
**Sri Lanka Institute of Advanced Technological Education Higher National Diploma in Information Technology**

Advanced Technological Institute Anuradhapura

**Higher National Diploma in Information Technology**

# Project Report

# "LS Transport"

(Desktop Application for Cab Service)

| Name Of the student | Register Number | Signature |
|---|---|---|
| H.A.L.E.S.Gunasekara | ANU/IT/2019/F/0055 | |

(HNDIT2404)
Project(individual)

Supervisor: Mr. Pavaridu sahansith

Academic Year: 2019/2021 Year 2-Semester 02(Fulltime)

## 1. Acknowledgment

First of all, thank you for providing the knowledge to make this Desktop application and About having the strength to do this. I would like to express my gratitude to my supervisor Mr. Pavaridu sahansith for the useful Commenting and encouraging through the learning process of this model. Because without him I would not be presenting these documents and the fully functional Desktop application today. He guides me always. So I like to thank him. As well as I would like to extend my sincere thanks to Mrs. A.K.N.L Atthanagoda, HOD (IT), SLIATE, Anuradhapura for giving me this opportunity to do my Advance Project. I would also like to thank the Director and staff of the Anuradhapura ATI Campus gave the permission to use all required things and the necessary material to complete this project as successful.

Furthermore, I would like to thank my friends for their support. And especially to my family members who helped me, encouraged me, helped me a lot and I am forever grateful for your love.

Thank You

## 2. Abstract

In today's world of rental car purchases have become very fashionable. There are also a lot of dedicated websites, phone apps and Windows applications. ls transport is a similarly designed Windows application. This provides the maximum service that customers expect. Also, this Windows application allows customers to make reservations based on car rental. And this application also provides user-friendly interfaces.

Here the user can easily reserve vehicles to the customers at their discretion. Before that, users must be registered in the system. The user then receives the username and password. It can be entered and connected to the system. This is very easy for the user to handle. It provides to management timely The Windows application answers many of the challenges management faces in transportation management.

**3. Table of Content**

## 1. Introduction

### 1.1. Introduction of the “LS transport Windows application”

This is a desktop application designed for a car rental company. Today, people use vehicles for their daily commute, but there is no formal procedure for doing so.

The information system designed to more closely manager’s needs and the system set up as major computer application area. The Management Information System as a computer-based system makes information available to users with similar needs. Manager used the output information. The earlier studies shown that Management information system could use to manage car rental, expected to accelerate as well as archiving services to customers better and safer, making it easier when required at any time. The windows-based application implementation of management information system provided and supported the customers for reservations, assist management in knowing rental car inventory at a specified time, to process transactions between branches car rental, transportation transaction processing, which supports satisfactory service to customers and support the company's operational processes. computer based car rental information system increases the customers, and help promotion. The aim of this research is solving the problems that occur in LS transport; propose development of computer base application car rental management information system.

## 1.2. Background and motivation

### 1.2.1. Background

Nowadays, every organization operates on the basis of desktop applications. Today, written usage is very low. This desktop application method is widely used in private companies. The use of desktop applications in government institutions is somewhat less. Due to this the efficiency of government institutions is also reduced to some extent.

Today, many car rental companies use the Internet as a basis for making their business easier, and create a desktop application to make their business easier. For example, SS cab service, Wasana cab service, YOGO, PickMe, Lesstaxi, ceylon taxi, these companies also use computer applications and web based web applications for the convenience and efficiency of their organizations. Proper computerization of the customer's needs will enable them to meet their needs.

I intend to create this desktop application based on these functions.

### 1.2.2. **Motivation**

To the current marketing background, I identify some difficulties from there. The main problem marketing is they did not have proper management method then I decide application and get an idea to implement this project.

After that I proposed solutions for current process and motivated to start this project properly.

## 1.3. Aim and objectives

### 1.3.1. **Aim**

Creates desktop applications to facilitate the activities of the company, provide an efficient service to the customers and increase the profitability of the company.

### 1.3.2. Objectives

This project is based on the desktop application the main objective of this project is computerize the manual system and reduce the consumption. In other words, we can say that out project has following objectives.

- To develop a desktop based application.
- To increase profit through this application.
- To Make all the system computerize.
- To collect customer needed.
- To Reduce time consumption.
- To minimize errors that occur in documents

### 1.4. Problem in brief

car rental operators and vendors face different challenges while managing reservation and resources.

complex reservation and pricing management is one problem, managing and keeping all the booking data is very tedious task. Most of the car rentals find it very difficult, especially when they change the pricing or offer any deals. manual booking management is very difficult and there are chances of error also. one of the most important aspects of any successful business is customer satisfaction. for a car rental industry. It's a challenge to provide the right information and complete transparency to their customers. good customer services are very important for retaining your customers and can be an amazing way to get referred.

The operation of the car rental management system is manually. Manual systems can waste both money and time. The systems suffer from higher rate of inaccuracy and they are much slower than computerized.

- Manual system was not efficient.
- Manual maintenance of documents is costly to store
- Large manpower was required.
- It is difficult to find available drivers and vehicles
- bookings are hard to find

## 1.5. Proposed solution

In many countries, old and established rental companies are facing challenges of new competitors. Lots of new and independent companies are entering into the market with new ideas and advance technologies. it affects the business of well-established old car rental companies. For dealing with situation, what you can do. is to keep yourself updated with new technologies and always try to bring some new offers to grab customer attention

The solution for all this problem was to automate the system, automation of the client data maintenance would reduce the manpower, man days will result in accurate data and above all increase the efficiency of the concerned car rental company.

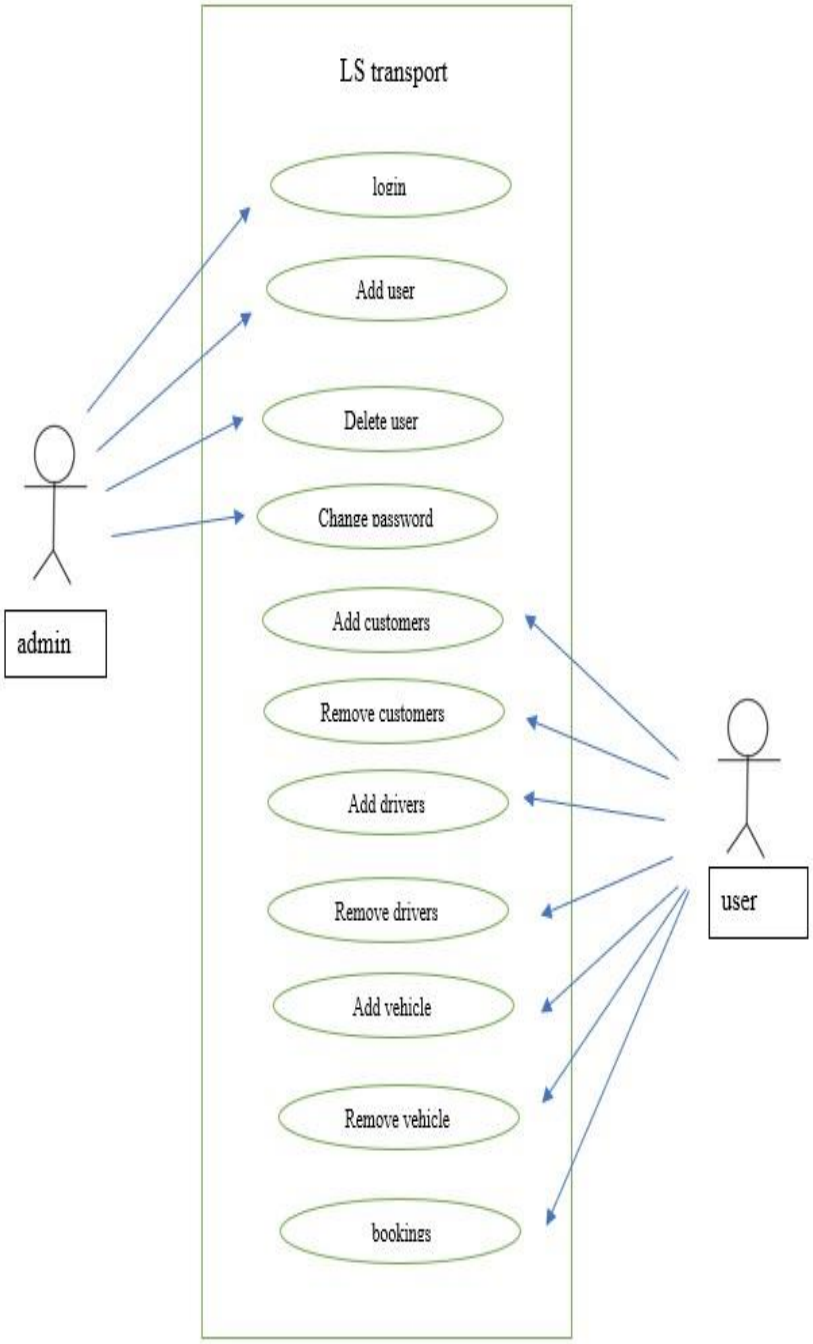
I will provide the following solutions through this desktop application

