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A Project Report on

Online Parking System

Submitted in partial fulfilment for the completion of course

Programming in Java (SWE1007)

in

M.Tech (SE)

By

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Submitted to

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SITE

Table of Contents

ABSTRACT

In computing, a web application or web app is a client–server software application which the client or user runs in a web browser. Web applications are getting popular these days as they can be accessed from anywhere using a web browser and the convenience of using a web browser as a client to update and maintain web applications without distributing and installing software. Common web applications include webmail, online retail sales, online auctions, wikis, instant messaging services and many other functions.

The major goal of this project is to make users comfortable in booking a parking slot via online. The application is an Online Parking system with an interactive user interface. It is a user-friendly web application which is created using web programming languages connected to the database. The project is designed using a client-server model.

The main features of the web application include an authentication, registration, and login system, a slot booking page where the user can choose the slot which they need and free. Keeping in mind some security issues, the users could only book slot and checkout. The reason is some users may delete the items just to mess around. This privilege is given to the admin only. The users can update the contact information and change the password.

ACKNOWLEDGEMENT

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to Dr. B. Prabadevi for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

I would like to express my gratitude towards my parents & members of this project for their kind co-operation and encouragement which help me in completion of this project.

I would like to express my special gratitude and thanks to my university for giving me such work and time.

My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

1.INTRODUCTION

1.1. MOTIVATION

The system is an online parking platform that helps user to identify free slots available and book the slot they need. The system will reassure and build customer satisfaction by providing them an efficient and hassle-free transaction while booking their slots.

The Online Parking system will improve the manual process of finding the free slots and booking it into a fully digitized one. The users can utilize the system to look for the slots which they booked. This system will be much useful in cities like Mumbai, Bangalore, Chennai, etc. because it is overcrowded.

1.2 AIM OF THE PROPOSED WORK

- The system will serve as an engine for booking slots.
- The system will let the users and the staff in-charge for tracking slot available and booked.
- The system will provide a transaction that will cost less money, effort, and time.
- To determine the level of system acceptability based on the required application functionality.
- The system is easy to use, up-to-date and accessible

1.3 OBJECTIVE OF THE PROPOSED WORK

Our goal is to make the user to book slots in an efficient manner. As of now there is very little development of such type, so we have developed an application that ease out the whole process of finding the lost items. We have made a web based and android application because these platforms are very common and easily accessible these days. We have developed this application to provide a very basic and easy to use, user interface so that every person can easily use the application

1.4. REPORT ORGANIZATION

The aim of our project is to develop an "Online Parking system" application to book slots. We tend to develop the user interfaces for this application. Our aim is to develop user friendly and simple interfaces for this application system. Where the end user needs to login into the page. The login details will be stored in the database.

We keep the user's login credentials in a secure manner, and we make sure that the user's login credential is not misused. Then the user needs to select the slot which they need, enter check-in and checkout dates. He could confirm his/her booking by paying the money.

2. ANALYSIS & DESIGN OF PROPOSED WORK

2.1. PROBLEM STATEMENT

The project entitled **TRANSPORT PARKING SYSTEM** with major motivation to reduce the traffic congestion in roads, multistoried buildings and malls due to unavailability of parking spaces. The project displays the nearest empty slot if present with respect to user location. Our project aims to make efficient use of parking spaces. We maintain list of vacant slots in the parking space and assign that to the user. Here, admin maintains the data of users with the help of database and supervises, monitors, and coordinates the operation function of parking lots, garages, and special events.

Transport parking system as described above can lead to an error-free, reliable, secure, and fast management system. In recent times the concept of smart cities has gained great popularity. Thanks to the evolution of the Internet of things and the idea of smart city now seems to be achievable. Consistent efforts are being made in the field of IoT to maximize the productivity and reliability of urban infrastructure. Problems such as, traffic congestion, limited car parking facilities and road safety are being addressed by IoT. The proposed Transport Parking system consists of an on-site deployment of an IoT module that is used to monitor and signalize the state of

availability of each single parking space. A web application is also provided that allows an end user to check the availability of parking space and book a parking slot accordingly

2.2. STAKEHOLDER IDENTIFICATION

User:

- Able to view currently available slots
- Chooses parking slot and book it.
- View the booked parking lot details.

Manager:

- View slots which are available and booked
- Contains details of users in booked slot.

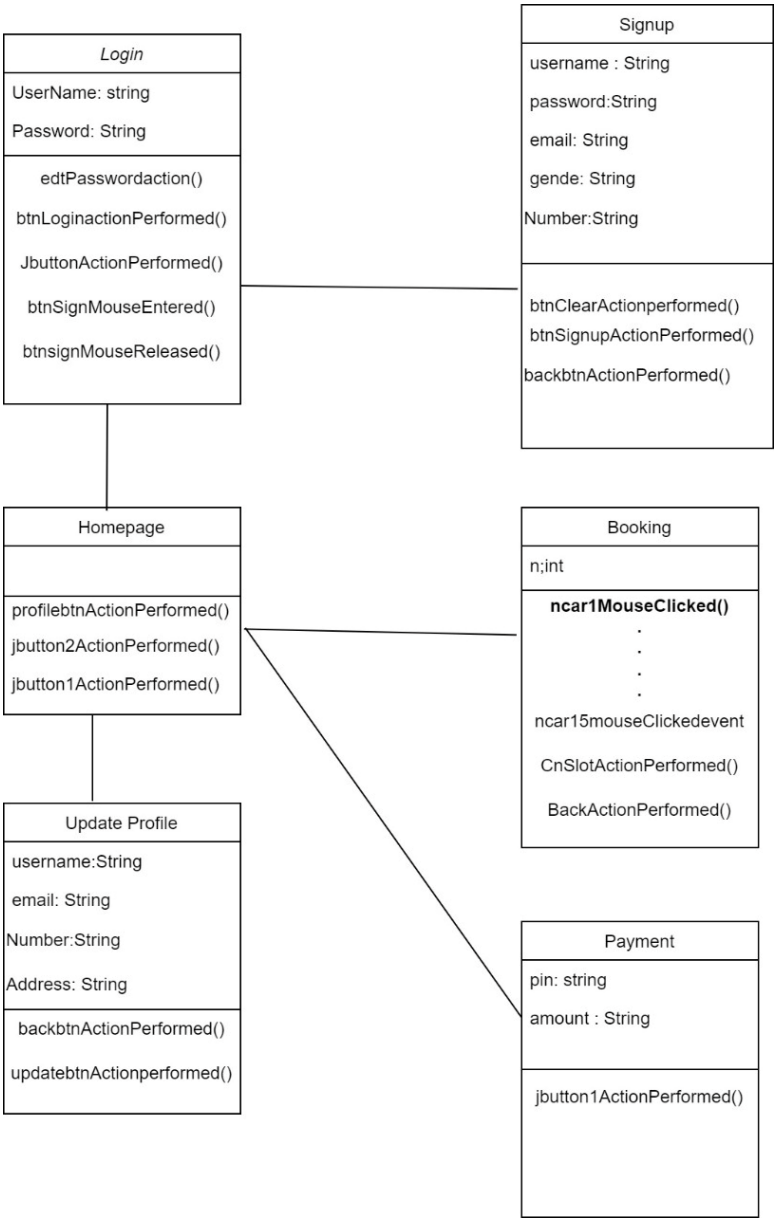
Admin:

- Controls the software and interface
- Troubleshoot technical glitches

Developer:

- Creates plan that best suit the needs of the project
- Develops application using programming language
- Updates application frequently

