IACSD

INSTITUTE FOR ADVANCED
COMPUTING AND
SOFTWARE DEVELOPMENT
AKURDI, PUNE

Documentation On

“Car Pooling System”

PG-DAC SEPTEMBER 2021

Submitted By:

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Project Guide

Table of Contents

List of Figures

1. Introduction

Carpooling is the concept of sharing your car to accommodate more than one person at a time, eliminating the need for riders to drive themselves in separate vehicles. With increasing road demands due to congestion, growing populations and infrastructure needs, carpooling has grown in popularity more recently and we need it now more than ever.Carpooling (also car-sharing, ride-sharing and lift-sharing) is the sharing of car journeys so that more than one person travels in a car, and prevents the need for others to have to drive to a location themselves.

Document Purpose

The basic purpose of the car pooling system is to make the travel of common people hassle free and also budget friendly. This will help in reducing the pollution and also the cost of travelling, as the complete fare will be shared among the passengers. Unlike Local Trains or Local buses, in this car pooling system, the passengers will be able to go from their source to destination with their convenience, they can decide their time and pick up location, there will be no fixed stoppage like Bus or Train, similarly the destination will also be decided by the passenger only. Along with all these things, this car pooling system will also look into the safety of the passengers as everything will be based on live location. The passenger can see the route of the car, in which direction the car is going, hence it will be completely safe.This system allows the Customer can easily get the car whenever they need to on the rent with use of this system. it also helps in save time and cost of travelling.it will be useful especially for daily working people for travelling without any time restrictions.it will helpful for passengers to travel according to their time and date.

Problem Statement

The population of the city increases, the vehicles also increase Now the technology was developed and in each house we can see one car , bike and scooter.In the daily basis we use all of these for office,school or college ,shopping etc instead of using those vehicles we can use public transport which reduces pollution and saves fuel Public transportation contributes to a healthier environment by improving air quality and reducing oil consumption, and through better land-use policies. It also helps to expand business development and work opportunities. And, it is critical for emergency situations requiring safe and efficient evacuation.

Product Scope

1. Vehicle Owner:

Vehicle Owners can add a car, manage booking car and rent and also view feedback and enquiry.

2. Passanger:

Passengers can view information of available cars, book a car, easily get the car on rent and also give feedback and can enquiry.

Aims & Objectives

Reducing overall traffic congestion on the roads
Reduce peak hour congestion
Reducing single occupancy car trips by implementing Car Pooling System
Promoting alternative modes of transport.
Improve parking in areas that are experiencing parking congestion

2.Overall Description

The Car Pooling System application enables admin to add a car, manage booking car and rent and also view feedback and enquiry, Users can view information of available car, booking car, easily get the car on rent and also give feedback and can enquiry. Also the developer is designing an online car rental site to manage the cars in the portal and also help customers to book them online without visiting the centre physically.The online car rental system will use the internet as the sole method for booking cars on rent for customers.

Product Perspective

This product is aimed toward a passenger who doesn't want to visit any place as he might don't get time for that or might not be interested in visiting there and dealing with a lot of formalities. If any passenger does not want to wait for time as well as do not want to visit any place.

Benefits of Car Pooling

Carpooling will save YOU money

Carpooling is better for the environment

Carpooling is convenient

Carpooling improves your commuting options

Users

1.Vehicle Owner

2.Passanger

Operating Environment

Server Side:

Processor: Intel® Xeon® processor 3500 series

HDD: Minimum 500GB Disk Space

RAM:

Minimum

2GB OS:

Windows 10

Database:

PostgreSQL

Client Side (minimum requirement):

HDD: Minimum 80GB Disk Space

Processor: Intel Dual Core

RAM: Minimum 1GB

OS: Windows 10

Design and Implementation Constraints

- The application will use java and css as main web technologies.
- Several types of validations make this web application a secured one and SQL Injections can also be prevented.
- Since Car Pooling system is a web-based application, internet connection must be established.
- The Car Pooling System will be used on PCs and will function via internet or intranet in any web browser.

3.Requirements Specification

External Interface Requirements

Application Interfaces:

OS: Windows 10, Linux

Web Browser:

The system is a web-based application; clients need a modern web browser such as Mozilla Firebox, Internet Explorer, Opera, and Chrome. The computer must have an Internet connection in order to be able to access the system.

