



## A PROJECT REPORT

# "HOSTEL MANAGEMENT SYSTEM"

Submitted to

# Savitribai Phule Pune University

In Partial Fulfilment of the requirements of the Award of the Degree of

**BATCHLOR OF COMPUTER APPLICATION (SCIENCE)** 

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FOR ACADAMIC YEAR 2022-23

Kopargaon Taluka Education Society's

## K.J. SOMAIYA COLLAGE OF ARTS, COMMERCE AND SCIENCE

Mohanrajnagar, Kopargaon-423601, Dis-Ahemadnagar



This Is Certify That Miss. Shivani Nandu Bhalerao Student Of B.C.A.Sci Has A Complete Project Report On Presentation Report Of

"HOSTEL MANAGEMENT SYSTEM" Submitted In Partial Fulfilment Of It He Degree Of Baster Of Commerce As Per The Syllabus Of SAVITRIBAI PHULE UNIVERCITY For The Academics Year 2022-23

I Further Clarified That, The Work Has Been Carried Out Under My Guidance.

**Project Guide** 

**Head Of Department** 

Internal Examiner

**External Examiner** 

## ACKNOWLADGEMENT

At every student I express my gratitude to almightly lord for showering this grace and Blessing upon to me to complete this project.

Although the our name appears on the cover of this book, many people had contributed in some from on the other form to this project Development.

We could not done this project without the assistance or support of each of the following we thank you all.

I wish to place on my record my deep some of gratitude to my project guide, Prof.P.N.Patil, for his content motivation and valuable help through the project work.

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Finally, I would like to thanks my friends for their cooperation complete this project.

> Miss. Shivani Nandu Bhalerao TY BCA(Science)

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# **Introduction To Project**

## 1.1 Background

This Hostel Management System is developed in favor of the hostel management team which helps them to save the records of the students about their rooms and other things. It helps them from the manual work from which it is very difficult to find the record of the students and the information about those ones who had left the hostel years before.

This solution is developed on the plight of the hostel management team, through this they cannot require so efficient person to handle and manage the affairs of the students in the hostel, all you need to do is to login as administrator and you can see the information of all the students who have obtained and registered their hostel form, click verify to ascertain their eligibility and allocate them to the available hostel.

Identification of the problems of the existing hostel management leads to the development of computerized solution that will be compatible to the existing hostel management with the solution which is more users friendly and more GUI oriented. We can improve the efficiency of the hostel management, thus overcome the drawbacks of the existing management.

## 1.2 Objectives

The main objectives of this project work are that:

- Student will no longer apply for their hostels manually.
- The warden can see and access the student's data.
- This also will reduce the manual work of the persons in admin penal.
- It helps the admin to know the number of students that can leave in a room and a block.
- To ensure that the number of student staying in a room does not exceed specified limit.
- Help the admin to disseminate information to students without calling for a meeting or moving room to room.
- To ensure that student remit the hostel property given to them before vacating the hostel.

## **Problem Defination**

There are a lot of drawbacks in keeping and maintaining a hostel. Especially with a manual system. Since most hostels are being run by only one hostel manager, the number of students in a room are sometimes not known by the officer. He has to go room by room to ensure that a room is occupied or not. Sometimes people may be owing in the hostel and they are saved on papers or huge notebooks, and sometimes receipts. If the books should go missing or stolen, one would never be able to know if a student is owing or not. Room allocation also becomes a problem as the officer might not know which rooms are available or not. And some hostels have a lot of rooms or have mare storeys and it would be very tedious to go through all storeys in search of a free room for an applicant. Also the officer might not know the number of students in a room or know if a room is full or not.

# **Introduction To Proposed System**

This software product the "Hostel Management System" to improve their service for all the students of the hostel. This also reduce the manual work of the person in admin panel and the bundle of registers that were search when to find the information of previous student, because through this system you can store the data of those students who had leaved the hostel. Through this you can check the personal profile of all the current students within few minutes the data base of the system will help you to check the fees of every students and the students hostel dues the student of the hostel will be recognized from the ID number allocated at the room rental time.in the last this system will improve the last this system will improve the management work in the hostel.

