VEHICLE RENTAL SYSTEM

An

Object-Oriented Programming through Java Course Project

Report in partial fulfilment of the degree

Bachelor of Technology

in

Computer Science & Engineering

By

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CERTIFICATE

This is to certify that the **Object Oriented Programming through Java - Course Project** Report entitled "**VEHICLE RENTAL SYSTEM** **"** is a record of bonafide work carried out by the student **A. Yashaswini Gayathry, A. Shreshta, K. Koushik, N. Chandu** bearing Roll No(s) **2103A52041, 2103A52043, 2103A52054, 2103A52062** during the academic year 2023-2024 in partial fulfillment of the award of the degree of ***Bachelor of Technology*** in **Computer Science & Engineering** by the SR University, Warangal.

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ABSTRACT

VEHICLE RENTAL SYSTEM

This project presents a Java-based Car Rental System developed using the Eclipse Integrated Development Environment (IDE). The primary objective of the system is to provide a user-friendly platform for managing car rentals for both customers and administrators. The project features two distinct user roles: customers and administrators.

For registered customers, the system allows them to explore and book cars for their transportation needs. Customers can create new accounts, view the available car inventory, check car details, and initiate bookings. The system offers an intuitive user interface for customers to seamlessly select their desired vehicle and complete the reservation process. Registered customers also have access to their booking history and personal profile information for a personalized experience.On the other hand, administrators are equipped with the tools to manage the car rental system efficiently. They can view the list of booked cars, make modifications as needed, and oversee customer accounts for any potential issues or discrepancies.

The Java-based Car Rental System is built with a strong focus on usability, robustness, and data security. It leverages Java's Object-Oriented Programming (OOP) principles for code organization. The Eclipse IDE provides a versatile development environment, making it easy to maintain and expand the system as required. This project represents a comprehensive solution for managing car rentals, ensuring a seamless experience for both customers and administrators. It demonstrates the power of Java programming and the Eclipse IDE in developing practical, user-friendly software systems for the automotive industry.

CHAPTER 1

OBJECTIVE OF THE PROJECT

The primary objective of the Java-Based Car Rental System project is to create a software solution that efficiently manages car rentals for customers and administrators. This project aims to:

1.User-Friendly Car Booking: Provide an intuitive and user-friendly platform for registered customers to browse available cars, view car details, and book vehicles for their transportation needs.

2. Customer Registration: Allow new customers to register and create accounts within the system, providing a personalized experience and facilitating future bookings.

3.Administrative Control: Empower administrators to oversee and manage the car rental system effectively. This includes adding new vehicles, updating car information, and monitoring customer bookings.

4. Booking Management: Enable customers to review their booking history and administrators to view and modify booked cars to accommodate changes or maintenance.

5.Scalability Create a modular and expandable system, making it straightforward to introduce new features and adapt to changing requirements in the car rental industry.

6.Demonstrate Java and Eclipse: Showcase the capabilities of Java as a programming language and the Eclipse IDE as a development environment for building practical and efficient software solutions.

In summary, the project's objective is to develop a robust and user-centric car rental management system that simplifies the booking process for customers and streamlines administrative tasks for car rental service providers.

CHAPTER 2

DEFINITIONS OF THE ELEMENTS USED IN THE PROJECT

1.Java Programming Language:

- Definition: Java is a versatile, object-oriented, high-level programming language that is widely used for building software applications. It is known for its platform independence, security features, and extensive libraries, making it an excellent choice for developing a variety of applications, including web and desktop applications.

- Usage in the Project: Java is the core programming language used to build the car rental system. It is employed for creating classes, defining data structures, implementing business logic, and handling user interactions.

2.Eclipse IDE (Integrated Development Environment):

- Definition: Eclipse is a popular, open-source integrated development environment that provides tools and features for software development. It offers a code editor, debugger, and other utilities for programming in various languages, with a focus on Java development.

-Usage in the Project: Eclipse is the chosen development environment for this project. It provides a workspace for writing, testing, and debugging Java code, offering a streamlined development process.