Communications Interfaces:

- This system uses communication resources which includes but not limited to, HTTP protocol for communication with the web browser and web server and TCP/IP network protocol with HTTP protocol.
- This application will communicate with the database that holds all the booking information. Users can contact with server side through HTTP protocol by means of a function that is called HTTP Service. This function allows the application to use the data retrieved by server to fulfil the request fired by the user.

Functional Requirement

This section provides requirement overview of the system. Various functional modules that can be implemented by the system will be-
Description:
If user wants to take benefit of this site so ,It is mandatory to be registered. They can register as Passanger.
User can Login to the system entering valid user id and password.
If User Logs in as a passanger he can choose date, ,time and location.

If User Logs in as a vehicle owner he can fill name,email,address,date .

Logout from the system .

A client/server system is a distributed system in which, Some sites are client sites and others are server sites. All the data resides at the server site All applications execute at the client sites.

Non-Functional Requirement

a) Performance

The application has to offer a very quick response time as the meeting between the driver and passengers is done through notifications. In other words, the server should be able to treat notifications and propagate them instantly. The application should handle 1000 users sending queries at the same time.

b) Scalability

The application should respond properly to a high increase of users. It should be able to handle from 10 000 users to 100 000 users. And also from 100 000 to one millions users.

c) Extensibility

The application should be extensible in order to support multiple platforms including iOS, Windows Phone and Web.

d) Availability

Since a lot of information about the trips and check in are available in the application, it has to be highly available and guarantees a good server up-time. The server should allow only 1 hour downtime per year which is 99.99% up-time.

e) Privacy and Security

login system should also be robust where only authorised users can post and edit their own information.

f) Maintainability

Since the application will be developed in the future by adding other features, it should be easily maintainable.and should be updated regularly A commercial database is used for maintaining the database and application server takes care of the site. The maintainability can be done efficiently

g.Portability

The application is HTML and scripting language based (Javascript). So the end user part is fully portable and any system using

Any web browser should be able to use the features of the system,including any hardware platform that is available or will be available in the future.

An end-user is used this system on an OS either it is Windows or Linux.

The System shall run on PC, Laptops and PDA etc.

The technology should be transferable to different environments easily.

h.Accessibility:

Only registered users should be allowed to process the orders after authentications.

Only GUI access of the system should be permited to end users.

i.Policies:

The Host will allowed to remove data of Teacher is any continuous bad feedback is received from the student.

j.Efficiency:

The system should provide good throughput and response to multiple users without burdening the system by using appropriate number of servers.

k.Safety:

Software should not harm ethical and environmental conditions of the end users machine.

l.Modulariy:

The system should have user friendly interface.

It should be easily updated , modified and reused.

