

STUDENT STAY HUB

PROJECT SYNOPSIS OF MAJOR PROJECT

BACHELOR OF TECHNOLOGY Computer Science and Engineering

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August, 2024



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8/8/24

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Introduction

The Student Stay Hub is a comprehensive application designed to streamline and automate various aspects of hostel administration. It includes features such as student registration, room allocation, fee management, attendance tracking, and communication tools. This system enhances efficiency, reduces manual work, and provides real-time data for better decision-making in hostel management. It would provide better maintenance for the hostellers. Students can post complaints on the application itself. The students can register themselves and their data would be saved in the backend database. A Mess Management System offers robust menu management capabilities, allowing for the creation, scheduling, and adjustment of meal plans according to dietary requirements and user preferences. This feature helps cater to diverse dietary needs and ensures that meal offerings remain varied and appealing. Additionally, the system facilitates real-time updates and modifications, which is crucial for managing special events or addressing unexpected changes in meal plans. The system also includes comprehensive billing and payment functionalities, streamlining financial transactions and record-keeping. It supports various payment methods and generates detailed billing reports, simplifying the accounting process and enhancing transparency. This ensures accurate and timely financial management, which is essential for maintaining the operational budget and managing expenses effectively. The Mess management system provides valuable insights through reporting and analytics, offering data on consumption patterns, financial performance, and user feedback. These insights enable managers to make informed decisions, optimize operations, and address any issues proactively. By integrating user feedback and handling complaints efficiently, the system helps improve service quality and user satisfaction, creating a more enjoyable dining experience for all users.

Rationale

In this phase, everything is going digital. In every institution there are different portals for student registration, form filling, fee submission etc. As we know, students come from different states. Most of the students prefer PGs for their stay because of management and may be financial reasons. Now here comes the need for the student stay Hub. In which we will provide different facilities like room allocation, checking room availability etc.

By using this online system the paperwork will be reduced. Time would be saved. Warden's stress can be less. If any student has any issue in the hostel he/she may put their problem in the application. They don't need to write applications for any issue. This will take less time to solve their problem.

Traditional mess management often involves manual processes that can be time-consuming and prone to errors. A Mess Management System automates many of these tasks, such as menu planning, inventory tracking, and billing. By integrating these functions into a single system, it simplifies day-to-day operations, reduces administrative workload, and minimizes the potential for human error. This leads to a smoother and more efficient dining experience, where meals are prepared and served on time, and operational hiccups are minimized.

Managing the financial aspects of a mess or cafeteria can be challenging, particularly when it comes to controlling food costs and managing inventory. The Mess Management System provides tools for accurate tracking of inventory usage, predicting future needs, and managing procurement processes. This helps in preventing both shortages and excess stock, reducing waste, and optimizing purchasing decisions. The system's ability to generate detailed financial reports also aids in budgeting and cost control, ensuring that the mess operates within its financial means.

Objectives

1. To create an attendance system for effective management of the mess system.
2. To design a Polling system for mess menu modification and daily feedback.
3. To generate reports forecasting attendance records and menu provided on a monthly basis.

Literature Review

Student Stay Hub is an android application designed to manage hostels in educational institutions. The application features two logins, one for students and another for wardens. The students can select hostels, rooms, and other amenities, whereas the wardens can access student details.

1. Introduction

Student Stay Hub plays a crucial role in enhancing the efficiency and organization of residential facilities in educational institutions.

2. Evolution of Hub

The evolution of Hub can be traced back to the early adoption of computerized systems. Early studies highlight the transition from manual to automated processes in hostel administration. These systems focused on basic functionalities such as student registration and room allocation.

3. Key Features of Modern Student Hub

Recent advancements in technology have led to the incorporation of various features in modern SSH. Studies emphasize the importance of features such as online room allotment, fee management, and integration with online stores for auctioning student belongings.

4. Integration of Online Auctions in Student Hub

A novel approach to hostel management involves the integration of online stores for auctioning student belongings. The work explores the benefits and challenges of incorporating auction mechanisms within hostel systems, providing insights into how this feature can enhance user experience and generate additional revenue for institutions.

5. Room Allotment Processes in Student Hub

Efficient room allotment processes are crucial for the satisfaction of hostelers. Investigate the room allotment procedures in various educational institutions, highlighting the significance of online systems in providing necessary details for informed decision-making.

6. Mess Management

The hub provides proper meals for the students. This meal is provided thrice a day. Meals are provided by mess management. As we know, food is necessary for living. Mess is also an integral part of the hostel system. Nowadays, everything is becoming digital. So, we had added a new module in this application as "Mess Master". In this we had various modules or sections like adding customers and their specific plans. The plan is added in accordance with the time of the day like for Breakfast- B, Lunch- L and Dinner- D. The user can even update or delete the specific plan.

Feasibility Study

1. Technical Feasibility:

- Evaluate the technical requirements, such as hardware, software, and networking infrastructure.
- Assess compatibility with existing systems and technologies.
- Ensure the availability of skilled personnel for development and maintenance.

2. Financial Feasibility:

- Estimate development costs, including software development, hardware, licensing, and any training expenses.
- Analyze potential cost savings and benefits in the long run.
- Determine the return on investment (ROI) and payback period.

3. Operational Feasibility:

- Identify how the system will integrate with current hostel management processes.
- Assess the impact on daily operations and workflow.
- Consider potential disruptions during the implementation phase and how they can be mitigated.

4. Legal and Regulatory Feasibility:

- Ensure compliance with data protection laws and other relevant regulations.
- Identify any legal constraints or requirements for the system's implementation and usage.

5. Schedule Feasibility:

- Develop a realistic project timeline for the development, testing, and implementation phases. - Consider any external factors or dependencies that may affect the schedule.