This system you can store the data of those students who had leaved the hostel three years ago. Through this you can check the personal profile all the current students within few minutes the data base of the system will help you to check a particular one.

# **Existing System**

## **Advantages**

- Effective for any college and school.
- Time saving.
- Easy to use.
- Reduce paper work.
- Easy to handle
- Easy data updating

## **\*** Disadvantages

- Low Security
- More Human error
- Inaccuracy of data

# **System Requirements**

## **\*** Hardware Requirement:

• **Processor**: Intel R core Tm i5/i3

• Hard Disk: 160 GB & Above

• **Ram**: 8 GB.

Monitor: VGA/SVAG

• **Printer**: Inkjet

• Mouse: Optical Mouse

## **Software Requirement:**

• Operating System: Windows8 and Above Version

• Front- End: Java NetBeans

• Back-End: MySQL Database

# **Scope of System**

This project aims at automating the hostel management for smooth working of the hostel by automating almost all the activities.

The software "Hostel Management System will be an application that will be used for maintaining the records in an organized manner and to replace old paper work system.

Updating and modifications will be easily achievable and all the calculations and accounting work would be accurate.

## **Feasibility Study**

- The feasibility study is a major factor which contributes to the analysis & development of the system. The decision of the system analysis whether to design a particular system or not depends on its feasibility study.
- It enables us to determine the potential of existing system & improving it. It helps to know what should be embedded in the new system. It also helps to develop a cost-effective system. We can made better utilization of available resources. The project concept is feasible because of following:

## **\*** Technical Feasibility:

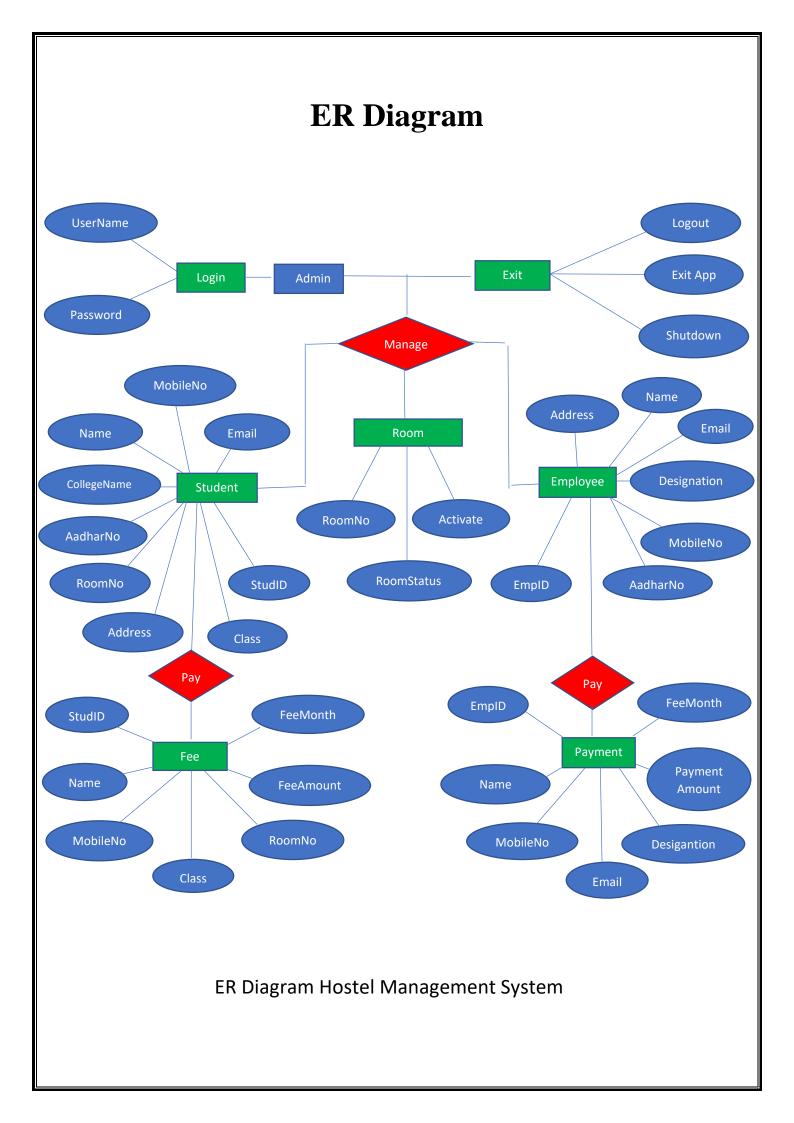
- Technical feasibility is the study of hardware and software requirement on which the application is to be used upon. It is important to consider the budget of the system or the overall cost.
- The proposed system is technically feasible as it has been developed with the help of available technology. The proposed System uses front end java NetBeans & back end tool is MySQL for storing & maintaining database. No expert man power is required for this purpose