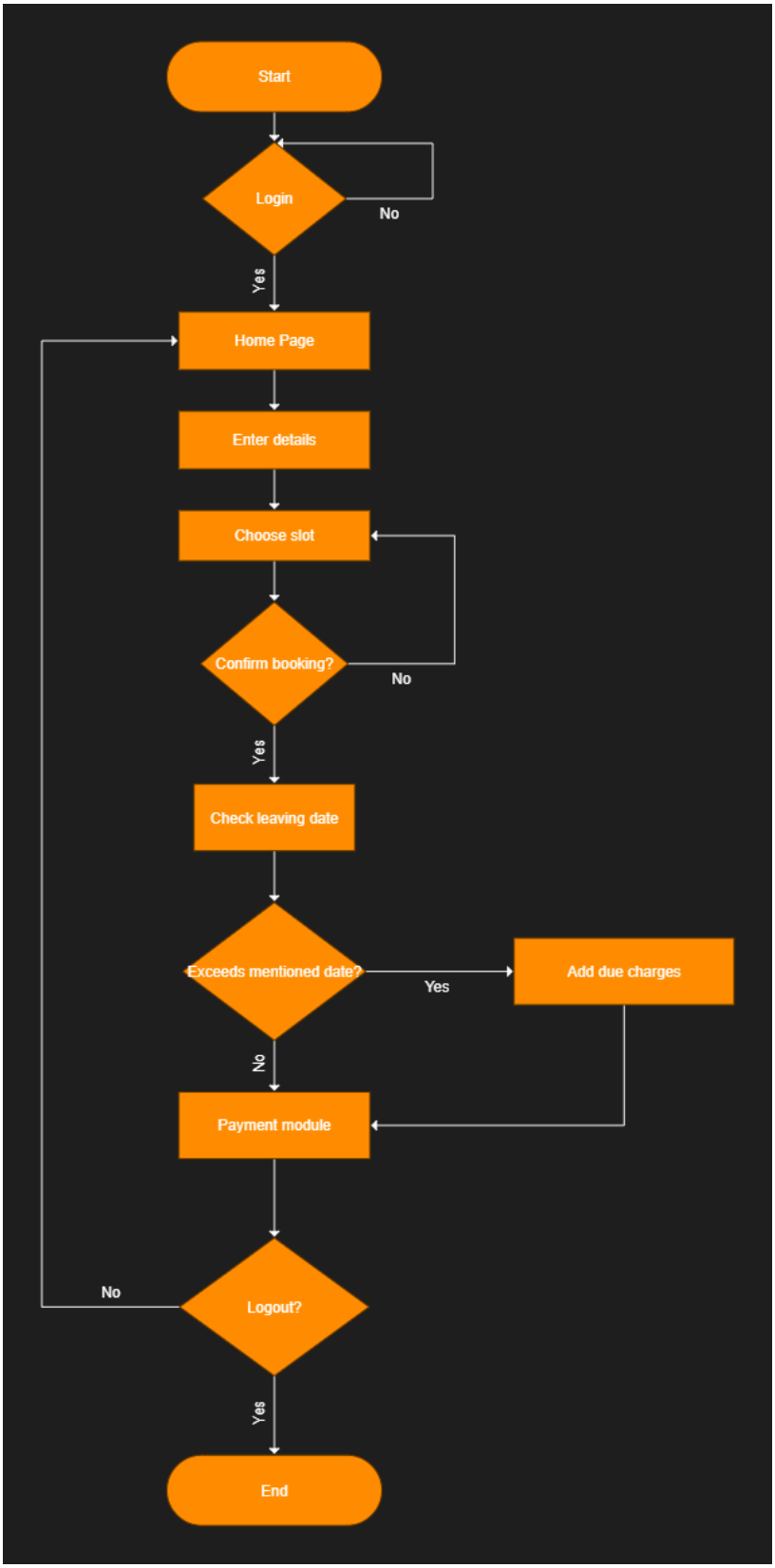
2.3. CLASSES IDENTIFICATION



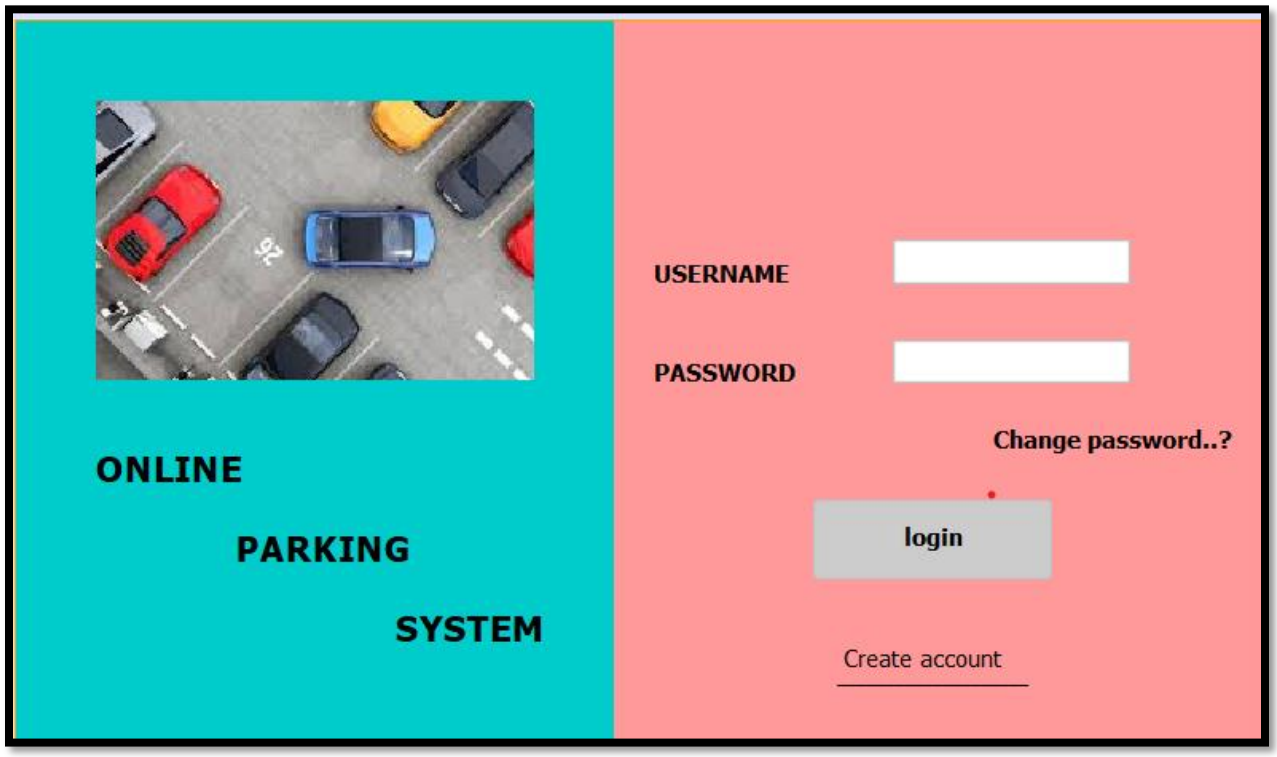
2.4. GAPS IDENTIFIED (HOW PROPOSED WORK DIFFER FROM EXISTING)