4.System Diagram

Activity Diagram

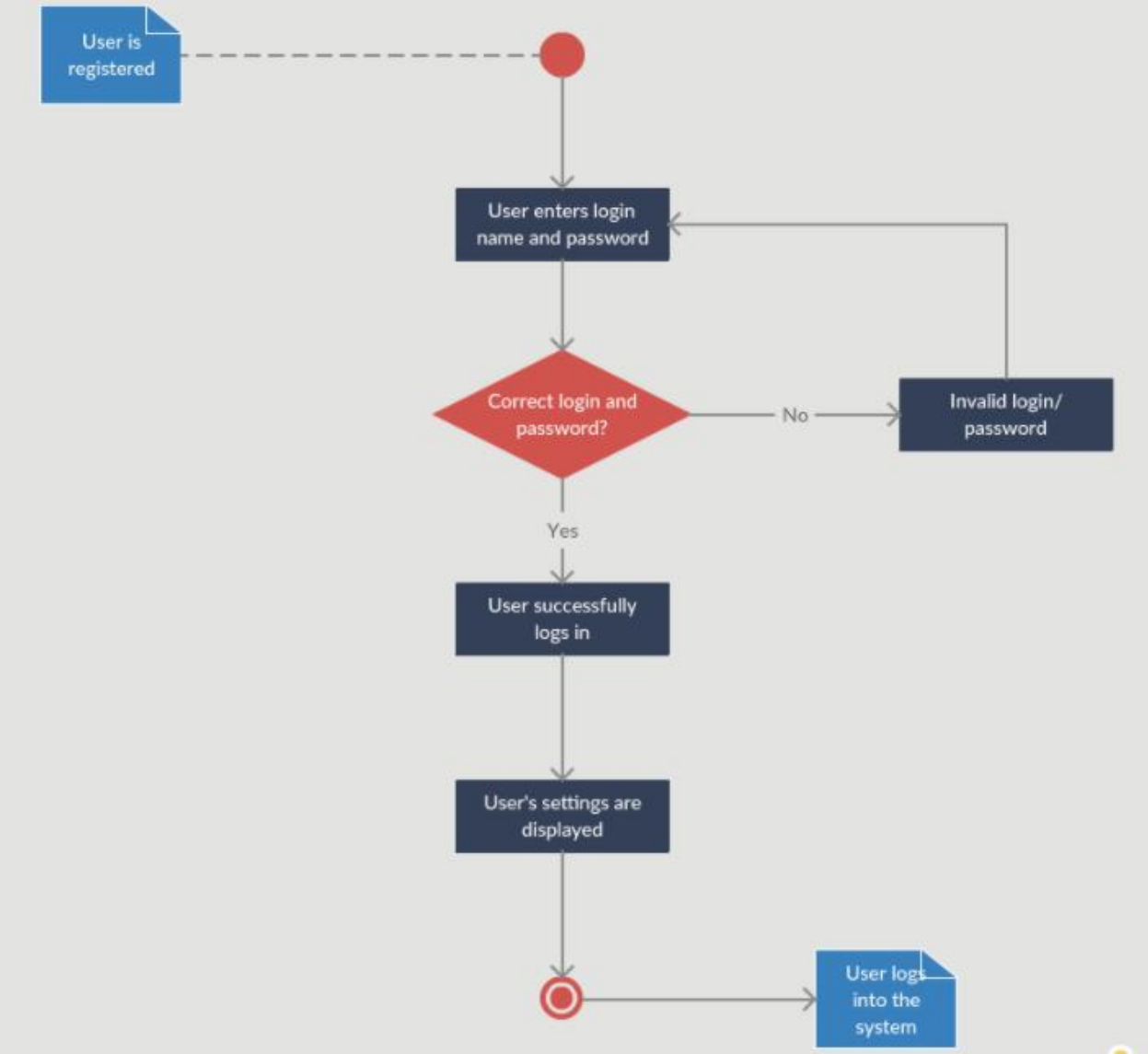


Fig. Activity Diagram