#### **\*** Economical Feasibility:

- The economical feasibility is considered in terms of money price value. The organization measure the cost effectiveness of the project. The economical feasibility of the proposed system is as under.
- The organization is ready to invest on proposed system for latest technology & best result.
- The unit has not be spend much amount for the computer hardware & software.
- The organization is in position & also incapable to pay for the system.

## **❖** Operational Feasibility:

The proposed system is very user friendly & the user is much easily able to interact with the system. Therefore the users will readily accept the system & data entry & making queries can be easily.



# **Data Dictionary**

## **Student Registration Table:**

Sr.No.	Attribute	Data Type	Constraint
1	Student ID	Integer	Primary key
2	Name	Varchar	Not Null
3	Father Name	Varchar	Not Null
4	Mother Name	Varchar	Not Null
5	Email	Varchar	Not Null
6	Mobile Number	Varchar	Not Null
7	College Name	Varchar	Not Null
8	Address	Varchar	Not Null
9	Aadhar Number	Varchar	Not Null
10	Class	Varchar	Not Null
11	Room No	Varchar	Not Null
12	Status	Varchar	Not Null

## \* Room Information:

Sr.No	Attribute	Data Type	Constraint
1	Room No	Varchar	Primary key
2	Activate	Varchar	Not Null
3	Room Status	Varchar	Not Null

## Fees Details:

Sr.No.	Attribute	Data Type	Constraint
1	Student ID	Integer	Not Null
2	Name	Varchar	Not Null
3	Class	Varchar	Not Null
4	Mobile Number	Varchar	Not Null
5	Room No	Varchar	Not Null
6	Month	Varchar	Not Null
7	Amount	Varchar	Not Null

# **\*** Employee Registration Table:

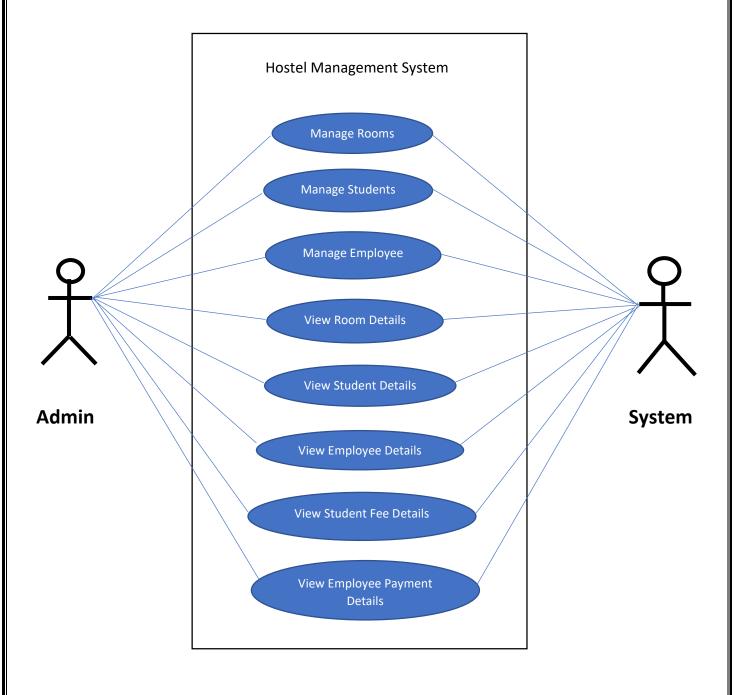
Sr.No.	Attribute	Data Type	Constraint
1	Employee Id	Integer	Primary key
2	Name	Varchar	Not Null
3	Father Name	Varchar	Not Null
4	Mother Name	Varchar	Not Null
5	Email	Varchar	Not Null
6	Mobile Number	Varchar	Not Null
7	Address	Varchar	Not Null
8	Aadhar Number	Varchar	Not Null
10	Designation	Varchar	Not Null
11	Status	Varchar	Not Null