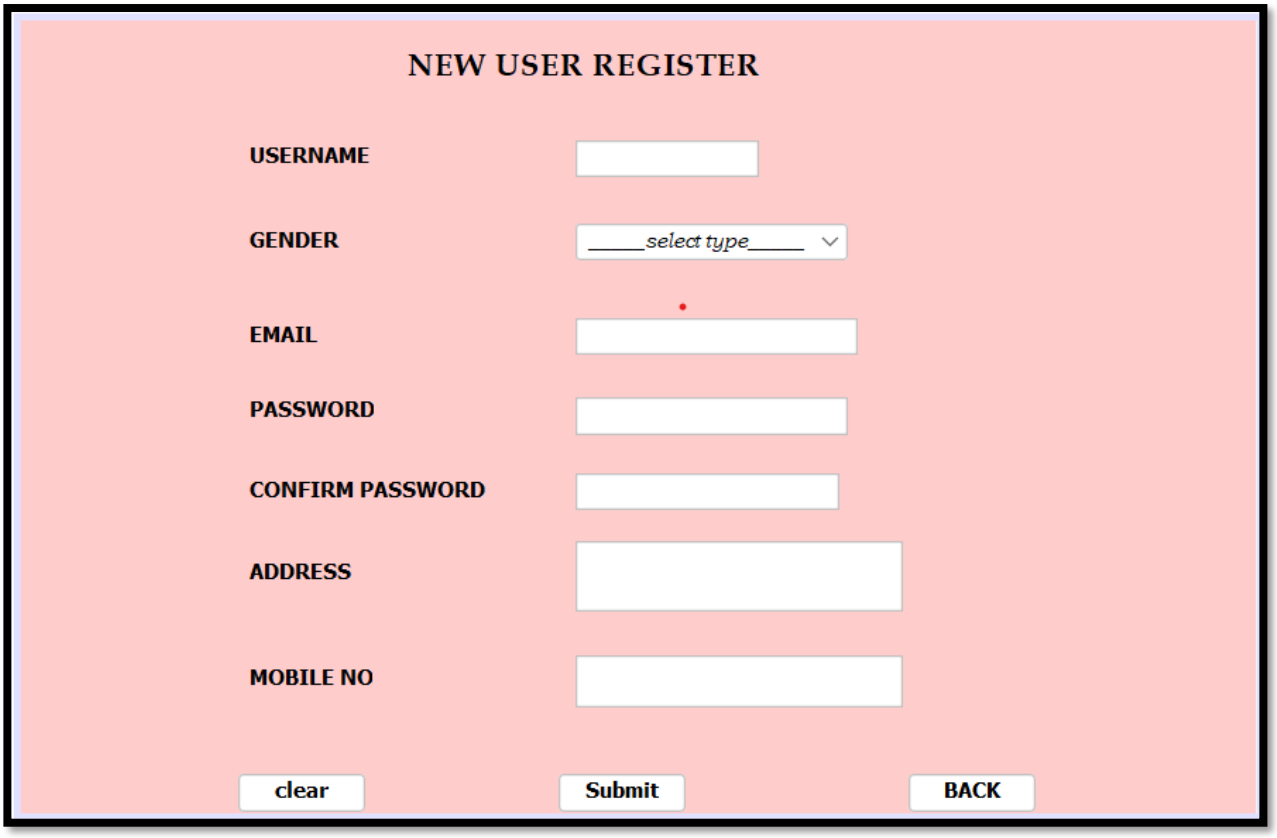
This application is made to make easier for the people to book parking slot. This platform makes communication much easier for them. People don't need to go there for finding free slot. This application makes it so easier to find the free slots in short time interval. It is safe and secure to use this application.

2.5. SYSTEM ARCHITECTURE OR FLOW DIAGRAM



2.6. INTERFACE OF THE PROPOSED WORK





Change Password

USERID:

OLD PASSWORD:

NEW PASSWORD:

CONFIRM PASSWORD:

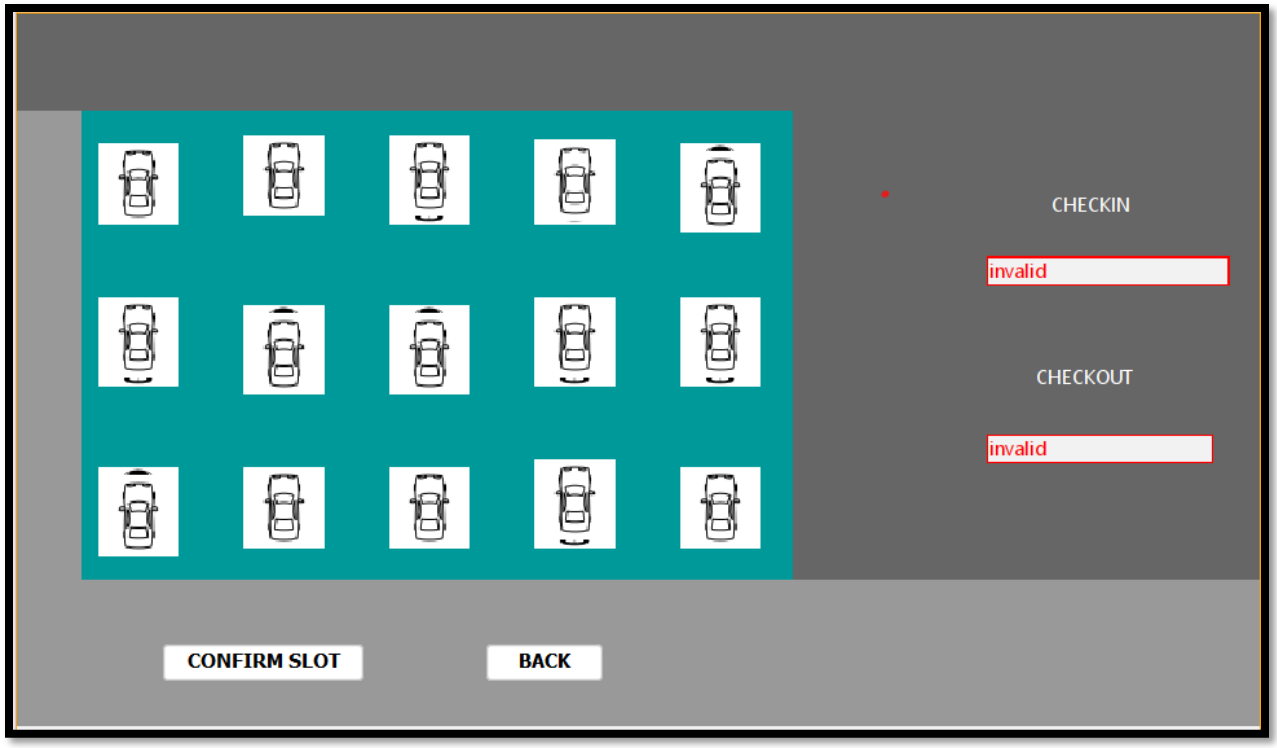
change back clear

PROFILE

BOOK SLOTS

SIGN OUT

ONLINE PARKING SYSTEM


CHECKIN
invalid
CHECKOUT
invalid
CONFIRM SLOT
BACK


PAYMENT METHOD
-------Gateway--------
ENTER PIN
AMOUNT TO BE PAID
PAY NOW

3. IMPLEMENTATION

3.1. SOFTWARES USED WITH VERSION

```
C:\Users\Mothishwar>java -version
java version "19.0.1" 2022-10-18
Java(TM) SE Runtime Environment (build 19.0.1+10-21)
Java HotSpot(TM) 64-Bit Server VM (build 19.0.1+10-21, mixed mode, sharing)

C:\Users\Mothishwar>mysql --version
mysql  Ver 8.0.31 for Win64 on x86_64 (MySQL Community Server - GPL)
```