3. User Roles (Customer and Administrator):

- Definition: User roles are distinct categories of system users, each with specific privileges and responsibilities. In this project, there are two primary user roles: customers and administrators.

-Usage in the Project: Customers can create accounts, view car details, and book vehicles, while administrators have control over car listings, customer accounts, and booking management.

4. Car Inventory:

-Definition: The car inventory refers to a database or collection of car listings available for rent. It includes information such as car make and model, pricing, availability, and specifications.

-Usage in the Project: The car inventory is a fundamental component of the system, allowing customers to browse and select cars for booking, and administrators to manage and update the listings.

5. Booking System:

- Definition: The booking system is a set of functionalities that enable customers to reserve vehicles for specific dates and times. It manages the booking process, allocates cars, and maintains booking records.

- Usage in the Project: The booking system allows customers to make reservations, checks for car availability, and provides administrators with tools to oversee bookings and make necessary adjustments.

6. Customer Registration:

-Definition: Customer registration is the process through which new customers create accounts in the system. It typically involves providing personal information, usernames, and passwords.

-Usage in the Project: Customer registration allows individuals to create accounts, access personalized features, and initiate bookings.

7. Administrative Control Panel:

- Definition: An administrative control panel is a dedicated interface or section of the system that is accessible only to administrators. It provides tools for managing system data and user accounts.
- Usage in the Project: The administrative control panel gives administrators the ability to add and update car listings, monitor bookings, and maintain customer accounts.

8. Data Security:

- Definition: Data security encompasses measures and protocols implemented to protect sensitive information from unauthorized access, disclosure, or tampering.
- Usage in the Project: Data security is critical for safeguarding customer and car data within the car rental system, ensuring the privacy and integrity of stored information.

9. Scalability:

- Definition: Scalability refers to the system's ability to handle increased workloads and adapt to changing requirements by adding new features or components.
- Usage in the Project: Designing the system with scalability in mind ensures that it can evolve and grow to meet the demands of a changing car rental industry.

In summary, these elements play integral roles in the Java-Based Vehicle Rental System project, contributing to the development, functionality, and security of the system to provide a user-friendly experience for customers and efficient management capabilities for administrators.