- The app includes information on the company's existing vehicles and drivers, and updates on changes to drivers and vehicles. This saves you time looking for information on drivers and vehicles
- No special knowledge is required to use this application.it is easy to use.
- All information about reservations, departing vehicles and customers is stored database. The admin can view that information
- When purchasing a vehicle, the model of the vehicle, the details of the driver who drove it, the details of the person who obtained the vehicle, the date of receipt of the vehicle and the date of return are included.

The system is designed to keep the car rental company running smoothly so that the client can perform the relevant tasks without any hassle and the workers can perform their duties properly without any hassles.

## 2. System analysis and design

2.1. Use case



2.1.1. Case description

Case 01


admin

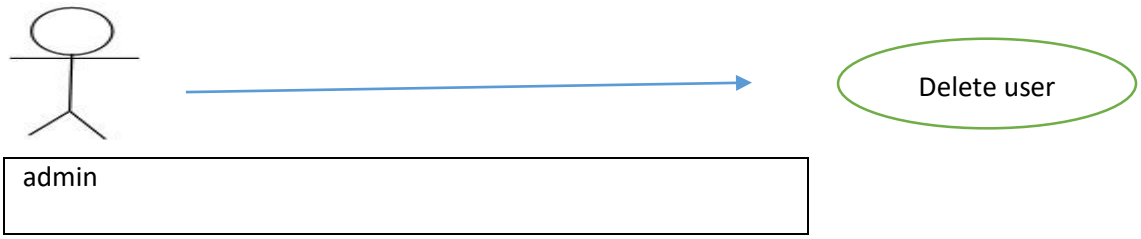
| **Case 1** | |
|---|---|
| Case name | login |
| actor | admin |
| overview | Admin need to login to the application |
| description | • Open application<br>• Go to login page<br>• Fill login information<br>• Click login button |
| Pre- conditions | • Admin should open the application<br>• Admin must enter the password first |
| Post-conditions | Display the message and redirect to the users add page. |
| Alternative flows | At the time of login, you enter the login button without a password error or password, display relevant error message. |

Case 02


admin

| **Case 2** | |
|---|---|
| Case name | Add user |
| actor | admin |
| overview | Admin can add users |
| description | • Go to users add page.<br>• insert users details<br>• Admin provides password and click save button |
| Pre-condition | Admin must log in to the application |
| Post-condition | View the added users. |

Case 03




| **Case 3** | |
|---|---|
| Case name | Delete user |
| actor | admin |
| overview | Admin can delete user |
| description | • Go to users add page.<br>• After admin can delete users |
| Pre-condition | • Admin must log in to the application<br>• And users must have pre-entered |
| Post-condition | Users remove the application |

Case 04


admin

| **Case 4** | |
|---|---|
| Case name | Change password |
| Actor | admin |
| Overview | Admin can change password |
| Description | • Go to users add page.<br>• After admin can change password<br>• Click save button after change password. |
| Pre-condition | Admin must log in to the application<br>It must have included users. |
| Post-condition | Changed the user's password. |

Case 05


user

| **Case 5** | |
|---|---|
| Case name | Add customer |
| Actor | user |
| Overview | User can add customers |
| Description | • User should login to the application using his own user name and password<br>• Go to customer add page<br>• User enter the customer information and click save button |
| Pre-condition | User must log in to the application |
| Post-condition | Add customers and show customers |

Case 06


| **Case 6** | |
|---|---|
| Case name | Remove customer |
| Actor | user |
| Overview | User can remover customer |
| Description | • Go to user add page<br>• Remove customer<br>• Click save button |
| Pre-condition | • User must log in to the application<br>• It must have included customers |
| Post-condition | Deleted customer |

Case 07


user

| **Case 7** | |
|---|---|
| Case name | Add driver |
| Actor | user |
| Overview | User can add driver |
| Description | • User should login to the application using his own user name and password<br>• Go to the driver add page<br>• User enter the drivers information and click save button |
| Pre-condition | User must log in to the application |
| Post-condition | Add driver and show driver |

Case 08


user

| **Case 8** | |
|---|---|
| Case name | Remove driver |
| Actor | user |
| Overview | User can remover driver |
| Description | • Go to driver add page<br>• Remove driver<br>• Click save button |
| Pre-condition | • User must log in to the application<br>• It must have included drivers |
| Post-condition | Deleted driver |

Case 09


| **Case 9** | |
|---|---|
| Case name | Add vehicle |
| Actor | user |
| Overview | User can add vehicle |
| Description | • User should login to the application using his own user name and password<br>• Go to the vehicle add page<br>• User enter the vehicle information and click save button |
| Pre-condition | User must log in to the application |
| Post-condition | Add vehicle and show vehicle |