## ❖ Payment Details:

Sr.No.	Attribute	Data Type	Constraint
1	Employee Id	Integer	Not Null
2	Name	Varchar	Not Null
3	Mobile Number	Varchar	Not Null
4	Email	Varchar	Not Null
5	Designation	Varchar	Not Null
6	Month	Varchar	Not Null
7	Amount	Varchar	Not Null

# **UML Diagrams**

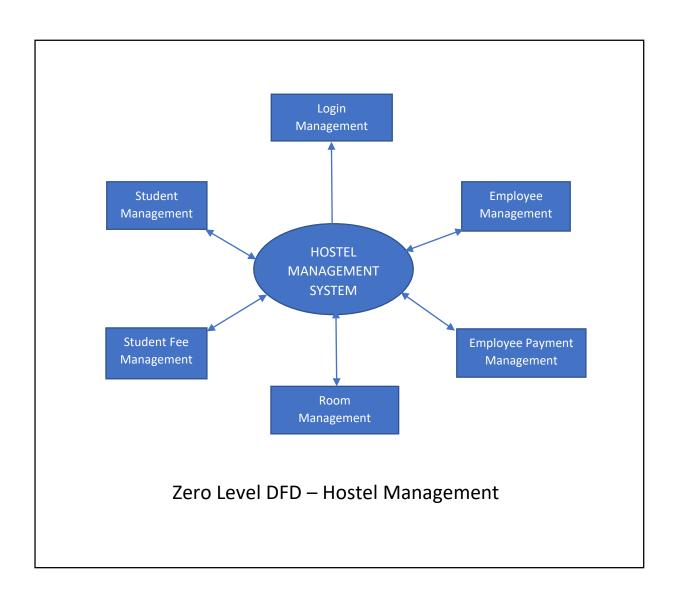
• Use Case Diagram:



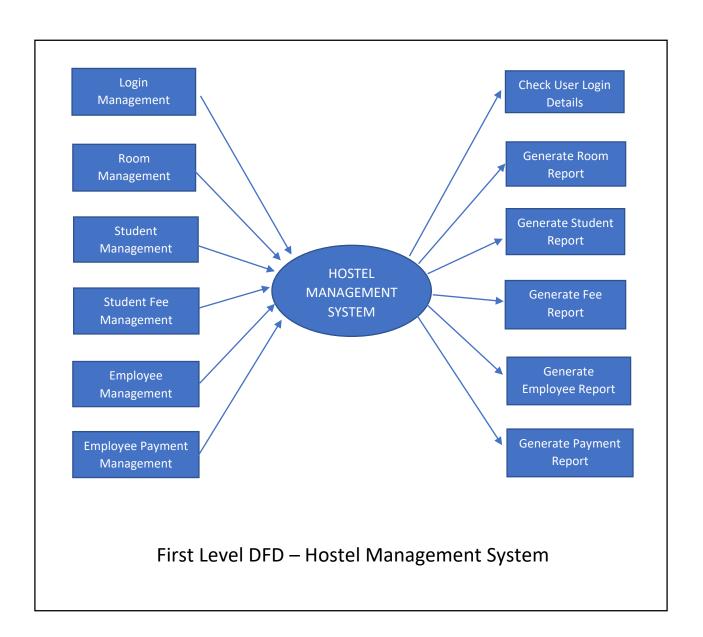
Use Case Diagram between Admin and System