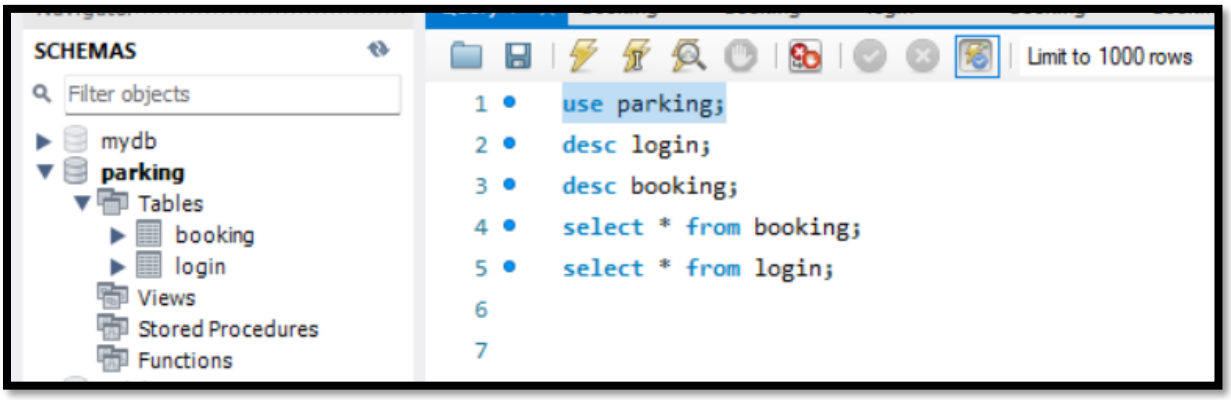
3.2. JAVA CONCEPTS USED

‘

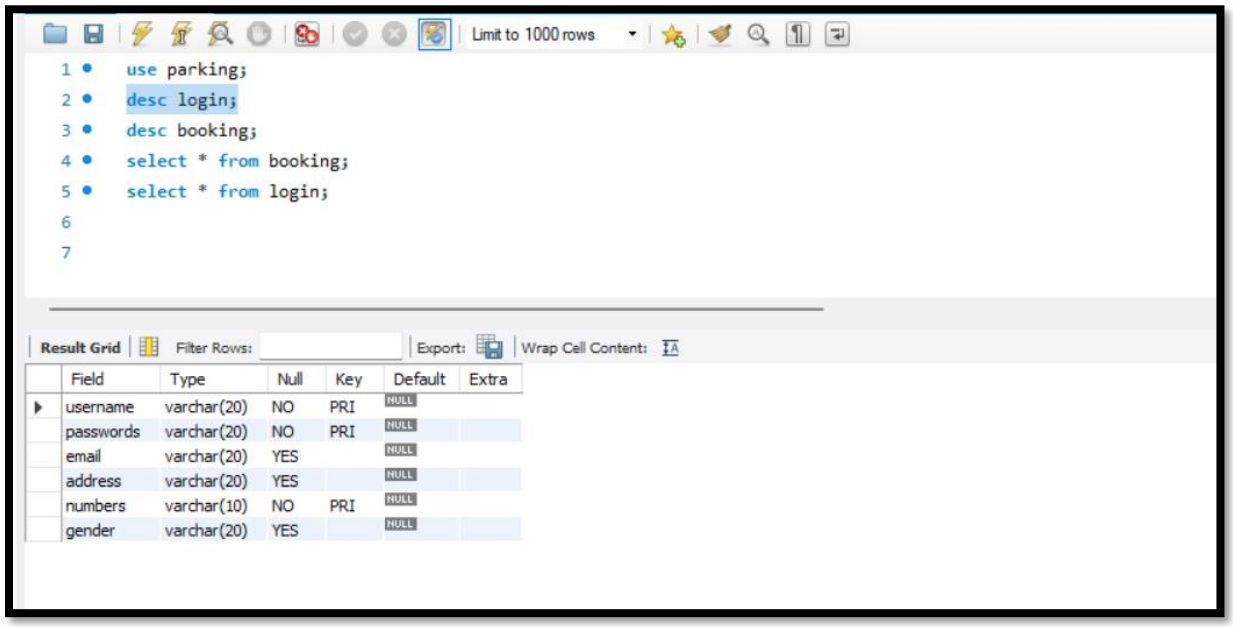
- Access specifiers
- Inheritance
- Interfaces
- JDBC
- Strings
- String builder
- Frames and JFrames
- Overriding
- Overloading
- Exception
- Static variables