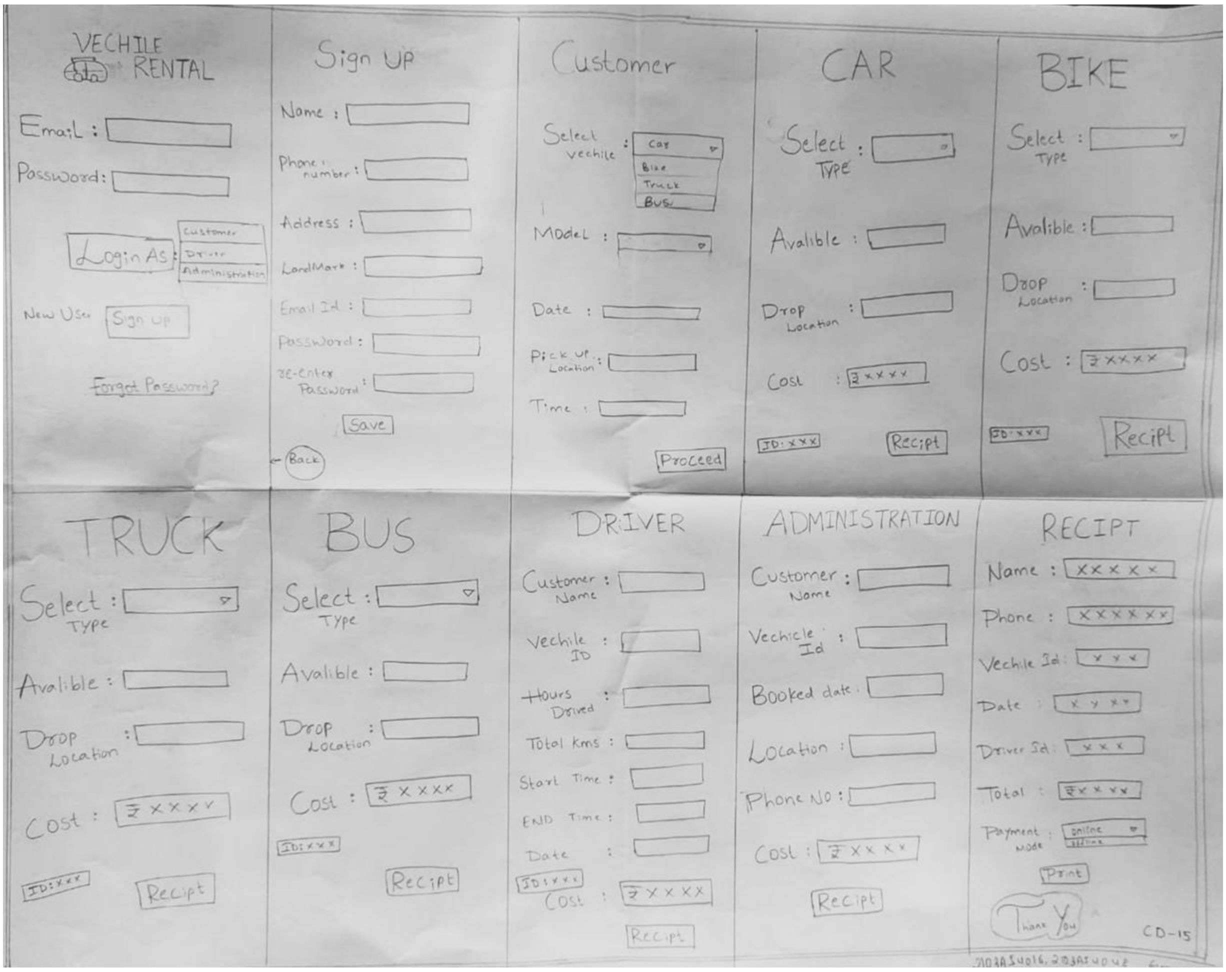
CHAPTER 3

DESIGN

This design provides a structured framework for developing the Java-Based Car Rental System, ensuring that it meets its objectives of user-friendly car booking for customers and efficient management for administrators. It also allows for future scalability and adaptability as the car rental industry's requirements change.

The Java-Based vehicle Rental System employs a modular design that facilitates user-friendly car booking for customers and streamlined administrative control. The system's core components include a customer registration module, car inventory management, a booking system, and an administrative control panel. Customers can create accounts, browse available cars, and make bookings, while administrators oversee car listings, booking management, and customer accounts. Java is used for coding, and Eclipse IDE offers a robust development environment. Data security measures protect sensitive information, and the system is designed for scalability, ensuring adaptability to changing industry needs, making it a comprehensive solution for car rental services.

This is the rough design of our project:-



3.1 SCREENS

The vehicle rental system contains 6 screens

Screen1:- **LOGIN PAGE** in this any user and any admin call login if they are already registered if not registered then they need to clock on ‘**SIGN UP** ‘ button then next slide appears

Screen 2:- **SIGN UP** page in this new customer or admin can register by filling all their personal details.

These details will be stored in the database

There is a customer and administration button on the first screen if you click on customer it will direct to **“HOME_PAGE”** or if you click on administration button then it will direct to **“ADMIN PAGE”.**

Screen 3:- **HOME_PAGE** in this the customer will fill the basic details for booking the car like time , date , address , etc…

Screen 4:- **ADMIN PAGE** in this the admin checks the booking details of the customer in a table .

Screen 5:**- CAR LIST** page this page will be directed from the HOME PAGE in home page there is a button called look this button will direct to the **CAR LIST** page in this customer can see the all types and models and cost of cars per day in table format.

Screen 6:- **BOOK** page in this customer can book the car by filling the details in provided place ,and customers can also know the price of chosen car, if the customer clicks on **save** button booking will be completed and the data will be stored in database.

CHAPTER 4

IMPLEMENTATION

The Java-Based Vehicle Rental System project is implemented as a user-centric and efficient software solution for managing car rentals. It leverages Java programming language and is developed within the Eclipse IDE. The system incorporates two distinct user roles: customers and administrators.

