Database Management System
Mini Project
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Project Title

VECHICLE PARKING MANAGEMENT SYSTEM

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Abstract

Now days in many public places such as malls, multiplex system, hospitals, offices, market areas there is a crucial problem of keeping a track users who park their vehicles in the parking space. The public vehicle parking area has several vehicles with various categories. So keeping a record of all the vehicles entering and exiting daily involves a lot of manual labour and investment. And there is a greater chance of this manual records being misplaced.

Therefore, the Vehicle Parking Management System project aims at solving these problems by designing a web based application system that focuses mainly on keeping track of vehicle's parking. It's an easy procedure for the Admin to retrieve the data of the vehicle that has been visited throughout the day. The system displays all the vehicle's entry and outgoing records. In addition, the system allows adding vehicle categories too. This project only contains an admin panel. In an overview of this web application, an admin has all control over the system. He/she helps to maintain the flow of the system. An admin can simply add vehicle categories by providing category names. After the management of vehicle categories, the admin can simply insert the vehicle's entry. For this, he/she has to enter the vehicle's number, model name, category, and owner's information. The system will also help to calculate total fine charge for a particular vehicle. The aim is to automate its existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same.

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INTRODUCTION

The "Vehicle Parking Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. This system, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources.

Overview of the system:

1. Managing Vehicle's Parking and Parking Receipts

After setting up the vehicle's parking, now the user can manage outgoing vehicles. The system lists out all the entry and outgoing vehicle records. Here, the user can simply take an action for checking out the parking. In order to exit a vehicle's parking, the user has to enter the total parking charge with remarks. Once a vehicle exits the parking, those records can be found under the outgoing vehicle records. Here, the system generates invoice receipts for each and every vehicle. The user can view details of each available vehicle. Also, the user can view and print out the parking receipt of each. Each record consists of parking number, total charge, vehicle registration number, owner details, and more.

2. Reports, Earning Collections and More

On the other hand, an admin can list out the reports between dates. These reports help out to state vehicle's parking records between the selected dates. The steps are simple, the user only needs to select from and to date. And after that, the system displays it all between those mentioned dates where the user can also view their details. Additionally, the admin can view total earnings to date. And also, the system displays the current date and yesterdays' total earning. He/she can search out the vehicle's record using the vehicle's

registration number from the sidebar. Besides, an admin can have an overview records of the total vehicle's entry with a number of in and out vehicles and total parking within a 24 hours span time. The system represents overall records using graphical charts like piechart to present a summary of records.

3. Update Account Information, Password

And finally, this whole section will be about additional features in this system. This system allows updating the user's profile where he/she can update his/her name and contact details. Also, an admin can change the password by entering the current password with a new and confirmation password. The last feature is about company information. The system allows the user to update company settings. It includes of company's name, the company's email address, website URL, and company's address.

Available Features:

- Manage Vehicle's Category
- Vehicle's Entry
- Manage Outgoing Vehicles
- Set Parking Charge
- Parking Receipts
- View Reports
- Total Earnings
- Search Parking Details
- Graphical Representations
- Update Profile, Company Details
- Change Password

SCOPE

In the modern age. Many people have vehicles. Vehicle is now a basic need. Every place is under the process of urbanization. There are many corporate offices and shopping centers etc. There are many recreational places where people used to go for refreshment. So, all these places need a parking space where people can park their vehicles safely and easily. Every parking area needs a system that records the detail of vehicles to give the facility. These systems might be computerized or non-computerized. With the help of computerized system we can deliver a good service to customer who wants to park their vehicle into the any organization's premises.

Vehicle parking management system is an automatic system which delivers data processing in very high speed in systematic manner. Parking is a growing need of the time. Development of this system is very useful in this area of field. We can sell this system to any organization. By using our system they can maintain records very easily. Our system covers the every area of parking management. In coming future there will be excessive need of Vehicle parking management system.

Problem Statement:

- Now a days in parking like valet parking they maintain just with the tokens and they have records the vehicle details in books so that during some critical situations like police enquiry of vehicle robbery that case it is difficult to find the details of particular vehicle but in this case is easy to find in 1 to 2 seconds.
- By parking the vehicle in public place the vehicle can be claimed by towing person but in this case there is no towing problems and no need to give fine for anything we can park our vehicle with securely.

Objectives:

The main objective of the Project on Online Car Parking System is to manage the details of Car, Parking, Parking Space, Parking Slots, Parking Fees. It manages all the information about Car, Car Number, Parking Fees, Car. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Car, Parking, Car Number, Parking Space. It tracks all the details about the Parking Space, Parking Slots, Parking Fees.

Goals:

- To satisfy the user requirements
- Be easy to understand by the user and operator
- Be easy to operate
- It must have a good user interface
- Must be expandable
- To deliver the system on schedule.

REQUIREMENTS

User Requirements:

The user requirement can be defined as the business needs for what users require from the system (VEHICAL PAKRING SYSTEM). The user requirements are listed as below:

1. The system should be accessible every working day
2. The staff can access to the system as long as they have their username and password.
3. The system should be easily navigated.
4. The system should allow the admin to print the reports of the customer details and fines.
5. The system should allow customers to view the fines and get updation.
6. Admin should be able to update the information of the customer through the system.

Functional Requirements:

ID	Requirement
FR01	Only authenticated admin must be able to access the system.
FR02	Admin must be able to Register new customers for the service and enter their personal and vehicle details.
FR03	The system must help to View/Read and find the exist customers.
FR04	Admin must be able to Define new parking areas, specify a range of parking lots, the parking cost per minute/hour, and other details.
FR05	Parking operator must be able to Issue bills to users on checkout.
FR06	Backend management system must be able to enable modification of parking lot status by operators.
FR07	Administrator must be able to reply to enquiries and generating the essentially reports or outputs.

Table No. 1

Non-functional requirements:

Non-functional requirements is a description of a variety of quality factors or attributes, which affect the functionality's effectiveness.

It describes how the behavior of the system and a standard or relevant functionality should be provided. Also, Non-functional requirements describe not related implementation with the system, but its evolution with time.

Performance: The proposed system must be highly efficient, effective and multi-functional in case of the performance. In terms of time efficiency, the system should complete the user process request within the five seconds.

Scalability: Scalability is also considered to be an important non-functional requirement, which helps a system to develop individual ability by coping up with the needs and requirements of business operation process. A proper and effective scalability management process should assist to provide effective customer services.

Availability: In terms of availability, the system must work for almost 24*7. The operator should be able to access the required system during any time in a day.

Usability: In terms of usability, the particular system must be of higher quality. The admin should be able to perform tasks through the user friendly manual guide. However, this particular system should be of superior quality and user friendly.

Data Integrity: In terms of data integrity, this particular system must maintain the consistence and accuracy of the collected and stored data. Different authentic validation and checking methods should ensure the degree of integrity and validity of the data and information.

System requirements:

A. Software Requirements:

Name of Component	Specification
Operating System	Windows 7, Windows 10
Scripting Language	PHP
Database Language	SQL
Web Browser	Google Chrome, Microsoft Edge, Mozilla Firefox
Web Server	XAMPP Control
Software Development Kit	Notepad ++

Table No. 2

B. Hardware Requirements:

Name of Component	Specification
CPU Processor	Intel Core 2 Duo, Intel i3 7th Gen
RAM	2 GB +
Hard Disk Space	50 GB
Monitor	14'', 15'' color display monitor

Table No. 3

ENTITY RELATIONSHIP DIAGRAM

An E-R diagram is called Entity-Relationship Diagram which efficiently shows the relationships between various entities stored in a database. E-R diagrams provide the purpose of real-world modeling of objects which makes them intently useful. It gives a standard solution of visualizing the data logically.

The database analyst gains a better understanding of the data to be contained in the database through the step of constructing the ERD. Finally, the ERD is used to connect the logical structure of the database to users. In particular, the ERD effectively communicates the logic of the database to users.

Components Used to Draw ER Diagram:

1. Entity

An entity may be an object, place, person, or an event which stores data in the database. In an entity-relationship diagram, an entity is represented by a rectangle.

2. Attributes

An attribute in an Entity-Relationship Model describes the properties or characteristics of an entity. It is represented by an oval or ellipse shape in the ER diagram. Every oval shape represents one attribute and is directly connected to its entity which is in the rectangle in shape.

2.1 Key attribute

An attribute which can uniquely identify an entity in an entity set is called a key attribute. It represents a primary key in the ER diagram. In an Entity-Relationship diagram, the key attribute is denoted by an oval with an underlying line.

3. Relationships

A relationship in Entity-Relationship Model is used to describe the relation between two or more entities. It is represented by a diamond shape in the ER diagram.

E-R diagram for Vehicle Parking Management System:

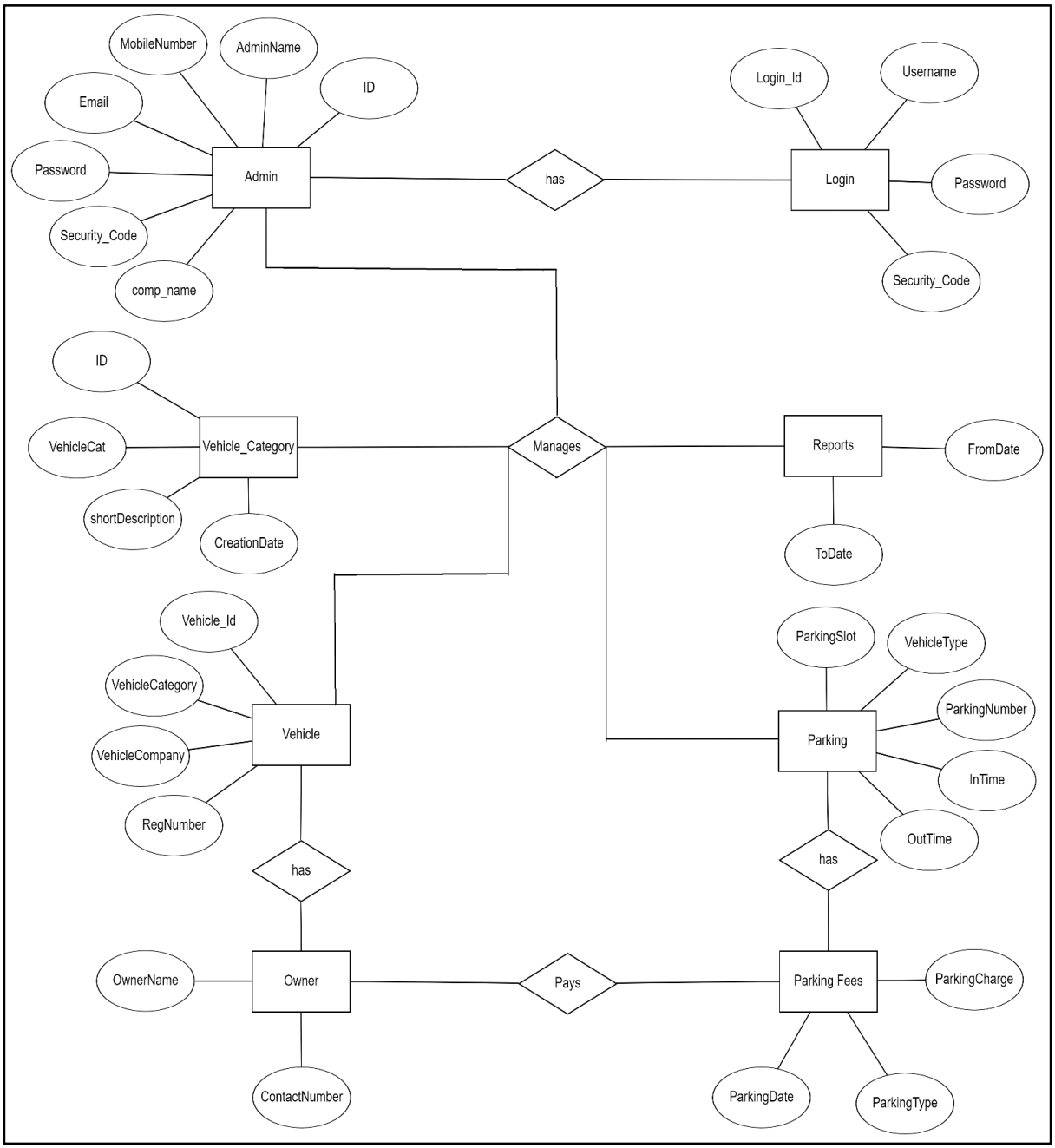


Figure No. 1 ER Diagram

DATA DICTIONARY

A data dictionary contains metadata i.e data about the database. The data dictionary is very important as it contains information such as what is in the database, who is allowed to access it, where is the database physically stored etc. The users of the database normally don't interact with the data dictionary, it is only handled by the database administrators.

The data dictionary is a crucial component of any relational database. It provides additional information about relationships between different database tables, helps to organize data in a neat and easily searchable way, and prevents data redundancy issues.

