MINI PROJECT REPORT ON "HOSTEL MANAGEMENT SYSTEM"

submitted by

PRAJAKTA CHAUDHARI:- PA18

SHWETA CHOUDHARY:- PA23

JANHAVI CHAVAN :- PA62

SHIVRAJ PATIL :- PA63

under the guidance of SHAKTI KINGER MA'AM

at



School of Computer Engineering and Technology

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ABSTRACT

Hostel management system provides services for a college MITWPU where we have made registration process totally paperless as keeping manual records is very difficult. This system is takes care of the whole registration process which includes - registration of student, his/her guardian, booking request in his/her choice of hostel and room which are currently available and also provides a source for payment verification. This system also has two users namely - the manager of a particular hostel in MITWPU and the student who are verified as a student in our hostel. We have provided login option for both the users, students and employee. Now that we have registered the student we have created a verification which can be done only by the manager of that particular hostel. We have also implemented two way verification process where we take his phone number and id check with database and if valid then we allow to pass an OTP for login and also as soon as the manager confirms a persons booking in a particular hostel we have sent him a message saying he/she can now login as his booking has been confirmed. We have given specific roles to all the users like student has a student page where he can view all his details and add payment if there is any due and add complaints if any same for manager where he can add new rooms to his/her hostel, change or update the price of the rooms, verify student and also verify the complaints but students, he also has the role to register new employees to the hostel along with that specifying what is the role of the new employee. Keeping MITWPU hostels in mind we have created this whole system for only those who have a valid ERP ID given to us by the college during admission. The main purpose here is to reduce one to one communication and manual work by using GUI in tkinter (python) and reducing keeping records in pages by using mySQL.

*LIST OF FIGURES:-

- ER DIAGRAM
- SCHEMA DIAGRAM

*LIST OF TABLES:-

- **Books**
- Employee Guardian
- Hostel
- Payment
- Room
- Std phone
- Student

*LIST OF ABBREVIATIONS:-

• MySQL:My Structured Query Language

• FK: Foreign key • PK: Primary key • Emp: Employee

HOSTEL MANAGEMENT SYSTEM

*PROBLEM DEFINITION:-

A system is implemented which deals with student registration in a hostel and that shows hostel specification on a interface in created python and is managed by the managers(employees) which is specified in the database created in MYSQL. The system also deals with all registration steps involved namely – If the student is new , if new then allow registration by accepting correct student info and payment requirements and if student already exists in the system allow login using otp and show student details and hostel information required for student to contact or report issues.

*TOOLS AND TECHNOLOGIES USED:-

Implementation of hostel management system using MYSQL and python.

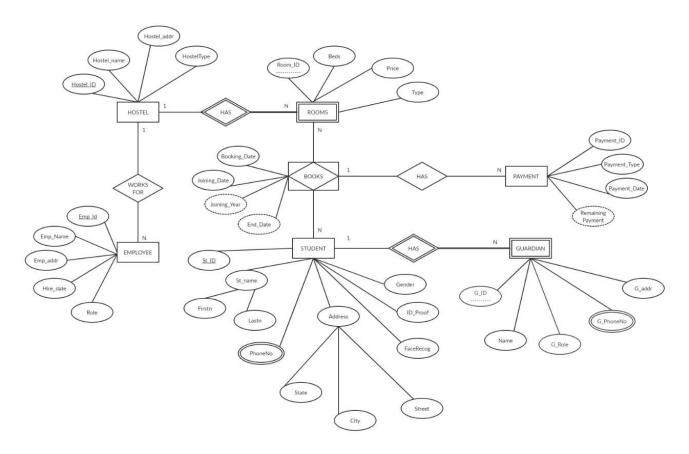
*MOTIVATION:-

This system allows the student to register for a specific room from a particular hostel . System displays hostel details and hostel specification. Interaction with the student is done using graphical interface created in python . The system checks if student exists or not by otp login process and if does not exist it allows to register in our system by registration process . The system permits multiple students to share the room depending upon the number of beds available and student requirements. This system also uses face recognition algorithm in by image processing in python and adding those into our database for attendance purposes or any other unique identification functions.

*OBJECTIVE:-

- 1. To reduce manual labor of insertion
- 2. To reduce keeping manual database student records
- 3. Insertion of new records is easy and fast in this
- 4. Easy to update student records by giving access to info through otp
- 5. Allows new students to register easily
- 6. Payment records / transaction maintenance is easy
- 7. This also allows to keep track of partial payments and due amounts
- 8. Access for student needs student id and face recognition
- 9. Face recognition algorithm is used to improve/safe implementation

*ER - DIAGRAM:-



* SCHEMA :-

HOSTEL(hostel_id,hostel_name,hostel_addr,hoteltype)

ROOM (hostel id,room id, beds, price,type)

EMPLOYEE (hostel id,emp id,emp name,emp addr,hiredate,role)

STUDENT (st id,firstn,lastn,street,city,state,facerecog,id proof,gender)

STD_PHONE (st_id,phoneno)

GUARDIAN (st_id,g_id,name,g_role,g_addr)

GD PHONE (st id,g id,phoneno)

BOOKS (booking id,hostel id,room id,st id,booking date,joining date)

PAYEMENT (payment id,booking id,payment type,amount,payment date)

*NORMALIZATION :-

HOSTEL_I D	HOSTEL _NAME	ROOM_I D	PRICE	BEDS	ТҮРЕ	BOO KIN G_ ID	BOOKING DATE
101	Vidya	2001	105000	2	Normal	1	2018-08-12
101	Sarthi	3001	125000	3	Balcony	2	2019-08-10
102	Shanti	2001	75000	2	Normal	3	2019-08-12
102	Avanti	2001	95000	2	Normal	4	2019-08-13

JOINING_ DATE	ST_ID	ST_NAME	St_Address	Gender	PHONE_ NO
2018-09-12	1032170317	Prajakta	Thane	Female	912809183
2019-09-10	1032170317	Prajakta	Thane	Female	263173791
2019-09-12	1032180389	Shreyas	Pune	Male	737173917
2019-09-13	1032180546	Savay	Solapur	Male	958945509

We have different anomalies in the above table.

- ->Insertion anomaly: If we want to insert a room in this table we have to add the details of student as well.
- ->Deletion anomaly:If a student decides to leave the hostel we would have to delete the entire record the Room for that hostel also gets deleted.
- ->Updation anomaly: With redundant data, when we want to change the value of one columns of a particular Student, for example the ST_NAME, we must update all the Student records that assigned to the particular Hostel roomt otherwise the database will become inconsistent.

The above table is in 1NF.For it to be in 2NF we need to remove the partial dependencies and convert it into new tables.

Primery key:

HOSTEL ID, ROOM ID, BOOKING ID, STUDENT ID

Functional Dependencies:

HOSTEL_ID,ROOM_ID,BOOKING_ID,ST_ID->PRICE,BEDS,TYPES,BOOKING_DATE,JOINING_ DATE,ST_ID,ST_NAME,ST_ADDR,GENDER,PHONE_NO

HOSTEL_ID,ROOM_ID-->PRICE,BEDS,TYPE (Partial dependency)

ST_ID-->ST_NAME,ST_ADDRESS,GENDER,PHONE_NO. (Partial dependency)

2NF FORM:

Removing the partial dependency and creating a new table:

HOSTEL_ID	ROOM_ID	PRICE	BEDS	TYPE				
HOSTEL_ID	ROOM_ID	BOOKI	NG_ID	ST_ID	BOOKING	DATE	JOINING	DATE
CT ID CT N	JAME ST	A DDD	PENIDED	DIIONE	NO			
ST_ID ST_1	NAME 51_	ADDK C	JENDEK	PHONE	NO			

3NF FORM:

We have to remove all the transitive dependencies if any. Since there are no transitive dependencies. The table is already in 3NF form.

Therefore,

BOOKING TABLE:

HOSTEL ID	ROOM ID	BOOKING ID	ST ID	BOOKING DATE	JOINING DATE

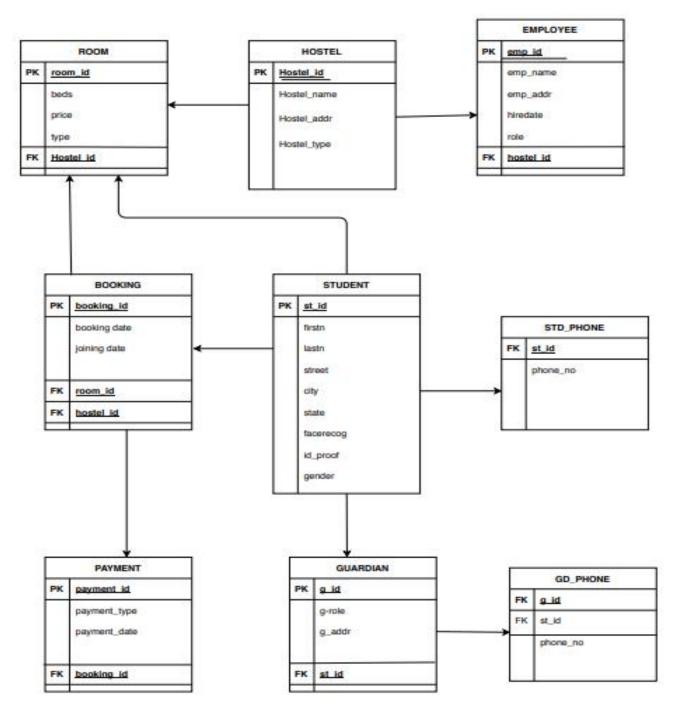
ROOM TABLE:-

HOSTEL ID	ROOM ID	PRICE	BEDS	TYPE
IIODILL ID	ICO O IVI ID	TIGE	DLDS	

STUDENT TABLE:

ST_ID | ST_NAME | ST_ADDR | GENDER | PHONE_NO

*RELATIONAL SCHEMA DIAGRAM:-



*DDL COMMANDS:-

```
mysql> use hostelsm;
   Database changed
mysql> show tables;
   +----+
   | Tables in hostelsm |
   +----+
   | bookingrem |
   books
   | complaints |
   | display_guardian |
   | display_hostel |
   | display_sphone | display_student | employee |
   | existingroom |
| guardian |
   | hostel
   | paybalance |
   | payment
   room
   | std_phone
   | student
   +----+
   16 rows in set (0.03 sec)
mysql> desc bookingrem;
   +----+
   | Field | Type | Null | Key | Default | Extra |
   +----+
   +----+
   2 rows in set (0.00 sec)
mysql> desc books;
   +----+
   | Field | Type | Null | Key | Default | Extra
   +----+
   7 rows in set (0.00 sec)
```

mysql> desc display_guardian;

Field	Type	Null	Key	+ Default +	Extra
G_Addr	int int varchar(30) varchar(30) varchar(50) varchar(10)	NO NO NO YES	 	NULL NULL NULL Guardian NULL NULL	

6 rows in set (0.00 sec)

mysql> desc display_hostel;

+ Field +	Type	Null	Кеу	Default	Extra
hostel_id room_id st_id	int int int	NO NO NO	 	NULL	1

3 rows in set (0.00 sec)

mysql> desc display_sphone;

+	. 21	Null	Key	+ Default +	Extra
·		YES NO		NULL NULL	

2 rows in set (0.00 sec)

Field Type	sql> desc display_student;										
Firstn varchar(30) NO NULL	Field	Type	Null	•	•	Extra					
	Firstn Lastn Gender face ID_Proo Aptno Buidg Street City	<pre> varchar(30) varchar(30) varchar(30) longblob longblob varchar(6) varchar(20) varchar(30)</pre>	NO NO YES NO YES YES YES YES		NULL NULL NULL NULL NULL NULL NULL NULL	+					

mysql> desc employee;

Field	. 21	•		 Default +	'
· -	int varchar(30) varchar(50) date varchar(30)	NO NO NO NO	PRI 		auto_increment

6 rows in set (0.00 sec)

mysql> desc existingroom;

+	+ Type +	Null	Key	+ Default +	Extra
Hostel_ID Room_ID Beds Room_type Price	int int int varchar(30) decimal(8,0)	NO NO YES NO	 	NULL NULL 3 Normal 75000	

5 rows in set (0.00 sec)

mysql> desc gd_phone;

Field	. 11	Null	Key	Default	Extra
St_ID G_ID	 int	YES YES	MUL	NULL NULL	

3 rows in set (0.00 sec)

mysql> desc guardian;

Field	Туре	Null	Key	Default	Extra
St_ID	int int varchar(30) varchar(30) varchar(50) varchar(10)	NO NO NO YES YES	PRI PRI PRI 	NULL NULL NULL Guardian NULL NULL	

mysql> desc hostel;

Field	 Туре 	•		Default	
Hostel_Addr	int varchar(30) varchar(50) varchar(30)	NO NO NO YES	PRI 		

4 rows in set (0.00 sec)

mysql> desc payment;

+	+ Type +	•	•	+ Default +	'
Payment_ID Payment_Type Payment_Date Booking_ID	date	NO NO NO NO	PRI MUL	NULL NULL NULL	

4 rows in set (0.00 sec)

mysql> desc room;

+	+ Type +	Null	Кеу	+ Default +	Extra
Hostel_ID Room_ID Beds Room_type Price	int int int varchar(30) decimal(8,0)	NO NO YES	PRI PRI PRI	NULL	

5 rows in set (0.00 sec)

mysql> desc std_phone;

Field	. 21	Null	Key	+ Default +	Extra
St_ID		YES	MUL	NULL	

mysql> desc student;

St_ID	Field	Туре	Null	+ Key	Default	++ Extra
	Firstn Lastn Gender face ID_Proof Aptno Buidg Street City State	varchar(30) varchar(30) varchar(30) longblob longblob varchar(6) varchar(30) varchar(20) varchar(30) varchar(30)	NO NO YES NO NO YES YES YES YES	+	NULL NULL	

12 rows in set (0.00 sec)

mysql> desc employee;

Field	+ Type +	Null	Key	Default	Extra
Emp_Id Emp_Name Emp_Addr hire_date E_Role Hostel_ID	int varchar(30) varchar(50) date varchar(30)	NO YES	PRI	NULL NULL NULL NULL NULL NULL	auto_increment

mysql> desc student;

Field	Туре	Null	+ Key	+ Default	++ Extra
St_ID Firstn Lastn Gender face ID_Proof Aptno Buidg Street City State verify	int varchar(30) varchar(30) varchar(30) longblob longblob varchar(6) varchar(20) varchar(30) varchar(30) varchar(30) int	NO NO YES NO NO YES YES YES YES YES	PRI	NULL NULL	

12 rows in set (0.13 sec)

mysql> desc display_guardian;

Field	+ Type 			+ Default +	++ Extra ++
G_Role	int int varchar(30) varchar(30) varchar(50) varchar(10)	NO NO NO YES YES	 	NULL NULL NULL Guardian NULL NULL	

6 rows in set (0.00 sec)

mysql> desc display_student;

+	Type	-+- 	Null	+ Kev	+ - I	 Default	++ Extra
+		+-		+	' +-		++
St_ID	int		NO	I	İ	NULL	
Firstn	varchar(30)		NO			NULL	
Lastn	varchar(30)		NO			NULL	
Gender	varchar(30)		YES			NULL	
Face	longblob		NO			NULL	
ID_Proof	longblob		NO			NULL	
Aptno	varchar(6)		YES			NULL	
Buidg	varchar(30)		YES			NULL	
Street	varchar(20)		YES			NULL	
City	varchar(30)		YES			NULL	
State	varchar(30)		YES			NULL	
verify	int		YES			0	1
++		+-		+	+-		++

```
mysql> desc display hostel;
   +----+
          | Type | Null | Key | Default | Extra |
   +----+
   | hostel_id | int | NO | | NULL | | room_id | int | NO | | NULL | | | st_id | int | NO | | NULL | | | booking_id | int | NO | | 0 |
   +----+
   4 rows in set (0.00 sec)
mysql> desc display sphone;
   +----+
   | Field | Type | Null | Key | Default | Extra |
   +----+
   +----+
   2 rows in set (0.00 sec)
mysql> desc paybalance;
   +----+
   | Field | Type | Null | Key | Default | Extra |
   | balance | decimal(31,2) | YES | | NULL |
   +----+
   3 rows in set (0.00 sec)
mysql>alter table employee auto increment=1001;
mysql>alter table books add end date date;
mysql>alter table student modify face longblob not null;
mysql>alter table complaints add `status` int default 0;
mysql>alter table complaints drop verify;
mysql>alter table complaints add `c date` date;
mysql> desc complaints;
+----+
| Field | Type | Null | Key | Default | Extra |
+----+
stid | int | YES | MUL | NULL
complaint | varchar(100) | YES | NULL |
+----+
4 rows in set (0.00 sec)
```

