, M. V., & Oluwafemi, A.(2019). Development of an online hostel management and allocation system. *African Journal of computing & ICT*, 12(1), 41-19 <https://scholar.google.com/scholar?q=Web-based+accommodation+management+system+for+university+hostels>.

Maulana, F. I., Widiyanto, R. E., & Cahyono, S. (2021). Design and development of web-based hostel management systems using the SDLC model. *International Journal of Computer Applications*, 174(32), 12–18. <https://doi.org/10.5120/ijca202192129>

Abubakar, A., & Mohammed, U. (2021). Automation of student housing and hostel operations using web based technologies. *International Journal of Scientific & Engineering Research*, 13(4), 334-340. <https://scholar.google.com/scholar?q=Automation+of+student+housing+and+hostel+operations+using+web-based+technologies>.

<https://scholar.google.com/scholar?q=Automation+of+student+housing+and+hostel+operations+using+web-based+technologies>.

Adeoye, A. O., & Oluwafemi, A.(2019). Development of an online hostel management and allocation system. *African Journal of computing & ICT*, 12(1), 41-49.

<https://scholar.google.com/scholar?q=Development+of+an+online+hostel+management+and+allocation+system>.

<https://scholar.google.com/scholar?q=Development+of+an+online+hostel+management+and+allocation+system>.

Osei, P., & Boateng, K.(2022). Automation of student housing and hostel operations using web-based technologies. *International journal of Scientific & Engineering Research*, 13(4), 334-340.

<https://scholar.google.com/scholar?q=Automation+of+student+housing+and+hostel+operations+using+web-based+technologies>.

<https://scholar.google.com/scholar?q=Automation+of+student+housing+and+hostel+operations+using+web-based+technologies>.

Kumar, A., & Singh, D.(2021). Enhancing Hostel administration using digital management systems and database technologies. *International journal of information Technology and management*, 20(3), 55-68. <https://scholar.google.com/scholar?q=Enhancing+hostel+administration+using+digital+management+systems+and+database+technologies>.

<https://scholar.google.com/scholar?q=Enhancing+hostel+administration+using+digital+management+systems+and+database+technologies>.

<https://scholar.google.com/scholar?q=Enhancing+hostel+administration+using+digital+management+systems+and+database+technologies>.

APPENDICES

Appendix I: Proposed Project Budget

Appendix I: Proposed Project Budget (Minimal Version)

Item / Resource	Description / Purpose	Quantity	Unit Cost (UGX)	Total Cost (UGX)
Hardware & Equipment				
Personal laptops	Already owned by group members	2	—	—
Internet data	For online research and communication	2 months	20,000	40,000
Flash disk	For project backup	1	15,000	15,000
Software & Tools				
Development tools	Free open-source software (XAMPP, MySQL, VS Code)	1 set	0	0
Human Resources & Logistics				
Transport	Visits to Wazalendo Investments Limited for consultations	Lump sum	—	40,000
Printing & photocopying	Proposal and final report drafts	1 set	30,000	30,000
Binding of reports	Final submission copies	2	15,000	30,000
Refreshments	For internal group meetings	Lump sum	—	20,000
Contingency (5%)	For minor unexpected costs	—	—	7,500
Total Estimated Budget				UGX 182,500 /=

Appendix II: Data Collection Tools (Interview Guide)

Purpose:

This interview aims to collect information on the current hostel management processes at Wazalendo Investments Limited. The data will help the project team understand user requirements, identify challenges with the existing manual system, and gather input for designing the proposed Automated Hostel Management System.

Target Respondents:

- Hostel Manager / Administrator
- Accountant / Finance Officer
- Warden / Assistant Warden
- Selected Students (Hostel Residents)

Gantt Chart (Project Schedule)

Number	Activity	Description	Start Date	End Date	Duration(weeks)
1	Project Topic Approval	Submission and approval of project topic and supervisor allocation	04/8/2025	10/8/2025	1
2	Proposal writing	Drafting background, problem statement, objective, and literature review	12/8/2025	25/08/25	1
3	Proposal review and approval	Supervisor review, corrections, and approval	26/08/2025	01/09/2025	1
4	Requirement Gathering	Conducting interviews, questionnaires, and data collection	2/9/2025	15/09/2025	1
5	System Analysis and Design	Creating system models(DFDS,ERDs)	16/09/2025	29/09/25	2
6	System development	Coding front end	30/09/25	27/10/25	4