The following figure lists all the tables in the database:

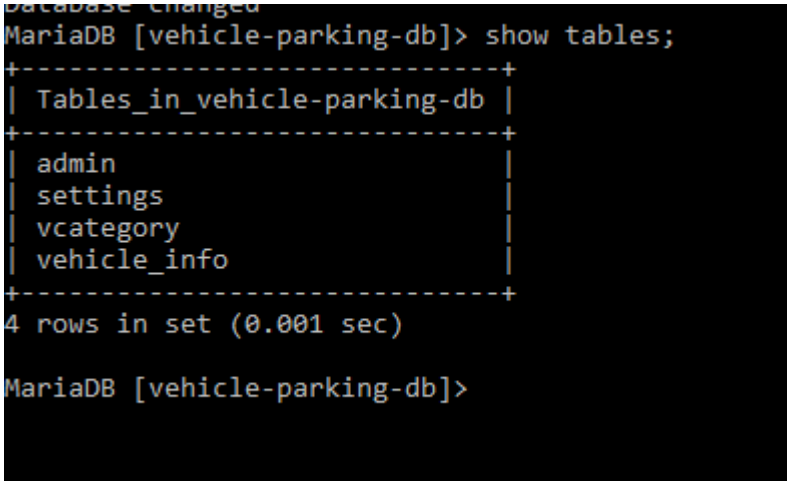


Figure No. 2 All tables in the DB

The following figure describes the schema of the **'admin'** table:

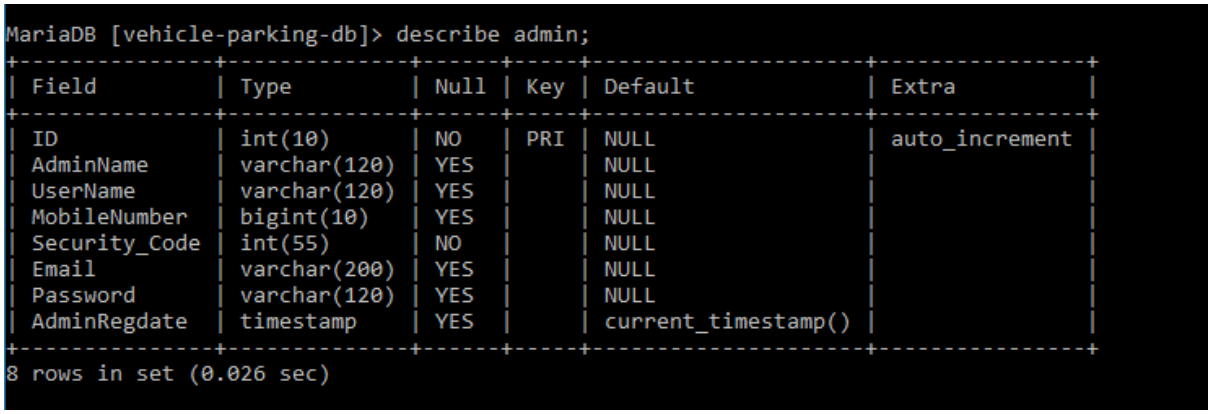


Figure No. 3 Admin Table

The following figure describes the schema of the **'settings'** table:

```
MariaDB [vehicle-parking-db]> describe settings;
+-------------+--------------+------+-----+---------------------+----------------+
| Field       | Type         | Null | Key | Default             | Extra          |
+-------------+--------------+------+-----+---------------------+----------------+
| id          | int(11)      | NO   | PRI | NULL                | auto_increment |
| c_name      | varchar(255) | NO   |     | NULL                |                |
| c_email     | varchar(55)  | NO   |     | NULL                |                |
| c_website   | varchar(55)  | NO   |     | NULL                |                |
| c_address   | varchar(255) | NO   |     | NULL                |                |
| last_update | datetime     | NO   |     | current_timestamp() |                |
+-------------+--------------+------+-----+---------------------+----------------+
6 rows in set (0.004 sec)
```

Figure No.4 Settings Table

The following figure describes the schema of the **'vcategory'** table:

```
MariaDB [vehicle-parking-db]> describe vcategory;
+------------------+--------------+------+-----+---------------------+----------------+
| Field            | Type         | Null | Key | Default             | Extra          |
+------------------+--------------+------+-----+---------------------+----------------+
| ID               | int(10)      | NO   | PRI | NULL                | auto_increment |
| VehicleCat       | varchar(120) | YES  |     | NULL                |                |
| shortDescription | varchar(50)  | NO   |     | NULL                |                |
| CreationDate     | timestamp    | YES  |     | current_timestamp() |                |
+------------------+--------------+------+-----+---------------------+----------------+
4 rows in set (0.004 sec)
```

Figure No. 5 Vcategory Table

The following figure describes the schema of the **'vehicle_info'** table:

```
MariaDB [vehicle-parking-db]> describe vehicle_info;
+--------------------+--------------+------+-----+---------------------+-------------------------------+
| Field              | Type         | Null | Key | Default             | Extra                         |
+--------------------+--------------+------+-----+---------------------+-------------------------------+
| ID                 | int(10)      | NO   | PRI | NULL                | auto_increment                |
| ParkingNumber      | varchar(120) | YES  |     | NULL                |                               |
| VehicleCategory    | varchar(120) | NO   |     | NULL                |                               |
| VehicleCompanyname | varchar(120) | YES  |     | NULL                |                               |
| RegistrationNumber | varchar(120) | YES  |     | NULL                |                               |
| OwnerName          | varchar(120) | YES  |     | NULL                |                               |
| OwnerContactNumber | bigint(10)   | YES  |     | NULL                |                               |
| InTime             | timestamp    | YES  |     | current_timestamp() |                               |
| OutTime            | timestamp    | YES  |     | NULL                | on update current_timestamp() |
| ParkingCharge      | varchar(120) | NO   |     | NULL                |                               |
| Remark             | mediumtext   | NO   |     | NULL                |                               |
| Status             | varchar(5)   | NO   |     | NULL                |                               |
+--------------------+--------------+------+-----+---------------------+-------------------------------+
12 rows in set (0.004 sec)
```

Figure No. 6 Vehicle_info Table

RELATIONAL DATABSE DESIGN

The relational data model describes the world as “a collection of inter-related relations (or tables)”. A relational data model involves the use of data tables that collect groups of elements into relations. These models work based on the idea that each table setup will include a primary key or identifier. Other tables use that identifier to provide "relational" data links and results.

Relational database design (RDD) models information and data into a set of tables with rows and columns. Each row of a relation/table represents a record, and each column represents an attribute of data.

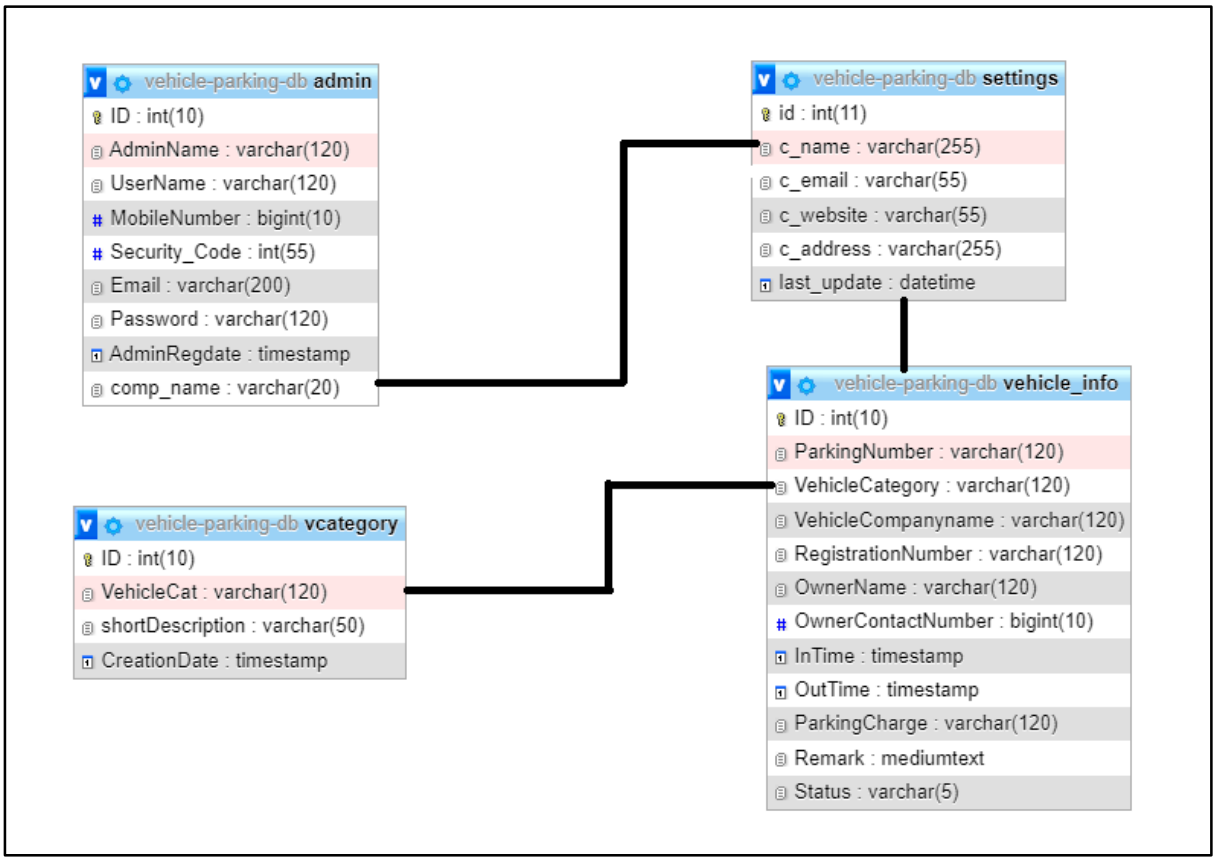


Figure No. 7 Relational Model of DB

USE CASE DIAGRAM

A use case diagram is a graphical depiction of a user's possible interactions with a system. A use case diagram shows various use cases and different types of users the system has and will often be accompanied by other types of diagrams as well.

Symbols used in Use Case diagram:

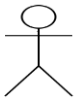
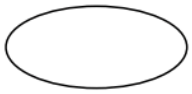
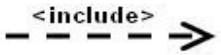
Sr. No.	Symbol	Name	Description
1		Actor	Actors are the actual users of a system.
2		Use Case	A use case is a written description of how users will perform tasks on your website.
3		Association	Communication link between actors and use cases.
4		Include	Additional use case relations to a use case required to carry out its functions.

Table No. 4

Our systems Use case diagram modelling shows that the system has 1 admin actor who have different tasks and functions. The following is the description of admin actor of the use case diagram:

Admin:

The system administrator must log in first to be able to manage parking data on the web. Admin will be responsible for all carrying out all the tasks in the system like handling administration, updating vehicle categories, adding new incoming vehicles, managing the visitors parking spots. Admin will provide fees that must be paid by visitors before going out. If the payment has been made the admin will provide an electronic fee paid receipt to the visitors. Admin can also be able to generate reports of given dates.

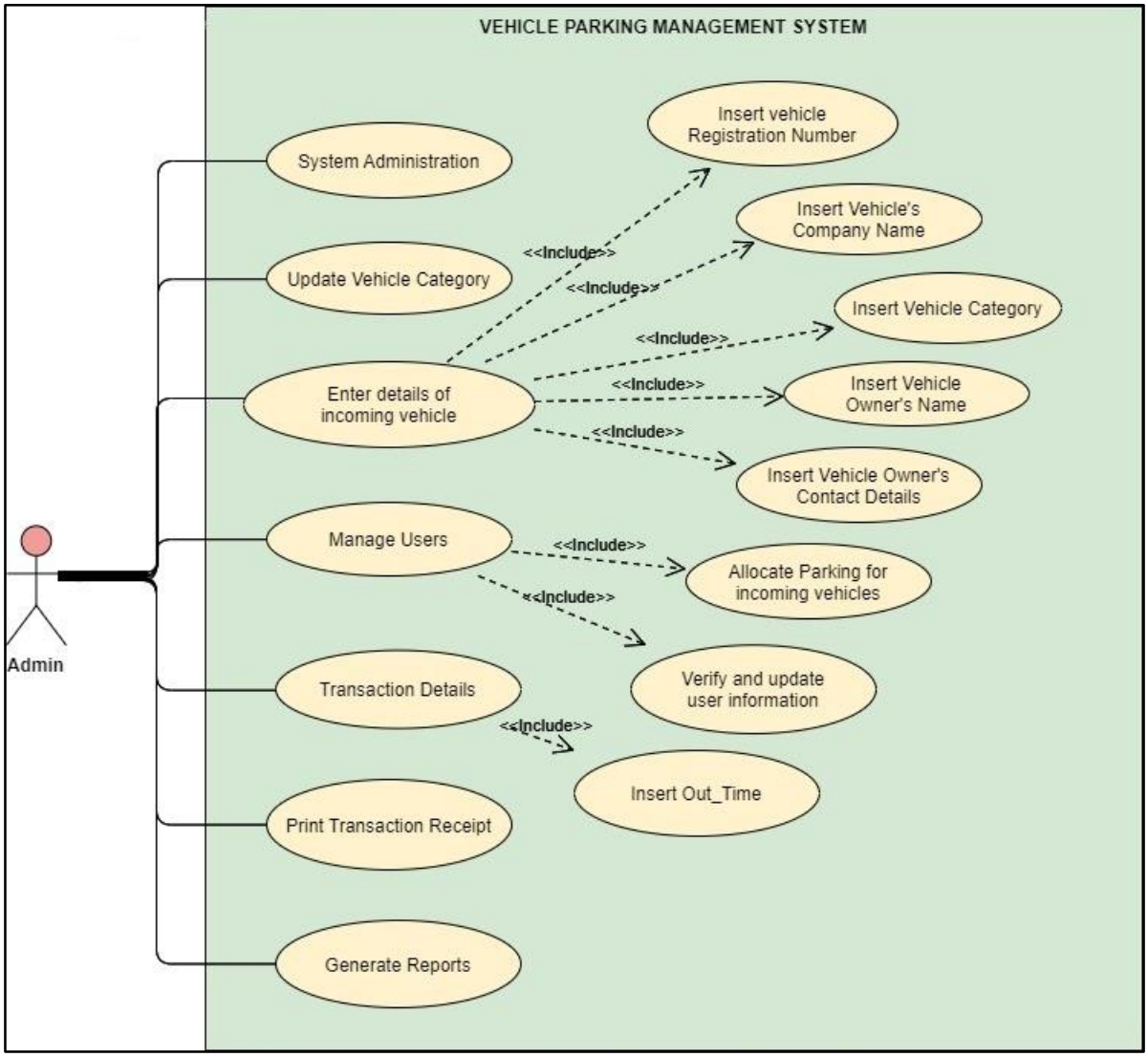


Figure No. 8 Use Case Diagram of DB

DATABASE NORMALIZATION

Database Normalization is organizing non structured data in to structured data.Database normalization is nothing but organizing the tables and columns of the tables in such way that it should reduce the data redundancy and complexity of data and improves the integrity of data.

Database Normalization is used for following Purpose.

1. To Eliminate the redundant or useless data
2. To Reduce the complexity of the data
3. To Ensure the relationship between tables as well as data in the tables
4. To Ensure data dependencies and data is logically stored.

The data in table **vehicle_info**:

ID	ParkingNumber	VehicleCategory	VehicleCompanyName	Registration Number	Owner Name	OwnerContactNumber
1	96069	Four Wheeler	Mahindra	GGZ-1155	Deepak Mane	8956232528 ; 9890456321
2	52796	Two Wheeler	KTM	GTM-1069	Sanket Benkar	90890898901
3	65023	Three Wheeler	Auto	AT-123	Kiran Mane	8451236971 ; 8152743016
4	90880	Two Wheeler	Suzuki	PLO-8507	Aniket Shinde	9327536236 ; 8024578912
5	09894	Four Wheeler	Toyota	DLE-7701	Omkar Dhumal	9254654654
6	78915	Two Wheeler	Hero_Honda	GZG-7896	Karan Sonawane	8878999879; 7641857412
7	25207	Four Wheeler	Honda	LDC-7019	Deepak Margale	9486756435

Table No. 5

1NF:

The first normal form is the normal form of database where data must contain only atomic values and not contain repeating groups.