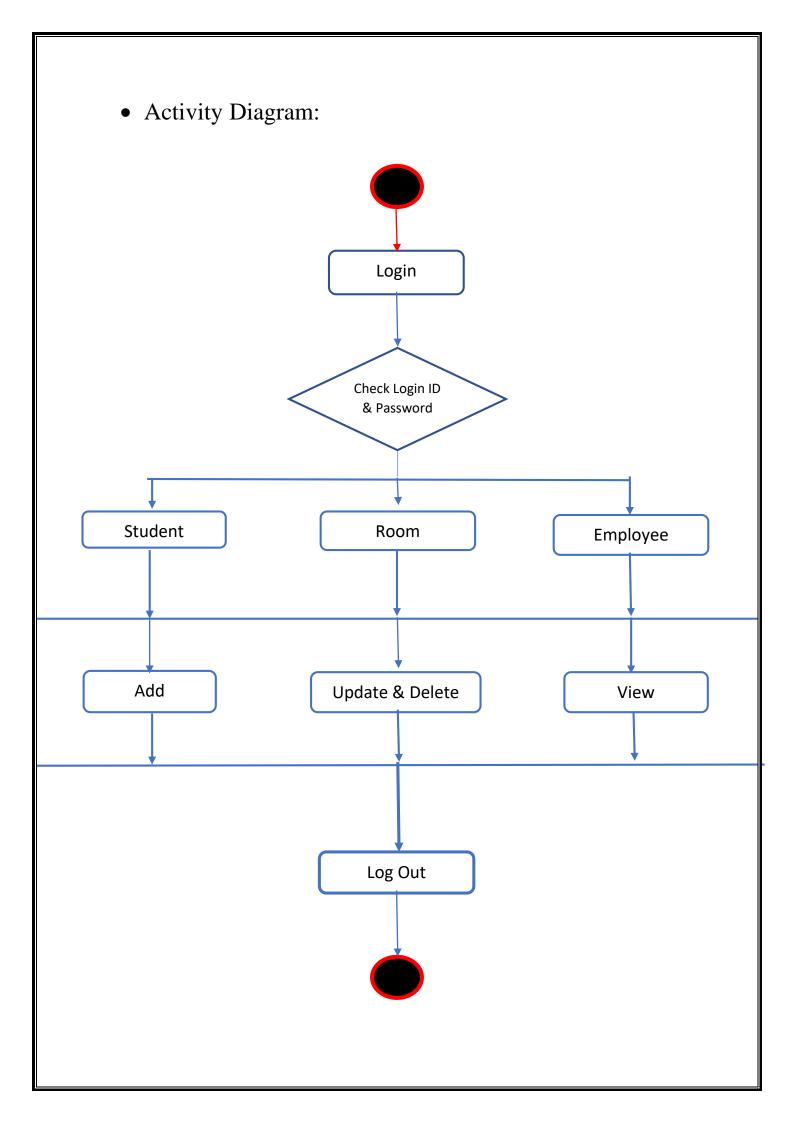
• Data Flow Diagram DFD:

#### 1. DFD Zero Level:



#### 2. DFD First Level:





# • Component Diagram: Student.java Fees.java HomePage Employee.java Payment.java Room.java Database MySQL

• Deployment Diagram: Hostel Management System Windows os MySQL Database

# **System Testing**

#### • Software Testing:

Is all the link of website that works done properly? All input type that work properly or not & button that work or not or data feeding is properly operation and Tool-bars work properly? Is it possible to invoke each function using logical assumptions that if all parts of the system are correct, the goal will be successfully achieved? The testing process focuses on the logical intervals of the software ensuring that all statements have been tested and on functional interval is conducting tests to uncover errors and ensure that defined input will produce actual results that agree with the required results. Program level testing, modules level testing integrated and carried out.