For customers, the implementation allows user registration for personalized accounts, enabling them to browse car inventory, view vehicle details, and initiate bookings with ease. The booking process is seamless, with real-time availability checks and booking history tracking.

Administrators, on the other hand, have access to an administrative control panel for efficient management of car listings, customer accounts, and bookings. They can add new vehicles, update car information, and monitor bookings, ensuring smooth operations.

The system emphasizes data security to protect customer and car data. Its modular design ensures scalability, enabling future expansion and adaptation to changing industry needs. Overall, the project combines Java's versatility with Eclipse's development capabilities to create a robust car rental system, enhancing user experience and administrative control.

This implementation results in a user-friendly and secure car rental platform that simplifies the booking process for customers and streamlines administrative tasks for Vehicle rental service providers.

4.1 CODE

SCREEN 1:LOGIN PAGE CODE

```
import java.awt.EventQueue;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.Statement;

import javax.swing.JFrame;
import
javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.awt.Font;
import javax.swing.JLabel;
import javax.swing.JOptionPane;

import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.JPasswordField;
import java.awt.Toolkit;
import javax.swing.ImageIcon;

public class LoginPage {

    private JFrame frame;
    private JTextField textField;
    private JPasswordField passwordField;

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
            EventQueue.invokeLater(new Runnable() {
                    public void run() {
                            try {
                                    LoginPage window = new LoginPage();
                                    window.frame.setVisible(true);
                            } catch (Exception e) {
                                    e.printStackTrace();
                            }
                    }
            });
    }

    /**
     * Create the application.
     */
    public LoginPage() {
        initialize();
        frame.setVisible(true)
        ;
    }

    /**
     * Initialize the contents of the frame.
     */
    private void initialize() {
        frame = new JFrame();

    frame.setIconImage(Toolkit.getDefaultToolkit().getImage("C:\\Users\\DELL\\Desktop\\831
68 8-nissan-gt-r-wallpaper-1920x1080-iphone.jpg"));
        frame.setBounds(100, 100, 603, 420);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE
        ); frame.getContentPane().setLayout(null);
        textField = new JTextField();
        textField.setBounds(401, 65, 86, 20);
        frame.getContentPane().add(textField);
        textField.setColumns(10);
        passwordField = new JPasswordField();
        passwordField.setBounds(401, 135, 86, 20);
        frame.getContentPane().add(passwordField)
        ;


        JButton btnNewButton = new JButton("CUSTOMER");
        btnNewButton.setFont(new Font("Times New Roman", Font.BOLD,
        14)); btnNewButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                        try {
                            Class.forName("com.mysql.cj.jdbc.Driver");
                            Connection                  con
                                                        =
DriverManager.getConnection("jdbc:mysql://localhost:3306/vrs", "root", "");
```

```
Statement stmt = con.createStatement();
```

```
                              String name = textField.getText();
                              String Password=passwordField.getText();
                              String sql = "select name,Password from signup where
name='"+name+"' and Password='"+Password+"'";
                              ResultSet rs=stmt.executeQuery(sql);
                              if(rs.next())
                              {
                                                            frame.dispose();
                                                            Home_page
                                                            a =new
                                                            Home_page
logged in");                                                ();
                             }                              frame.dispos
                             else                           e();
                             {                              JOptionPane.showMessageDial
                                                            og(frame,
username or password ");
                                                            "suucessfully

                             }
                                                            JOptionPane.showMessageDia
                                                            log(frame,
                                                            "Invalid textField.setText("");