The OwnerContactNumber field in the table vehicle_info has multi-valued attributes. Thus in order to convert the table in 1NF we have to make the attributre single valued. The same process is shown below where we have the table **vehicle_info** after the first level normalization(1NF):

ID	ParkingNumber	Vehicle Category	VehicleCompanyName	Registration Number	Owner Name	OwnerContactNumber
1	96069	Four Wheeler	Mahindra	GGZ-1155	Deepak Mane	8956232528
1	96069	Four Wheeler	Mahindra	GGZ-1155	Deepak Mane	9890456321
2	52796	Two Wheeler	KTM	GTM-1069	Sanket Benkar	90890898901
3	65023	Three Wheeler	Auto	AT-123	Kiran Mane	8451236971
3	65023	Three Wheeler	Auto	AT-123	Kiran Mane	8152743016
4	90880	Two Wheeler	Suzuki	PLO-8507	Aniket Shinde	9327536236
4	90880	Two Wheeler	Suzuki	PLO-8507	Aniket Shinde	8024578912
5	09894	Four Wheeler	Toyota	DLE-7701	Omkar Dhumal	9254654654
6	78915	Two Wheeler	Hero_Honda	GZG-7896	Karan Sonawane	8878999879
6	78915	Two Wheeler	Hero_Honda	GZG-7896	Karan Sonawane	7641857412
7	25207	Four Wheeler	Honda	LDC-7019	Deepak Margale	9486756435

Table No. 6

2NF:

The data is said to be in second normalized form if,

1. It is in First normal form
2. There should not be any partial dependency of any column on primary key.Means the table have concatanated primary key and each attribute in table depends on that concatanated primary key.
3. All Non-key attributes are fully functionally dependent on primary key.If primary is is not composite key then all non key attributes are fully functionally dependent on primary key.
   The table **vehicle_info(1NF) version** is split into two tables after the second level normalization(2NF):
   Table A:

ID	Parking Number	Vehicle Category	Vehicle Company Name	Registration Number
1	96069	Four Wheeler	Mahindra	GGZ-1155
2	52796	Two Wheeler	KTM	GTM-1069
3	65023	Three Wheeler	Auto	AT-123
4	90880	Two Wheeler	Suzuki	PLO-8507
5	09894	Four Wheeler	Toyota	DLE-7701
6	78915	Two Wheeler	Hero_Honda	GZG-7896
7	25207	Four Wheeler	Honda	LDC-7019

Table No. 7

Table B:

ID	Owner Name	Owner Contact Number
1	Deepak Mane	8956232528
1	Deepak Mane	9890456321
2	Sanket Benkar	90890898901
3	Kiran Mane	8451236971
3	Kiran Mane	8152743016
4	Aniket Shinde	9327536236
4	Aniket Shinde	8024578912
5	Omkar Dhumal	9254654654
6	Karan Sonawane	8878999879
6	Karan Sonawane	7641857412
7	Deepak Margale	9486756435

Table No. 8

3NF:

The database is in Third normal form if it satisfies following conditions:

i. It is in Second normal form
ii. There is no transitive functional dependency

Transitive Dependency:

When table 1 is functionally dependent on table 2 and table 2 is functionally dependent on table 3 then, table 3 is transitively dependent on table 1 via table 2.

In the Table 1 of (2NF) we have ParkingNumber-> VehicleCompanyName and VehicleCompanyName->RegistrationNumber. So, ParkingNumber is transitively dependent on VehicleCompanyName. This violates the third normal form. Hence, we have to convert it into 3NF. For doing this we need to split the table into two parts as shown below:

Table A:

ID	Parking Number	Vehicle Category	Vehicle Company Name
1	96069	Four Wheeler	Mahindra
2	52796	Two Wheeler	KTM
3	65023	Three Wheeler	Auto
4	90880	Two Wheeler	Suzuki
5	09894	Four Wheeler	Toyota
6	78915	Two Wheeler	Hero_Honda
7	25207	Four Wheeler	Honda

Table No. 9

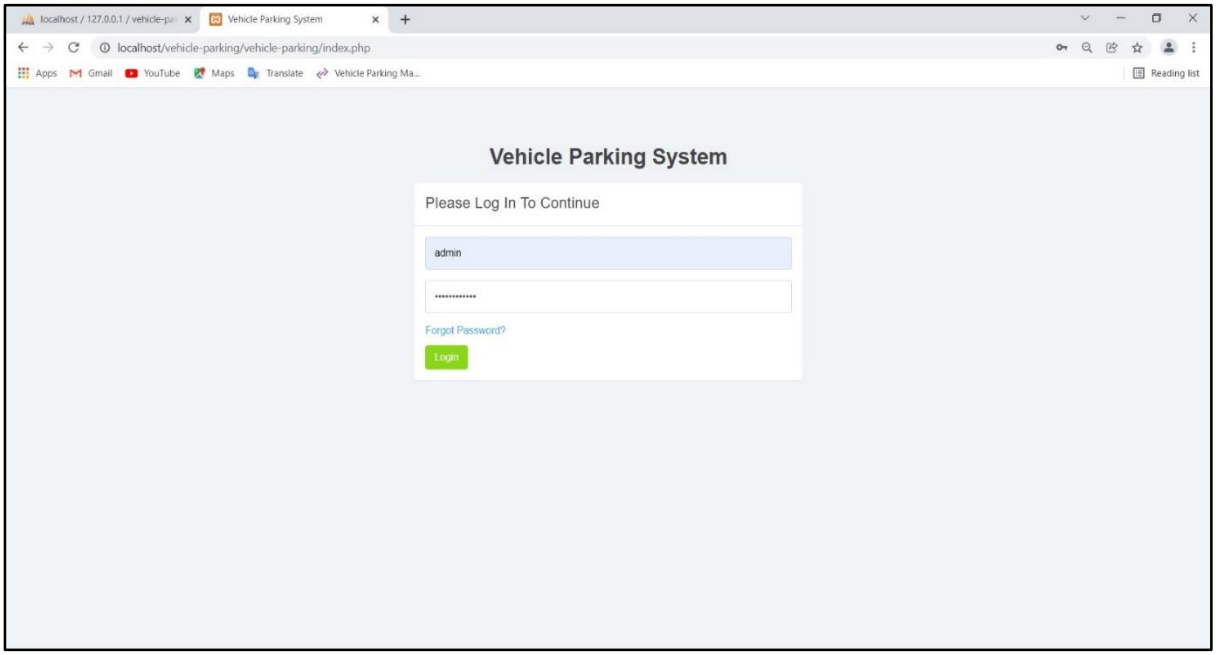
Table B:

ID	Registration Number
1	GGZ-1155
2	GTM-1069
3	AT-123
4	PLO-8507
5	DLE-7701
6	GZG-7896
7	LDC-7019

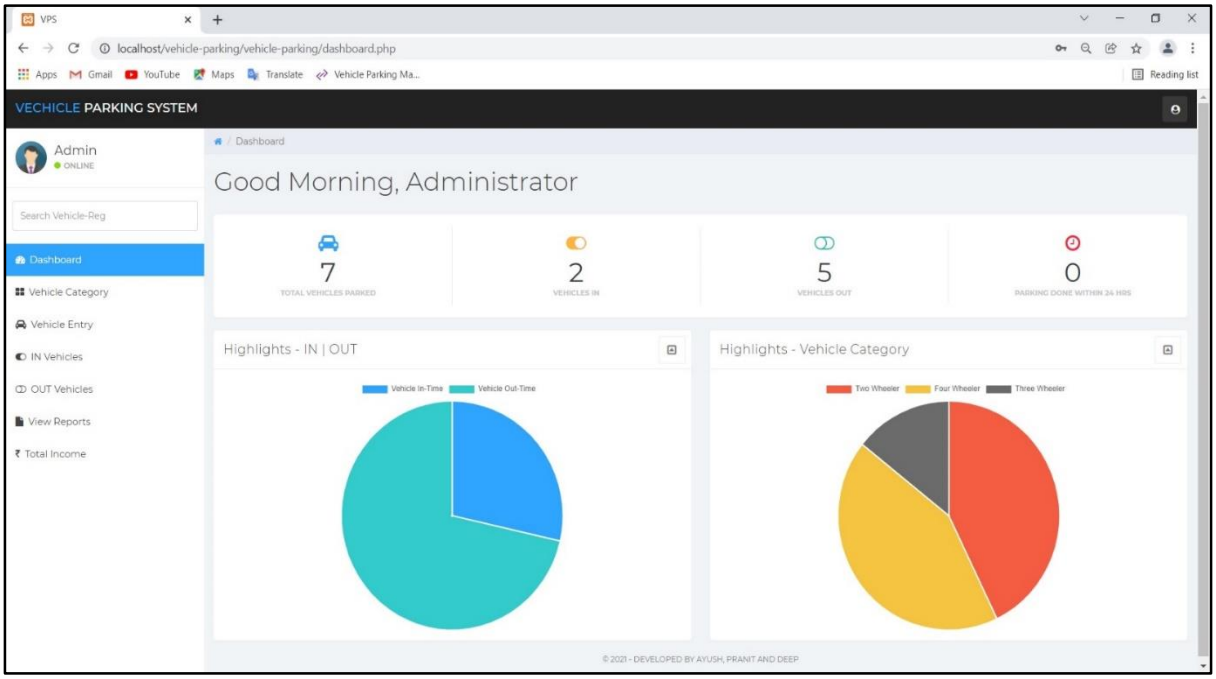
Table No. 10

GRAPHICAL USER INTERFACE:

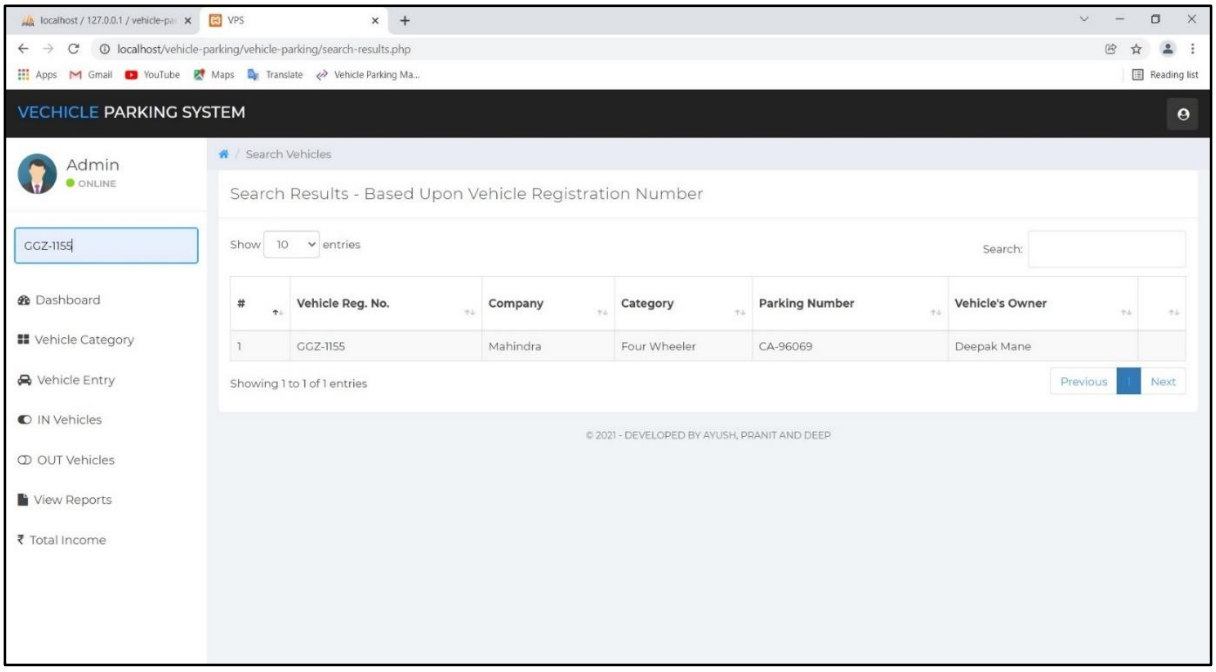
Admin Login:



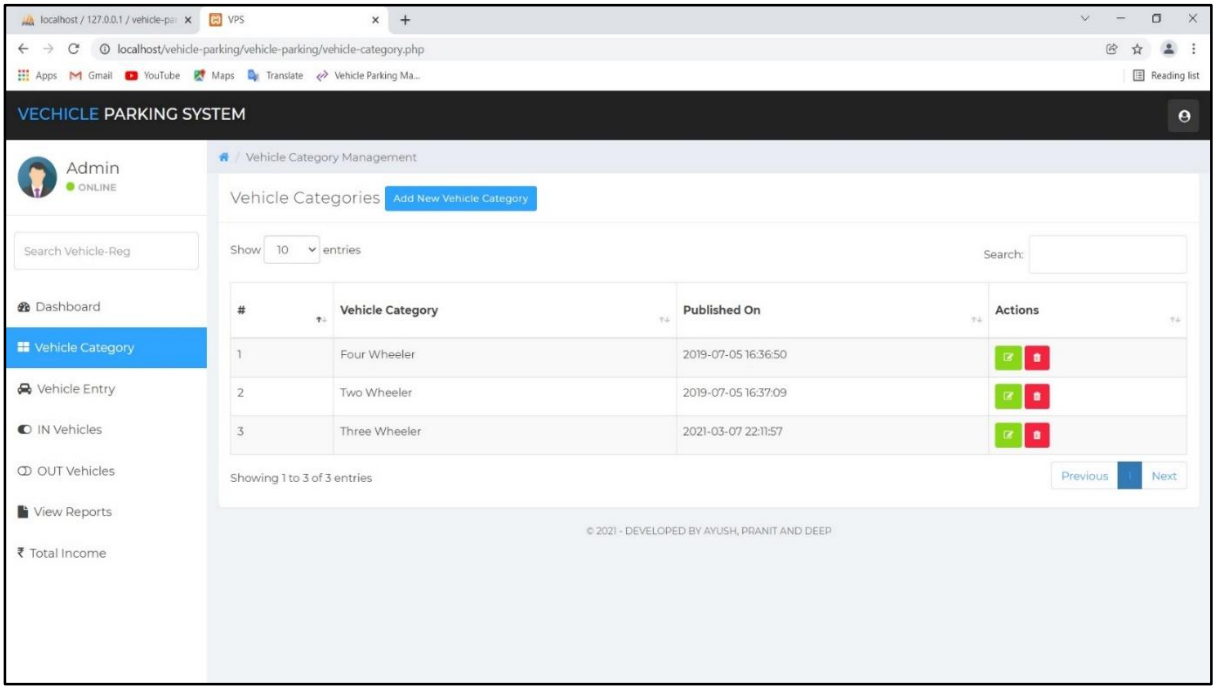
Dashboard:



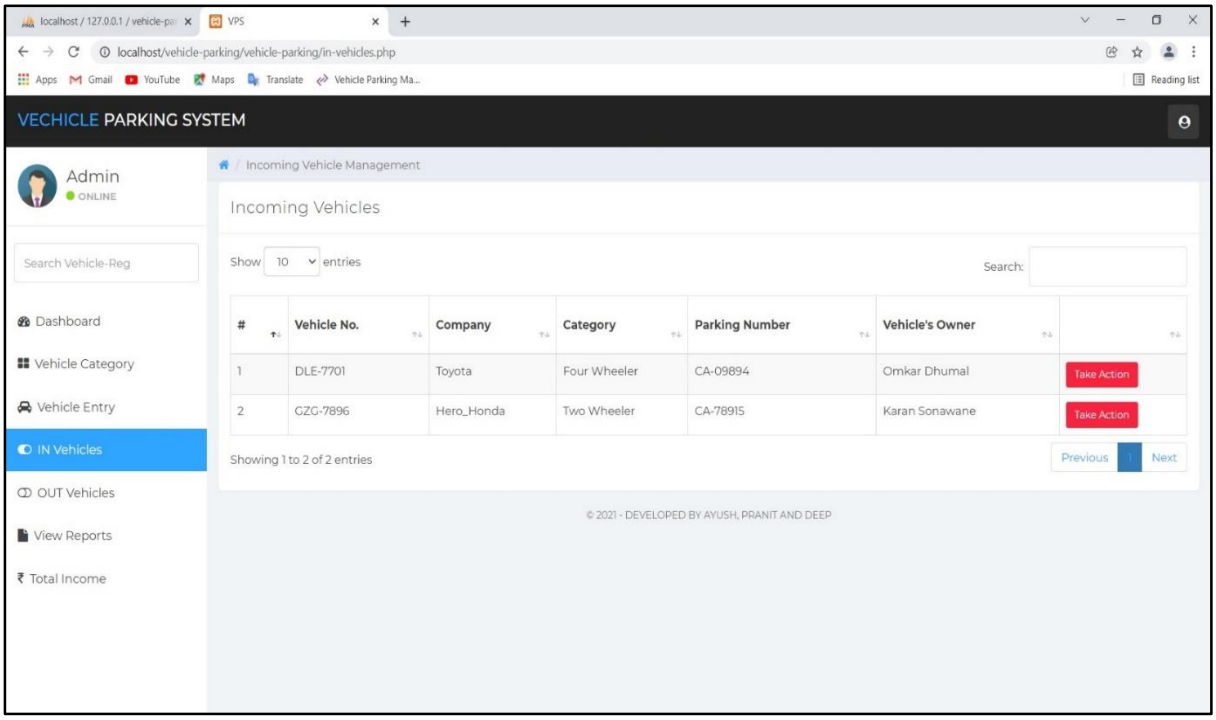
Searching for details of a parked vehicle:



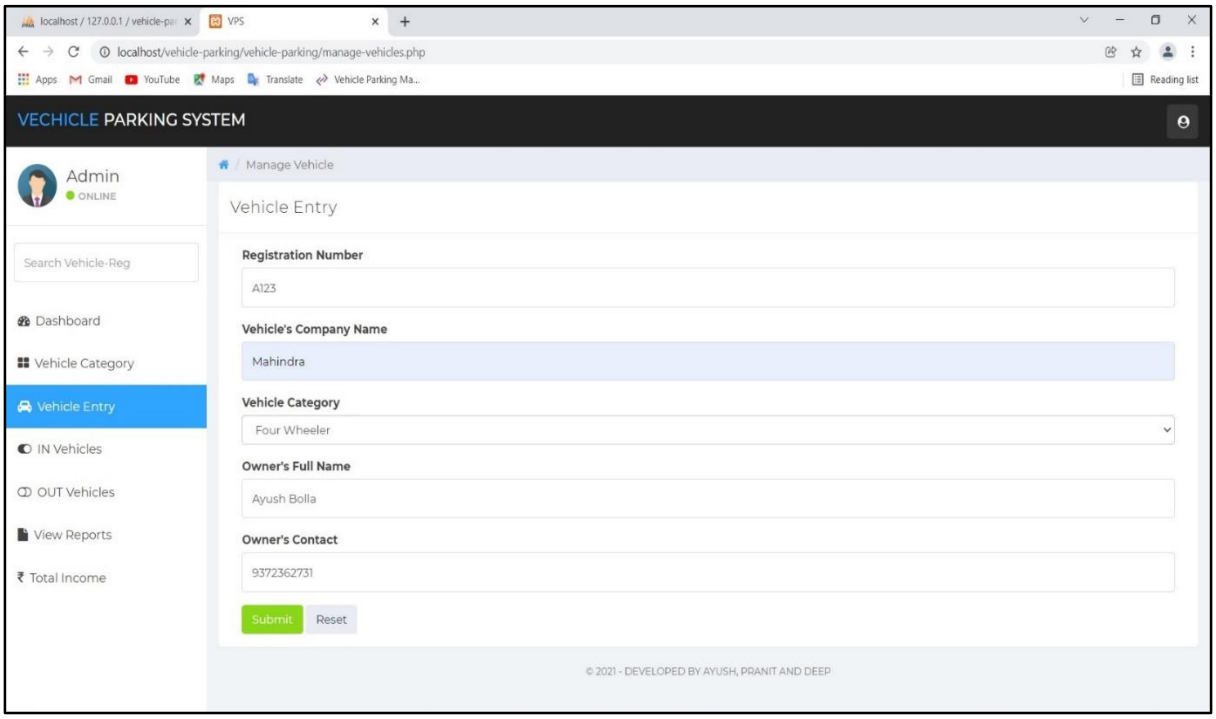
Displaying and Updating the vehicle category:

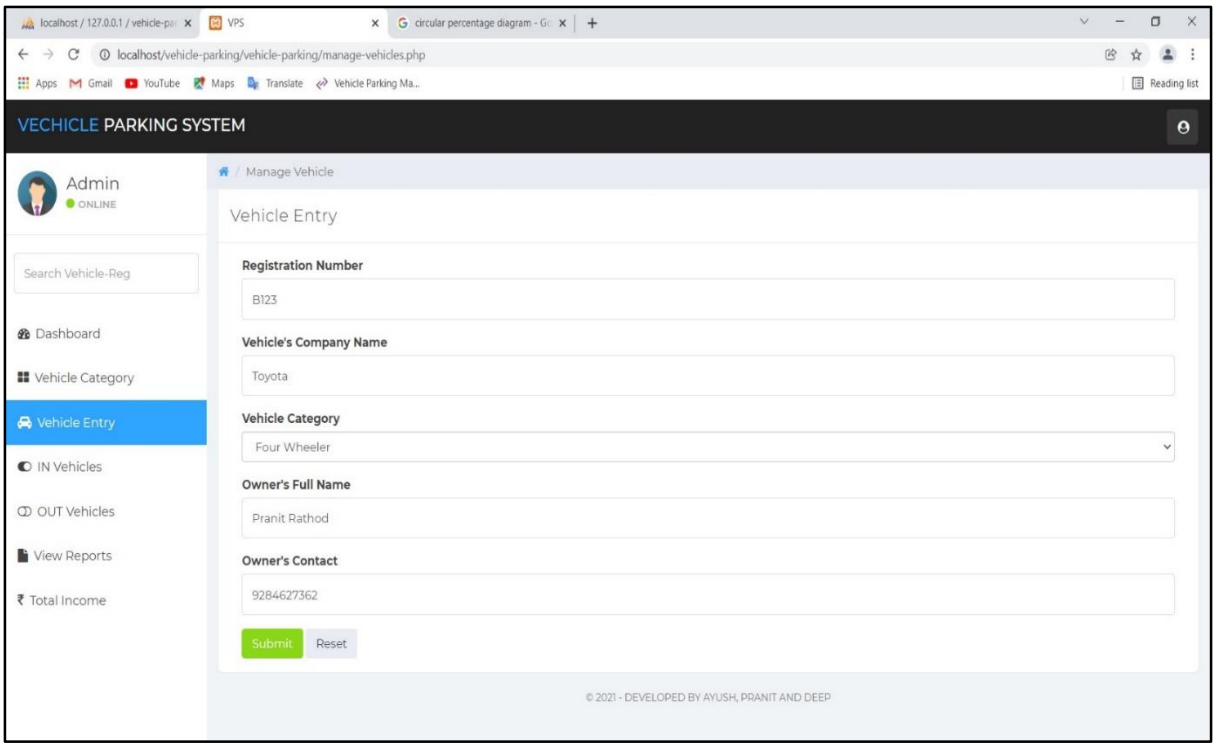


Displaying List of parked vehicles:



Adding new vehicle entries for parking:




localhost/vehicle-parking/vehicle-parking/manage-vehicles.php
VECHICLE PARKING SYSTEM
Admin
ONLINE
Search Vehicle-Reg
Dashboard
Vehicle Category
Vehicle Entry
IN Vehicles
OUT Vehicles
View Reports
Total Income
Manage Vehicle
Vehicle Entry
Registration Number
B123
Vehicle's Company Name
Toyota
Vehicle Category
Four Wheeler
Owner's Full Name
Pranit Rathod
Owner's Contact
9284627362
Submit
Reset
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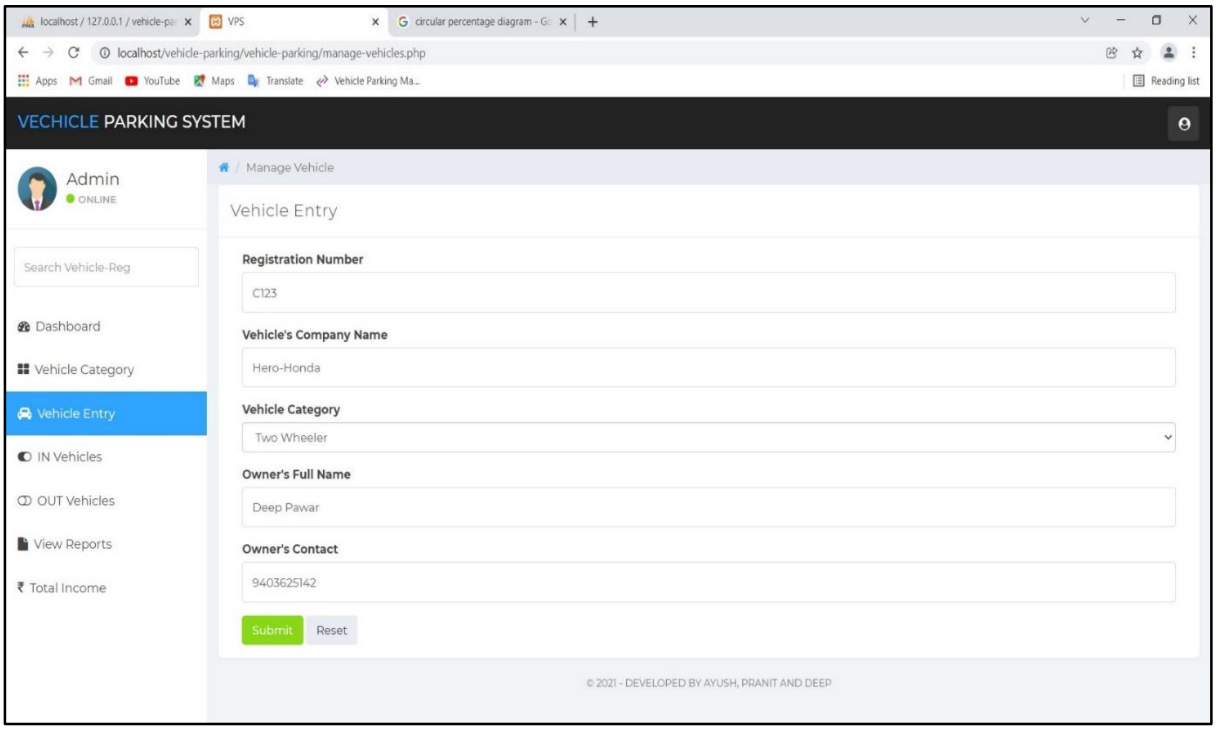
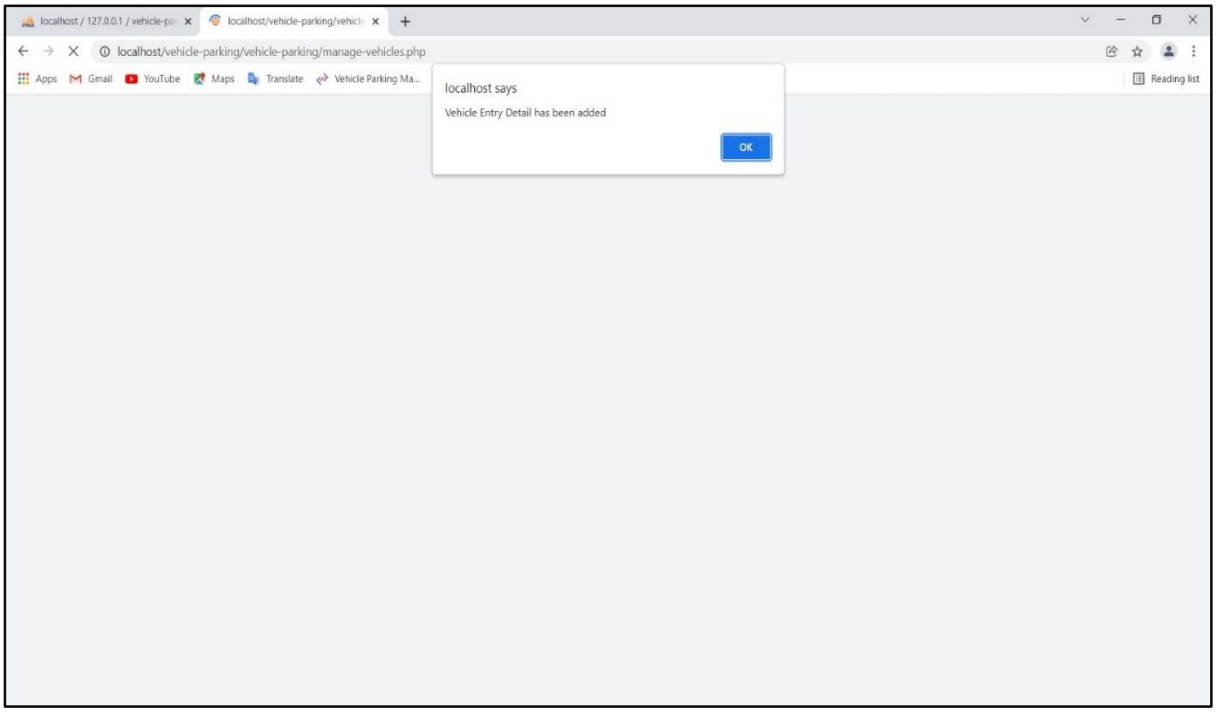
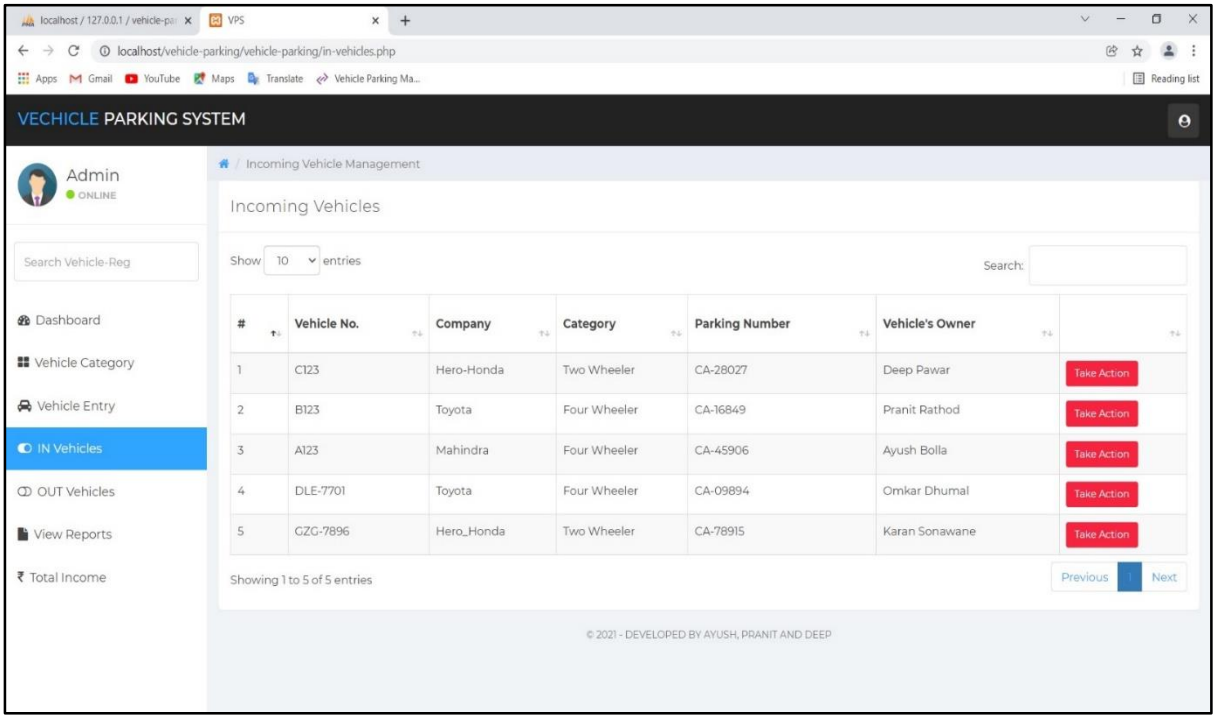
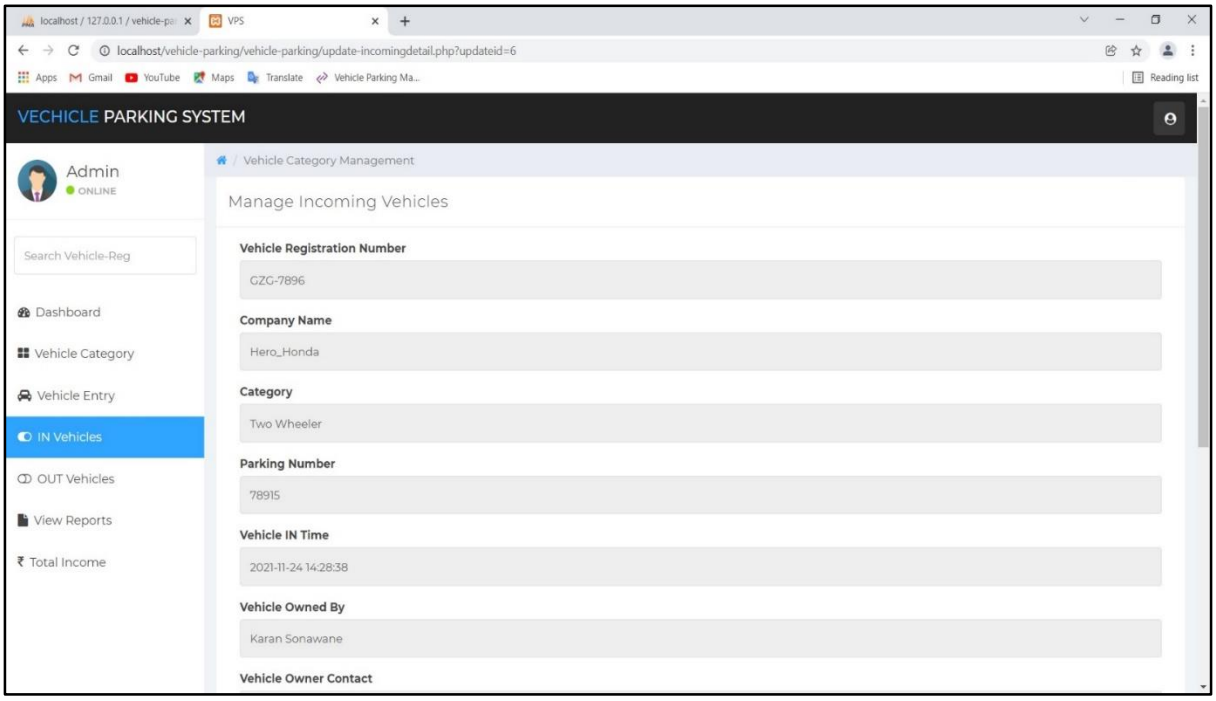