#### **\*** There are two major type of testing they are

- 1) White Box Testing
- 2) Black Box Testing.

#### 1. White Box Testing:

White box sometimes called "Glass box testing" is a test case design uses the control structure of the procedural design to drive test case.

- A) All independent paths within a module have been exercised once. In our system, ensuring that case was selected and executed checked all case structures. The bugs that were prevailing in some part of the code where fixed
- b) All logical decisions were checked for the truth and falsity of the values.

#### 2. Black Box Testing:

Black box testing focuses on the functional requirements of the software. This is black box testing enables the software engineering to derive a set of input conditions that will fully exercise all functional requirements for a program. Black box testing is not an alternative to white box testing rather it is complementary approach that is likely to uncover a different class of errors that white box methods like.

1) Interface errors
2) Performance in data structure
3) Performance errors
4) Initializing and termination errors

# **Test Case**

# **Student Registration:**

Test case objective	Prerequisites	Testing steps	<b>Expected</b> result	Actual result	Pass/Fail
Validation of	ID contains	Enter ID	ID with	ID with only	Pass
Student ID	only digits	into	only digits	digit	
field		Student ID	should be	accepted	
		field	accepted	_	
Validation of	Room no.	Select	Name	Name with	Pass
Room no.	contains	Room no.	with	digits &	
field	digits or	into Room	digits &	Character	
	Character	no. field	Character	should be	
			should be	accepted	
			accepted		
Validation of	Name	Enter name	Name	Name with	Pass
Name field	contains only	into Name	with only	only	
	character	field	character	character	
			should be	accepted	
			accepted		
Validation of	Mobile No	Enter	Mobile	Mobile No	Pass
Mobile No	contains only	Mobile No	No with	with only	
	digits	into Mobile	only digits	digit	
		No field	should be	accepted	
			accepted		
Validation of	Email	Enter	Email	Email	Pass
Email	contains	Email into	contains	contains	
	digits	paid Email	digits	only digits	
	,@symbol or	field	,@symbol	,@symbol or	
	characters		or	characters	
			characters		
			should be		
			accepted		
Validation of	Address	Enter	Address	Address	Pass
Address	contain only	Address	contains	contains	
	Character	into	with only	with only	
		Address	character	character	
		field	should be	accepted	
			accepted		

# ❖ Employee Registration:

Test case objective	Prerequisite s	Testing steps	Expected result	Actual result	Pass/Fa il
Validation of Employee ID field	ID contains only digits	Enter ID into Employee ID field	ID with only digits should be accepted	ID with only digit accepted	Pass
Validation of Name field	Name contains only character	Enter name into Name field	Name with only character should be accepted	Name with only character accepted	Pass
Validation of Mobile No field	Mobile No contains only digits	Enter Mobile No into Mobile No field	Mobile No with only digits should be accepted	Mobile No with only digit accepted	Pass
Validation of Email field	Email contains digits ,@symbol or characters	Enter Email into paid Email field	Email contains digits ,@symbol or characters should be accepted	Email contains only digits ,@symbol or characters	Pass
Validation of Address field	Address contains with only character	Enter Address into Address field	Address contains with only character should be accepted	Address contains with only character accepted	Pass
Validation of Designation field	Designation contains with only character	Select Designation into Designation field	Designation contains with only character should be accepted	Designation contains with only character accepted	Pass

# ❖ Room Registration:

Test case	Prerequisites	Testing	Expected	Actual	Pass/Fail
objective		steps	Result	Result	
Validation	Only Room	Enter	Digits &	Digits &	Pass
of Room	Format is	Rooms no.	character	character	
no. field	accepted	into Room	should be	should be	
		no. field	accepted	accepted	
Validation	Only	Selected	Only	Only	Pass
Activate or	Selected	Activate or	Selected	Selected	
Deactivate	Item is	Deactivate	Item is	Item is	
field	accepted	is field	accepted	accepted	
Validation	Only	Selected	Only	Only	Pass
Room	Selected	Booked or	Selected	Selected	
Status field	Item is	Not Booked	Item is	Item is	
	accepted	is field	accepted	accepted	