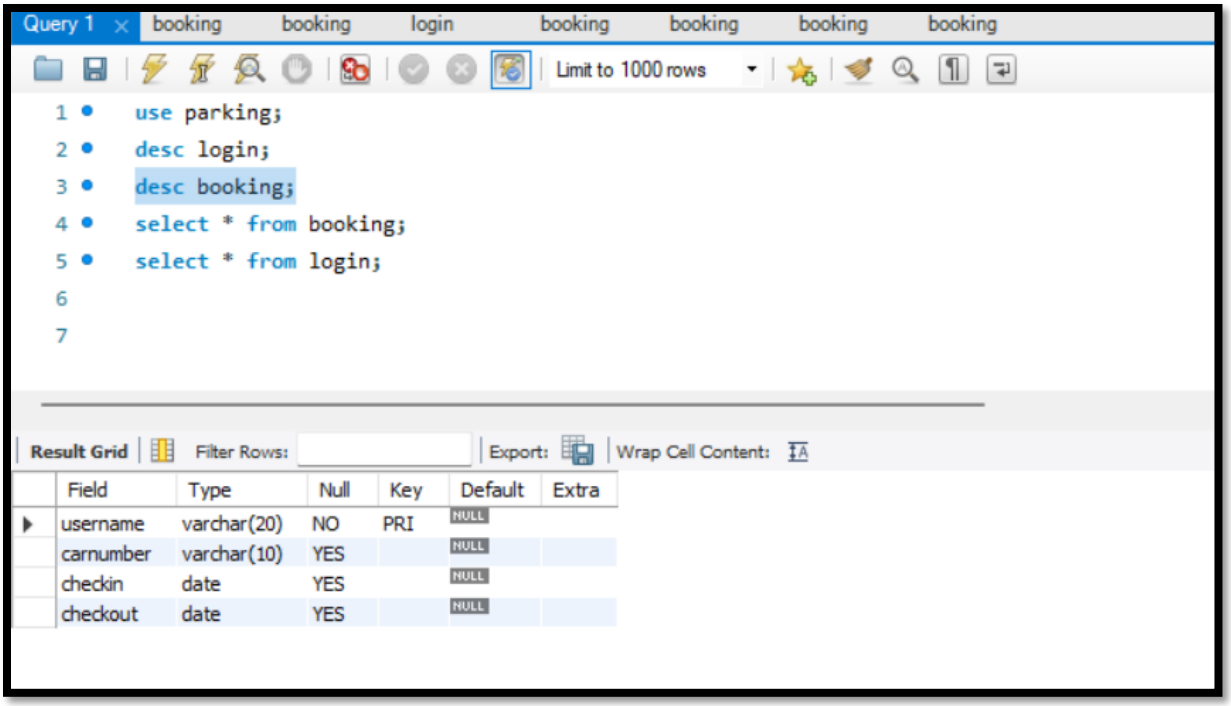
3.3. DATABASE DESIGN

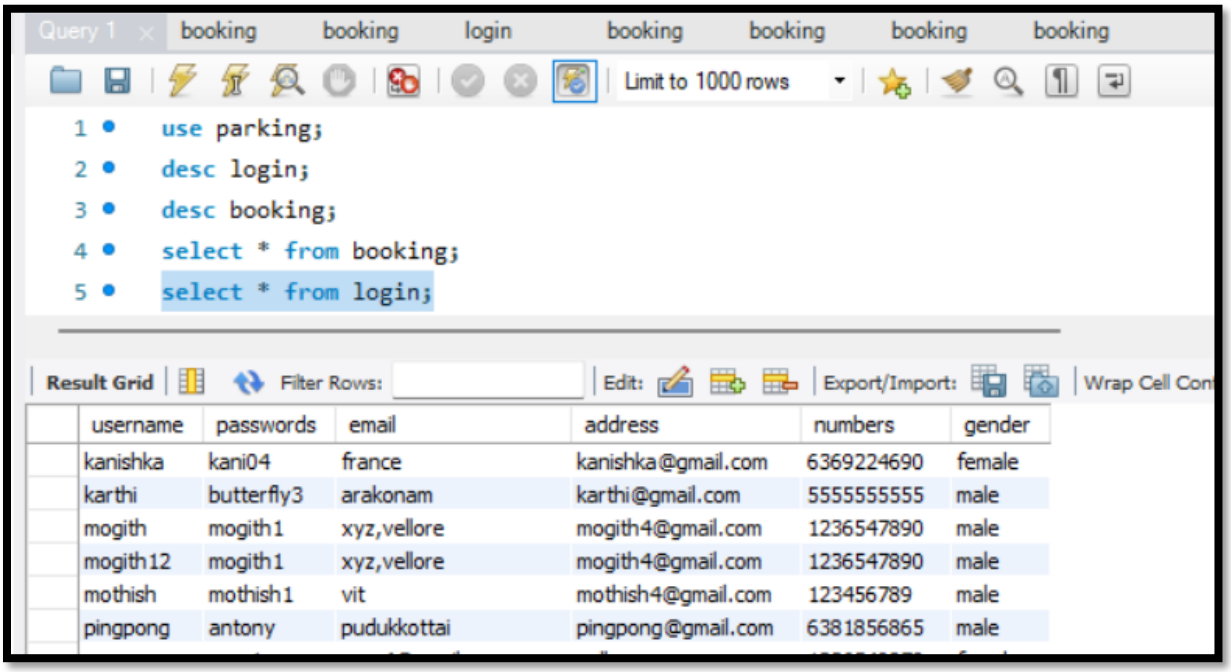
3.3.1. SCHEMA

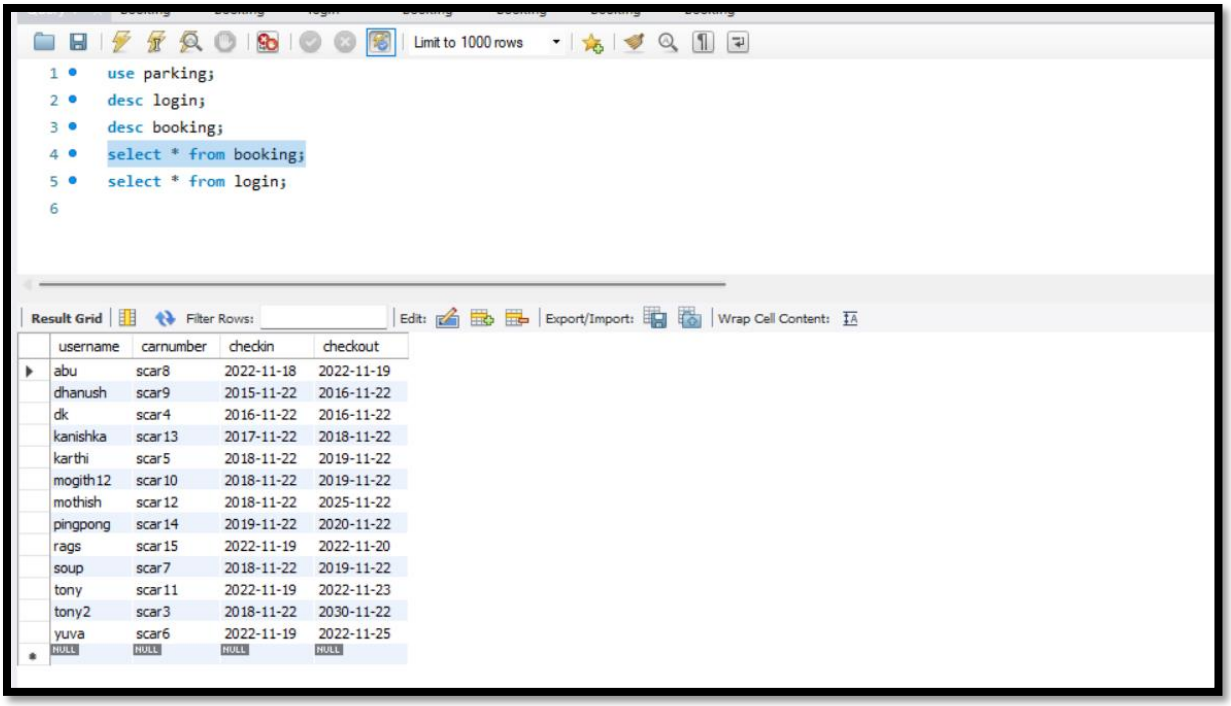


3.3.2. TABLES WITH VALUES



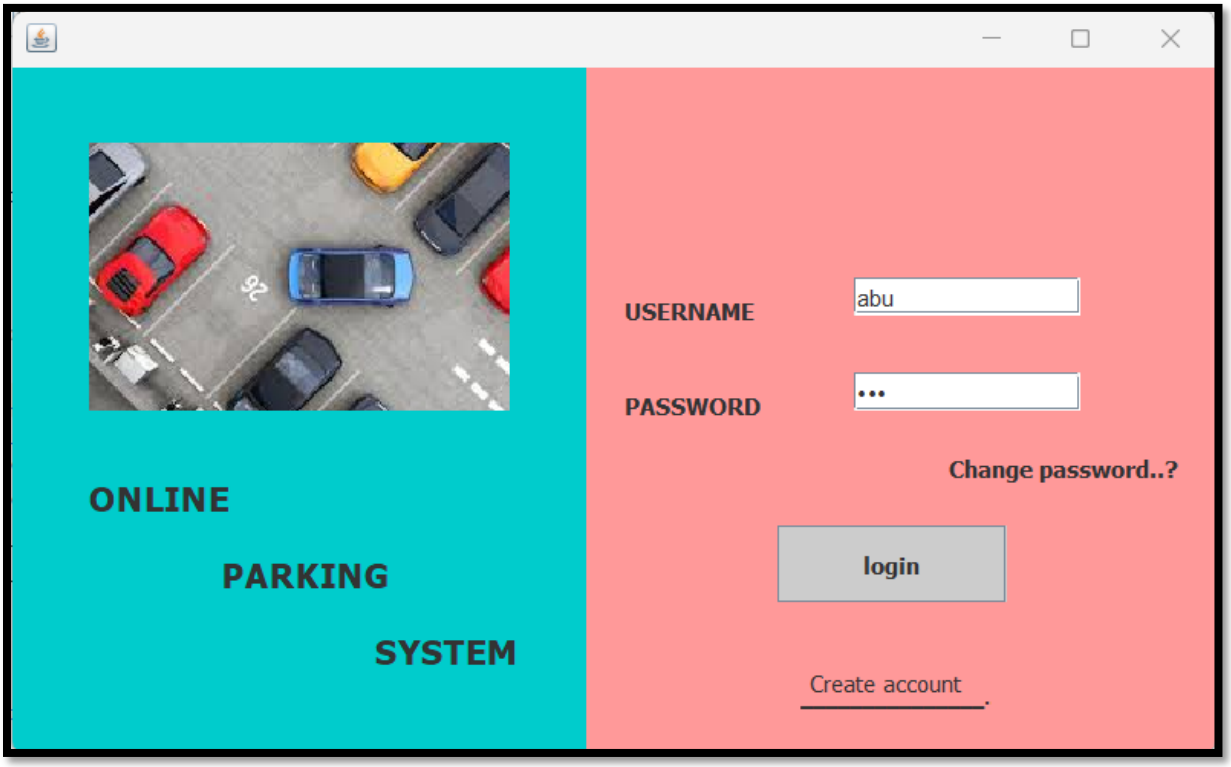

Query 1
booking
booking
login
booking
booking
booking
booking
Limit to 1000 rows
use parking;
desc login;
desc booking;
select * from booking;
select * from login;
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Field
Type
Null
Key
Default
Extra
username
varchar(20)
NO
PRI
NULL
carnumber
varchar(10)
YES
NULL
checkin
date
YES
NULL
checkout
date
YES
NULL

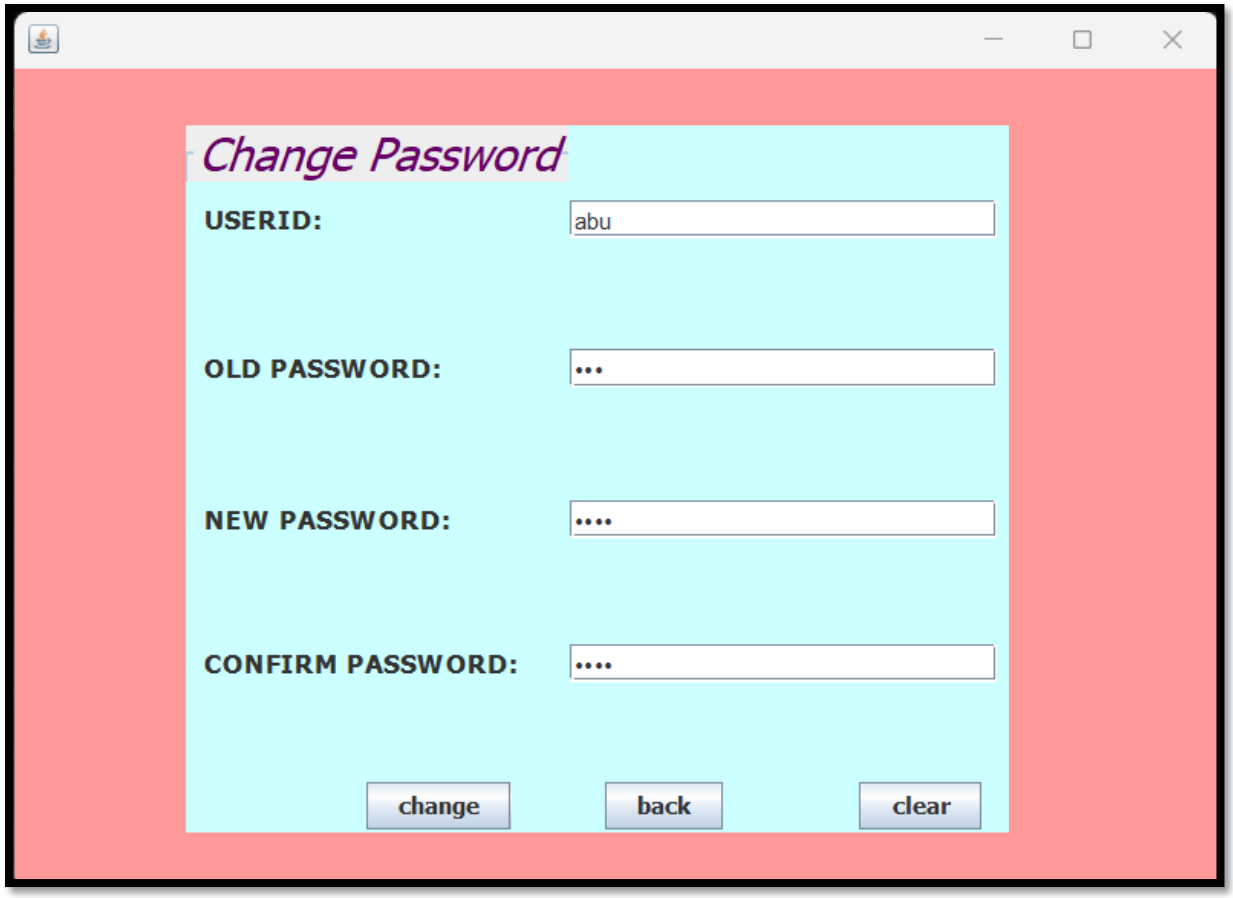

Query 1
booking
booking
login
booking
booking
booking
booking
Limit to 1000 rows
use parking;
desc login;
desc booking;
select * from booking;
select * from login;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Con
username
passwords
email
address
numbers
gender
kanishka
kani04
france
kanishka@gmail.com
6369224690
female
karthi
butterfly3
arakonam
karthi@gmail.com
5555555555
male
mogith
mogith1
xyz,vellore
mogith4@gmail.com
1236547890
male
mogith12
mogith1
xyz,vellore
mogith4@gmail.com
1236547890
male
mothish
mothish1
vit
mothish4@gmail.com
123456789
male
pingpong
antony
pudukkottai
pingpong@gmail.com
6381856865
male