*DML COMMANDS:-

```
mysql> insert into Hostel values
     (1, "Vishwaraj", "Kothrud, Pune", "Female"),
     (2, "Vidyaniketan", "Karve Nagar, Pune", "Male"),
     (3, "Leelawati Hostel", "Warjenaka, Pune", "Female"),
     (4, "Youthville", "Badhvan, Pune", "Male");
     Query OK, 4 rows affected (0.32 sec)
     Records: 4 Duplicates: 0 Warnings: 0
mysql> select *from hostel;
     +----+
     +-----
             1 | Vishwaraj | Kothrud, Pune | Female
2 | Vidyaniketan | Karve Nagar, Pune | Male
             3 | Leelawati Hostel | Warje naka, Pune | Female
     | 4 | Youthville | Badhvan, Pune | Male | +-----+
     4 rows in set (0.00 sec)
mysql> insert into room(hostel ID, Room ID, Beds) values (1,101,3), (1,102,3);
     Query OK, 2 rows affected (0.17 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(1,103,2,"AC",125000.00);
     Query OK, 1 row affected (0.19 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values(1,104,2,100000.00);
     Query OK, 1 row affected (0.22 sec)
mysql> insert into room values(1,105,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.16 sec)
mysql> insert into room(hostel ID, Room ID, Beds) values (1,201,3), (1,202,3);
     Query OK, 2 rows affected (0.18 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(1,203,2,"AC",125000.00);
     Query OK, 1 row affected (0.24 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values(1,204,2,100000.00);
     Query OK, 1 row affected (0.17 sec)
mysql> insert into room values(1,205,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.15 sec)
```

```
mysql> insert into room(hostel ID, Room ID, Beds) values (1,301,3),(1,302,3);
     Query OK, 2 rows affected (0.23 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(1,303,2,"AC",125000.00);
     Query OK, 1 row affected (0.19 sec)
mysql> insert into room(hostel_ID,Room_ID,Beds,Price)values(1,304,2,100000.00);
     Query OK, 1 row affected (0.24 sec)
mysql> insert into room values(1,305,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.18 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values
                        (2,101,\overline{3},70000),(2,102,3,70000);
     Query OK, 2 rows affected (0.27 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(2,103,2,"Balcony",120000.00);
     Query OK, 1 row affected (0.16 sec)
mysql> insert into room(hostel ID,Room ID,Beds,Price)values
                        (2,104,\overline{2},90000.\overline{00}), (2,105,2,90000.00);
     Query OK, 2 rows affected (0.15 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(2,106,2,"Balcony",120000.00);
     Query OK, 1 row affected (0.12 sec)
mysql> insert into room(hostel ID,Room ID,Beds,Price) values (2,201,3,70000),
                              (2,202,3,70000);
     Query OK, 2 rows affected (0.10 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(2,203,2,"Balcony",120000.00);
     Query OK, 1 row affected (0.16 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values
                        (2,204,2,90000.00),(2,205,2,90000.00);
     Query OK, 2 rows affected (0.10 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(2,206,2,"Balcony",120000.00);
     Query OK, 1 row affected (0.07 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values (2,301,3,70000),
                        (2,302,\overline{3},70000);
     Query OK, 2 rows affected (0.10 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(2,303,2,"Balcony",120000.00);
     Query OK, 1 row affected (0.15 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values
CET, SCET, MITWPU.
```

```
(2,304,2,90000.00),(2,305,2,90000.00);
     Query OK, 2 rows affected (0.09 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(2,306,2,"Balcony",120000.00);
     Query OK, 1 row affected (0.08 sec)
mysql> insert into room(hostel_ID,Room_ID,Beds,Price) values
                       (3,101,\overline{2},120000), (3,102,2,120000);
     Query OK, 2 rows affected (0.21 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(3,103,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.17 sec)
mysql> insert into room(hostel ID, Room ID, Price) values
                       (3,104,90000.00), (3,105,90000.00);
     Query OK, 2 rows affected (0.16 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(3,106,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.21 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values
                       (3,201,2,120000), (3,202,2,120000);
     Query OK, 2 rows affected (0.16 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(3,203,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.12 sec)
mysql> insert into room(hostel ID, Room ID, Price) values
                       (3,204,90000.00), (3,205,90000.00);
     Query OK, 2 rows affected (0.13 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(3,206,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.16 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values
                       (3,301,2,120000), (3,302,2,120000);
     Query OK, 2 rows affected (0.16 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(3,303,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.15 sec)
mysql> insert into room(hostel ID, Room ID, Price) values
                       (3,304,90000.00), (3,305,90000.00);
     Query OK, 2 rows affected (0.19 sec)
     Records: 2 Duplicates: 0 Warnings: 0
```

```
mysql> insert into room values(3,306,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.18 sec)
mysql> insert into room(hostel ID, Room ID, Beds) values (4,101,3), (4,102,3);
     Query OK, 2 rows affected (0.18 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(4,103,2,"AC",125000.00);
     Query OK, 1 row affected (0.14 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values(4,104,2,100000.00);
Query OK, 1 row affected (0.24 sec)
mysql> insert into room values(4,105,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.14 sec)
mysql> insert into room(hostel ID, Room ID, Beds) values (4,201,3), (4,202,3);
     Query OK, 2 rows affected (0.10 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(4,203,2,"AC",125000.00);
     Query OK, 1 row affected (0.18 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values(4,204,2,100000.00);
     Query OK, 1 row affected (0.06 sec)
mysql> insert into room values(4,205,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.11 sec)
mysql> insert into room(hostel ID, Room ID, Beds) values (4,301,3), (4,302,3);
     Query OK, 2 rows affected (0.10 sec)
     Records: 2 Duplicates: 0 Warnings: 0
mysql> insert into room values(4,303,2,"AC",125000.00);
     Query OK, 1 row affected (0.07 sec)
mysql> insert into room(hostel ID, Room ID, Beds, Price) values(4,304,2,100000.00);
     Query OK, 1 row affected (0.06 sec)
mysql> insert into room values(4,305,2,"Balcony",125000.00);
     Query OK, 1 row affected (0.18 sec)
```

mysql> select *from room;

.>	select *from	m room;			
	Hostel_ID	Room_ID	Beds 	Room_type	Price
i	1	101	. 3	Normal	75000
ĺ	1	102	3	Normal	75000
	1	103	2	AC	125000
	1	104	2	Normal	100000
	1	105	2	Balcony	125000
	1	201	3	Normal	75000
	1	202	3	Normal	75000
	1	203	2	AC	125000
	1	204	2	Normal	100000
	1	205	2	Balcony	125000
	1	301	3	Normal	75000
	1	302	3	Normal	75000
	1	303	2	AC	125000
	1	304	2	Normal	100000
	1	305	2	Balcony	125000
	2	101	3	Normal	70000
	2	102	3	Normal	70000
	2	103	2	Balcony	120000
	2	104	2	Normal	90000
	2	105	2	Normal	90000
	2	106	2	Balcony	120000
	2	201	3	Normal	70000
	2	202	3	Normal	70000
	2	203	2	Balcony	120000
	2	204	2	Normal	90000
	2	205	2	Normal	90000
	2	206	2	Balcony	120000
	2	301	3	Normal	70000
	2	302	3	Normal	70000
	2	303	2	Balcony	120000
	2	304	2	Normal	90000
	2	305	2	Normal	90000
	2	306	2	Balcony	120000
	3	101	2	Normal	120000
	3	102	2	Normal	120000
	3	103	2	Balcony	125000
١	3	104	3	Normal	90000
	3	105	3	Normal	90000
١	3	106	2	Balcony	125000
١	3	201	2	Normal	120000
	3	202	2		120000
	3	203	2	Balcony	125000
	3	204	3	Normal	90000
	3	205	3	Normal	90000
	3	206	2	Balcony	125000
	3	301	2	Normal	120000
	3	302	2	Normal	120000
	3	303	2	Balcony	125000
	3	304	3	Normal	90000

```
3 |
                          305 | 3 | Normal | 90000 |
               3 I
                             306 I
                                          2 | Balcony | 125000 |
                           101 | 3 | Normal | 75000 |
102 | 3 | Normal | 75000 |
103 | 2 | AC | 125000 |
               4 |
               4 |
               4 |
                         104 | 2 | Normal | 100000 |

105 | 2 | Balcony | 125000 |

201 | 3 | Normal | 75000 |

202 | 3 | Normal | 75000 |
              4 |
              4 |
               4 |
               4 |
               4 |
                           203 | 2 | AC
                                                                 | 125000 |
                         204 | 2 | AC | 125000 | 204 | 2 | Normal | 100000 | 205 | 2 | Balcony | 125000 | 301 | 3 | Normal | 75000 | 302 | 3 | Normal | 75000 | 303 | 2 | AC | 125000 | 304 | 2 | Normal | 100000 | 305 | 2 | Balcony | 125000 |
               4 |
               4 |
               4 |
              4 |
               4 |
               4 |
               4 |
+----+
```

66 rows in set (0.00 sec)

```
mysql> insert into employee(Emp_Name, Emp_Addr, hire_date, E_Role, Hostel_ID) values
    ("Ishani Panchal", "Kothrud, Pune", "2018-08-12", "Manager", 1),
    ("Anuj Khanna", "Kothrud, Pune", "2018-08-12", "Manager", 2),
    ("Saumya Parekh", "Kothrud, Pune", "2018-08-12", "Manager", 3),
    ("Pranav Bajaj", "Kothrud, Pune", "2018-08-12", "Manager", 4),
    ("Shaurya Pillay", "Bavdhan, Pune", "2018-08-12", "Chef", 1),
    ("Nikhil Parmar", "Kothrud, Pune", "2018-08-12", "Chef", 2),
    ("Parth Rawat", "Bavdhan, Pune", "2018-08-12", "Chef", 3),
    ("Raghav Sinha", "Kothrud, Pune", "2018-08-12", "House Keeper", 1),
    ("Sunita Salvi", "Bavdhan, Pune", "2018-08-12", "House Keeper", 2),
    ("Nilima Sane", "Bavdhan, Pune", "2018-08-12", "House Keeper", 3),
    ("Ananya Pandey", "Kothrud, Pune", "2018-08-12", "House Keeper", 4);
    Query OK, 12 rows affected (0.25 sec)
    Records: 12 Duplicates: 0 Warnings: 0
```

mysql> select * from employee;

Emp_Id	Emp_Name	Emp_Addr	hire_date	E_Role	Hostel_ID
+	Ishani Panchal Anuj Khanna Saumya Parekh Pranav Bajaj Shaurya Pillay Nikhil Parmar Parth Rawat Raghav Sinha Sunita Salvi Tanvi Rawat Nilima Sane Ananya Pandey	Kothrud, Pune Kothrud, Pune Kothrud, Pune Kothrud, Pune Kothrud, Pune Bavdhan, Pune Kothrud, Pune Bavdhan, Pune Kothrud, Pune Kothrud, Pune Kothrud, Pune Bavdhan, Pune Kothrud, Pune Kothrud, Pune Kothrud, Pune	+	Manager Manager Manager Manager Chef Chef Chef Chef House Keeper House Keeper	+

