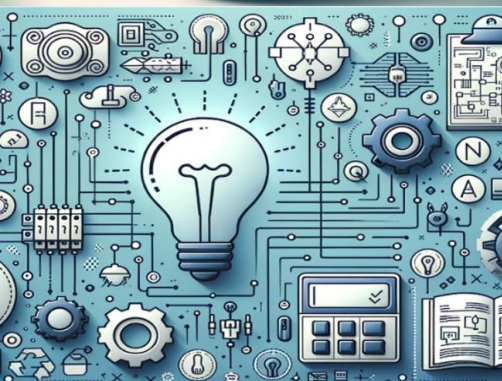


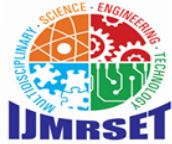
# International Journal of Multidisciplinary Research in Science, Engineering and Technology

*(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)*



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## International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

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# Hostel Management System

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**ABSTRACT:** As the name specifies Hostel Management System is software developed for managing various activities in the hostel. For the past few years the number of educational institutions is increasing rapidly. Thereby the number of hostels is also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software's are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried manually. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system Which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system. Less human error, Strength and strain of manual labor can be reduced, High security, Data redundancy can be avoided to some extent Data consistency, Easy to handle, Easy data updating, Easy record keeping, Backup data can be easily generated.

**Keywords:** Restaurant room allocation, fee collection, student records, and visitor management, ensuring efficient and secure hostel operations.

## I. INTRODUCTION

A Hostel Management System is a software solution designed to automate and streamline the management of hostel facilities. Traditionally, hostel operations such as room allocation, student records, fee collection, and attendance tracking were handled manually, leading to inefficiencies and errors. This system replaces manual processes with a digital platform, ensuring accuracy, security, and ease of access.

The system provides features like room allocation, fee management, student attendance tracking, visitor management, and complaint handling. Hostel administrators can efficiently manage records, generate reports, and monitor daily operations. Students can check room availability, submit complaints, and track their payments online.

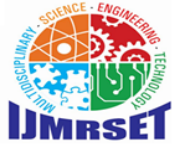
Security is a major concern in hostels, and this system enhances it by implementing biometric authentication, RFID access, and visitor logs. Additionally, the integration of a database ensures seamless data storage and retrieval, reducing paperwork and administrative burdens.

By automating hostel management, this system improves efficiency, minimizes human errors, and enhances the overall experience for both students and administrators. It is a valuable tool for educational institutions and organizations that provide accommodation services, ensuring a well-organized, secure, and user-friendly hostel environment.

## II. OBJECTIVE

The main goal of the Hostel Management System is to make hostel management easy, efficient, and error-free. It helps in automating room allocation, so students can be assigned rooms based on availability without manual effort. The system also stores and manages student records, making it easy for hostel staff to access and update details whenever needed. Another important objective is to simplify fee collection by keeping track of payments, generating invoices, and sending reminders for due fees.

The system also helps in tracking student attendance, ensuring proper record-keeping. Security is a major concern, and the system improves it by keeping visitor logs, verifying IDs, and controlling access to the hostel. To improve communication, students can use the system to submit complaints and requests online, reducing paperwork and delays.



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The system also generates detailed reports on room occupancy, payments, complaints, and attendance, helping hostel administrators make better decisions.

### III. LITERATURE SURVEY

Hostel management comprises a number of activities like allotment of rooms, student records, fee collections, and enforcing discipline within the campus. The activities were conventionally performed manually through registers and documents, and it was both time-consuming and error-prone. With time, institutions began utilizing simple computing tools like spreadsheets, but they were non-automated, insecure, and lacked efficient data handling.

As technology has progressed, computerized hostel management systems have been created to streamline the process. These systems utilize databases to store and access information, eliminating the risk of data loss. Web-based and mobile applications enable administrators to manage hostel operations in real time, making processes such as room assignments, fee collection, and student record management simpler. Technologies such as HTML, CSS, and JavaScript are widely utilized for the front-end, whereas PHP, Python, or Java are used for backend activities. Databases like MySQL and Firebase store student data securely and make it accessible when required.