6. Scalability and Flexibility:

- Evaluate whether the system can scale to accommodate future growth in terms of users, data, and functionality. Assess the flexibility of the system to adapt to changing requirements and technologies.

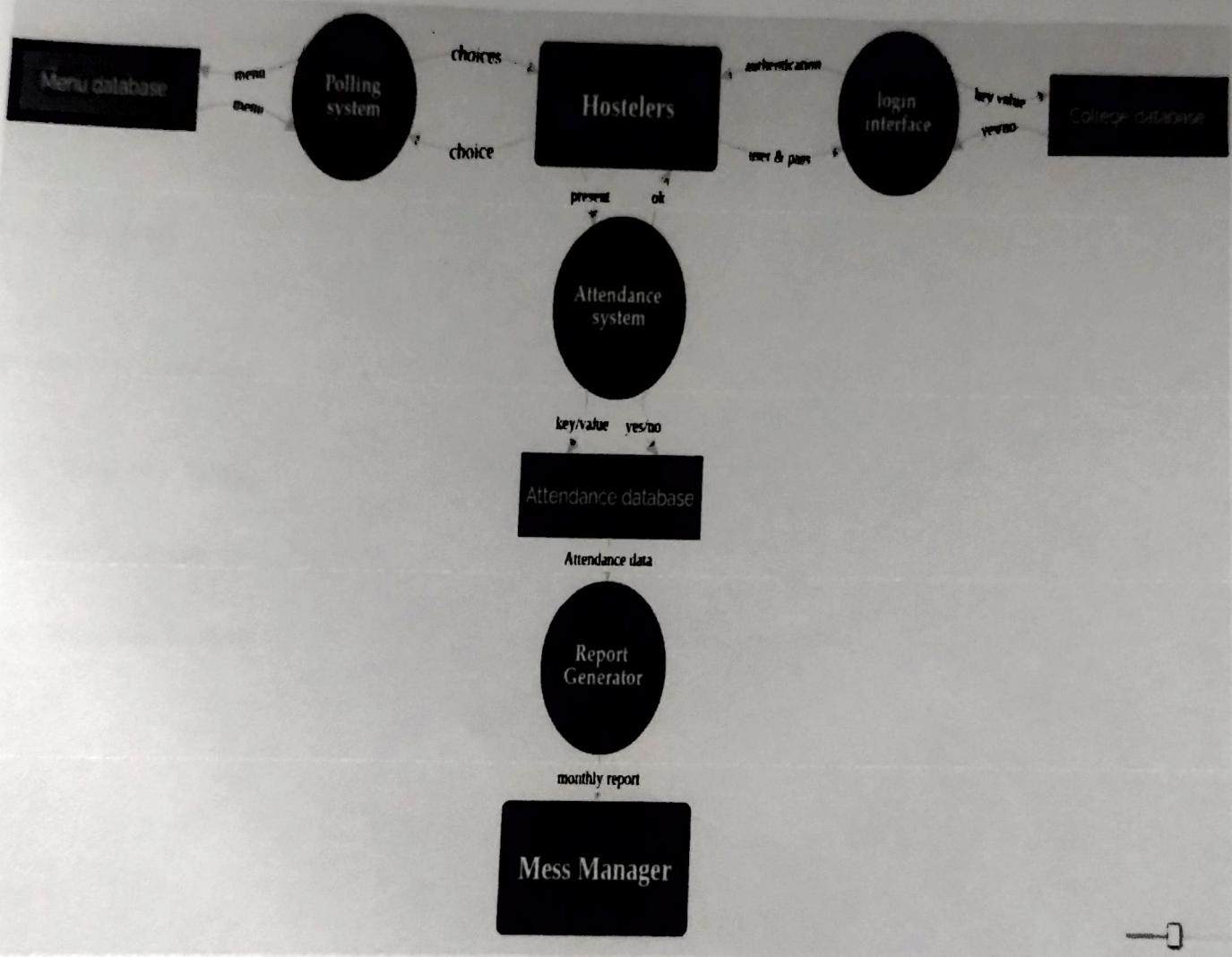
7. User Acceptance:

- Conduct surveys or interviews with potential users to gauge their acceptance of the system.
- Identify any potential resistance to change and plan for user training and support.

8. Risk Analysis:

Identify potential risks and challenges associated with the implementation of the system. - Develop contingency plans to address unforeseen issues and minimize disruptions.

Methodology



Facilities required for proposed work

Hardware Requirements:

Operating System: Android 12 or above

Rom: 50-100mb

Ram: 300-500mb

Software Requirements:

1. Front end: Kotlin
2. Script: Javascript
3. Database: Firebase

Expected outcomes

- **Improved Efficiency:**

Streamlined administrative processes lead to increased efficiency in tasks such as room allocation, attendance tracking, and fee management. Reduced manual work allows staff to focus on more strategic aspects of hostel management.

- **Enhanced Accuracy:**

Automation reduces the likelihood of errors in data entry, fee calculations, and record-keeping, improving the overall accuracy of hostel management.

- **Cost Savings:**

Efficiency gains and reduced paperwork contribute to cost savings over time. Optimal resource allocation and financial transparency help in identifying areas for potential cost reduction.

- **Real-Time Data Access:**

Centralized data storage enables administrators to access real-time information on room occupancy, fee payments, and other relevant data, facilitating better decision-making.

- **Improved Communication:**

Enhanced communication tools within the application foster better interaction between hostel authorities, staff, and residents. Timely notifications and announcements contribute to a more connected and informed hostel community.

- **Transparent Financial Management:**

Accurate financial records, automated fee collection, and receipt generation contribute to transparent financial management. Improved tracking of financial transactions enhances accountability.

- **Scalability:**

The system's scalability allows it to accommodate growth in the number of users, data volume, and additional features, providing long-term value.

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