12 rows in set (0.00 sec)

```
mysql> SELECT * FROM Hostel WHERE Hostel id= 1;
     +-----
     | Hostel ID | Hostel Name | Hostel Addr | Hostel Type |
     +-----
     | 1 | Vishwaraj | Kothrud, Pune | Female
     +----+
     1 row in set (0.04 sec)
mysql> INSERT INTO books (Hostel ID, Room ID, St ID, Joining Date)
                     VALUES (1, 104, 1032180381, curdate());
     Query OK, 1 row affected (0.24 sec)
mysql> INSERT INTO Std Phone(St ID, PhoneNo) VALUES(1032180381,8454907639);
          Query OK, 1 row affected (0.12 sec)
mysql> select a.st id, a.firstn, a.lastn from student a inner join books b using(st id)
     where a.verify = 0 and b.verify = 0 and b.hostel id = 1;
     Empty set (0.00 sec)
mysql> UPDATE Student SET verify = 1 WHERE st id=1032180381;
     Query OK, 0 rows affected (0.03 sec)
     Rows matched: 1 Changed: 0 Warnings: 0
mysql> UPDATE Books SET verify = 1 where st id = 1032180381;
     Query OK, 1 row affected (0.08 sec)
     Rows matched: 2 Changed: 1 Warnings: 0
mysql> UPDATE books SET booking date = curdate() where st id = 1032180381 and
     verify = 1;
     Query OK, 2 rows affected (0.11 sec)
     Rows matched: 2 Changed: 2 Warnings: 0
mysql> UPDATE books SET end date = DATE ADD(joining date, INTERVAL 1 YEAR) where
     st id = 1032180381;
     Query OK, 1 row affected (0.46 sec)
     Rows matched: 2 Changed: 1 Warnings: 0
mysql> DELETE FROM Student where st id=1032180317;
     Query OK, 1 row affected (0.45 sec)
mysql> select emp name from employee where emp id = 1001;
     +----+
     | emp name
     +----+
     | Ishani Panchal |
     +----+
     1 row in set (0.06 sec)
mysql> insert into complaints(st id,complaint,c date)
     values (1032180381, "CHANGE BED SHEETS", curdate());
     Query OK, 1 row affected (0.12 sec)
```

```
mysql> select *from complaints where status = 0;
    +----+
    | 1032180381 | CHANGE BED SHEETS |
                                      0 | 2020-09-20 |
    +----+
    1 row in set (0.00 sec)
mysql> UPDATE complaints SET status = 1 where st id = 1032180381;
    Query OK, 1 row affected (0.05 sec)
    Rows matched: 1 Changed: 1 Warnings: 0
mysql> DELETE FROM complaints where st id = 1032180381;
    Query OK, 1 row affected (0.16 sec)
mysql> SET sql mode=(SELECT REPLACE(@@sql mode, 'ONLY FULL GROUP BY', ''));
    Query OK, 0 rows affected (0.00 sec)
mysql> select price, beds, room type from room where hostel id = 1 group by
    room type, beds;
    +----+
    | price | beds | room_type |
    +----+
    | 85000 | 3 | Normal | | 125000 | 2 | AC | | | 75000 | 2 | Normal | | | 125000 | 2 | Balcony |
    +----+
    4 rows in set (0.04 sec)
mysql> UPDATE room SET price = 750000 where room type = "AC" and beds = 2;
    Query OK, 6 rows affected (0.07 sec)
    Rows matched: 6 Changed: 6 Warnings: 0
mysql> select complaint from complaints where st id =1032180381 and `status` =0
    order by c date desc;
    Empty set (0.00 sec)
mysql> select gender from student where st id = 1032180381;
    +----+
    | gender |
    +----+
    FEMALE
    1 row in set (0.00 sec)
```

*DCL COMMANDS:-

*PL/SQL PROCEDURE AND FUNCTIONS:-

PROCEDURES

1.CHECK IF STUDENT IS REGISTERED OR NOT

```
create procedure checkstudent (IN id1 int, IN phno varchar(11), OUT ret int)
begin
     declare stid int;
     declare pno varchar(11);
     declare done int default 0 ;
     declare ver int default 0;
     declare continue handler for not found set done =1;
     select phoneno into pno from std phone where st id = id1 and PhoneNo = phno;
     select st id into stid from student where st id = id1;
     select verify into ver from student where st id = id1;
     if ver = 1 then
     set ret = 1;
     elseif ver = 0 and done = 1 then
           set ret = -1;
     elseif ver = 0 then
     set ret = 0;
     end if;
END $$
delimiter ;
DELIMITER //
```

2.PROCEDURE FOR PRICE

```
CREATE PROCEDURE price(IN bed int,IN rtype varchar(30),IN hid int)

BEGIN

SELECT CAST((avg(Price)) AS DECIMAL(8.4)) Cost FROM room WHERE beds=bed AND room_type=rtype AND Hostel_id=hid;

END//
```

3.CHECK IF EMPLOYEE IS REGISTERED OR NOT

```
Delimiter $$
create procedure checkemployee (IN id1 int, OUT foundemp int)
     begin
     declare empid int;
     declare job varchar(30) default "";
     declare exit handler for not found
     BEGIN
           SET foundemp=-1;
     END;
     select e role into job from employee where emp id=id1;
     select emp id into empid from employee where emp id=id1;
     if job = "manager" then
     SET foundemp=1;
           else
     set foundemp = 0;
     end if;
end $$
delimiter ;
```

FUNCTIONS

1.FUNCTION FOR INSERTION OF STUDENTS

```
delimiter $$
CREATE FUNCTION insert_stu ( id1 int ,fname varchar(30) ,lname varchar(30) ,gen
varchar(30) , fr longblob , id p longblob,
apt varchar(6), buildg varchar(30), street varchar(20), city varchar(30), state
varchar(30) )
returns int deterministic
BEGIN
      declare exit handler for 1062
      begin
      return -1;
      end;
      INSERT INTO Student
      (St ID, Firstn, Lastn, Gender, Face, ID Proof, Aptno, Buidg, Street, City, State)
      VALUES(id1, fname, lname, gen, fr, id p, apt, buildg, street, city, state);
return 1;
END $$
DELIMITER ;
```

2.FUNCTION FOR CHECKING AVAILABILITY OF ROOM

```
delimiter $$
CREATE FUNCTION add_room_check(hid int , rid int , bed int , rtype varchar(30) ,
price decimal(8,0))
  RETURNS INT DETERMINISTIC
BEGIN

  declare exit handler for 1602
  begin
  return -1;
  end;
  insert into room values (hid,rid,bed,rtype,price);

return 1;
END $$
```

3.FUNCTION FOR COUNTING THE NUMBER OF ROOMS

```
CREATE FUNCTION countroom(hid int,bed int,rtype varchar(30))
RETURNS INT
DETERMINISTIC
BEGIN

DECLARE count_room INT DEFAULT 0;

SELECT count(room_id) INTO count_room FROM room WHERE beds=bed AND room_type=rtype AND Hostel_ID=hid;

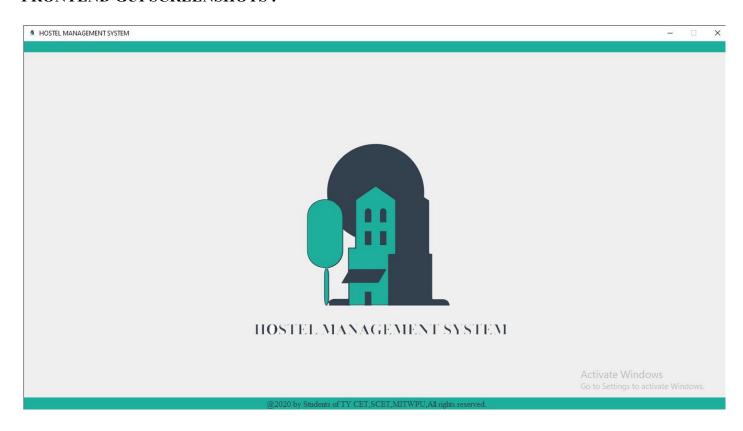
return count_room;
END//
```

*CURSOR:-

1.CURSOR FOR BOOKING

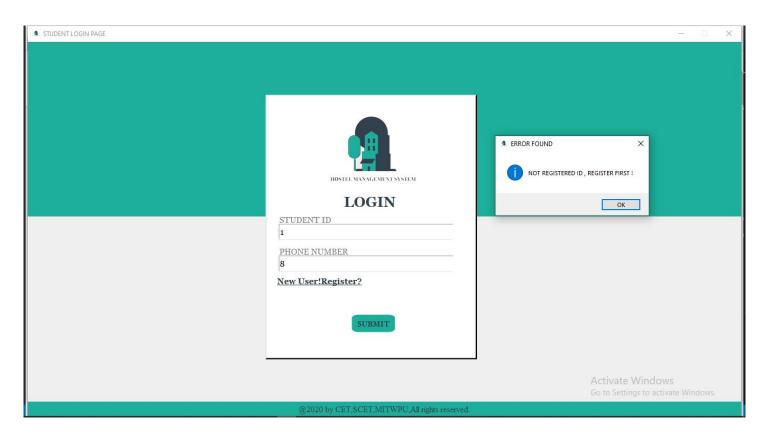
```
CREATE PROCEDURE sp stubooking(IN hid int, IN bed int, IN rtype varchar(30), IN bdate
date,OUT rdone int)
BEGIN
DECLARE done int default 0;
DECLARE countroom INT DEFAULT 0;
DECLARE rid INT;
DECLARE C1 CURSOR FOR SELECT r.room id, if null((SELECT count(room id) FROM books b
WHERE b.room id=r.room id AND r.beds=bed
AND r.room_type=rtype AND r.Hostel_ID=hid
AND DATE_FORMAT(b.joining_date,"%Y") = DATE_FORMAT("2020-09-10","%Y")),0)
Beds FROM room r WHERE r.beds=bed AND r.room type=rtype AND r.Hostel ID=hid;
DECLARE CONTINUE HANDLER FOR NOT FOUND SET done=1;
OPEN C1;
      LABEL:LOOP
      FETCH C1 INTO rid, countroom;
      IF done=1 THEN
     LEAVE LABEL;
      END IF;
      IF countroom<br/>bed THEN
      INSERT INTO bookingrem VALUES (countroom, rid);
      END IF;
           END LOOP LABEL;
           CLOSE C1;
SELECT roomid FROM bookingrem;
TRUNCATE TABLE bookingrem;
END//
```