The advantages of having a hostel management system are immense. It saves time as it automates routine tasks, minimizes paperwork, and provides accurate data. Security features such as authentication and access control ensure that sensitive data is protected. Students and administrators can also be benefited from features such as online room booking, automatic payment and update reminders, and digital payment, making the whole process smoother and more convenient.

In summary, utilizing a hostel management system enhances efficiency, minimizes administrative burden, and facilitates improved organization of hostel activities. Future systems can be equipped with artificial intelligence (AI) to forecast room availability and space optimization. IoT (Internet of Things) can be employed for smart energy management, while blockchain technology can improve the security of financial transactions. These will further increase the efficacy of hostel management, making it more contemporary and dependable.

### IV. WEB DEVELOPMENT PHASES

#### REQUIREMENT ANALYSIS:

##### USER REQUIREMENTS:

- **Objective:** Develop an easy-to-use hostel management system that simplifies administrative tasks and improves efficiency.

##### USER REQUIREMENTS:

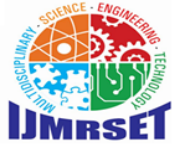
- **User Authentication:** Secure login for students, staff, and administrators.
- **Room Management:** Allocate, update, and track room availability.
- **Student Record Management:** Maintain student details, including personal information and stay duration.
- **Fee Management:** Automated fee calculation, payment tracking, and receipt generation.
- **Notifications:** Automatic alerts for fee due dates, room allotments, and important announcements.
- **Reports & Analytics:** Generate reports on hostel occupancy, fee collection, and student records.

##### NON-FUNCTIONAL REQUIREMENTS:

- **Security:** Secure student data and financial transactions with authentication measures.
- **Performance:** Fast processing and efficient data retrieval even during peak times.
- **Scalability:** Ability to support multiple hostel branches if needed.

### V. HARDWARE AND SOFTWARE REQUIREMENTS

- **Front-End:** HTML, CSS, JavaScript (for designing and interactivity).
- **Back-End:** PHP (for server-side processing).
- **Database:** MySQL (for storing student and hostel-related data).
- **Hardware:** Hard Disk: 512GB, RAM: 8GB, System with any processor.



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These are the key requirements for my web project, "**Hostel Management System.**" By implementing these features, the system will be more efficient, user-friendly, and reliable. Additionally, this project will help enhance my web development skills by giving me hands-on experience in designing, coding, and managing a real-world web-based application.

### BLOCK DIAGRAM:

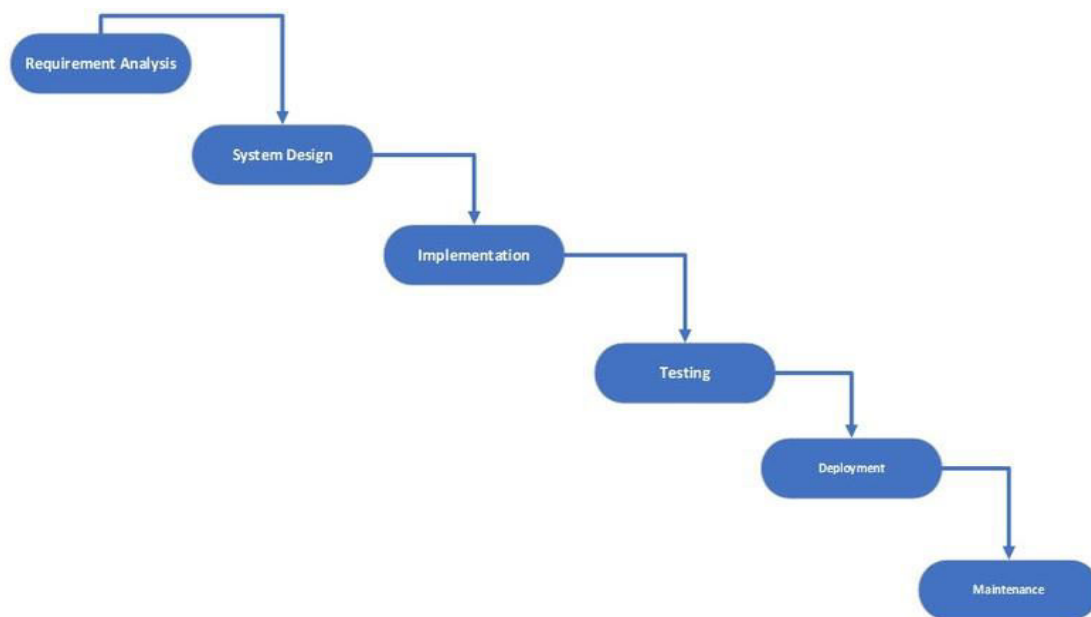


Figure 1: Block Diagram.