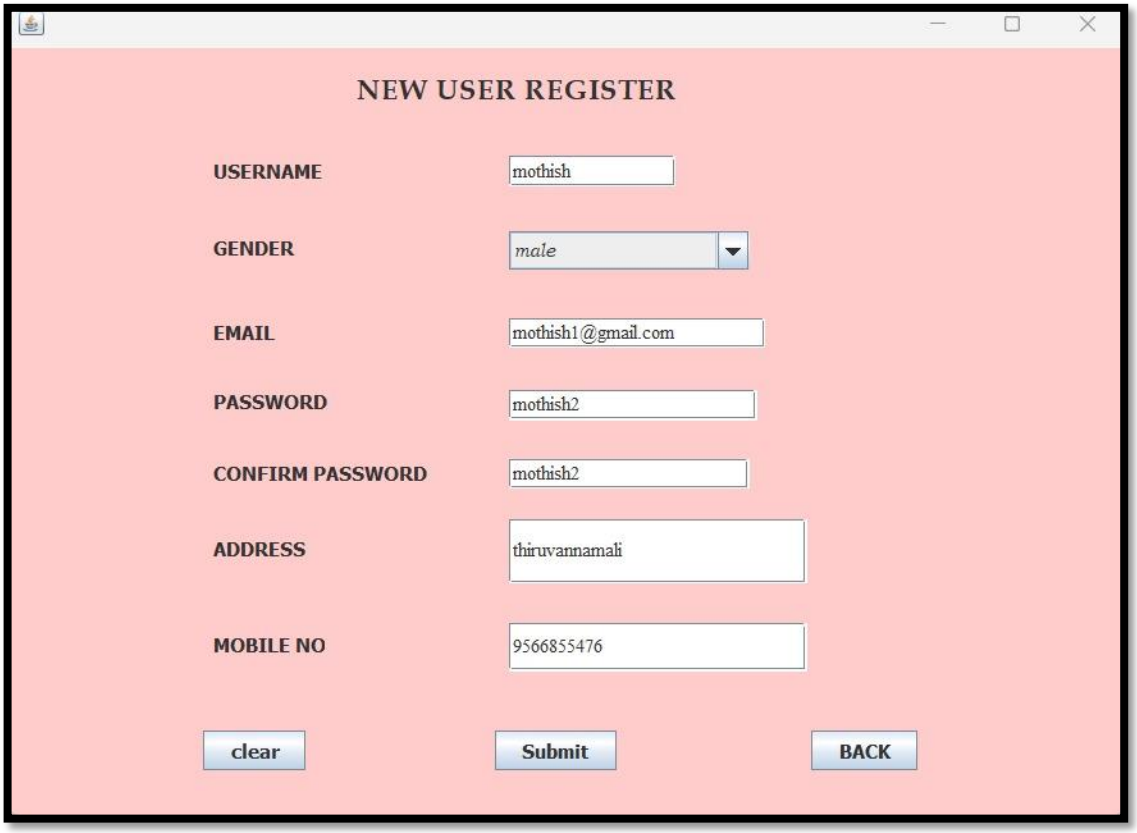


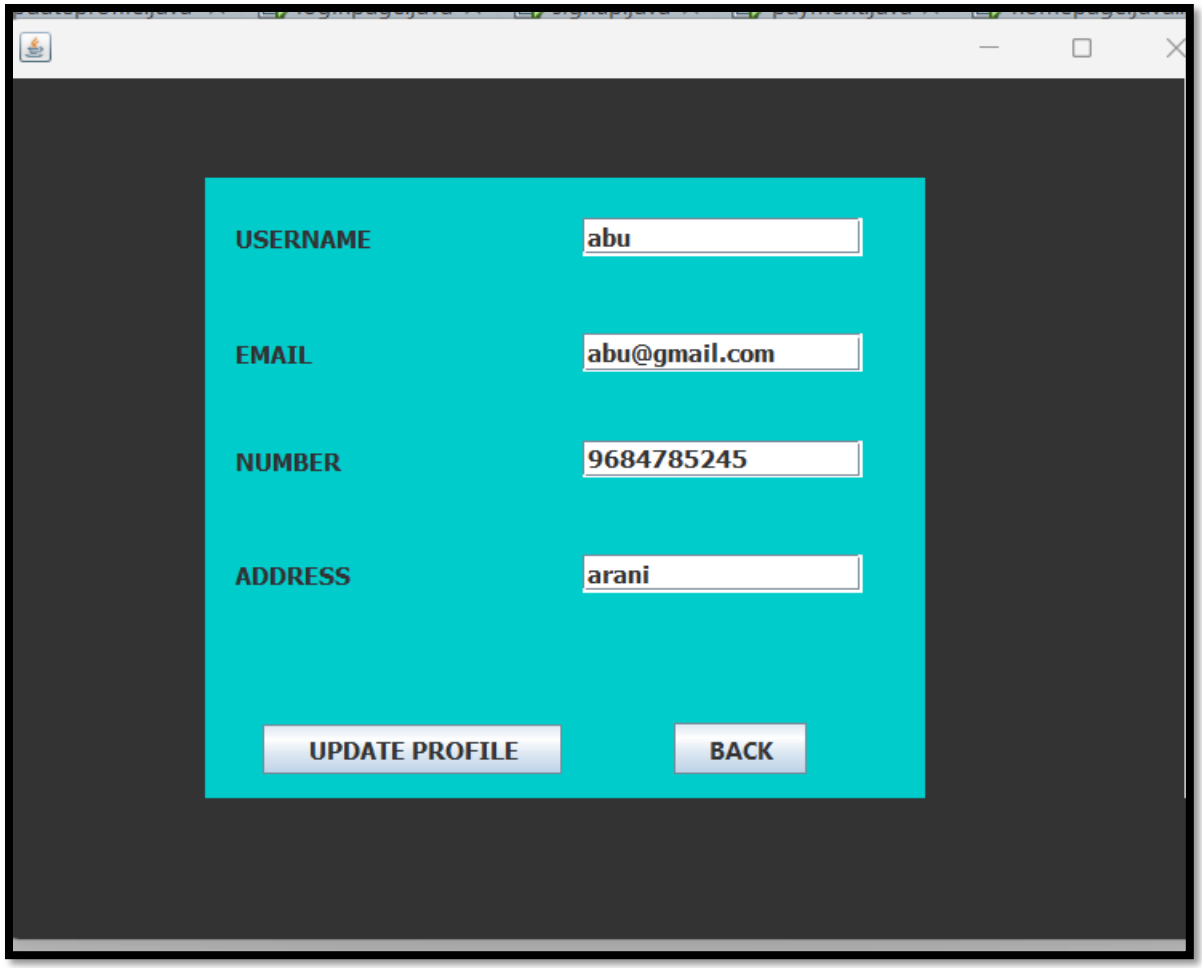
username	carnumber	checkin	checkout
abu	scar8	2022-11-18	2022-11-19
dhanush	scar9	2015-11-22	2016-11-22
dk	scar4	2016-11-22	2016-11-22
kanishka	scar13	2017-11-22	2018-11-22
karthi	scar5	2018-11-22	2019-11-22
mogith12	scar10	2018-11-22	2019-11-22
mothish	scar12	2018-11-22	2025-11-22
pingpong	scar14	2019-11-22	2020-11-22
rags	scar15	2022-11-19	2022-11-20
soup	scar7	2018-11-22	2019-11-22
tony	scar11	2022-11-19	2022-11-23
tony2	scar3	2018-11-22	2030-11-22
yuva	scar6	2022-11-19	2022-11-25
NULL	NULL	NULL	NULL