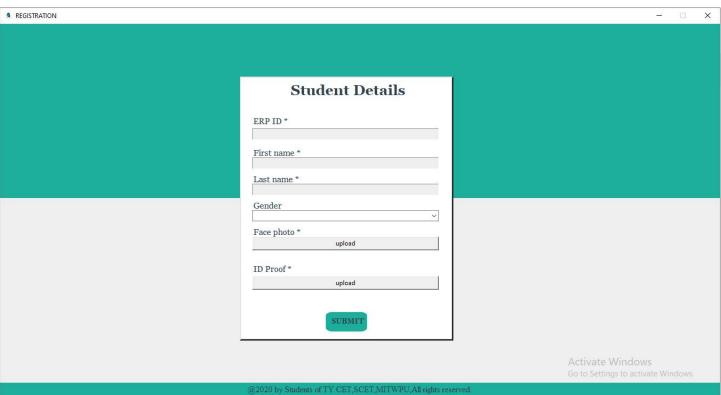
*FRONTEND GUI SCREENSHOTS:-

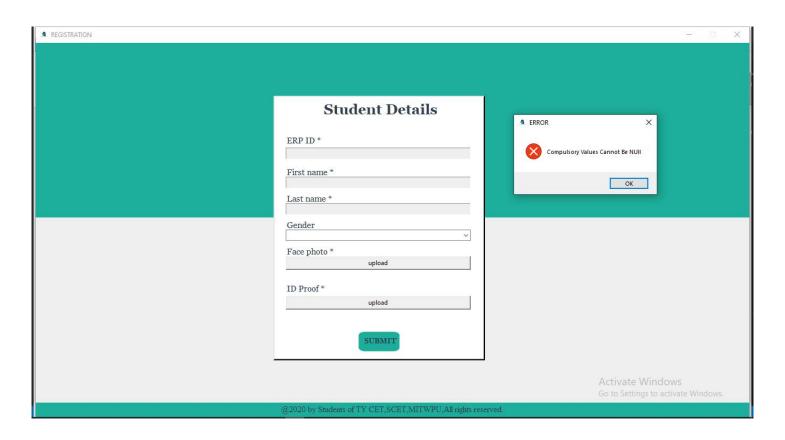


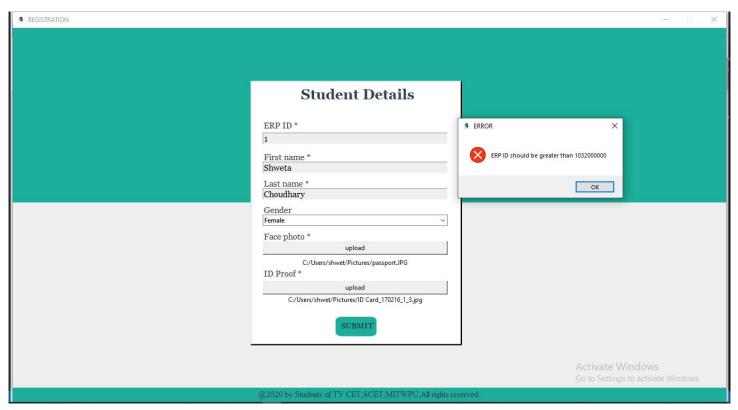


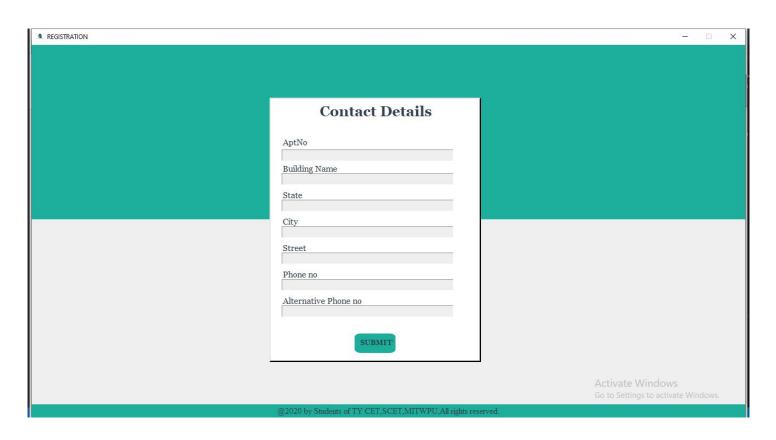
HOSTEL MANAGEMENT SYSTEM

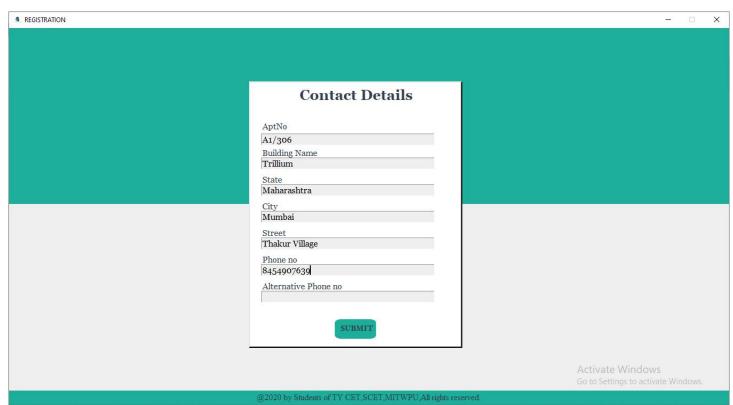


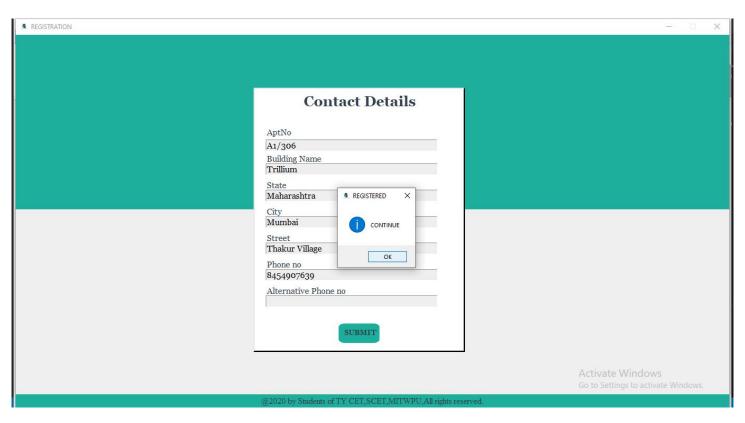


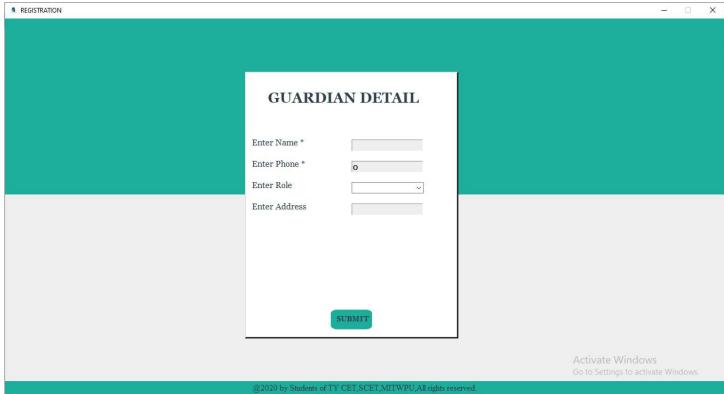




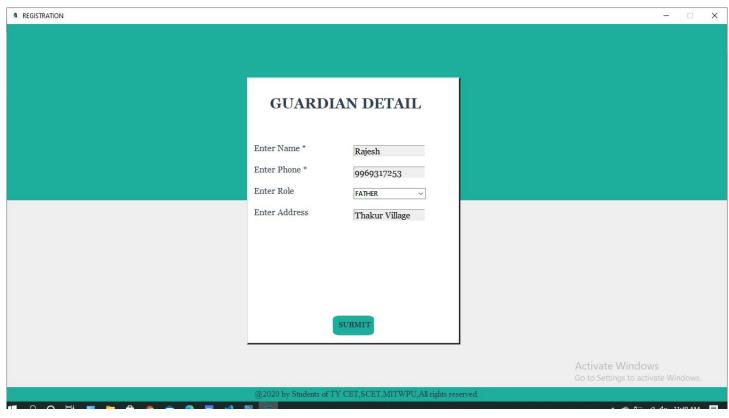


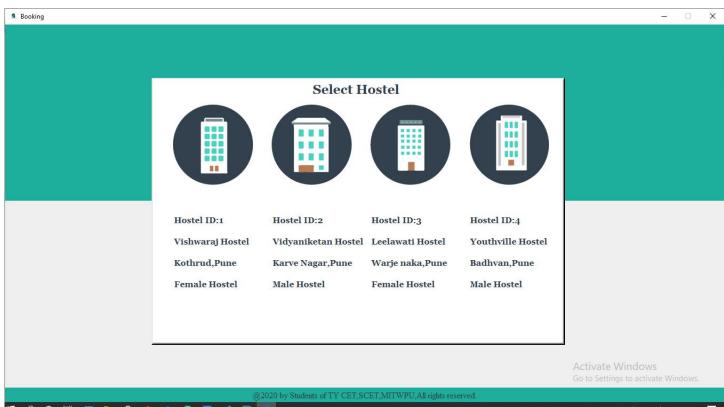


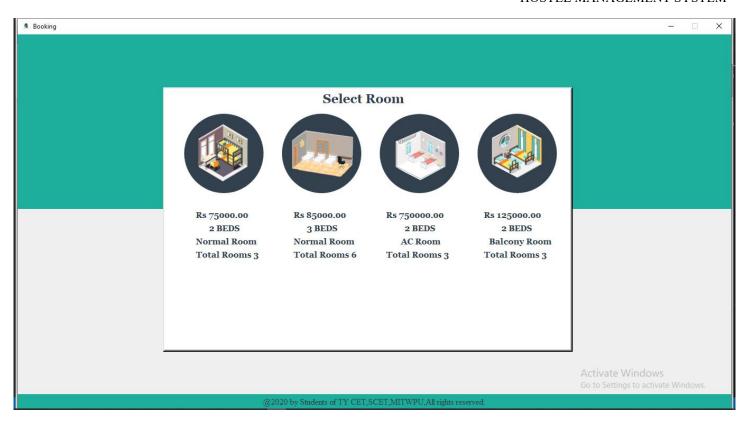


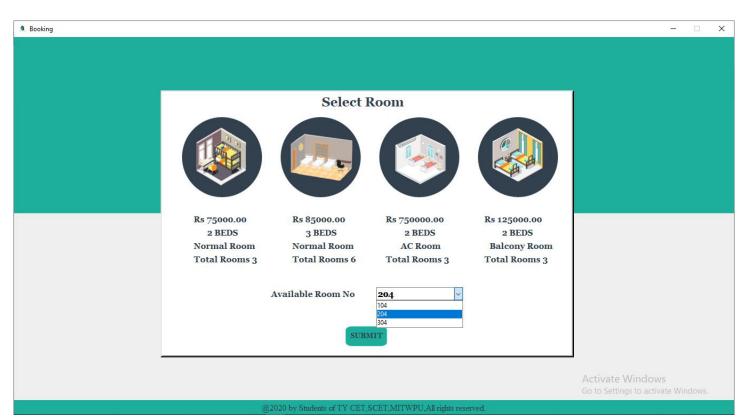


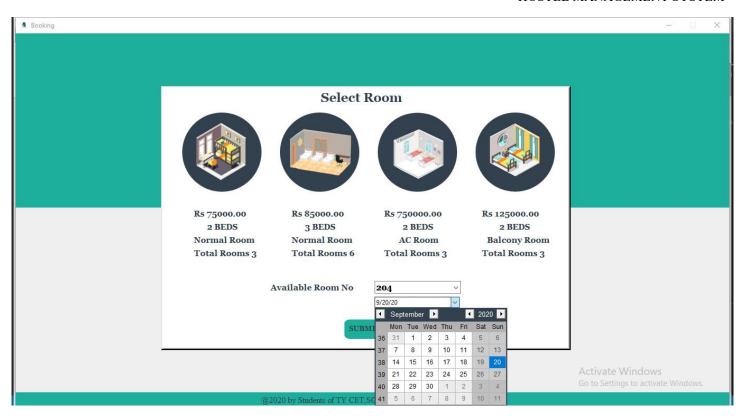
HOSTEL MANAGEMENT SYSTEM

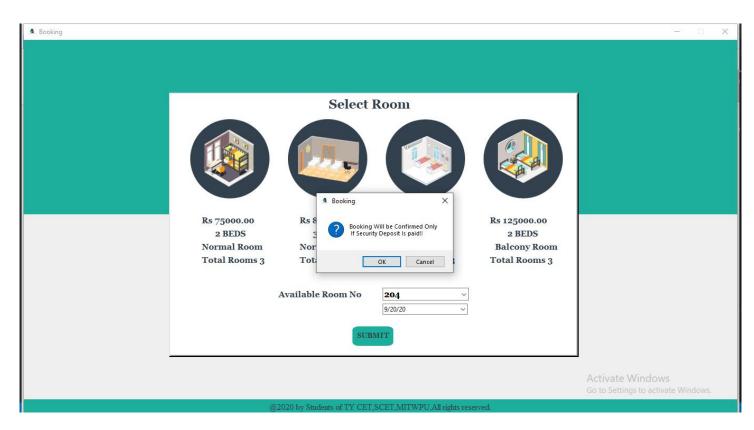


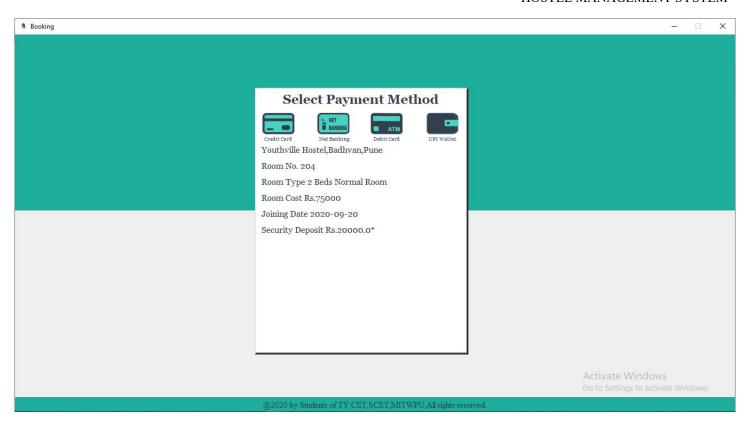


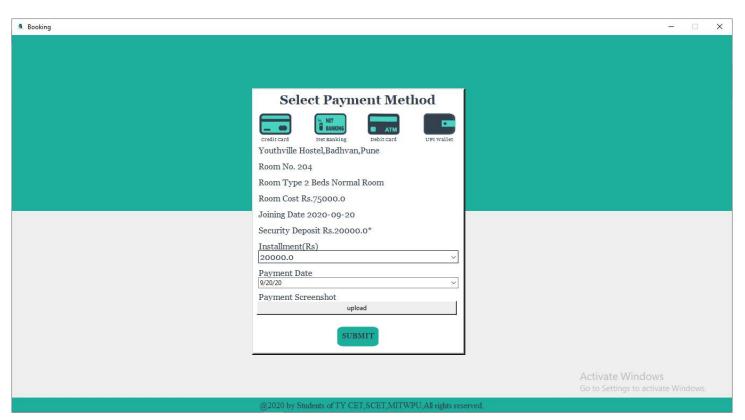


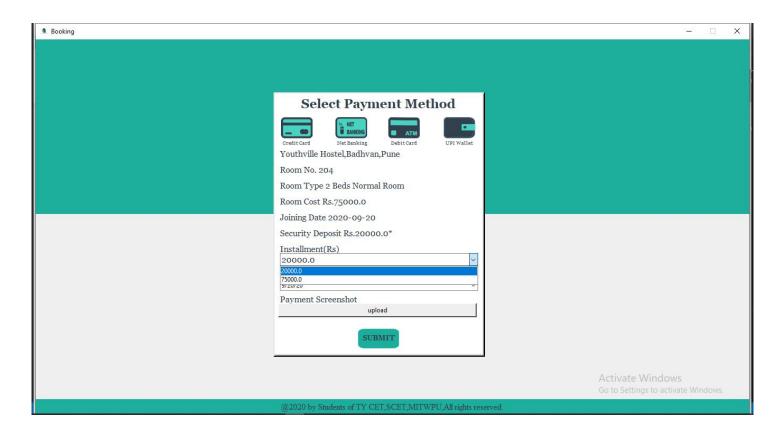


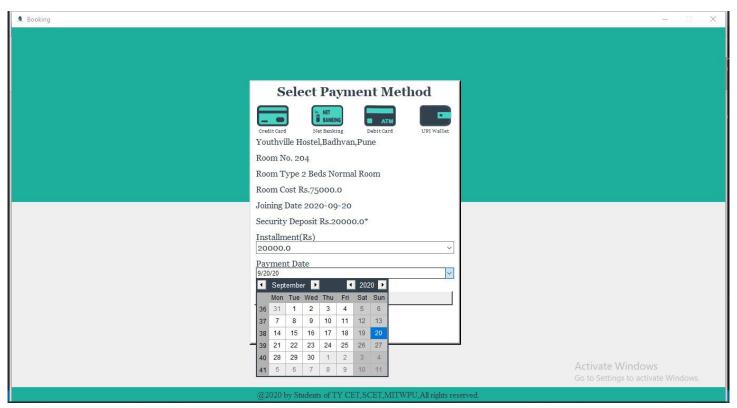


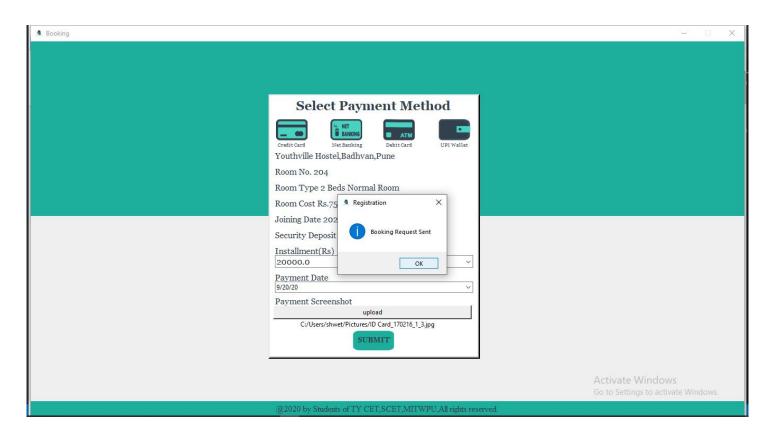