### DESIGNING PHASE:

### WIREFRAMES DIAGRAM:

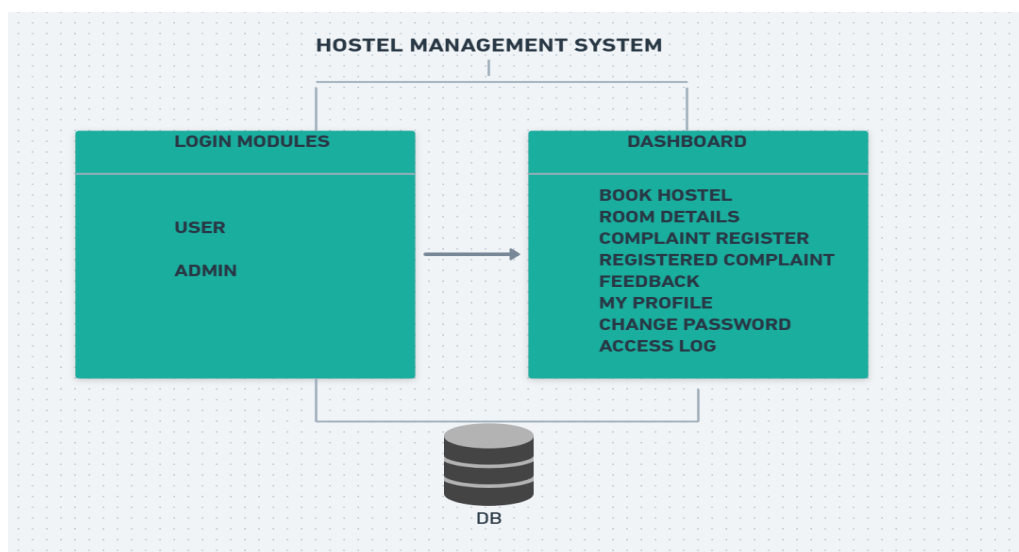
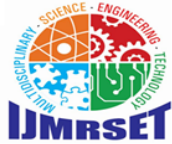


Figure 2: Wireframes Diagram.



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1. **Login Page** – This page includes login credentials for different users. It includes:

- **Login for User**
- **Login for Admin**

2. **Dashboard** – This page provides access to various functionalities for managing the hostel system:

- **Book Hostel** – Allows users to book a hostel room.
- **Room Details** – Displays available hostel rooms and their details.
- **Complaint Register** – Users can submit complaints.
- **Registered Complaint** – View previously registered complaints.
- **Feedback** – Users can submit feedback about hostel services.
- **My Profile** – Displays user profile details.
- **Change Password** – Enables users to update their login credentials.
- **Access Log** – Maintains a log of user activity for security purposes.
- All these modules are connected to a database (DB) that stores user details, booking records, complaints, feedback, and access logs. This structured system ensures efficient hostel management.