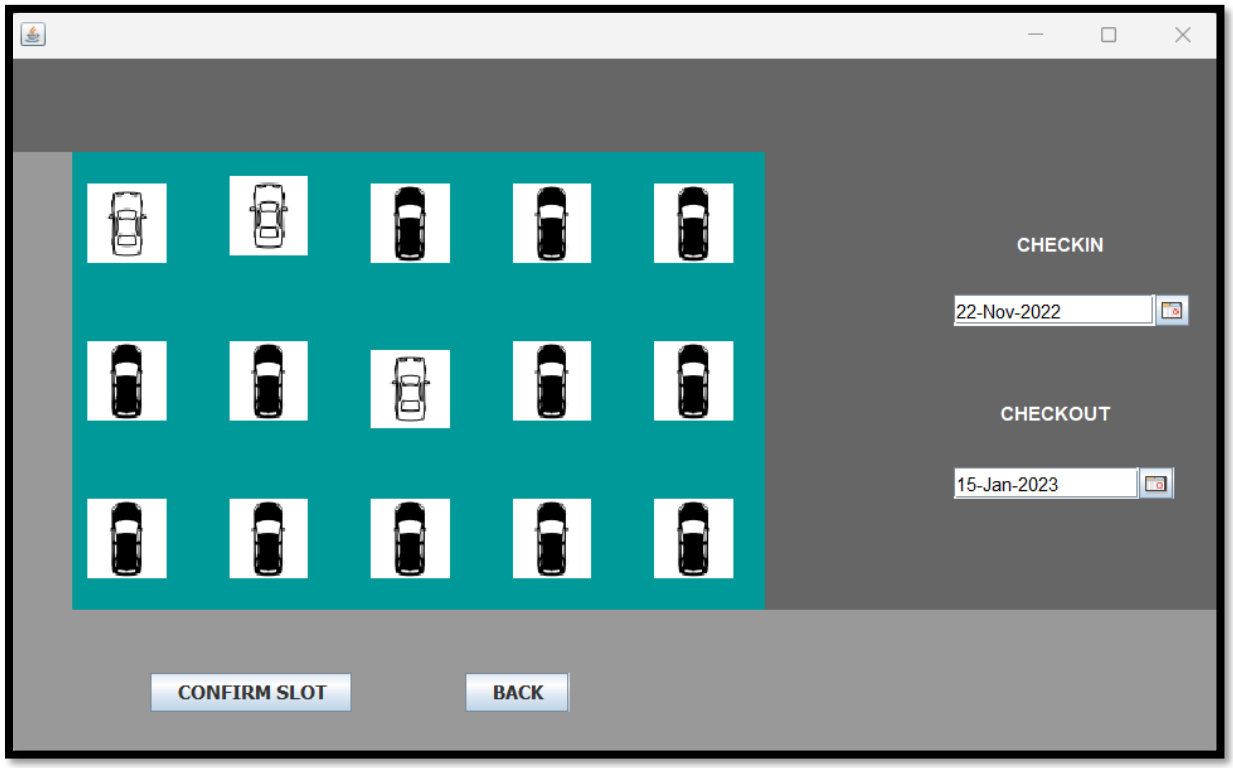
3.4. SCREENSHOTS OF THE SYSTEM

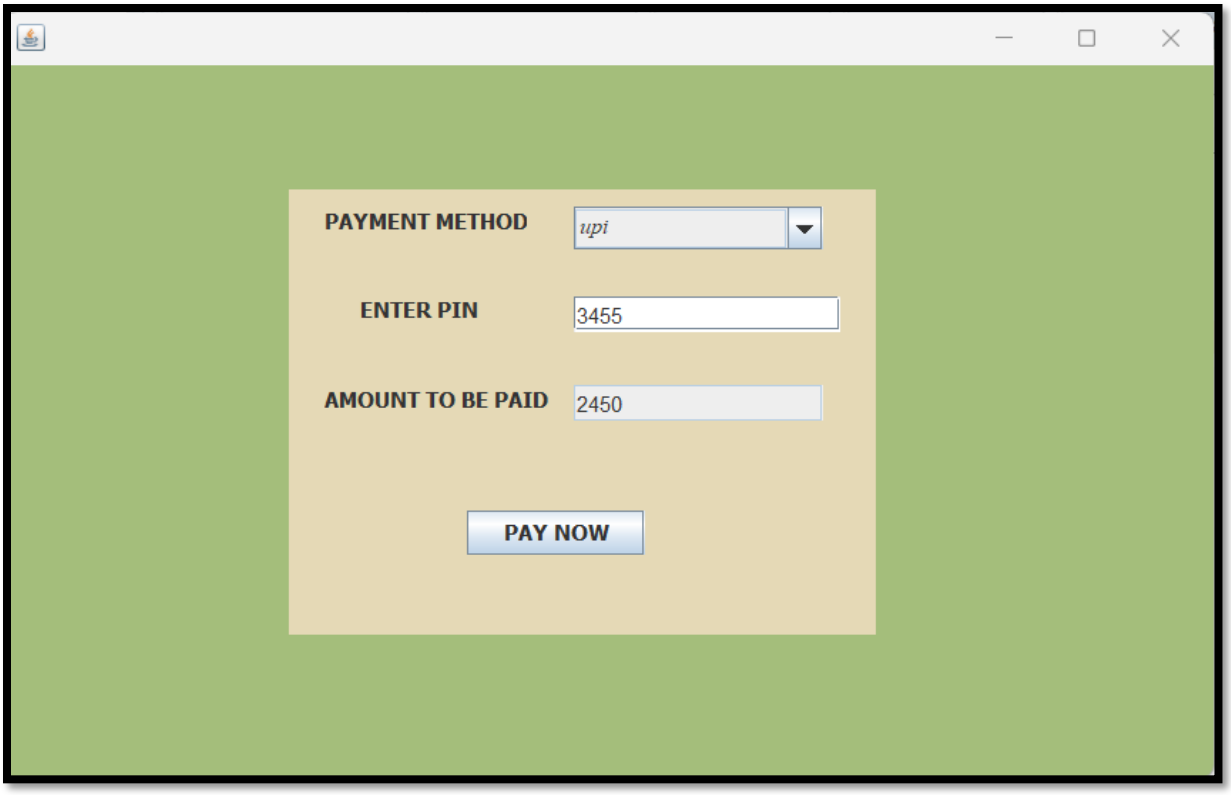


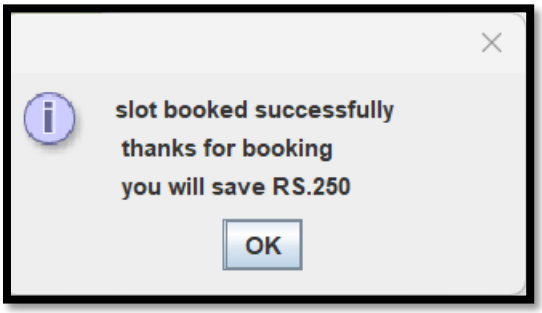

Change Password
USERID:
abu
OLD PASSWORD:
NEW PASSWORD:
CONFIRM PASSWORD:
change
back
clear


NEW USER REGISTER
USERNAME
mothish
GENDER
male
EMAIL
mothish1@gmail.com
PASSWORD
mothish2
CONFIRM PASSWORD
mothish2
ADDRESS
thiruvannamali
MOBILE NO
9566855476
clear
Submit
BACK


USERNAME
abu
EMAIL
abu@gmail.com
NUMBER
9684785245
ADDRESS
arani
UPDATE PROFILE
BACK


CHECKIN
22-Nov-2022
CHECKOUT
15-Jan-2023
CONFIRM SLOT
BACK


PAYMENT METHOD
upi
ENTER PIN
3455
AMOUNT TO BE PAID
2450
PAY NOW


slot booked successfully
thanks for booking
you will save RS.250
OK

4. TESTING

4.1. TESTCASES (FOR ALL MODULES)

Description	Test data	Expected results	Actual results	Pass / Fail / Not executed	Post Condition
Login	Username and Password	Opening home page	As expected	Pass	Entered home page
Signup	Details of user	Open login page	As expected	Pass	Entered login page
Home page	Opening respective page	New page should open	As expected	Pass	Entered respective page
Booking	Choose slots	Open payment page	As expected	Pass	Entered payment page
Payment	Pay money	Back to home page	As expected	Pass	Back to home page

5. CONCLUSION

This application provides basic features and functions such as user registration, login and authentication, slot booking page, update contact information page, an admin login account with full privileges. The implementation of different phases is functioning as expected. Test cases were performed on different operating systems and platforms to ensure that the application was functioning correctly on all the above.

Thus, it can be concluded that the application is an interface that can help user to book parking slot in an efficient manner.

6. REFERENCES

https://www.youtube.com/@tutorjoes

https://www.youtube.com/@BroCodez

https://www.youtube.com/@Telusko

Mothiswar T B G – 21MIS0258

Mogith P – 21MIS0204

Mohammed Abubakar – 21MIS0149