localhost/vehicle-parking/vehicle-parking/manage-vehicles.php
VECHICLE PARKING SYSTEM
Admin
ONLINE
Search Vehicle-Reg
Dashboard
Vehicle Category
Vehicle Entry
IN Vehicles
OUT Vehicles
View Reports
Total Income
Manage Vehicle
Vehicle Entry
Registration Number
C123
Vehicle's Company Name
Hero-Honda
Vehicle Category
Two Wheeler
Owner's Full Name
Deep Pawar
Owner's Contact
9403625142
Submit
Reset
© 2021 - DEVELOPED BY AYUSH, PRANIT AND DEEP

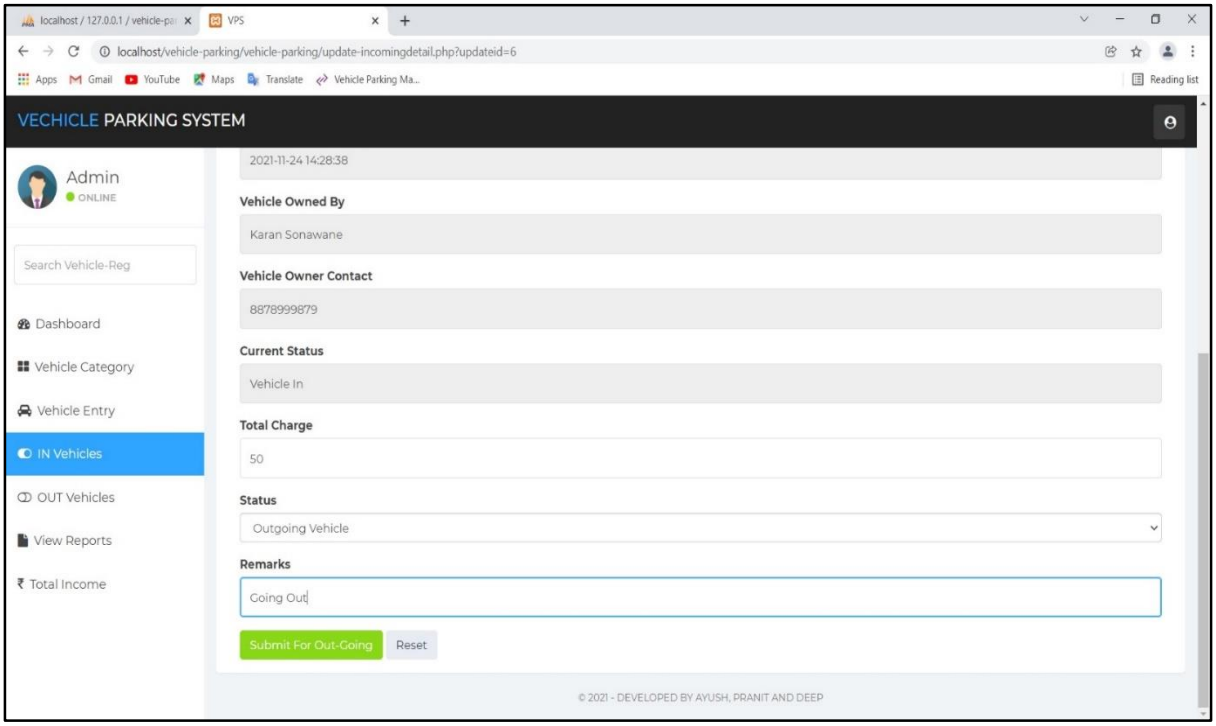


List of parking vehicles after adding new entries:

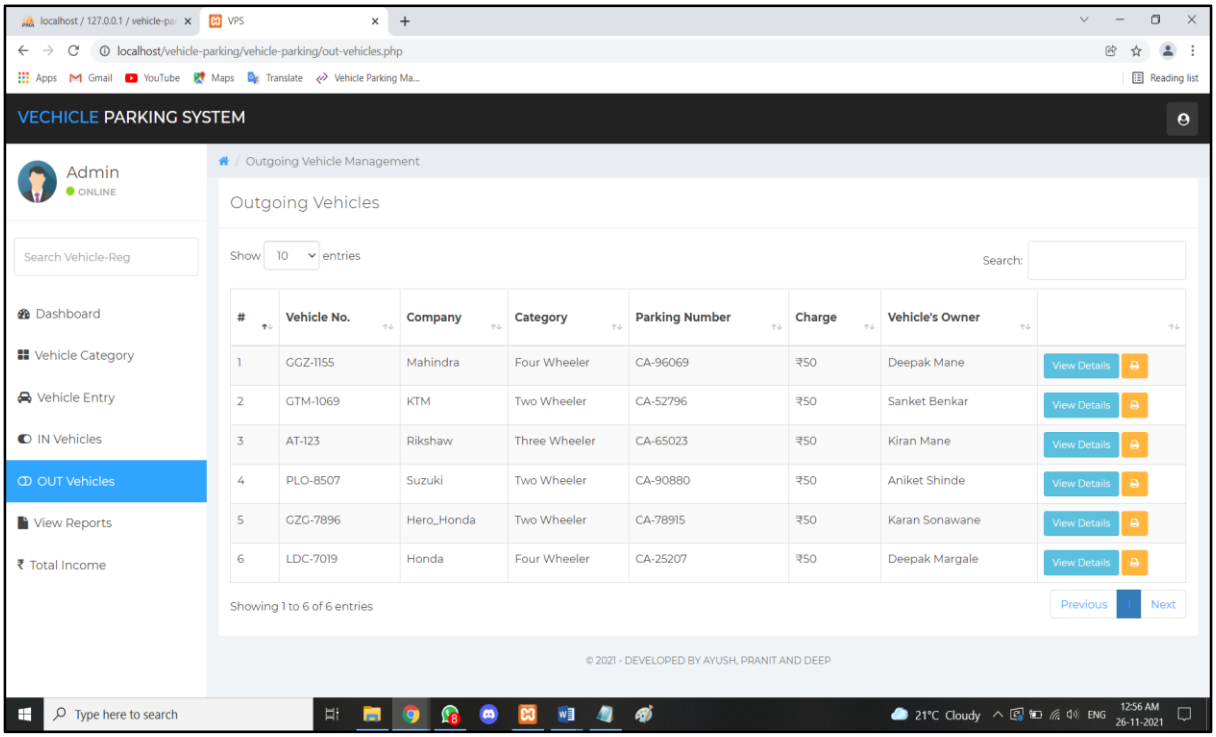


Taking action on parked vehicles:

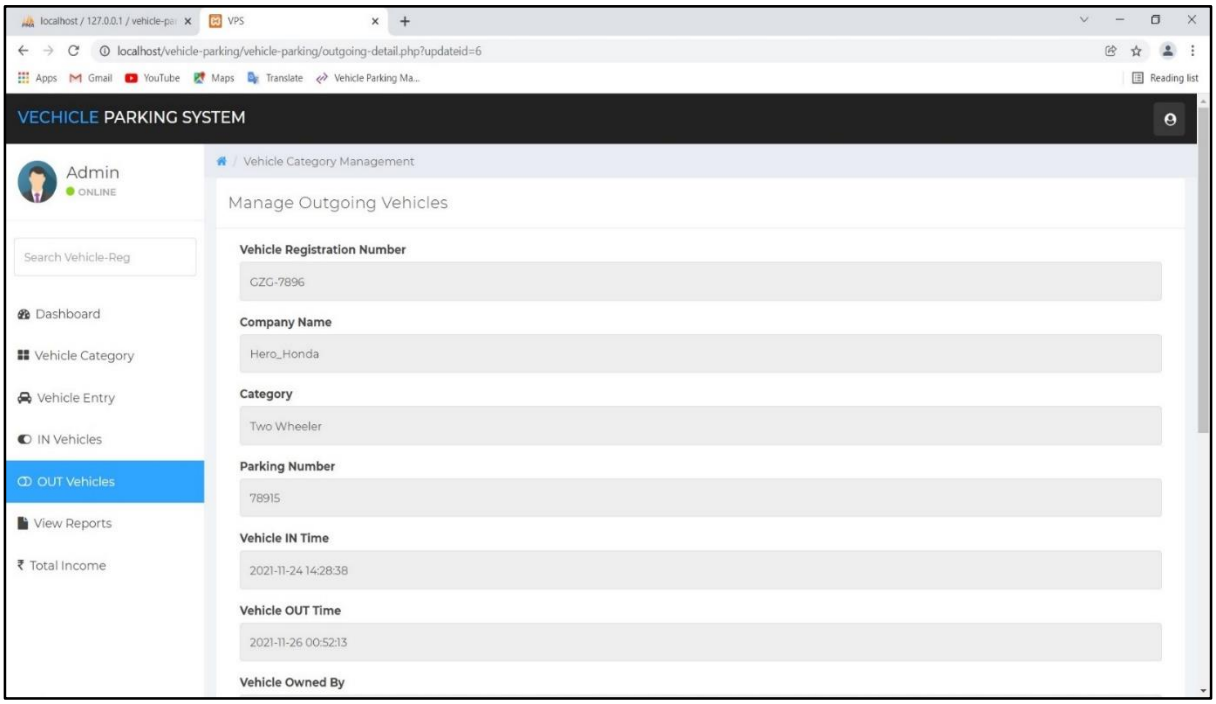


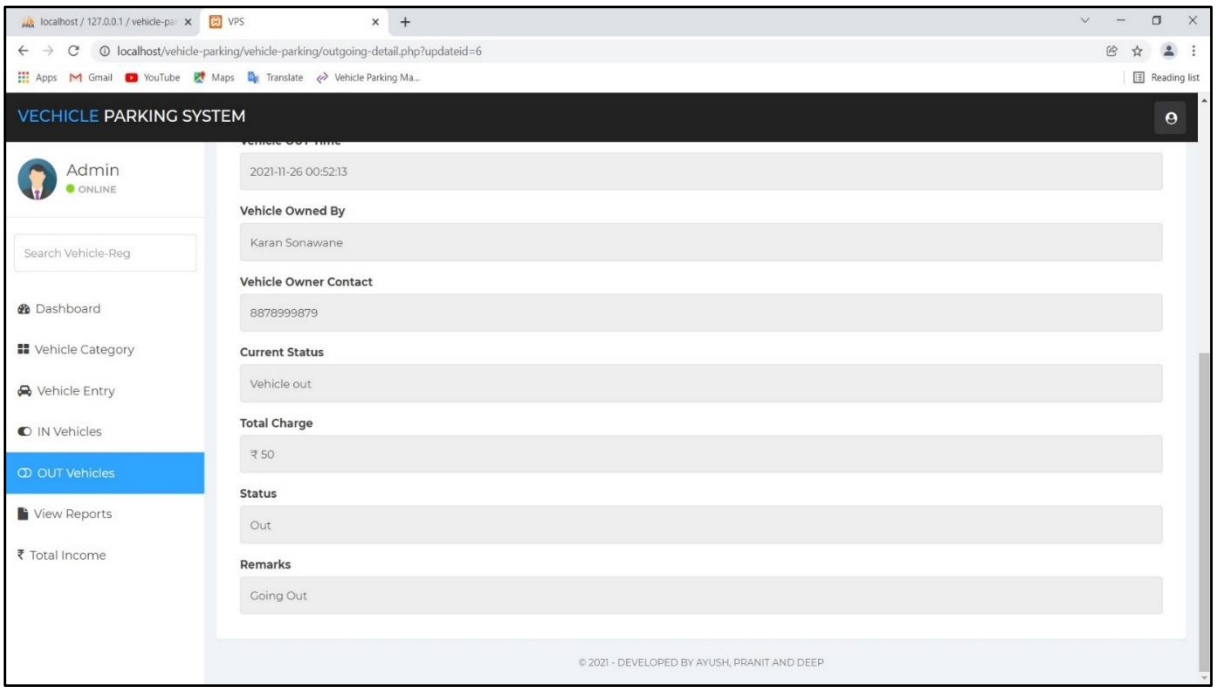


List of outgoing vehicles:

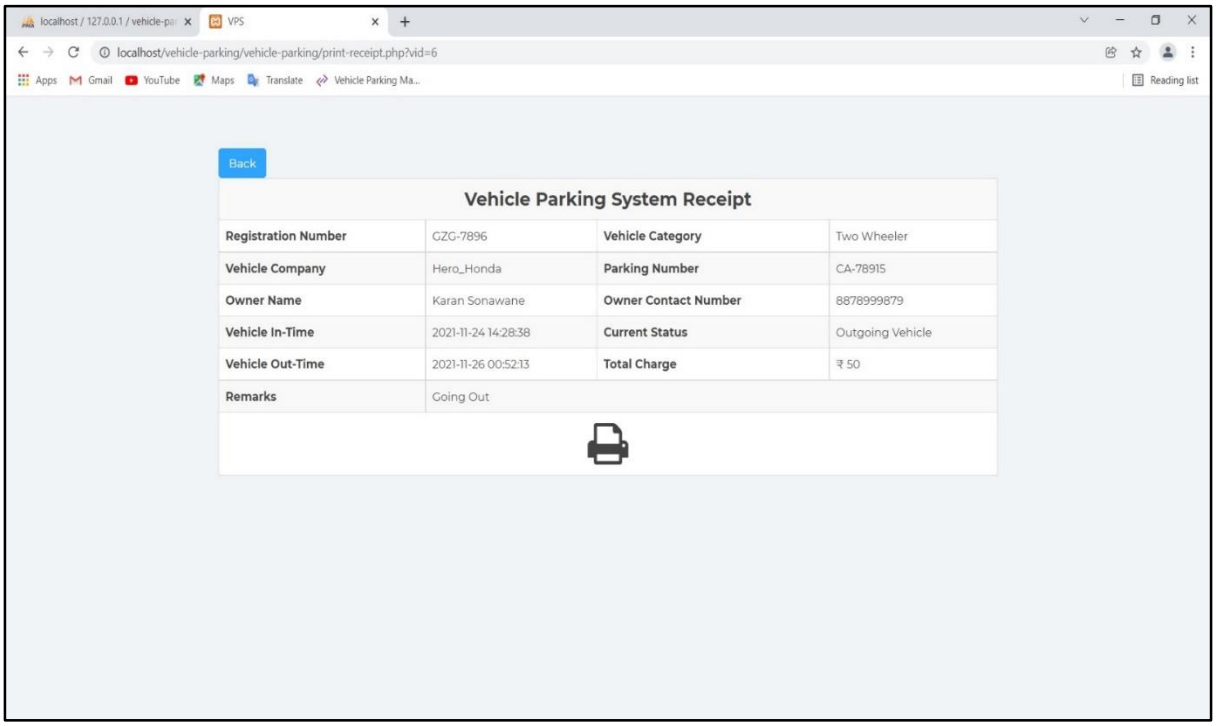


Display outgoing vehicles:

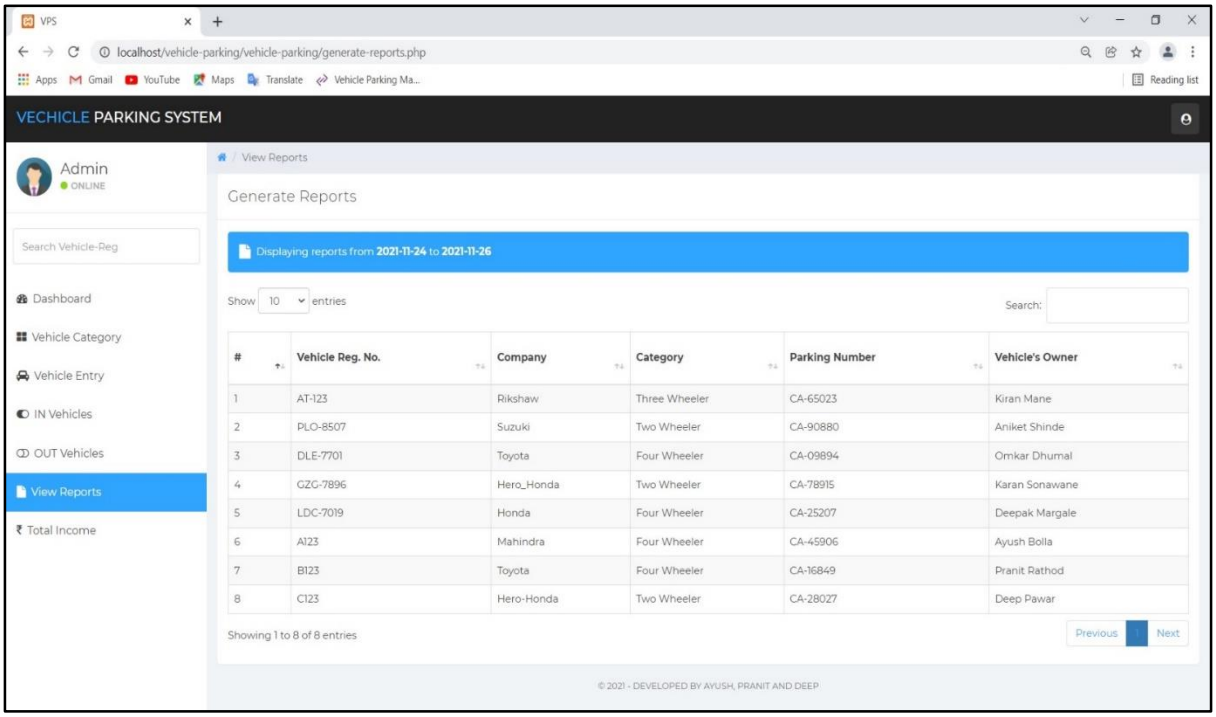




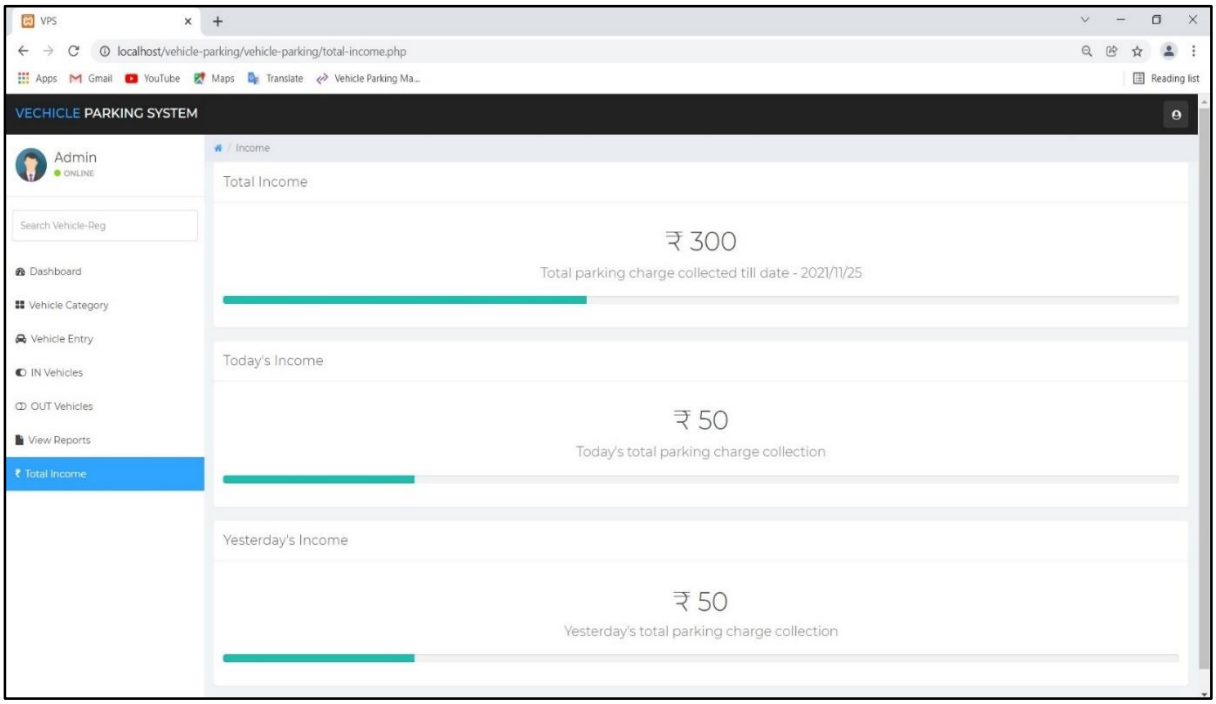
Printing the vehicle parking fees receipt:



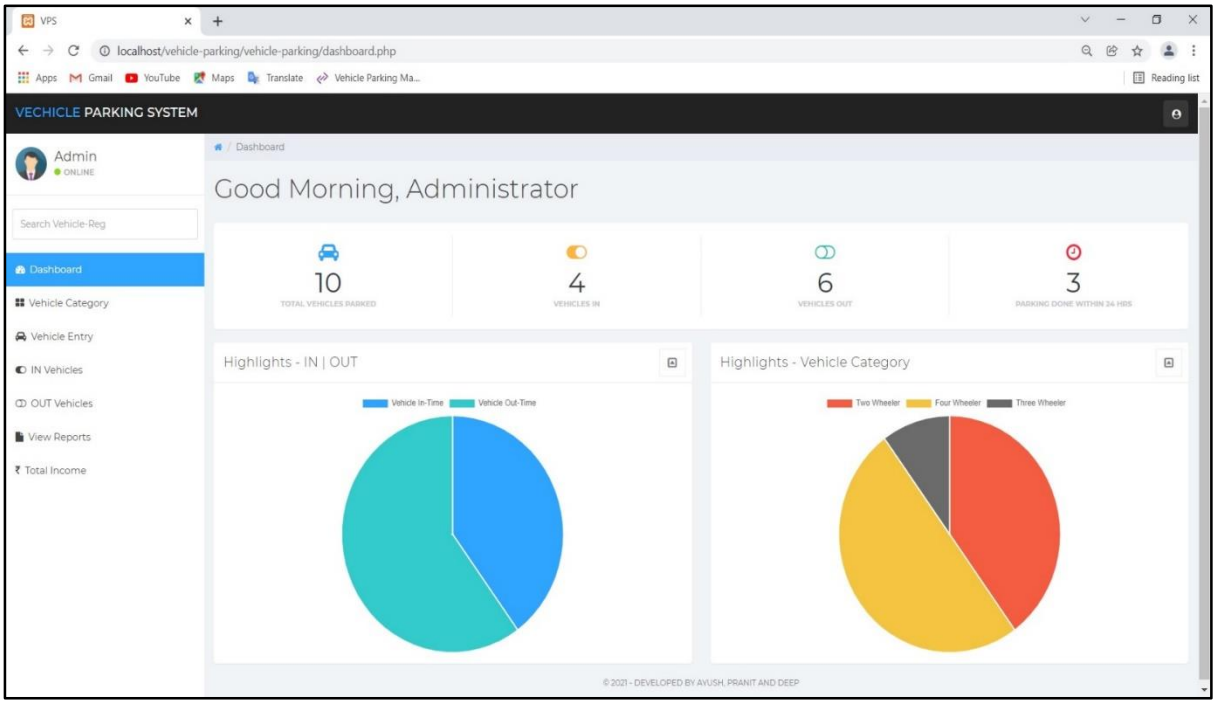
Displaying previous reports:



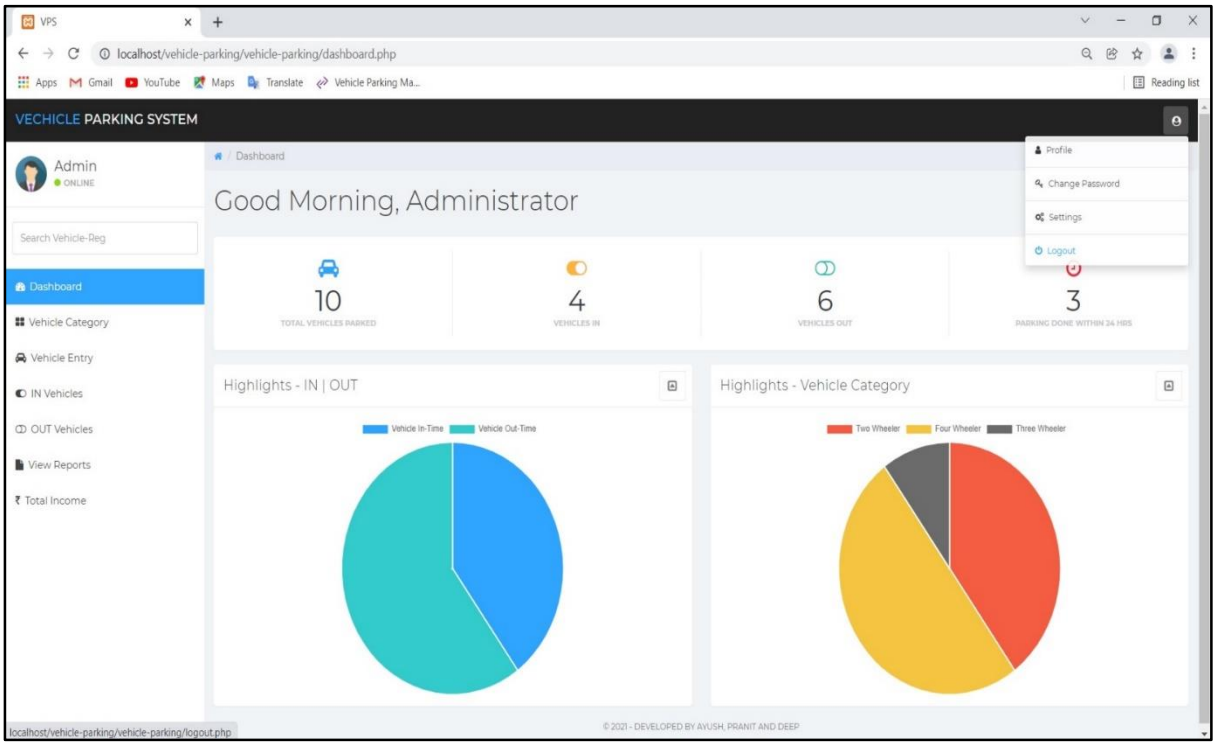
Displaying record of total parking charges collected:



Dashboard updated after updating the data:



Admin Logout option:



SOURCE CODE:

Code for Index:

```
<?php
session_start();
error_reporting(0);
include('includes/dbconn.php');
if(isset($_POST['login']))
{
	$adminuser=$_POST['username'];
	$password=md5($_POST['password']);
	$query=mysqli_query($con,"SELECT ID from admin where UserName='$adminuser' && Password='$password' ");
	$ret=mysqli_fetch_array($query);
	if($ret>0)
	{
		$_SESSION['vpmsaid']=$ret['ID'];
		header('location:dashboard.php');
	}
	else
	{
		$msg="Login Failed !!";
	}
}
?>
<!DOCTYPE html>
<html>
<head>
	<meta charset="utf-8">
	<meta name="viewport" content="width=device-width, initial-scale=1">
	<title>Vehicle Parking System</title>
	<link href="css/bootstrap.min.css" rel="stylesheet">
	<link href="css/datepicker3.css" rel="stylesheet">
	<link href="css/styles.css" rel="stylesheet">
	<!--[if lt IE 9]>
	<script src="js/html5shiv.js"></script>
	<script src="js/respond.min.js"></script>
	<![endif]-->
</head>
<body>
	<div class="row">
```

```
                <div class="col-xs-10 col-xs-offset-1 col-sm-8 col-sm-offset-2 col-md-4 col-
md-offset-4">
                <center><h2><b>Vehicle Parking System</b></h2></center>
                        <div class="login-panel panel panel-default">
                                <div      class="panel-heading">Please      Log      In      To
Continue</div>
                                <div class="panel-body">
                                        <form method="POST">
                                        <?php if($msg)
                                                echo "<div class='alert bg-danger' role='alert'>
                                                <em class='fa fa-lg fa-warning'> </em>
                                                $msg
                                                <a href='#' class='pull-right'>
                                                <em class='fa fa-lg fa-close'>
                                                </em></a></div>" ?>
                                                <fieldset>
                                                        <div class="form-group">
                                                                <input      class="form-control"
placeholder="Username"  name="username" type="text">
                                                        </div>
                                                        <div class="form-group">
                                                                <input      class="form-control"
placeholder="Password" name="password" type="password" value="">
                                                        </div>
                                                        <div class="checkbox">
                                                                <a href="forgot-password.php"
style="text-decoration:none;">Forgot Password?</a>
                                                        </div>
                                                        <button      class="btn      btn-success"
type="submit" name="login">Login</button></fieldset>
                                        </form>
                                </div>
                        </div>
                </div><!-- /.col-->
        </div><!-- /.row -->
<script src="js/jquery-1.11.1.min.js"></script>
        <script src="js/bootstrap.min.js"></script>
</body>
</html>
```

Code for Dashboard:

```
<?php
session_start();
error_reporting(0);
include('includes/dbconnection.php');
error_reporting(0);
if (strlen($_SESSION['vpmsaid']==0))
{
        header('location:logout.php');
}
else
{ ?>
<!DOCTYPE html>
<html>
<head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <title>VPS</title>
        <link href="css/bootstrap.min.css" rel="stylesheet">
        <link href="css/font-awesome.min.css" rel="stylesheet">
        <link href="css/datepicker3.css" rel="stylesheet">
        <link href="css/styles.css" rel="stylesheet">

        <!--Custom Font-->
        <link
href="https://fonts.googleapis.com/css?family=Montserrat:300,300i,400,400i,500,500i,600
,600i,700,700i" rel="stylesheet">
        <!--[if lt IE 9]>
        <script src="js/html5shiv.js"></script>
        <script src="js/respond.min.js"></script>
        <![endif]-->
</head>
<body>
    <?php include 'includes/navigation.php' ?>

    <?php
                $page="dashboard";
                include 'includes/sidebar.php'
                ?>
        <div class="col-sm-9 col-sm-offset-3 col-lg-10 col-lg-offset-2 main">
                <div class="row">
                        <ol class="breadcrumb">
                                <li><a href="#">
```

```
                                <em class="fa fa-home"></em>
                            </a></li>
                            <li class="active">Dashboard</li>
                        </ol>
                    </div><!--/.row-->

                    <div class="row">
                        <div class="col-lg-12">
                            <h1 class="page-header"><?php include 'includes/greetings.php'?></h1>
                        </div>
                    </div><!--/.row-->

                    <div class="panel panel-container">
                        <div class="row">
                            <div class="col-xs-6 col-md-3 col-lg-3 no-padding">
                                <div class="panel panel-teal panel-widget border-right">
                                    <div class="row no-padding"><em class="fa fa-xl fa-car color-blue"></em>
                                        <div class="large"><?php include 'counters/parking-count.php'?></div>
                                        <div class="text-muted">Total Vehicles Parked</div>
                                    </div>
                                </div>
                            </div>
                            <div class="col-xs-6 col-md-3 col-lg-3 no-padding">
                                <div class="panel panel-blue panel-widget border-right">
                                    <div class="row no-padding"><em class="fa fa-xl fa-toggle-on color-orange"></em>
                                        <div class="large"><?php include 'counters/invehicles-count.php'?></div>
                                        <div class="text-muted">Vehicles IN</div>
                                    </div>
                                </div>
                            </div>
                            <div class="col-xs-6 col-md-3 col-lg-3 no-padding">
                                <div class="panel panel-orange panel-widget border-right">
```

```
                                        <div class="row no-padding"><em class="fa
fa-xl fa-toggle-off color-teal"></em>
                                            <div class="large"><?php include
'counters/outvehicles-count.php'?></div>
                                            <div class="text-muted">Vehicles
OUT</div>
                                        </div>
                                    </div>
                                </div>
                                <div class="col-xs-6 col-md-3 col-lg-3 no-padding">
                                    <div class="panel panel-red panel-widget ">
                                        <div class="row no-padding"><em class="fa
fa-xl fa-clock-o color-red"></em>
                                            <div class="large"><?php include
'counters/current-parkingCount.php'?></div>
                                            <div class="text-muted">Parking
Done within 24 hrs</div>
                                        </div>
                                    </div>
                                </div>
                            </div> <!--/.row-->
                        </div>
                        <div class="row">
                            <div class="col-md-6">
                                <div class="panel panel-default">
                                    <div class="panel-heading">
                                        Highlights - IN | OUT

                                        <span class="pull-right clickable panel-toggle
panel-button-tab-left"><em class="fa fa-toggle-up"></em></span></div>
                                        <div class="panel-body">
                                        <div class="canvas-wrapper">
                                            <canvas class="chart" id="myChart"
height="160" ></canvas>

                                        </div>
                                    </div>
                                </div>
                            </div>
                            <div class="col-md-6">
                                <div class="panel panel-default">
                                    <div class="panel-heading">
                                        Highlights - Vehicle Category
```

```
                                        <span class="pull-right clickable panel-toggle
panel-button-tab-left"><em class="fa fa-toggle-up"></em></span></div>
                                        <div class="panel-body">
                                        <div class="canvas-wrapper">
                                                <canvas class="chart" id="myChart2"
height="160" ></canvas>
                                        </div>
                                    </div>
                                </div>
                            </div>
                        </div> <!-- /.row -->
                        <?php
                        include 'includes/dbconn.php';
                         $ret=mysqli_query($con,"SELECT count(ID) id1 from vehicle_info where
Status="");
                         $row5=mysqli_fetch_array($ret);
                         $ret=mysqli_query($con,"SELECT count(ID) id2 from vehicle_info where
Status='Out'");
                         $row6=mysqli_fetch_array($ret);
                         $ret=mysqli_query($con,"SELECT count(ID) as id1 from vehicle_info
where VehicleCategory='Two Wheeler'");
                        $row=mysqli_fetch_array($ret);
                        $ret=mysqli_query($con,"SELECT count(ID) as id2 from vehicle_info
where VehicleCategory='Four Wheeler'");
                        $row2=mysqli_fetch_array($ret);
                        $ret=mysqli_query($con,"SELECT count(ID) as id4 from vehicle_info
where VehicleCategory='Three Wheeler'");
                        $row4=mysqli_fetch_array($ret);
                        ?>
      <?php include 'includes/footer.php'?>
        </div> <!--/.main-->
        <script src="js/jquery-1.11.1.min.js"></script>
        <script src="js/bootstrap.min.js"></script>
        <script src="js/chart.min.js"></script>
        <script src="js/chart-data.js"></script>
        <script src="js/easypiechart.js"></script>
        <script src="js/easypiechart-data.js"></script>
        <script src="js/bootstrap-datepicker.js"></script>
        <script src="js/custom.js"></script>
        <script
src='https://cdnjs.cloudflare.com/ajax/libs/Chart.js/2.2.2/Chart.min.js'></script>
        <script>
```

```
                window.onload = function () {
        var ctx = document.getElementById("myChart").getContext('2d');
        var myChart = new Chart(ctx, {
        type: 'pie',
        data: {
        labels: ["Vehicle In-Time","Vehicle Out-Time"],
        datasets: [{
        backgroundColor: ["#30a5ff","#33cccc"],
        data: [<?php echo $row5['id1']; ?>,<?php echo $row6['id2']; ?>]
        }]
        }
        });
        var ctx = document.getElementById("myChart2").getContext('2d');
        var myChart = new Chart(ctx, {
        type: 'pie',
        data: {
        labels: ["Two Wheeler","Four Wheeler", "Three Wheeler"],
        datasets: [{
        backgroundColor: ["#f55d42","#f5c542", "#6b6b6b"],
        data: [<?php echo $row['id1']; ?>,
                    <?php echo $row2['id2']; ?>,
                    <?php echo $row4['id4']; ?>
                ]
              }]
            }
          });
        };
        </script>
</body>
</html>
<?php } ?>
```

Code to Display and Edit vehicle category:

```
<?php
        session_start();
        error_reporting(0);
        include('includes/dbconn.php');
        if (strlen($_SESSION['vpmsaid']==0))
        {
                header('location:logout.php');
      }
        else{
```

```
?>
<!DOCTYPE html>
<html>
<head>
	<meta charset="utf-8">
	<meta name="viewport" content="width=device-width, initial-scale=1">
	<title>VPS</title>
	<link href="css/bootstrap.min.css" rel="stylesheet">
	<link href="css/font-awesome.min.css" rel="stylesheet">
	<link href="css/datatable.css" rel="stylesheet">
	<link href="css/datepicker3.css" rel="stylesheet">
	<link href="css/styles.css" rel="stylesheet">
	<!--Custom Font-->
	<link
href="https://fonts.googleapis.com/css?family=Montserrat:300,300i,400,400i,500,500i,600
,600i,700,700i" rel="stylesheet">
</head>
<body>
	<?php include 'includes/navigation.php' ?>
		<?php
		$page="vehicle-category";
		include 'includes/sidebar.php'
		?>
	<div class="col-sm-9 col-sm-offset-3 col-lg-10 col-lg-offset-2 main">
		<div class="row">
			<ol class="breadcrumb">
				<li><a href="dashboard.php">
					<em class="fa fa-home"></em>
				</a></li>
				<li class="active">Vehicle Category Management</li>
			</ol>
		</div><!--/.row-->
		<div class="row">
			<div class="col-lg-12">
				<!-- <h1 class="page-header">Vehicle Management</h1> --
>
			</div>
		</div><!--/.row-->
		<div class="row">
				<div class="col-lg-12">
					<div class="panel panel-default">
```

```
                                        <div class="panel-heading">Vehicle Categories <a href="add-category.php" type="button" class="btn btn-sm btn-primary">Add New Vehicle Category</a></div>
                                        <div class="panel-body">
                <table id="example" class="table table-striped table-hover table-bordered" style="width:100%">
      <thead>
        <tr>
          <th>#</th>
          <th>Vehicle Category</th>
          <th>Published On</th>
          <th>Actions</th>
        </tr>
      </thead>
      <tbody>
      <?php
      $ret=mysqli_query($con,"SELECT * from  vcategory");
      $cnt=1;
      while ($row=mysqli_fetch_array($ret)) {
      ?>
        <tr>
        <td><?php echo $cnt;?></td>
        <td><?php  echo $row['VehicleCat'];?></td>
        <td><?php  echo $row['CreationDate'];?></td>
        <td><a href="update-category.php?editid=<?php echo $row['ID'];?>"> <button class="btn btn-success btn-sm"><i class="fa fa-edit"></i></button> </a>
        <a href="remove-category.php?editid=<?php echo $row['ID'];?>"> <button class="btn btn-danger btn-sm"><i class="fa fa-trash"></i></button> </a>
        </td>
        </tr>
          <?php $cnt=$cnt+1;}?>
      </tbody>
   </table>
                                        </div>
                                    </div>
                                </div>
</div><!--/.row-->
      <?php include 'includes/footer.php'?>
        </div> <!--/.main-->
        <script src="js/jquery-1.11.1.min.js"></script>
        <script src="js/bootstrap.min.js"></script>
        <script src="js/chart.min.js"></script>
        <script src="js/chart-data.js"></script>
```

```
        <script src="js/easypiechart.js"></script>
        <script src="js/easypiechart-data.js"></script>
        <script src="js/jquery.dataTables.min.js"></script>
        <script src="js/dataTables.bootstrap4.min.js"></script>
        <script src="js/bootstrap-datepicker.js"></script>
        <script src="js/custom.js"></script>
        <script>
                window.onload = function () {
                var chart1 = document.getElementById("line-chart").getContext("2d");
                window.myLine = new Chart(chart1).Line(lineChartData, {
                responsive: true,
                scaleLineColor: "rgba(0,0,0,.2)",
                scaleGridLineColor: "rgba(0,0,0,.05)",
                scaleFontColor: "#c5c7cc"
                });
};
        </script>
   <script>
      $(document).ready(function() {
   $('#example').DataTable();
} );
   </script>

</body>
</html>

<?php }  ?>
```