Case 10

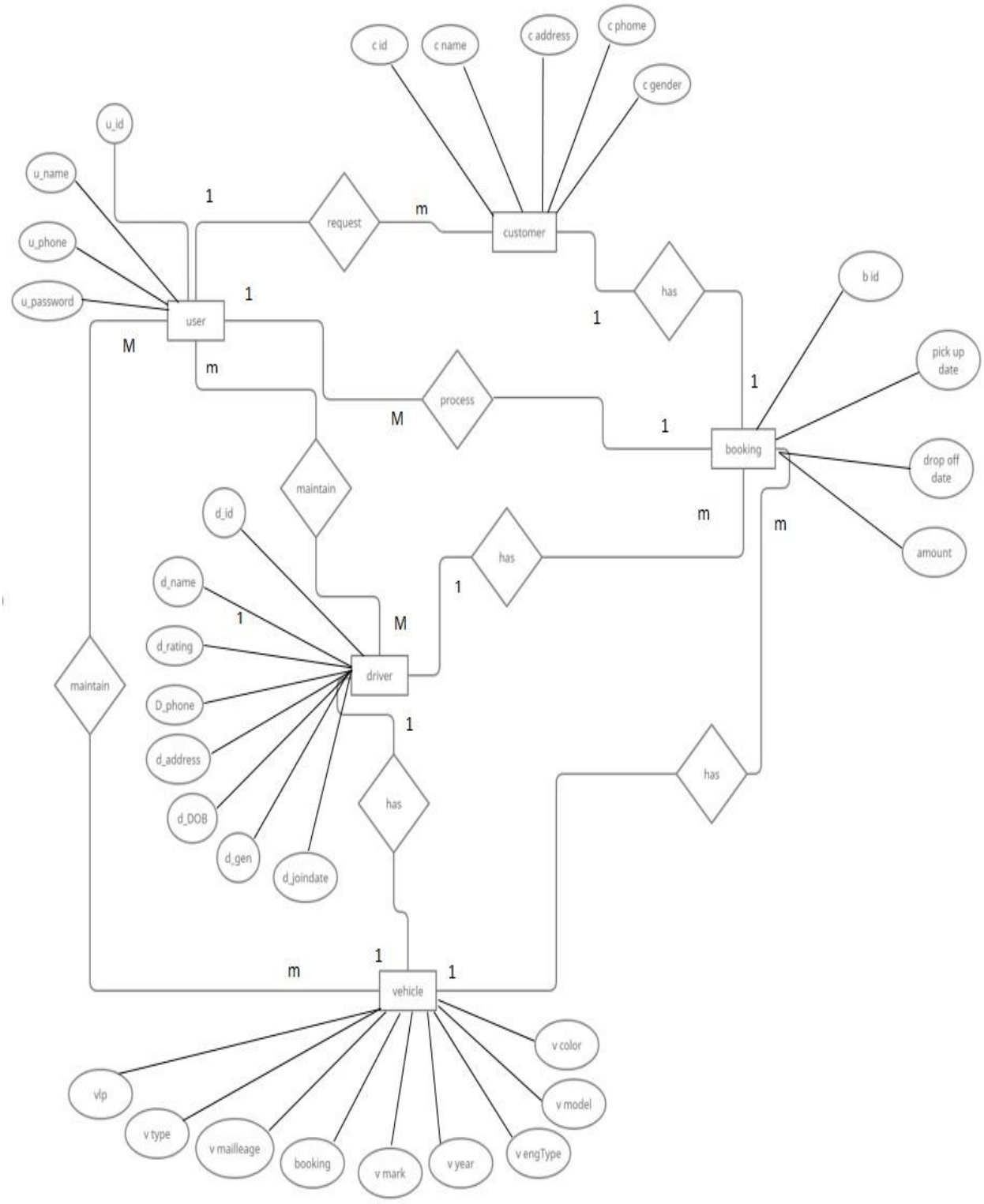

| **Case 10** | |
|---|---|
| Case name | Remove vehicle |
| Actor | user |
| Overview | User can remove vehicle |
| Description | • Go to vehicle add page<br>• Remove vehicle<br>• Click save button |
| Pre-condition | • User must log in to the application<br>• It must have included vehicle |
| Post-condition | Deleted vehicle |

Case 11

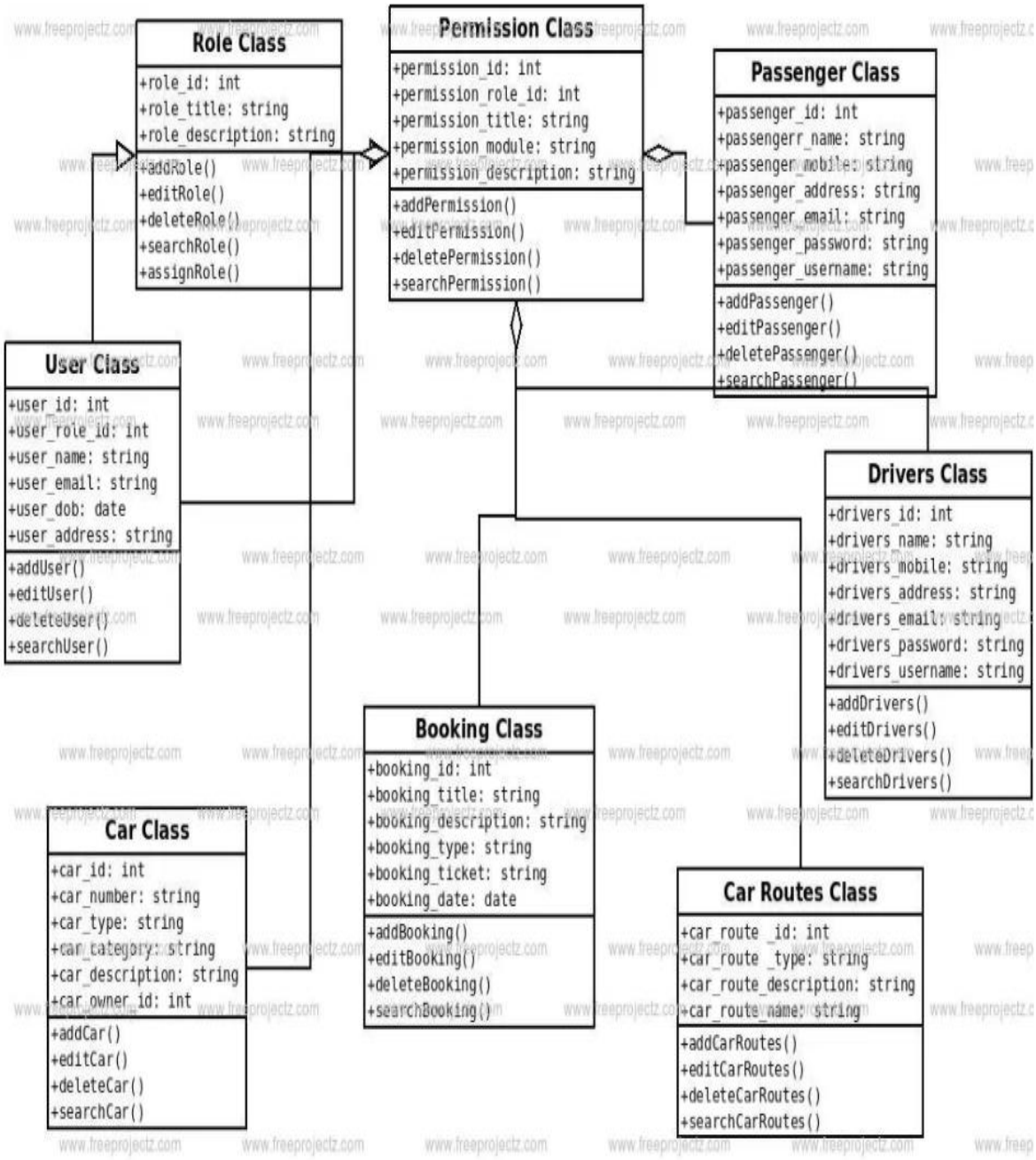

user

| **Case 11** | |
|---|---|
| Case name | booking |
| Actor | user |
| Overview | User can booking vehicle |
| Description | • User should login to the application using his own user name and password<br>• Go to the booking page<br>• Check availability of drivers and vehicles<br>• User enter booking information and click save button |
| Pre-condition | User must log in to the application It must have drivers and vehicles already available |
| Post-condition | Booking vehicle |