## Fees Details

Test case objective	Prerequisites	Testing steps	Expected steps	Actual result	Pass/Fail
Validation of	ID contains	Enter ID	ID with	ID with	Pass
Student ID	only digits	into	only digits	only digits	
field		Student	should be	accepted	
		ID field	accepted		
Validation of	Name	Enter	Name	Name	Pass
Name field	contains only	name into	with only	with only	
	character	Name	character	character	
		field	should be	accepted	
			accepted		
Validation of	Only Month	Select	Only	Only	Pass
Month field	Format	Month	Select	Select	
		into	item is	item is	
		Month	accepted	accepted	
		Field			

Validation of	Only	Select	Only	Only	Pass
Amount field	Selected	amount	Select	Select	
	Items	into	item is	item is	
		amount	accepted	accepted	
		Field			

## **❖** Payment Details

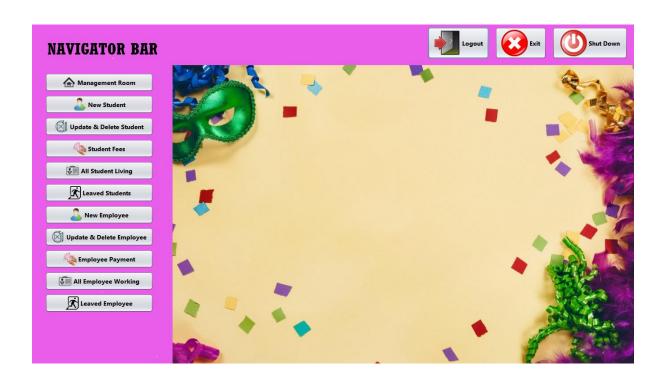
Test case	Prerequisites	Testing	Expected	Actual	Pass/Fail
objective		steps	steps	result	
Validation of	ID contains	Enter ID	ID with	ID with	Pass
Employee ID	only digits	into	only digits	only digits	
field		Employee	should be	accepted	
		ID field	accepted		
Validation of	Name	Enter	Name	Name	Pass
Name field	contains only	name into	with only	with only	
	character	Name	character	character	
		field	should be	accepted	
			accepted		
Validation of	Only Month	Select	Only	Only	Pass
Month field	Format	Month	Select	Select	
		into	item is	item is	
		Month	accepted	accepted	
		Field			
Validation of	Only	Select	Only	Only	Pass
Amount field	Selected	amount	Select	Select	
	Items	into	item is	item is	
		amount	accepted	accepted	
		Field			