Code for Adding new vehicle entry:

```
<?php
        session_start();
        error_reporting(0);
        include('includes/dbconn.php');
        if (strlen($_SESSION['vpmsaid']==0))
        {
                header('location:logout.php');
        }
        else
        {
        if(isset($_POST['submit-vehicle']))
        {
                $parkingnumber=mt_rand(10000, 99999);
```

```
                $catename=$_POST['catename'];
                $vehcomp=$_POST['vehcomp'];
                $vehreno=$_POST['vehreno'];
                $ownername=$_POST['ownername'];
                $ownercontno=$_POST['ownercontno'];
                $enteringtime=$_POST['enteringtime'];
                $query=mysqli_query($con, "INSERT into
vehicle_info(ParkingNumber,VehicleCategory,VehicleCompanyname,RegistrationNumber
,OwnerName,OwnerContactNumber)
value('$parkingnumber','$catename','$vehcomp','$vehreno','$ownername','$ownercontno')")
;
                if ($query)
                {
                        echo "<script>alert('Vehicle Entry Detail has been added');</script>";
                        echo "<script>window.location.href ='dashboard.php'</script>";
                }
                else
                {
                        echo "<script>alert('Something Went Wrong');</script>";
                }
        }
 ?>
<!DOCTYPE html>
<html>
<head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <title>VPS</title>
        <link href="css/bootstrap.min.css" rel="stylesheet">
        <link href="css/font-awesome.min.css" rel="stylesheet">
        <link href="css/datepicker3.css" rel="stylesheet">
        <link href="css/styles.css" rel="stylesheet">
        <!--Custom Font-->
        <link
href="https://fonts.googleapis.com/css?family=Montserrat:300,300i,400,400i,500,500i,600
,600i,700,700i" rel="stylesheet">
</head>
<body>
      <?php include 'includes/navigation.php' ?>
                <?php
                $page="manage-vehicles";
                include 'includes/sidebar.php'
                ?>
```

```
        <div class="col-sm-9 col-sm-offset-3 col-lg-10 col-lg-offset-2 main">
                <div class="row">
                        <ol class="breadcrumb">
                                <li><a href="dashboard.php">
                                        <em class="fa fa-home"></em>
                                </a></li>
                                <li class="active">Manage Vehicle</li>
                        </ol>
                </div><!--/.row-->
                <div class="row">
                        <div class="col-lg-12">
                                <!-- <h1 class="page-header">Vehicle Management</h1> --
>
                        </div>
                </div><!--/.row-->
                <div class="panel panel-default">
                                        <div class="panel-heading">Vehicle Entry</div>
                                        <div class="panel-body">
                                                <div class="col-md-12">
                                                        <form method="POST">
                                                                <div class="form-group">
                                                                        <label>Registration
Number</label>
                                                                        <input type="text"
class="form-control" placeholder="Enter Here.." id="vehreno" name="vehreno" required>
                                                                </div>
                                                                <div class="form-group">
                                                                        <label>Vehicle's
Company Name</label>
                                                                        <input type="text"
class="form-control" placeholder="Enter Here.." id="vehcomp" name="vehcomp"
required>
                                                                </div>
                                                                        <div class="form-
group">
                                                                                <label>Vehicle
Category</label>
                                                                                <select
class="form-control" name="catename" id="catename">
                                                                                <option
value="0">Select Category</option>
                                                                                <?php
$query=mysqli_query($con,"select * from vcategory");
```

```
        while($row=mysqli_fetch_array($query))
                                                                {
                                                                ?>
                        <option value="<?php echo $row['VehicleCat'];?>"><?php echo $row['VehicleCat'];?></option>
                                                <?php } ?>
                                                                </select>
                                                        </div>
                                                <div class="form-group">
                                                        <label>Owner's Full Name</label>
                                                        <input type="text" class="form-control" placeholder="Enter Here.." id="ownername" name="ownername" required>
                                                </div>
                                                <div class="form-group">
                                                        <label>Owner's Contact</label>
                                                        <input type="text" class="form-control" placeholder="Enter Here.." maxlength="10" pattern="[0-9]+" id="ownercontno" name="ownercontno" required>
                                                </div>
                                                        <button type="submit" class="btn btn-success" name="submit-vehicle">Submit</button>
                                                        <button type="reset" class="btn btn-default">Reset</button>
                                                </div> <!-- col-md-12 ends -->
                                        </form>
                                </div>
                        </div>
    <?php include 'includes/footer.php'?>
      </div> <!--/.main-->
      <script src="js/jquery-1.11.1.min.js"></script>
      <script src="js/bootstrap.min.js"></script>
      <script src="js/chart.min.js"></script>
      <script src="js/chart-data.js"></script>
      <script src="js/easypiechart.js"></script>
      <script src="js/easypiechart-data.js"></script>
      <script src="js/bootstrap-datepicker.js"></script>
      <script src="js/custom.js"></script>
      <script>
            window.onload = function () {
```

```
                var chart1 = document.getElementById("line-chart").getContext("2d");
                window.myLine = new Chart(chart1).Line(lineChartData, {
                responsive: true,
                scaleLineColor: "rgba(0,0,0,.2)",
                scaleGridLineColor: "rgba(0,0,0,.05)",
                scaleFontColor: "#c5c7cc"
                });
};
        </script>

</body>
</html>
<?php }
?>
```

Code for the Database:

```
-- phpMyAdmin SQL Dump
-- version 4.6.5.2
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Nov 20, 2021 at 08:15 PM
-- Server version: 5.6.21
-- PHP Version: 5.6.3

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET time_zone = "+00:00";

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT
*/;
/*!40101                                                    SET
@OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101                                                    SET
@OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;


--
-- Database: `vehicle-parking-db`
-- --------------------------------------------------------
--
-- Table structure for table `admin`
--
```

```
CREATE TABLE `admin` (
  `ID` int(10) NOT NULL,
  `AdminName` varchar(120) DEFAULT NULL,
  `UserName` varchar(120) DEFAULT NULL,
  `MobileNumber` bigint(10) DEFAULT NULL,
  `Security_Code` int(55) NOT NULL,
  `Email` varchar(200) DEFAULT NULL,
  `Password` varchar(120) DEFAULT NULL,
  `AdminRegdate` timestamp NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `admin`
--

INSERT INTO `admin` (`ID`, `AdminName`, `UserName`, `MobileNumber`, `Security_Code`, `Email`, `Password`, `AdminRegdate`) VALUES (1, 'Administrator', 'admin', 7854445410, 1100, 'admin@gmail.com', 'd00f5d5217896fb7fd601412cb890830', '2021-01-05 05:38:23');

-- --------------------------------------------------------
--
-- Table structure for table `settings`
--

CREATE TABLE `settings` (
  `id` int(11) NOT NULL,
  `c_name` varchar(255) NOT NULL,
  `c_email` varchar(55) NOT NULL,
  `c_website` varchar(55) NOT NULL,
  `c_address` varchar(255) NOT NULL,
  `last_update` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `settings`
--

INSERT INTO `settings` (`id`, `c_name`, `c_email`, `c_website`, `c_address`, `last_update`) VALUES (1, 'Demo Company', 'vparksystem@company.com', 'codeastro.com', '8169 Geigeer St NW', '2021-06-08 20:48:52');
```

```
-- --------------------------------------------------------
--
-- Table structure for table `vcategory`
--

CREATE TABLE `vcategory` (
  `ID` int(10) NOT NULL,
  `VehicleCat` varchar(120) DEFAULT NULL,
  `shortDescription` varchar(50) NOT NULL,
  `CreationDate` timestamp NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `vcategory`
--

INSERT INTO `vcategory` (`ID`, `VehicleCat`, `shortDescription`, `CreationDate`) VALUES
(1, 'Four Wheeler', 'Demo 4W', '2019-07-05 11:06:50'),
(2, 'Two Wheeler', 'Demo 2W', '2019-07-05 11:07:09'),
(6, 'Three Wheeler', 'MTCL 2W', '2021-03-07 16:41:57');

-- --------------------------------------------------------
--
-- Table structure for table `vehicle_info`
--

CREATE TABLE `vehicle_info` (
  `ID` int(10) NOT NULL,
  `ParkingNumber` varchar(120) DEFAULT NULL,
  `VehicleCategory` varchar(120) NOT NULL,
  `VehicleCompanyname` varchar(120) DEFAULT NULL,
  `RegistrationNumber` varchar(120) DEFAULT NULL,
  `OwnerName` varchar(120) DEFAULT NULL,
  `OwnerContactNumber` bigint(10) DEFAULT NULL,
  `InTime` timestamp NULL DEFAULT CURRENT_TIMESTAMP,
  `OutTime` timestamp NULL DEFAULT NULL ON UPDATE CURRENT_TIMESTAMP,
  `ParkingCharge` varchar(120) NOT NULL,
  `Remark` mediumtext NOT NULL,
  `Status` varchar(5) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
--
-- Dumping data for table `vehicle_info`
--

INSERT INTO `vehicle_info` (`ID`, `ParkingNumber`, `VehicleCategory`, `VehicleCompanyname`, `RegistrationNumber`, `OwnerName`, `OwnerContactNumber`, `InTime`, `OutTime`, `ParkingCharge`, `Remark`, `Status`) VALUES
(1, '96069', 'Four Wheeler', 'Mahindra', 'GGZ-1155', 'Deepak Mane', 8956232528, '2021-11-23 05:58:38', '2021-11-23 10:15:43', '50', 'NA', 'Out'),
(2, '52796', 'Two Wheeler', 'KTM', 'GTM-1069', 'Sanket Benkar', 9089898989, '2021-11-23 08:58:38', '2021-11-23 14:16:26', '50', 'NA', 'Out'),
(3, '65023', 'Three Wheeler', 'Rikshaw', 'AT-123', 'Kiran Mane\n', 8451236971, '2021-11-24 08:58:38', '2021-11-24 12:16:31', '50', 'Vehicle Out', 'Out'),
(4, '90880', 'Two Wheeler', 'Suzuki', 'PLO-8507', 'Aniket Shinde', 9327536263, '2021-11-24 08:58:38', '2021-11-24 13:58:38', '50', 'Vehicle Out', 'Out'),
(5, '09894', 'Four Wheeler', 'Toyota', 'DLE-7701', 'Omkar Dhumal\n', 9254654654, '2021-11-24 08:58:38', Null, '', '', ''),
(6, '78915', 'Two Wheeler', 'Hero_Honda', 'GZG-7896', 'Karan Sonawane', 8878999879, '2021-11-24 08:58:38', NULL, '', '', ''),
(7, '25207', 'Four Wheeler', 'Honda', 'LDC-7019', 'Deepak Margale\n', 9486756435, '2021-11-24 11:03:05', '2021-11-24 15:58:38', '50', 'Vehicle Out', 'Out');

--
-- Indexes for dumped tables
--
--
-- Indexes for table `admin`
--
ALTER TABLE `admin`
  ADD PRIMARY KEY (`ID`);

--
-- Indexes for table `settings`
--
ALTER TABLE `settings`
  ADD PRIMARY KEY (`id`);
--
-- Indexes for table `vcategory`
--
ALTER TABLE `vcategory`
  ADD PRIMARY KEY (`ID`);

--
```

```
-- Indexes for table `vehicle_info`
--
ALTER TABLE `vehicle_info`
  ADD PRIMARY KEY (`ID`);

--
-- AUTO_INCREMENT for dumped tables
--
--
-- AUTO_INCREMENT for table `admin`
--
ALTER TABLE `admin`
  MODIFY `ID` int(10) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;
--
-- AUTO_INCREMENT for table `settings`
--
ALTER TABLE `settings`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;
--
-- AUTO_INCREMENT for table `vcategory`
--
ALTER TABLE `vcategory`
  MODIFY `ID` int(10) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=7;
--
-- AUTO_INCREMENT for table `vehicle_info`
--
ALTER TABLE `vehicle_info`
MODIFY `ID` int(10) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=21;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101  SET  CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS
*/;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

TESTING DOCUMENT

Test Cases

Test cases are good in revealing the presence of faults. Successful in implementation of test cases implies that there is no error in program. Test cases should be minimum as they are expensive in case of money & efforts. Primary objectives of test cases are to ensure that if there is an error or fault in program it is exercise by the test cases. An ideal test case set is one that succeeds only if there are no errors in the program. One possible ideal set of test case is one that includes all possible I/P to the program and is called exhaustive testing. A test case is good if it detects in undiscovered error in program.

Test cases of Vehicle Parking Management System:

Sr. No	Input values	Expected Output	Actual Output	Result
1	Login in without entering User name and password	Error message Enter a valid User id and password	Error message Enter a valid User id and password	No Error
2	Login with wrong User Id and password	Error Message Enter correct valid User id and password	Error Message Enter correct valid User id and password	No Error
3	Click on Forgot Password	Asks for security code and Email ID	Asks for security code and Email ID	No Error
4	Login with correct User Id and password	Directed to Dashboard Page	Directed to Dashboard Page	No Error
5	Select Vehicle Category from Side Menu	Show all Vehicle Category	Show all Vehicle Category	No Error

6	Select Vehicle Entry from Side Menu	Must be able to enter new vehicle details	Must be able to enter new vehicle details	No Error
7	Select IN Vehicles from Side Menu	Show updated list of parked vehicles details	Show updated list of parked vehicles	No Error
8	Select Take Action	Show details of respective vehicle and owner with Total parking charge	Show details of respective vehicle with Total parking charge	No Error
9	Select OUT Vehicles from Side Menu	Show updated list of Outgoing vehicles	Show updated list of Outgoing vehicles	No Error
10	Click on Print	Print Vehicle parking fees receipt	Print Vehicle parking fees receipt	No Error
11	Select View Reports from Side Menu	Display report of all vehicles parked till given dates	Display report of all vehicles parked till given dates	No Error
12	Select Total Income from Side Menu	Display Total parking charge collected till date	Display Total parking charge collected till date	No Error
13	Click Logout	Directed to the admin login page	Directed to the admin login page	No Error

Table No. 11

CONCLUSION

Parking Management System is an essential part of the whole parking process for parking operators. Parking management without a parking management system is difficult and even impossible nowadays. Online vehicle parking reservation system improves the existing system since we are in computerized world. It will save costs, time and energy. With this new system is mandatory, it enables the user of the system (System administrator) to manage the parking space and to store and keep the record of vehicle and its owner's details in a fast and easy way, this reduces the wasting of time of employee to manually write and keep all the data.

The system helps an individual to keep the track of the parking spot and the vehicle and it's owner's details from the distant area, reducing traffic congestion and allowing the operator to manage all the things at one place. Our parking management solution can significantly offer benefit to the parking lot owner as it helps in reducing traffic by enhancing user experience. This system supports various parking applications that can easily handle and organize the data of vehicles. To rectify the complications of parking security, our parking management system allows admin to verify details and validate the automobiles at both entry and exit points.

The advantage of online parking management system is that it can easily be designed, installed, implemented, used and managed. That is why our parking management system is created to require minimal training for the employees. It has a well-organized structure and can be easily operated by any parking management staff members. Not only our parking management system is comfortable, but it will improve the whole parking lot management process. The online vehicle parking management system is a cost-effective technology. Thanks to it, we will be able to decrease your parking management costs and manage far more effectively your parking areas. Also, we will need less staff and manpower, because the system works automatically. That means that we will save a lot of money from manual labour, resource exhaustion and energy.