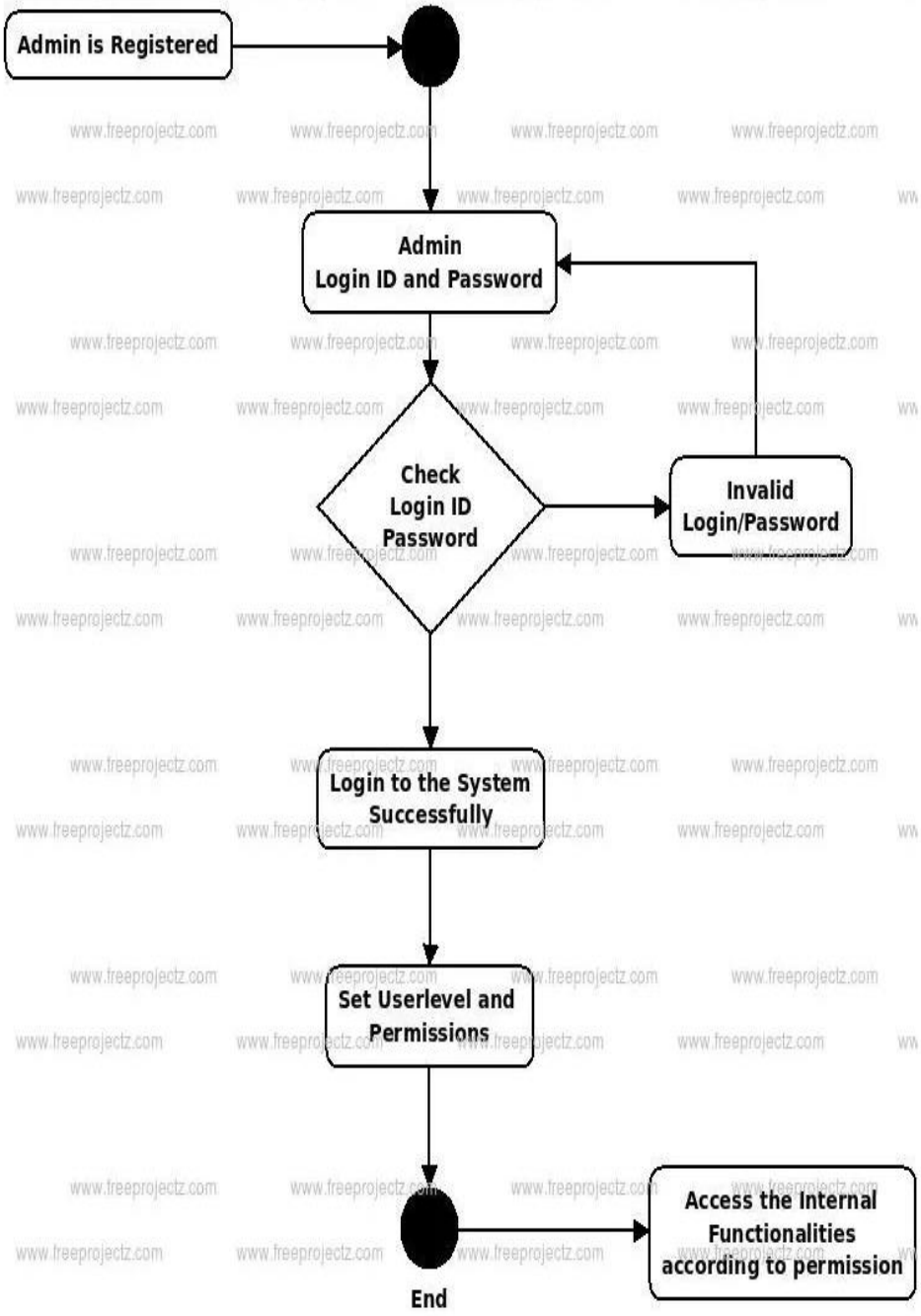
2.2 ER diagram



2.3. Class Diagram



2.4. Activity diagram



2.3. Normalization database design

2.3.1. **UN formation**

User

| U_id | U_name | U_phone | U_passwird |
|---|---|---|---|

vehicle

| Vlp | V mark | V model | V year | V eng type | V color | booking | V maillege | V type |
|---|---|---|---|---|---|---|---|---|

Driver

| D_id | D_name | D_phone | D_add | D_dob | D_JoinDate | D_gen | D_rating |
|---|---|---|---|---|---|---|---|

Customer

| C_id | C_name | C_add | C_phone | C_gen |
|---|---|---|---|---|

booking

| B_id | Pickupdate | Dropoffdate | Amount |
|---|---|---|---|

### 2.3.2. **1st normalization**

User

| U_id | U_name | U_passwird |
|---|---|---|

User phone

| U_id | U_phone |
|---|---|

Vehicle

| Vlp | V mark | V model | V year | V eng type | V maillege | V type | booking | U_id |
|---|---|---|---|---|---|---|---|---|

Vehicle color

| Vlp | Vcolor |
|---|---|

Driver

| D_id | D_name | D_add | D_dob | D_JoinDate | D_gen | D_rating | U_id |
|---|---|---|---|---|---|---|---|

Driver phone

| D_id | D_phone |
|---|---|

Customer

| C_id | C_name | C_add | C_gen | U_id |
|---|---|---|---|---|

Customer phone

| C_id | C_phone |
|---|---|

**Booking**

| B_id | Pickupdate | Dropoffdate | Amount | V_lp | D_id | C_id | U_id |
|---|---|---|---|---|---|---|---|

### 2.3.3. **2nd normalization**

User

| U_id | U_name | U_passwird |
|---|---|---|

User phone

| U_id | U_phone |
|---|---|

Vehicle

| Vlp | V mark | V model | V year | V eng type | V maillege | V type | booking | U_id |
|---|---|---|---|---|---|---|---|---|

Vehicle color

| Vlp | Vcolor |
|---|---|

Driver

| D_id | D_name | D_add | D_dob | D_JoinDate | D_gen | D_rating | U_id |
|---|---|---|---|---|---|---|---|

Driver phone

| D_id | D_phone |
|---|---|

Customer

| C_id | C_name | C_add | C_gen | U_id |
|---|---|---|---|---|

Customer phone

| C_id | C_phone |
|---|---|

Booking

| B_id | Pickupdate | Dropoffdate | Amount | U_id |
|---|---|---|---|---|

Booking vehicle

| B_id | Pickupdate | Dropoffdate | Amount | V_lp |
|---|---|---|---|---|

Booking driver

| B_id | Pickupdate | Dropoffdate | Amount | D_id |
|---|---|---|---|---|

Booking customer

| B_id | Pickupdate | Dropoffdate | Amount | C_id |
|---|---|---|---|---|

### 2.3.4. **3rd normalization**

User

| U_id | U_name | U_passwird |
|---|---|---|

User phone

| U_id | U_phone |
|---|---|

Vehicle

| Vlp | V mark | V model | V year | V eng type | V maillege | V type | booking | U_id |
|---|---|---|---|---|---|---|---|---|

Vehicle color

| Vlp | Vcolor |
|---|---|

Driver

| D_id | D_name | D_add | D_dob | D_JoinDate | D_gen | D_rating | U_id |
|---|---|---|---|---|---|---|---|