### WORKFLOW DIAGRAM:

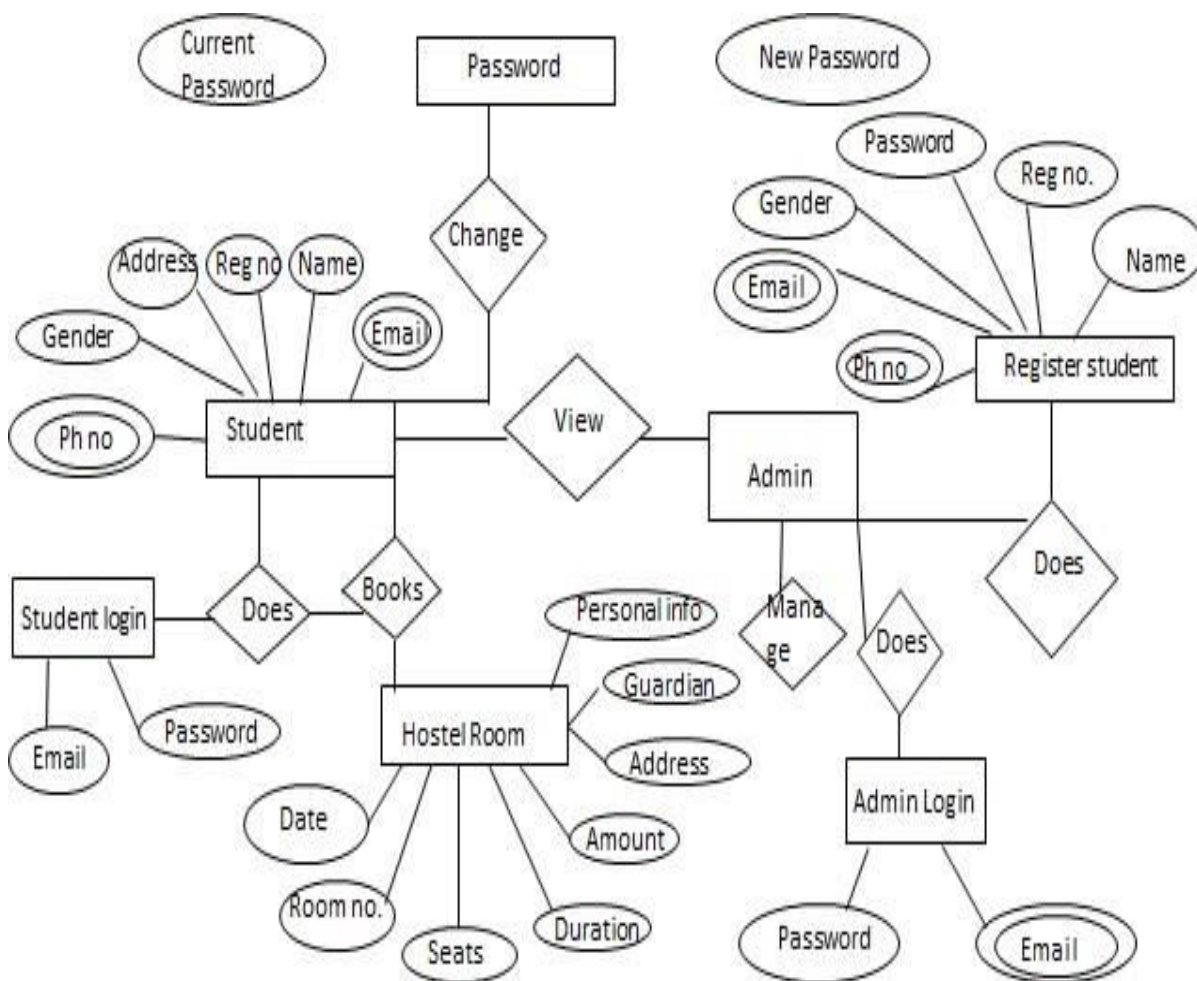


Figure 3: Workflow Diagram.



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This ER diagram represents a **Hostel Management System**, showing the interactions between **students** and **admins**. Students can **register**, **log in**, **book hostel rooms**, and **change passwords**, while admins manage **student registrations**, **room allocations**, and **personal information**. Key entities include **Student**, **Admin**, **Hostel Room**, and **Login Credentials**, with relationships defining **registration**, **booking**, and **management processes**.

### User Modules

User Sign Up:

Hostel Management System

MAIN

- User Registration
- User Login
- Admin Login

### Student Registration

FILL ALL INFO

Registration No :

First Name :

Middle Name :

Last Name :

Gender :

Contact No :

Email Id :

Password :

Confirm Password :

User Sign In

Hostel Management System

MAIN

- User Registration
- User Login
- Admin Login

### User Login

EMAIL / REGISTRATION NUMBER

PASSWORD

[Forgot password?](#)

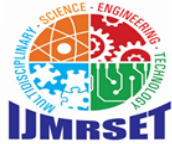


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### User Dashboard:

### User Profile:



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### User Change Password:

Hostel Management System

Account

### Change Password

LAST UPDATION DATE:

old Password

New Password

Confirm Password

### User Booked Hostel Details:

Hostel Management System

Account

### Rooms Details

Reg No. 2018-06-23 17:34:35

Room Realized Info [Print Data](#)