# **Input Screens**

Login Page



Home Page



## ❖ Manage Room



#### \* Add New Student



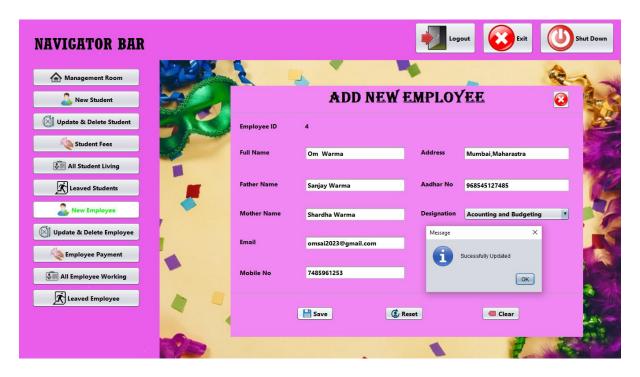
## Update Delete Student



Student Fees



## ❖ Add New Employee



Update Delete Employee



# **❖** Employee Payment

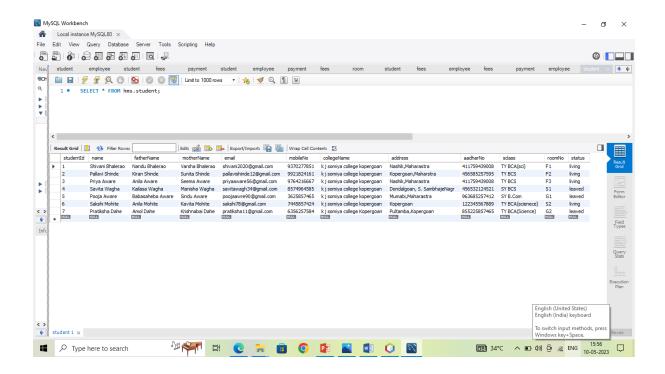


# **Output Screens**

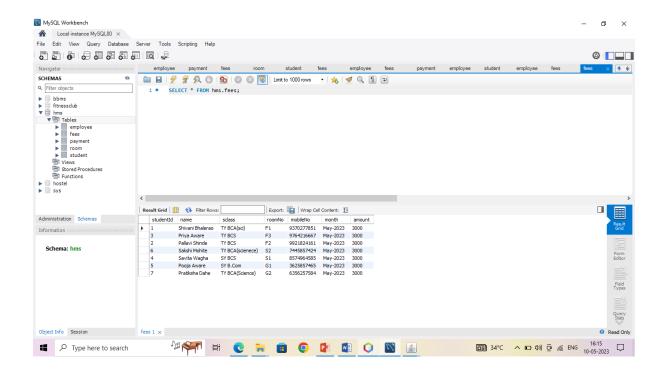
Display All Rooms Information



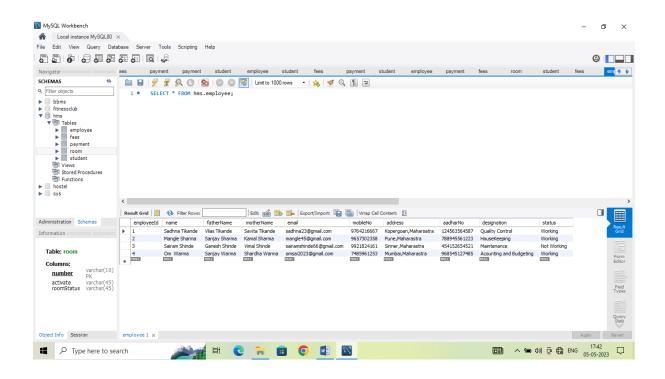
Display All Student Details



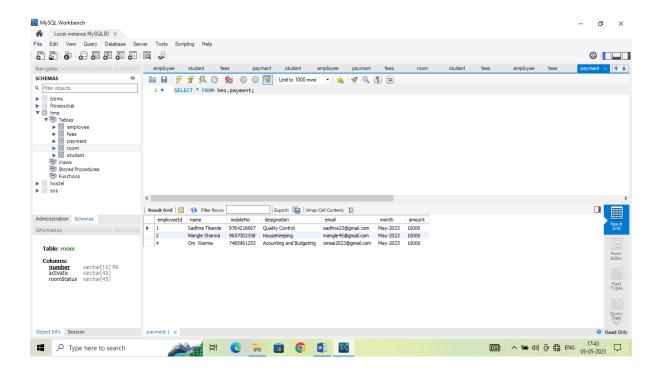
#### Display Student Fees Details



#### Display All Employees Details



## Display Employee Payment Details



# Limitations

- The main drawback of the proposed system is that, it is not webbased system.
- The proposed system is only handle by Admin
- This System store one time only one record

## **Conclusion**

Hostel Management System is a customize and user-friendly software for hostel. It has been design to automate, manage and look after the overall processing of even very large hostel. It is capable of managing enquiry details, student details, payment details etc. Hostel Management System is customized and user-friendly software for hostel which provide hostel information, hostel account information. Hostel management software system is offering a maximum of stability, cost effectiveness and usability. It provides the most flexible and adaptable standards management system software solution for hostel.

# References

- www.Google.com
- www.javaPoint.com
- www.youtube.com
- www.w3school.com