Driver phone

| D_id | D_phone |
|---|---|

Customer

| C_id | C_name | C_add | C_gen | U_id |
|---|---|---|---|---|

Customer phone

| C_id | C_phone |
|---|---|

Booking

| B_id | Pickupdate | Dropoffdate | Amount | U_id |
|---|---|---|---|---|

Booking vehicle

| B_id | Pickupdate | Dropoffdate | Amount | V_lp |
|---|---|---|---|---|

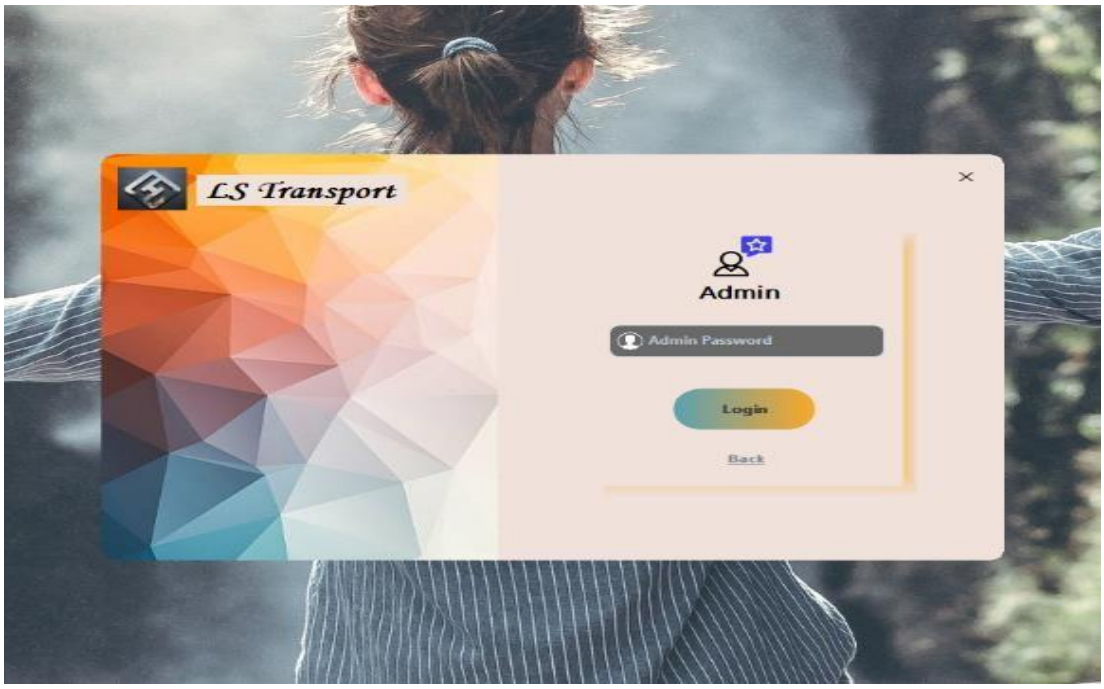
Booking driver

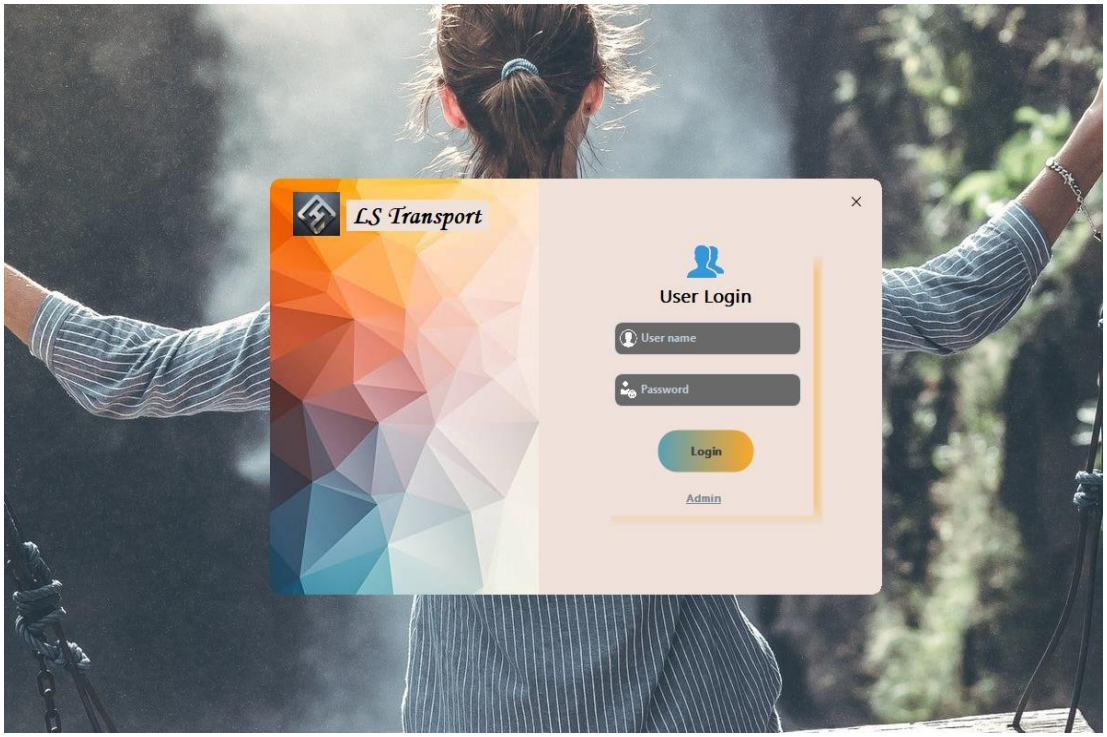
| B_id | Pickupdate | Dropoffdate | Amount | D_id |
|---|---|---|---|---|