Room No.:	108	Seater:	5	Fees PM:	8000
Food Status:	With Food	Stay From:	2018-06-17	Duration:	4 Months
Total Fee : 34000					

Personal Info Info

Reg No.:	108081211	Full Name:	Anupam Kumar		
Contact No.:	8447087344	Gender:	Male	Course:	Bachelor of Engineering
Emergency Contact No.:	823456789	Guardian Name:	Mr. X	Guardian Relation:	Father
Guardian Contact No.:	8234567890				

Addresses

Correspondence Address	New Delhi India Algeria, 202001 Uttar Pradesh	Permanent Address	New Delhi India Delhi, 202001 Delhi (NCT)
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### User Hostel Booking:

[illegible]

User Access log Details:

Hotel Management System

Account

Access Log

ALL FORMATS: CSV

Show: 10

▼ entries

Search:

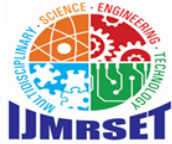
Sno.	User Id	User Email	IP	City	Country	Login Time
1	10	test@gmail.com				2019-06-22 11:46:42
2	10	test@gmail.com				2019-06-24 16:56:28
3	10	test@gmail.com	-1			2019-06-24 16:52:47
4	10	test@gmail.com	-1			2019-06-26 21:57:40
5	10	test@gmail.com	-1			2019-06-10 10:32:51
6	10	test@gmail.com	-1			2019-06-10 11:19:42
7	10	test@gmail.com	-1			2019-06-10 12:47:53
Sno.	User Id	User Email	IP	City	Country	Login Time