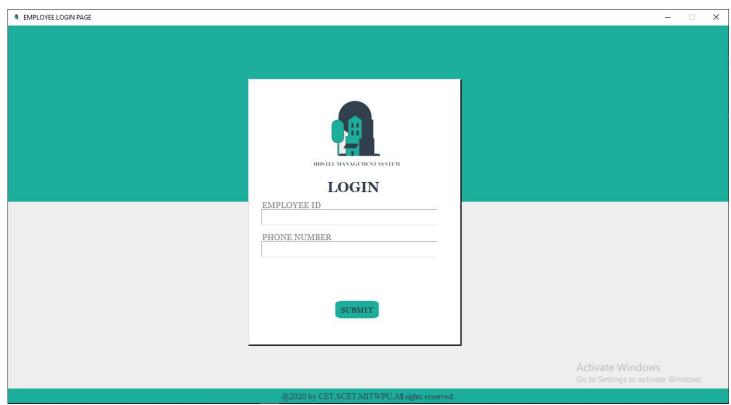


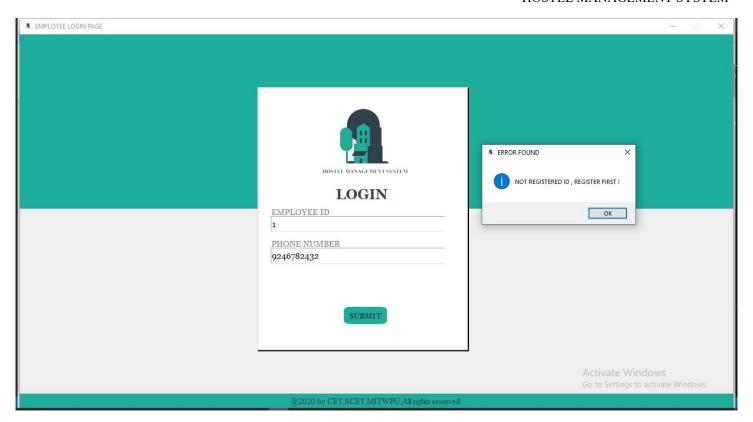


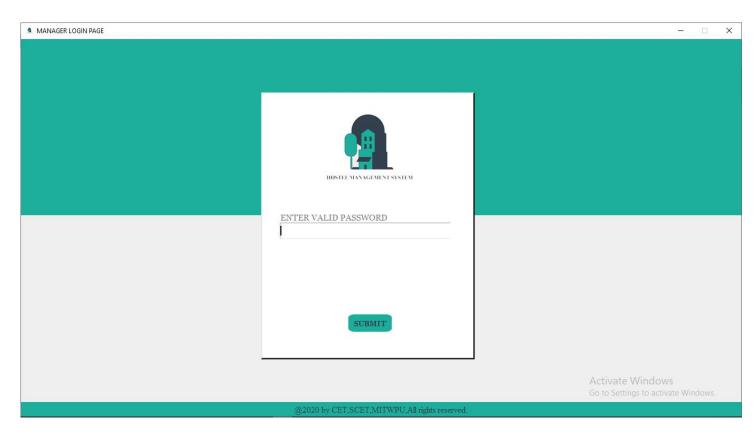


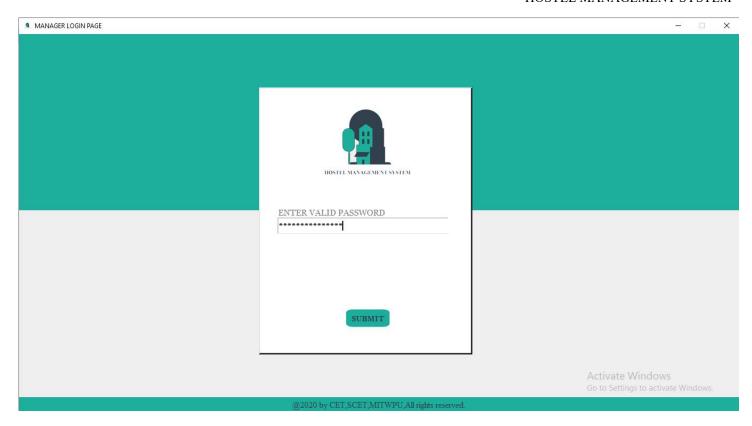


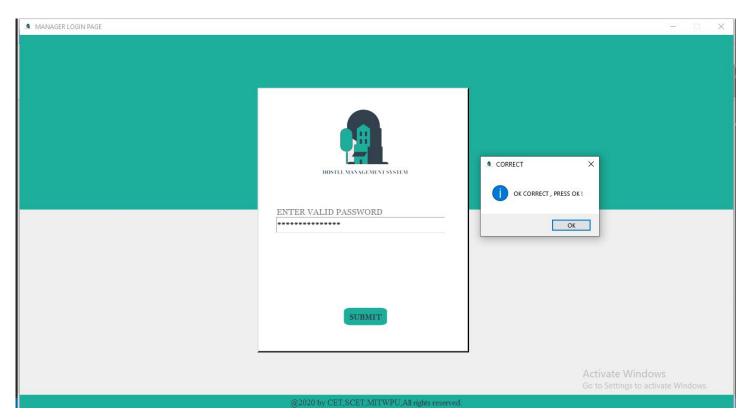


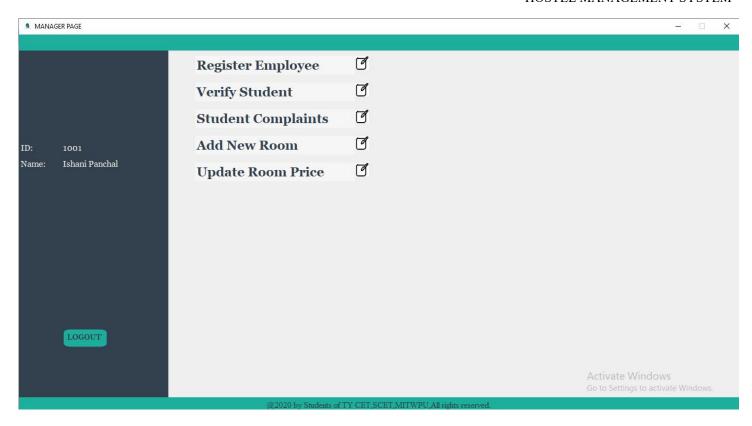


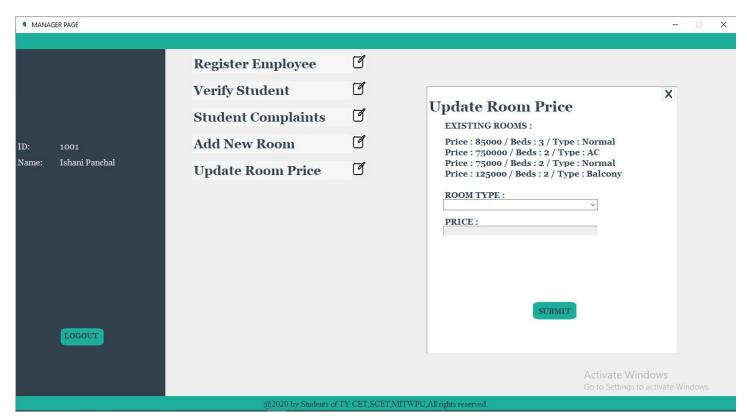


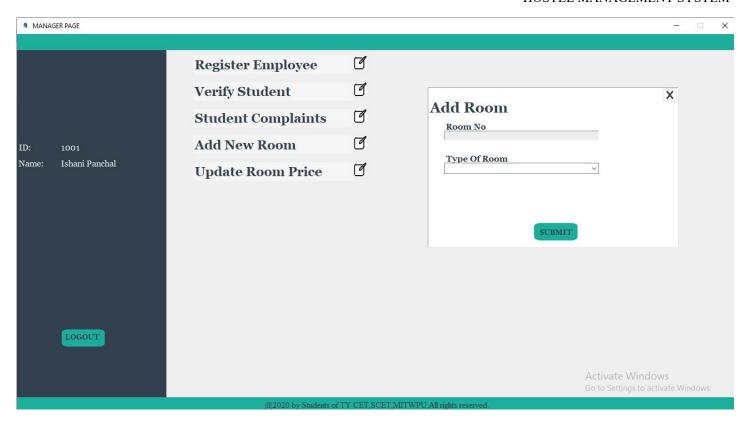


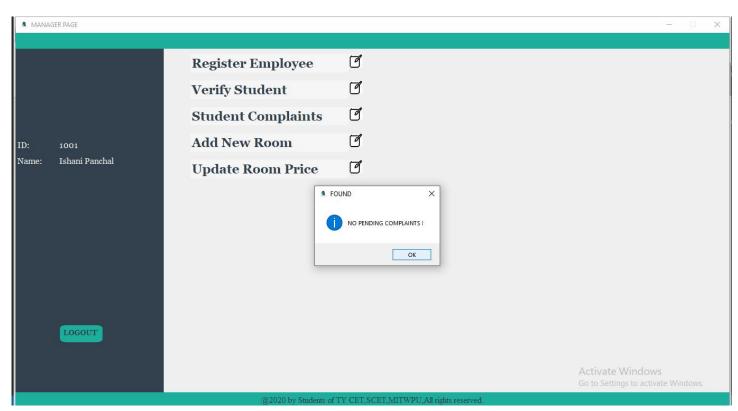


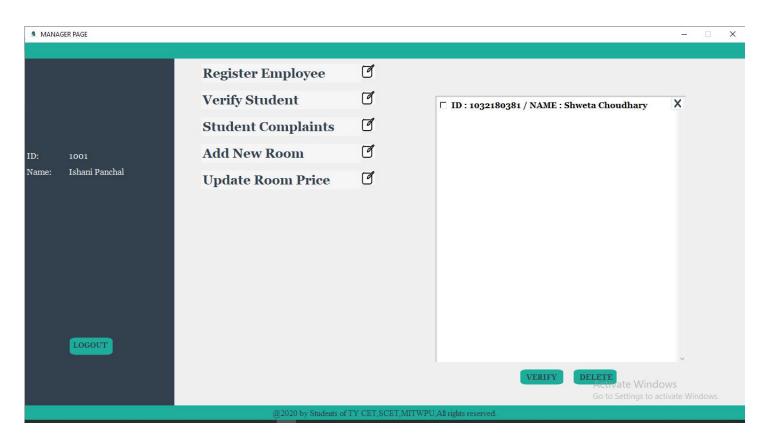


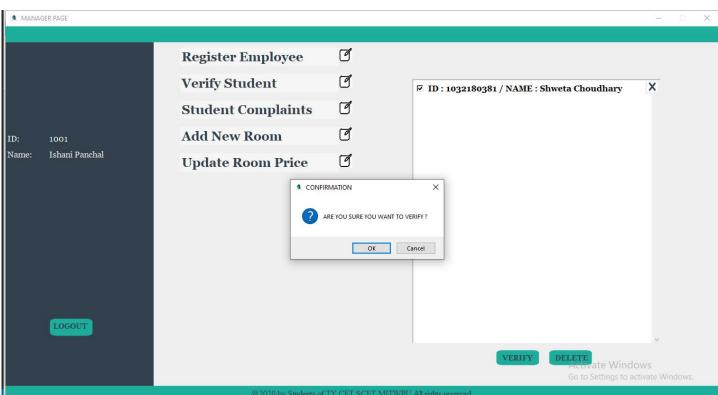


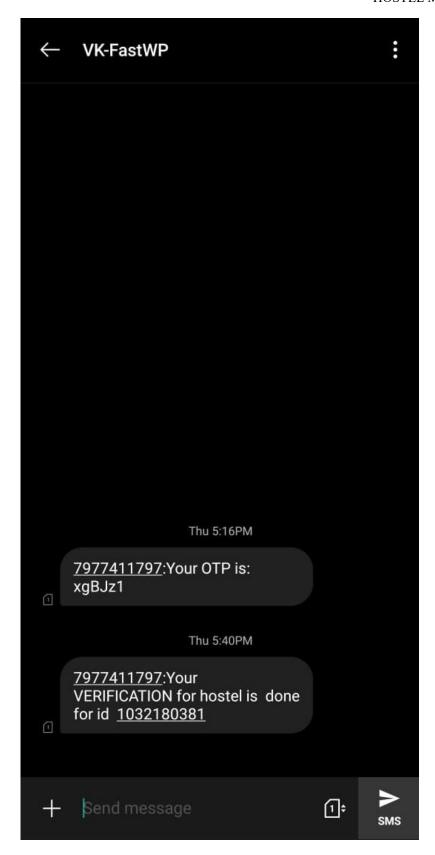


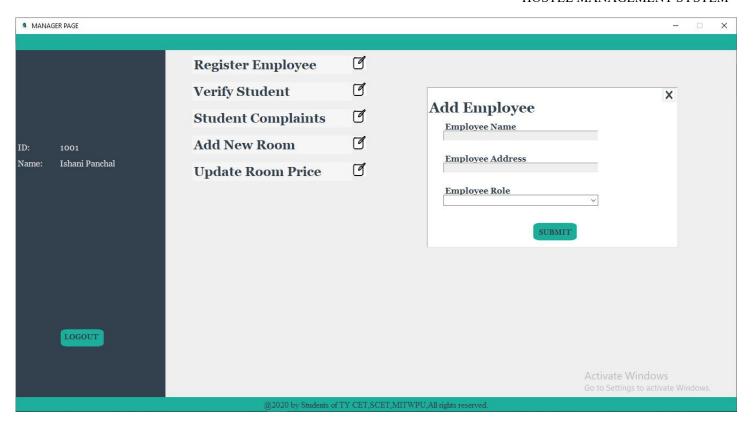


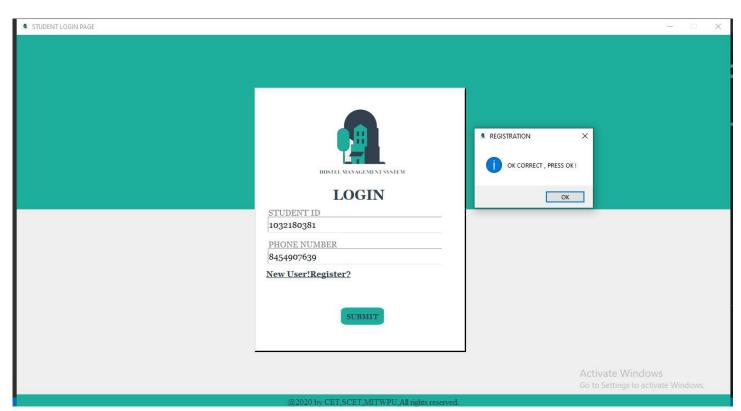


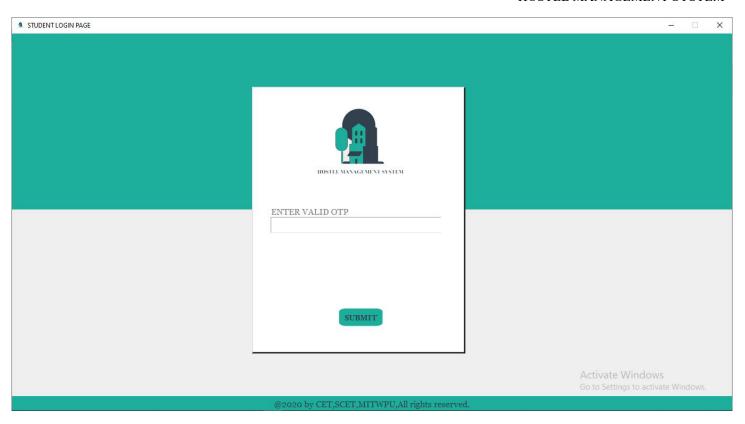


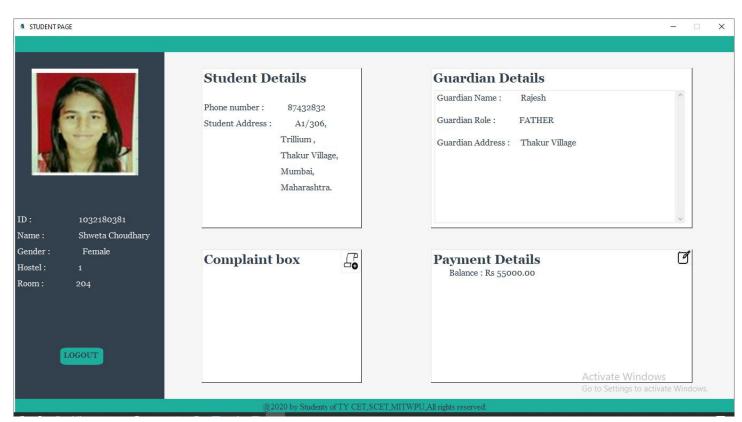


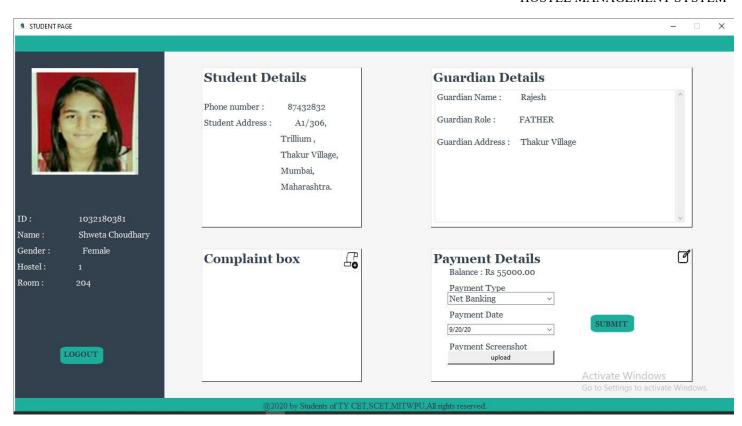


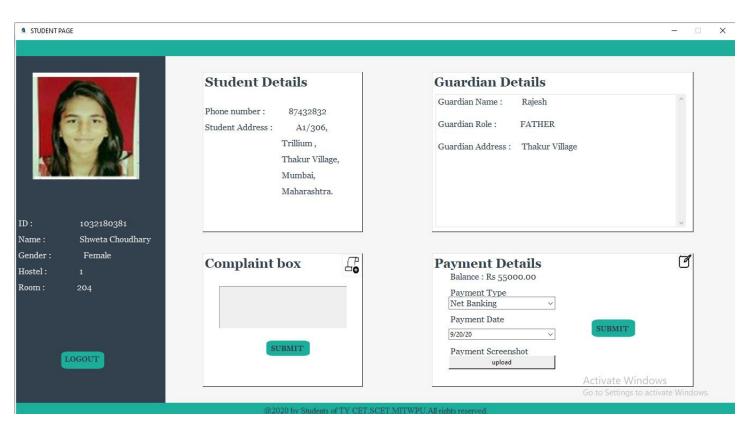












*CONCLUSION:-

To conclude the description about the project entitled "Hostel Management System": The project, developed using Python Tkinter GUI and MySQL is based on the requirement of increase in number of hostels by an institution. Thereby the number of hostels are also increasing for the accommodation of the students studying in this institution. Hence there is a lot of strain on the manager who are running the hostel. This particular project deals with the problems managers face while managing admissions to hostels, managing complaints and updation of rooms which occur when carried manually. This hostel management software is designed for people who want to manage various activities in the hostel. This project also tackles registration process for the Students.

This project helped us in gaining valuable information and practical knowledge on several topics like designing GUI applications using Python Tkinter and management of database using MySQL. The entire system is secured. Also the project helped us understanding about the development phases of a project and software development life cycle. This knowledge will help us further while developing Web pages using MySQL and for making other database systems.

We can further develop this project to a great extent. Several features can be added for eg, Allowing the student to mark his attendance and also adding his leave and in time extension. Another feature which we wished to implement was providing specialization for employees so that different classes of employee can access the options respective to their Jobs.

"Hostel Management System" was successfully completed.

*REFERENCES:-

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- www.edureka.co
- www.geeksforgeeks.org
- www.codemy.com