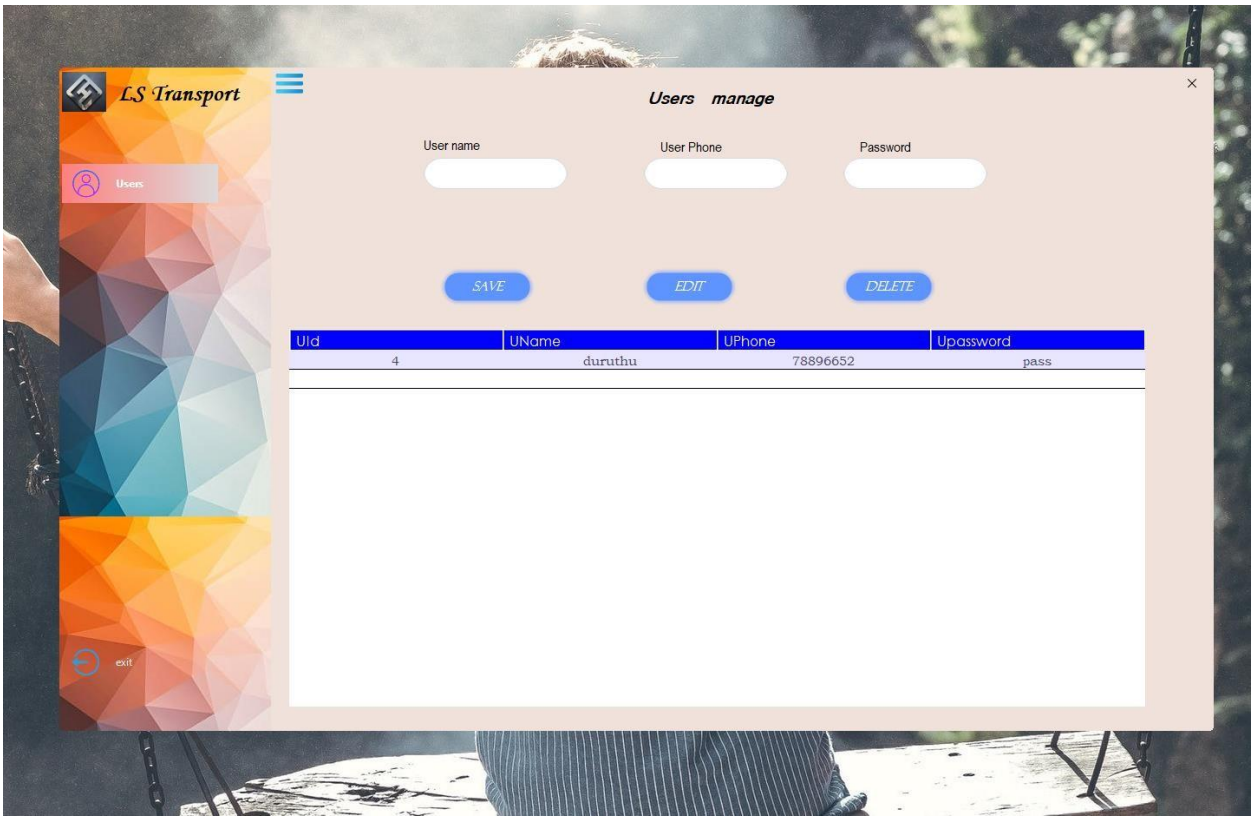
Booking customer

| B_id | Pickupdate | Dropoffdate | Amount | C_id |
|---|---|---|---|---|

## 3. Interface


LS Transport
Admin
Admin Password
Login
Back


LS Transport
User Login
User name
Password
Login
Admin


LS Transport
Users
exit
Users manage
User name
User Phone
Password
SAVE
EDIT
DELETE
UId
UName
UPhone
Upassword
4
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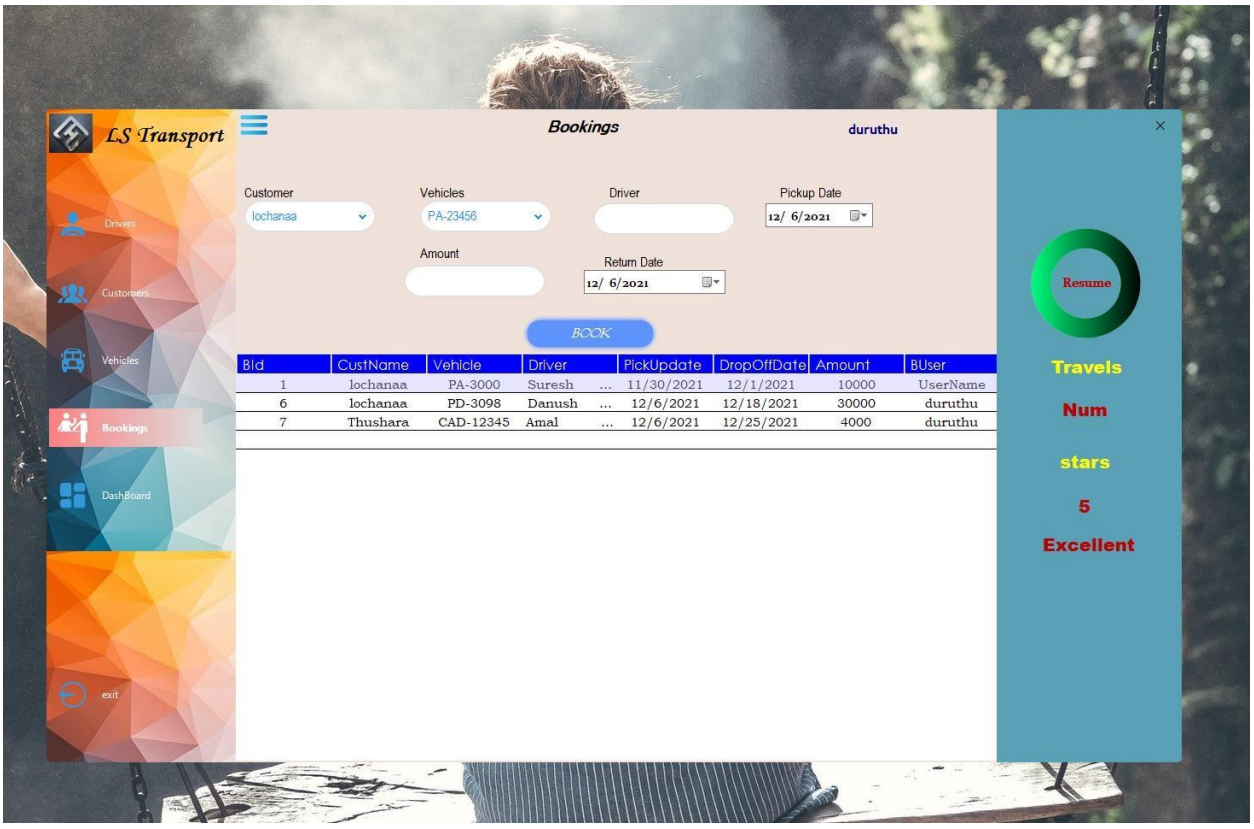
78896652
pass