Showing 1 to 7 of 7 entries

PREVIOUS

1

NEXT

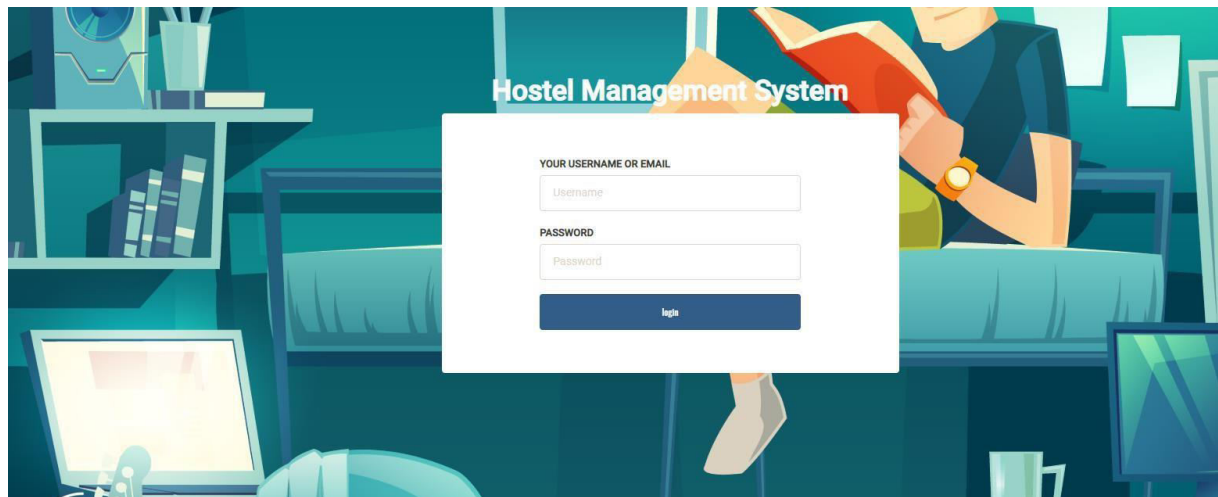


## International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

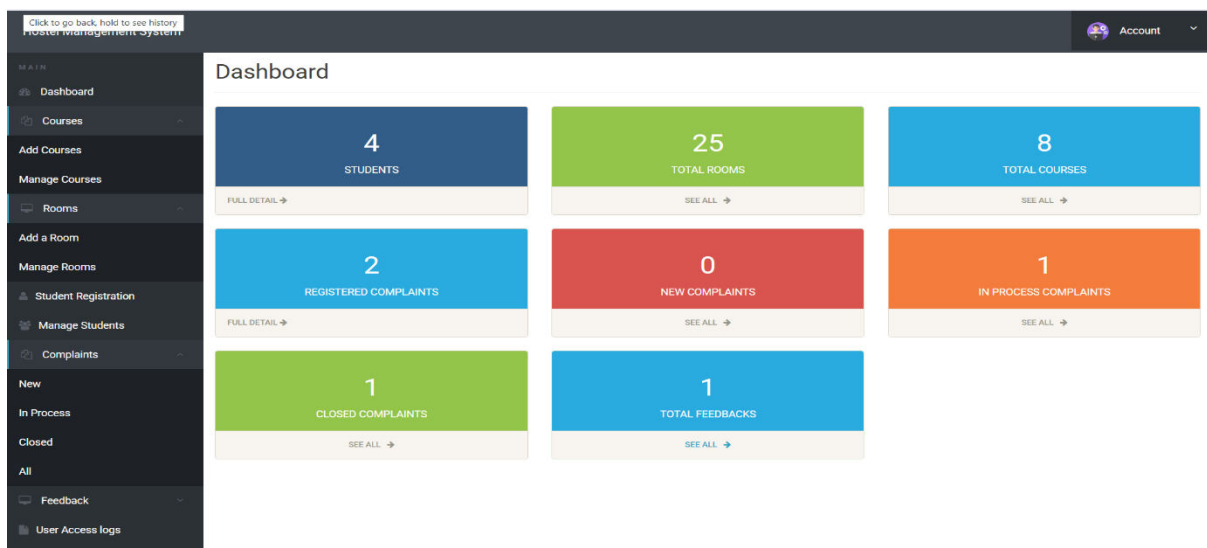
(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

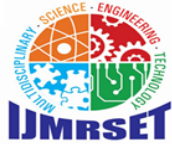
### Admin Module

Admin Login:



Admin Dashboard :





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### Admin Profile:

Hostel Management System

Account

### Admin Profile

ADMIN PROFILE DETAILS

Username: admin  
Username can't be changed.

Email: anuj.lpu1@gmail.com

Reg Date: 2016-04-05 02:01:45

Cancel Update Profile

CHANGE PASSWORD

Old Password

New Password

Confirm Password

Cancel Change Password

### Admin Add Course:

Hostel Management System

Account

### Add Courses

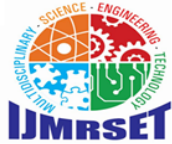
ADD COURSES

Course Code

Course Name (Short)

Course Name (Full)

Add course



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### Admin edit Course Details:

Hostel Management System Account

MAIN

- Dashboard
- Courses
- Rooms
- Student Registration
- Manage Students
- User Access logs

### Edit Course

EDIT COURSES

Course Code: B10992

Course Name (Short): B.Tech

Course Name(Full): Bachelor of Technology

Update Course

### Admin add room:

Hostel Management System Account

MAIN

- Dashboard
- Courses
- Rooms
- Student Registration
- Manage Students
- User Access logs

### Add a Room

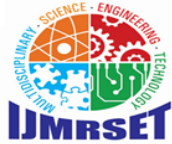
ADD A ROOM

Select Seater: Select Seater

Room No.:

Fee(Per Student):

Create Room



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### Admin Manage Rooms:

Hostel Management System Account

Manage Rooms

ALL ROOM DETAILS

Show 10 entries

Sno.	Seater	Room No.	Fees (PM)	Posting Date	Action
1	5	100	8000	2016-04-12 04:15:43	<a href="#">✕</a>
2	2	201	6000	2016-04-12 07:00:47	<a href="#">✕</a>
3	2	200	6000	2016-04-12 07:00:58	<a href="#">✕</a>
4	3	112	4000	2016-04-12 07:01:07	<a href="#">✕</a>
5	5	132	2000	2016-04-12 07:01:15	<a href="#">✕</a>
Sno.	Seater	Room No.	Fees (PM)	Posting Date	Action

Showing 1 to 5 of 5 entries

PREVIOUS 1 NEXT

### Admin Edit Room Details:

Hostel Management System Account

Edit Room Details

EDIT ROOM DETAILS

Seater

Room no

Room no can't be changed.