Data Flow diagram

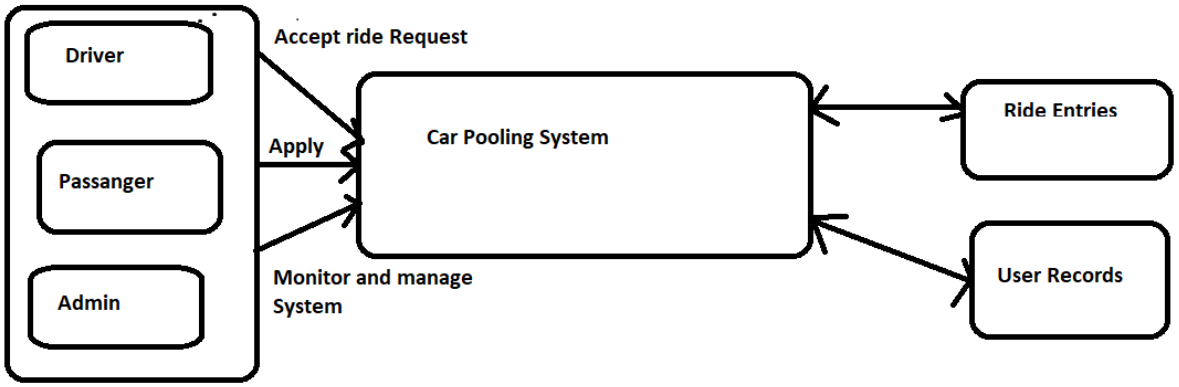
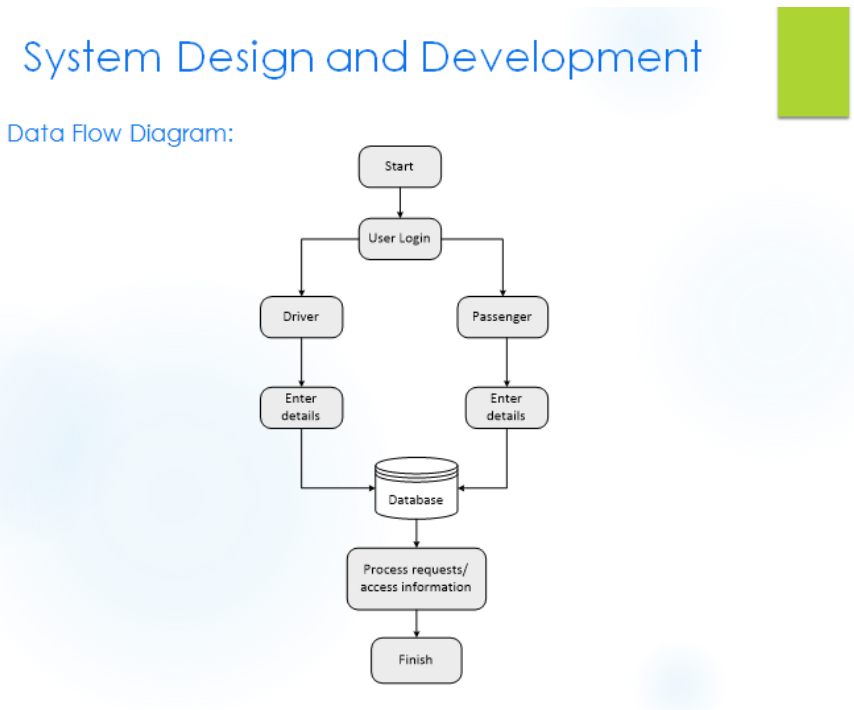