LS Transport
Drivers
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Vehicles
Bookings
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Return Date
12/ 6/2021
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Driver
PickUpdate
DropOffDate
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1 lochanaa PA-3000 Suresh ... 11/30/2021 12/1/2021 10000 UserName
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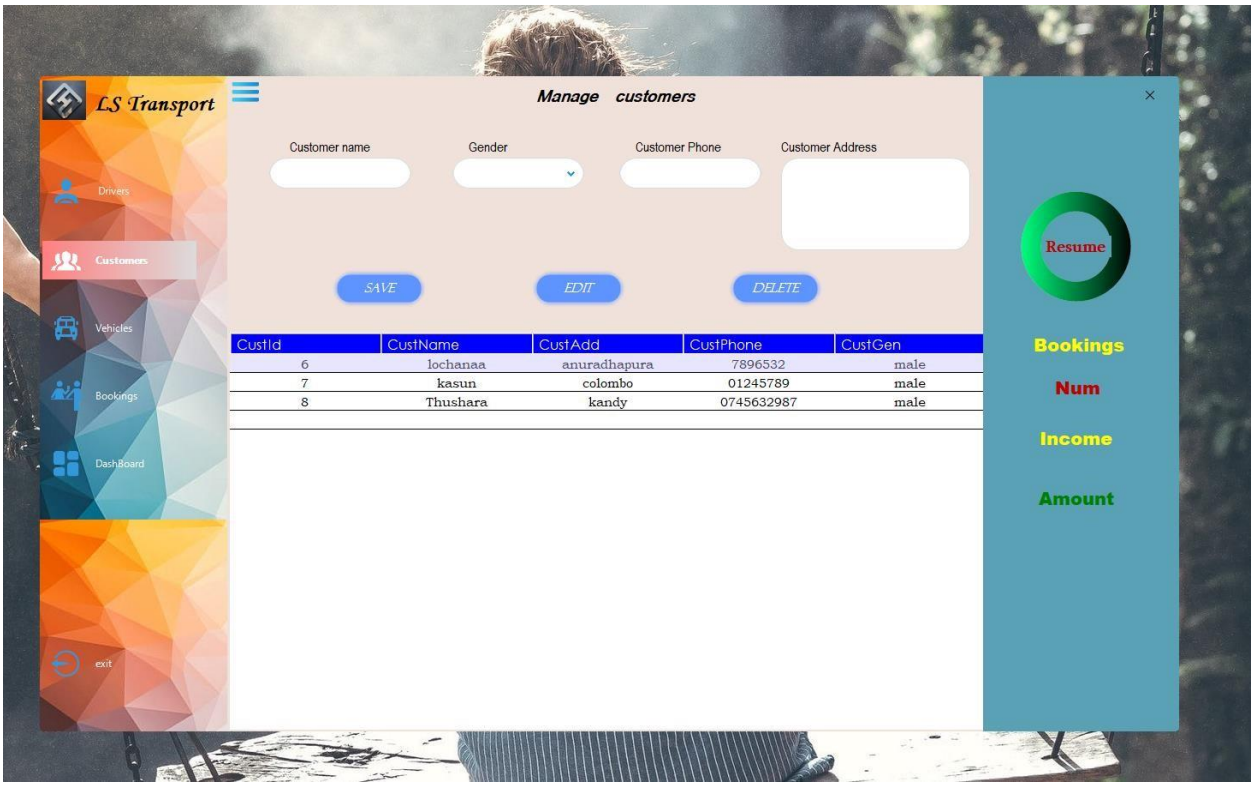
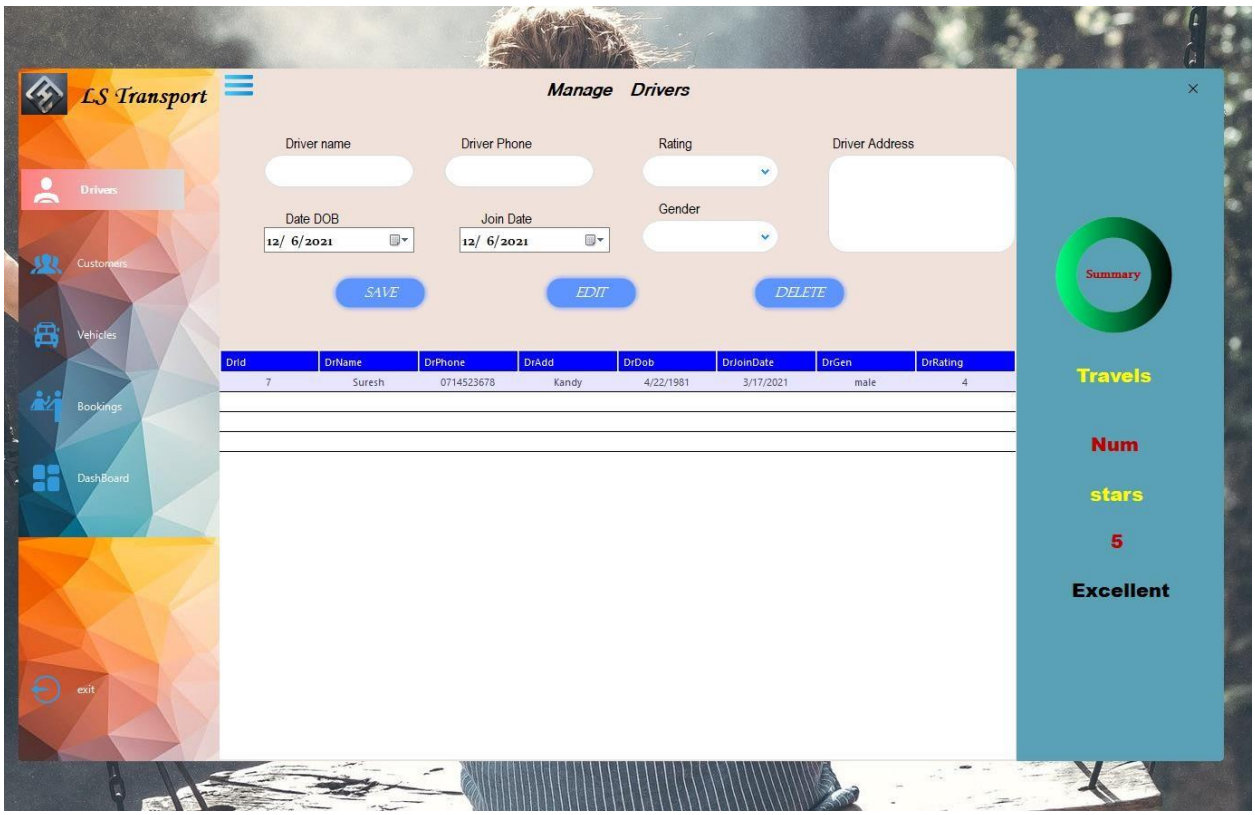

LS Transport
Drivers
Customers
Vehicles
Bookings
DashBoard
exit
Manage customers
Customer name
Gender
Customer Phone
Customer Address
SAVE
EDIT
DELETE
CustId CustName CustAdd CustPhone CustGen
6 lochanaa anuradhapura 7896532 male
7 kasun colombo 01245789 male
8 Thushara kandy 0745632987 male
Resume
Bookings
Num
Income
Amount