Fees (PM)



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### Manage Registered Students :

Hostel Management System Account

Manage Registered Students

ALL STUDENT DETAILS

Show: 10 entries Search:

Sno.	Student Name	Reg no	Contact no	room no	Seater	Staying From	Action
1	Anj Kumar	10806121	8287122254	100	5	2016-04-22	
2	Anjesh Kumar	108061211	8407267544	100	5	2016-06-17	
3	rahul Kumar Singh	102255	8785786786	112	5	2016-06-27	
4	Ajay Kumar	586652	8596189325	132	5	2016-06-28	
Sno.	Student Name	Reg no	Contact no	Room no	Seater	Staying From	Action

Showing 1 to 4 of 4 entries

PREVIOUS 1 NEXT

### User Access logs:

Hostel Management System Account

Access Log

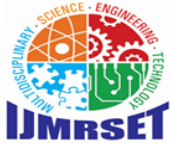
ALL COURSES DETAILS

Show: 10 entries Search:

Sno.	User Id	User Email	IP	City	Country	Login Time
1	10	test@gmail.com				2016-06-22 11:46:42
2	10	test@gmail.com				2016-06-24 16:50:28
3	10	test@gmail.com	:1			2016-06-24 16:52:47
4	10	test@gmail.com	:1			2016-06-26 21:07:40
5	20	ajay@gmail.com	:1			2016-06-26 22:10:57
6	10	test@gmail.com	:1			2019-06-10 10:32:51
7	10	test@gmail.com	:1			2019-06-10 11:19:42
8	10	test@gmail.com	:1			2019-06-10 12:47:32
Sno.	User Id	User Email	IP	City	Country	Login Time

Showing 1 to 8 of 8 entries

PREVIOUS 1 NEXT



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Registered Student Detail :  
SCOPE OF MY PROJECT:

Student Information - Google Chrome  
localhost/hostel/admin/full-profile.php?id=7

Test Kumar'S **INFORMATION »**

Reg Date : 2016-06-23 17:24:35

**Room Related Info »**

ROOM NO :	100
SEATER :	5
FEES PM :	8000
FOOD STATUS:	WITH FOOD
STAYING FROM:	2016-06-17
DURATION:	4
TOTAL FEE:	34000

**PERSONAL INFO »**

COURSE:	BACHELOR OF ENGINEERING
REG NO:	108061211
FIRST NAME:	TEST
MIDDLE NAME:	TEST
LAST:	KUMAR
GENDER:	MALE
CONTACT NO:	8467067344
EMAIL ID:	TEST@GMAIL.COM
EMERGENCY CONTACT:	123456789
GUARDIAN NAME:	TEST
GUARDIAN RELATION:	TEST
GUARDIAN CONTACT:	1236547890

**CORRESPONDENCE ADDRESS »**

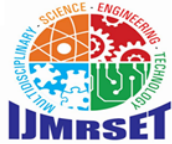
ADDRESS:	NEW DELHI INDIA
CITY:	ALIGARH
STATE:	UTTAR PRADESH
PINCODE:	202001

**PERMANENT ADDRESS »**

ADDRESS:	NEW DELHI INDIA
CITY:	DELHI
STATE:	DELHI (NCT)
PINCODE:	202001
STATE:	DELHI (NCT)

Prints this Document Close this document

The Hostel Management System can be enhanced with several future advancements to improve efficiency, user experience, and automation. Below are some key areas of improvement:



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- **AI & Automation:** Smart room allocation, chatbots for inquiries, and AI-based monitoring.
- **Mobile App Integration:** Online booking, payments, notifications, and QR code-based entry.
- **Advanced Security:** Biometric/RFID entry, visitor management, and emergency alert system.
- **IoT-Based Smart Hostel:** Automated energy management, maintenance detection, and water usage tracking.
- **Cloud & Blockchain Storage:** Secure, real-time data backup, blockchain for tamper-proof records

### V. CONCLUSION

The project, developed using PHP and MySQL is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement. The expanded functionality of today's software requires an appropriate approach towards software development. This hostel management software is designed for people who want to manage various activities in the hostel. For the past few years the number of educational institutions are increasing rapidly. Thereby the number of hostels are also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software's are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried manually. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more user friendly and more GUI oriented.

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