Fig. Data Flow diagram



Class Diagram

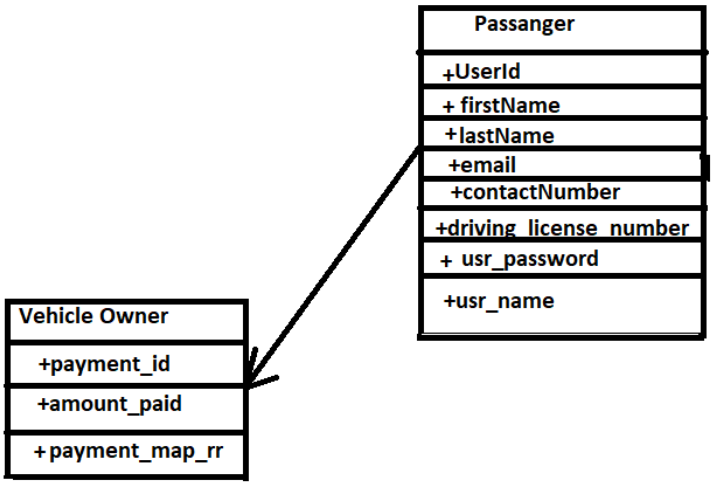


Fig: Class Diagram

Use Case Diagram

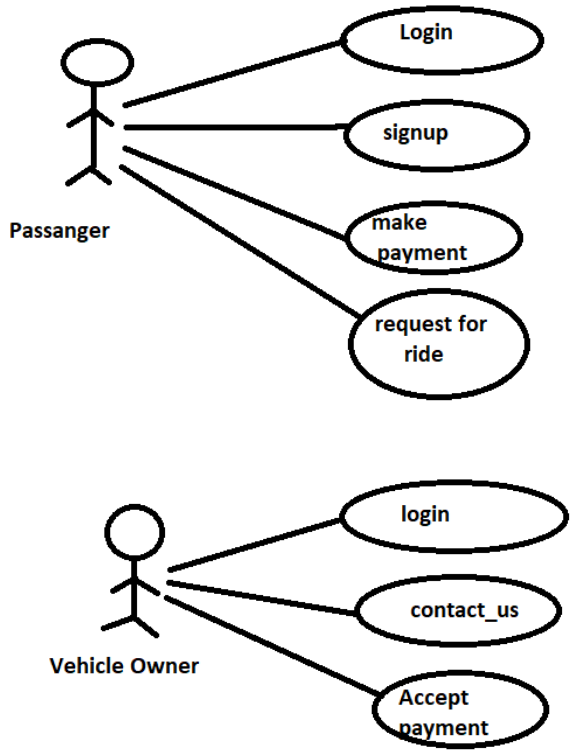


Fig. Use Case Diagram

ER Diagram

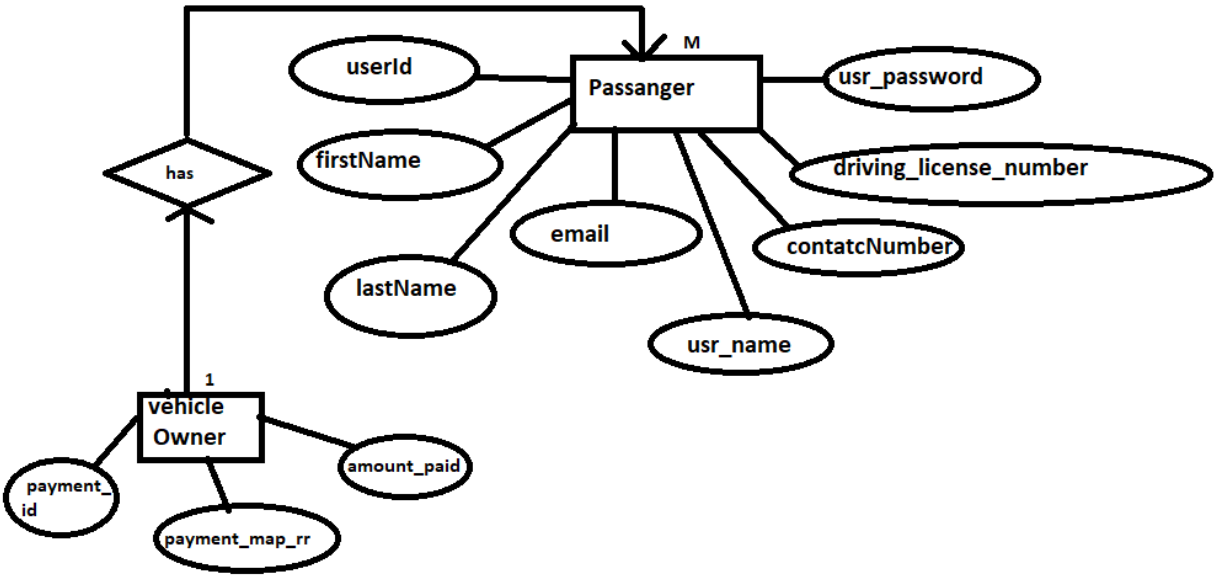


Fig . ER Diagram

5.Table Structure,UI

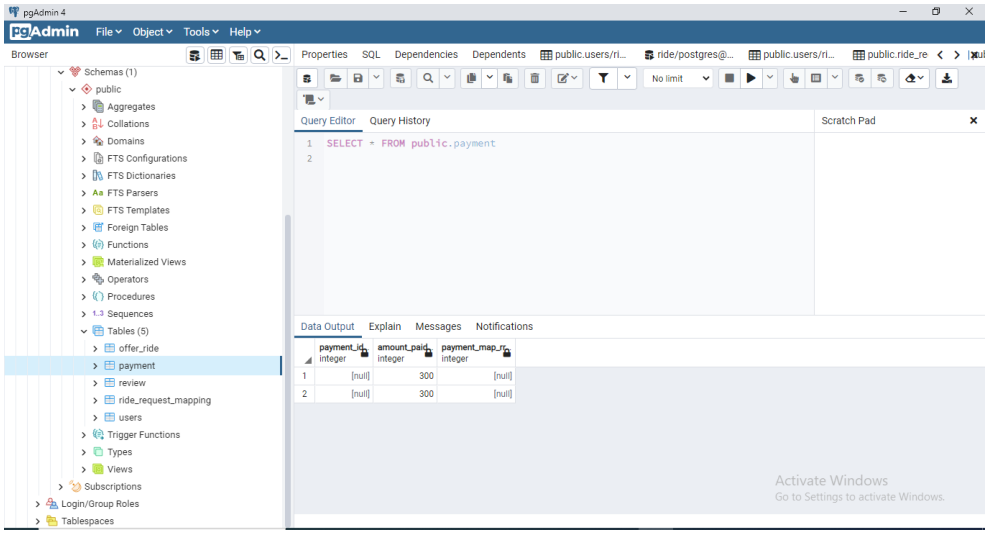


Fig:Payment table

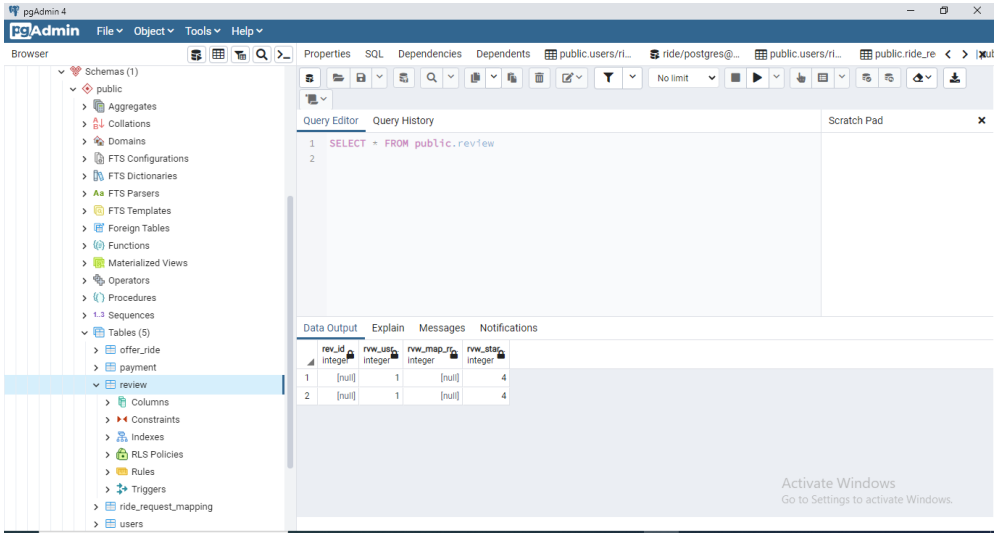


Fig: review table

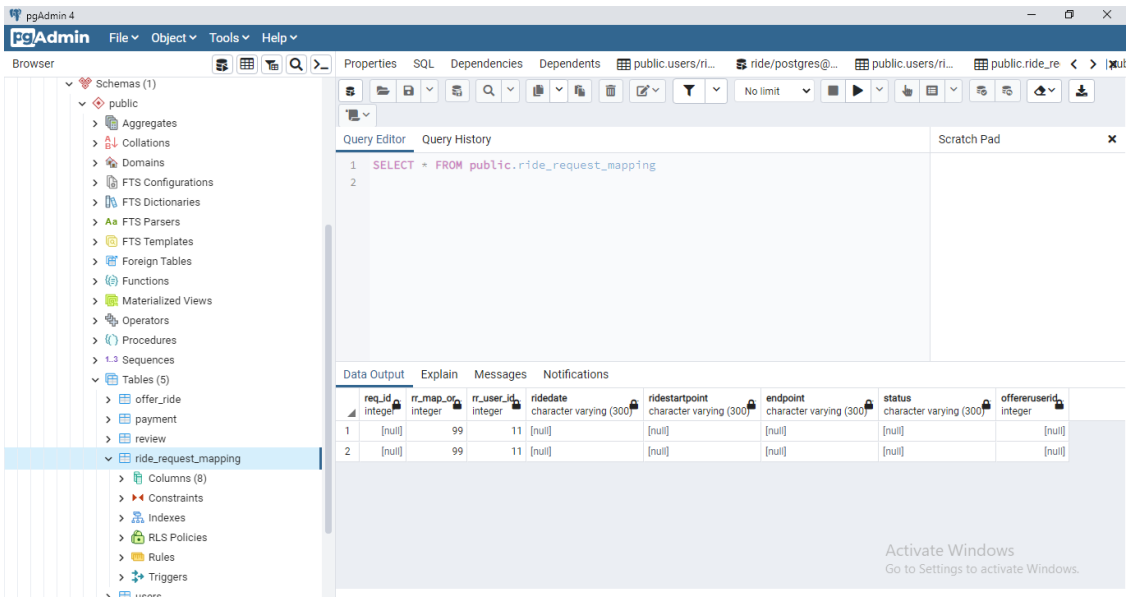