LS Transport
Drivers
Customers
Vehicles
Bookings
DashBoard
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Manage Drivers
Driver name
Driver Phone
Rating
Driver Address
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12/ 6/2021
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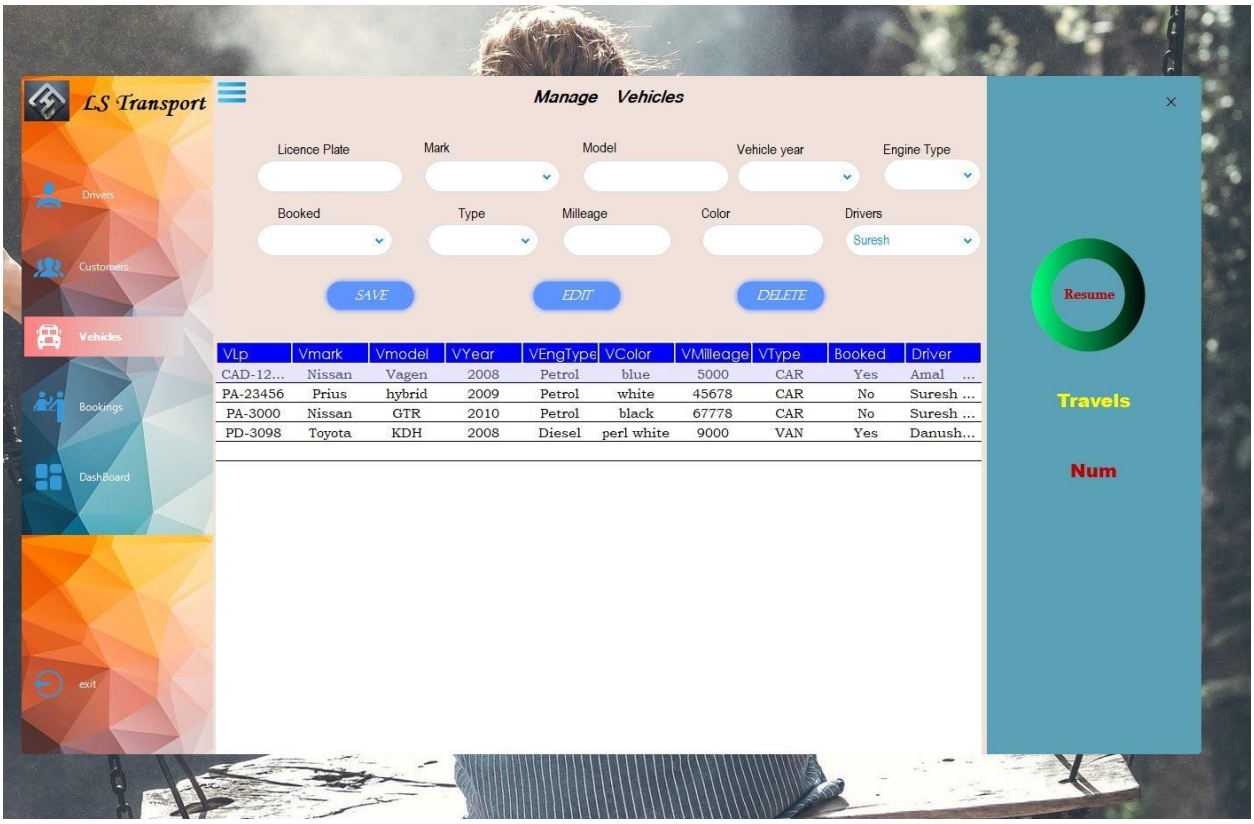
LS Transport
Manage Vehicles
Licence Plate
Mark
Model
Vehicle year
Engine Type
Booked
Type
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Drivers
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VLp Vmark Vmodel VYear VEngType VColor VMilleage VType Booked Driver
CAD-12... Nissan Vagen 2008 Petrol blue 5000 CAR Yes Amal ...
PA-23456 Prius hybrid 2009 Petrol white 45678 CAR No Suresh ...
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PD-3098 Toyota KDH 2008 Diesel perl white 9000 VAN Yes Danush...
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Travels
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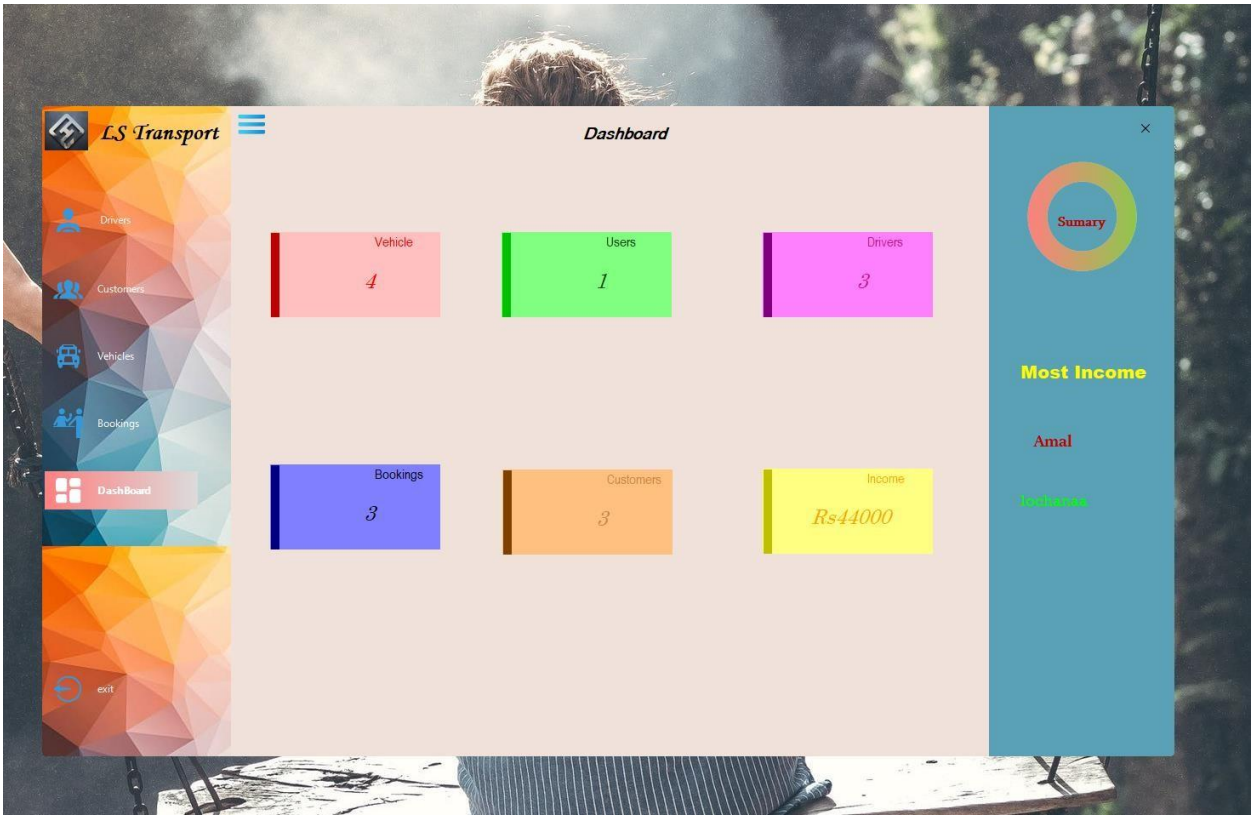
LS Transport
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Drivers
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Drivers
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Bookings
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## 4. Implementation

### 4.1. Functional requirements

Actor description

## Admin

Admin is the most important component of the system. Here the user is the one who adds to the system.

## User

The user has a large role to play in the system, for example, entering vehicles, entering drivers, and making vehicles bookings. Simply put, the user performs all the functions of the system after adding the admin user.

### 4.2. Nonfunctional requirements

**Non-Functional Requirement** (NFR) specifies the quality attribute of a software system. They judge the software system based on Responsiveness, Usability, Security, Portability and other non-functional standards that are critical to the success of the software system.

- **Performance**

System performance defines how fast a system can respond to a particular user's action under a certain workload.

The application load time should not be more than one second for users.

- **Reliability**

Reliability is the probability and percentage of the software performing without failure for a specific number of uses or amount of time.

Applicants can access their resume 98% of the time without failure.

- **Availability**

This feature defines the amount of time the system is running, the time it takes to repair a fault, and the time between lapses.

- **Maintainability**

This feature indicates the average time and ease and rapidity with which a system can be restored after a failure.

- **Security**

Security measures ensure your software's safety against espionage or sabotage.

Only the users with the role "admin" can view the applicant's verified phone number

**4.3** Resources requirements

*4.3.1. Hardware requirements*

- A minimum of 2GB of RAM
- Above dual core processor.
- A minimum of 120GB of available space on the hard disk.
- Internet connection broadband (high-speed) interne connection with a speed of 4Mbps or higher.
- Keyboard and mouse.
- Monitor resolution 1024×768 or higher.

*4.3.2. Software requirements*

- Windows 7 or above OS
- MySQL
- Visual studio

*4.3.3. Programming language requirements*

- MySQL
- JAVA SCRIPT
- .NET
- Visual c#

## 5. References

Report writing –

https://www.academia.edu/35185477/Mini_Project_Report_On_ONLINE_SHOPPING_SYSTEM?email_work_card=view-paper

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http://www.ir.juit.ac.in:8080/jspui/bitstream/123456789/16834/1/121318.pdf