Fig: ride_request_mapping table

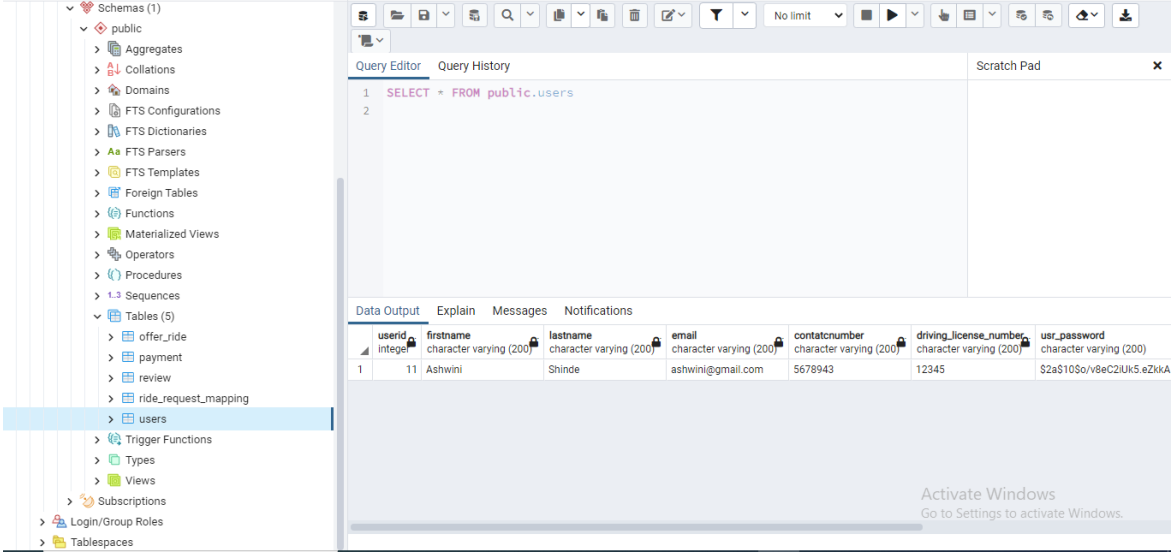
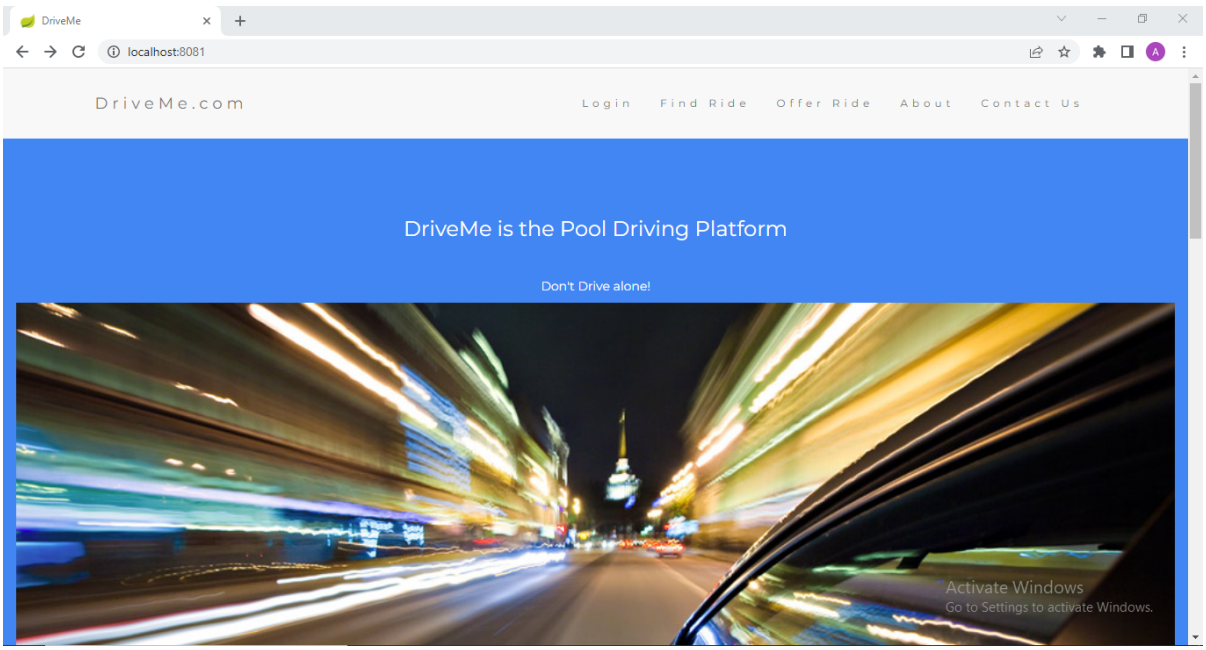
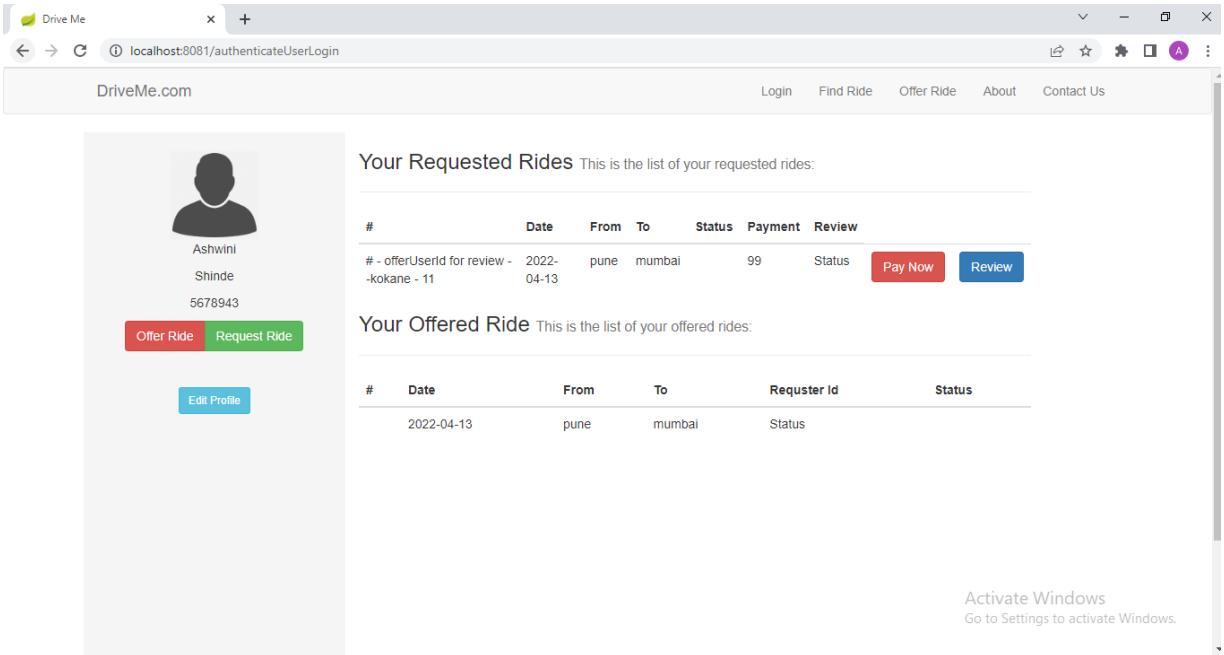


Fig:users table

User interface of Project





6.Conclusion

Carpooling system is very effective means to reduce pollution and the congestion of vehicles in cities. It also provides an eco-friendly way to travel. It also provides an opportunity to meet new people. As today most people prefer private vehicle to travel due to delay caused in public transport system and luxuries provided by private vehicles. Pre-registration ensures that only identified people get into the vehicle so that trust can be established. Thus the proposed carpooling system will be effective in reducing environment pollution.

Future Scope

Carpooling system is very effective means to reduce pollution and the congestion of vehicles in cities. It also provides an eco-friendly way to travel. It also provides an opportunity to meet new people. Carpooling helps to increase the number of riders in a car and reducing vehicles on the road. Fewer vehicles mean lesser traffic congestion, lesser signal time, lesser honking and of course lesser pollutants in the air.

7.References

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Github
Stack overflow