                                                            passwordField.setText("");

                              con.close();
                         }
                         catch(Exception exc) {exc.printStackTrace();}
                  }
          });
          btnNewButton.setBounds(29, 202, 201, 23);
          frame.getContentPane().add(btnNewButton)
          ;

                         JButton btnNewButton_1 = new
```

```
JButton("Adiministration");
btnNewButton_1.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {


try {
```

```
Class.forName("com.mysql.cj.jdbc.Driver");
```

```
                              Connection                    con                         =
DriverManager.getConnection("jdbc:mysql://localhost:3306/vrs", "root", "");
                              Statement stmt =
                              con.createStatement(); String name =
                              textField.getText();
                              String Password=passwordField.getText();
                              String  sql  =  "select  name,Password  from  signup  where
name='"+name+"' and Password='"+Password+"'";
                              ResultSet rs=stmt.executeQuery(sql);
                              if(rs.next())
                              {
                                                          frame.dispose();
                                                          admin z =
                                                          new
                                                          admin();
logged in");                                              frame.dispos
                             }                            e();
                             else                         JOptionPane.showMessageDial
                                                          og(frame,
                             {
                                                          "suucessfully
username or password ");


                             }                            JOptionPane.showMessageDia
                                                          log(frame,
                                                          "Invalid textField.setText("");
                                                          passwordField.setText("");

                              con.close();
                         }
                         catch(Exception exc) {exc.printStackTrace();}
                    }
               });


               btnNewButton_1.setFont(new Font("Times New Roman", Font.BOLD,
14)); btnNewButton_1.setBounds(365, 202, 201, 23);
frame.getContentPane().add(btnNewButton_1);
```

```
JButton btnNewButton_2 = new JButton("SIGN UP");
```

```
btnNewButton_2.addActionListener(new ActionListener()
        { public void actionPerformed(ActionEvent e) {
                Signup m =new Signup();
                frame.dispose();
        }
});
btnNewButton_2.setFont(new Font("Tahoma", Font.BOLD, 11));
btnNewButton_2.setBounds(381, 280, 89, 23);
frame.getContentPane().add(btnNewButton_2);

JLabel lblNewLabel = new JLabel("New
User?"); lblNewLabel.setBounds(401, 255, 82,
14); frame.getContentPane().add(lblNewLabel);

JLabel lblNewLabel_1 = new JLabel("Username");
lblNewLabel_1.setFont(new Font("Tahoma", Font.BOLD, 14));
lblNewLabel_1.setForeground(Color.BLACK);
lblNewLabel_1.setBounds(121, 66, 82, 14);
frame.getContentPane().add(lblNewLabel_1);

JLabel lblNewLabel_1_1 = new JLabel("Password");
lblNewLabel_1_1.setFont(new Font("Tahoma", Font.BOLD, 14));
lblNewLabel_1_1.setForeground(new Color(0, 0, 0));
lblNewLabel_1_1.setBounds(121, 136, 82, 14);
frame.getContentPane().add(lblNewLabel_1_1)
;

JLabel lblNewLabel_1_2 = new JLabel("LOGIN");
lblNewLabel_1_2.setFont(new Font("Times New Roman", Font.BOLD, 17));
lblNewLabel_1_2.setForeground(new Color(0, 0, 0));
lblNewLabel_1_2.setBounds(311, 11, 82, 14);
frame.getContentPane().add(lblNewLabel_1_2
);

JButton btnNewButton_3 = new JButton("CLEAR");
```

```
btnNewButton_3.setFont(new Font("Tahoma", Font.BOLD, 11));
btnNewButton_3.setForeground(new Color(0, 0, 0));
```

```
                btnNewButton_3.addActionListener(new ActionListener()
                        { public void actionPerformed(ActionEvent e) {
                                textField.setText(null);
                                passwordField.setText(null)
                                ;

                        }

                });
                btnNewButton_3.setBounds(104, 280, 89, 23);
                frame.getContentPane().add(btnNewButton_3)
                ;

                JLabel lblNewLabel_2 = new JLabel("");
                lblNewLabel_2.setIcon(new
ImageIcon("C:\\Users\\DELL\\Desktop\\6ea344dc73ef9310eb5a49de34988ca1.jpg")
                ); lblNewLabel_2.setBounds(-177, 0, 974, 408);
                frame.getContentPane().add(lblNewLabel_2);



        }
    }
```

SCREEN 2:-SIGNUP PAGE CODE

```
import java.sql.*;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.SQLException;
import java.util.jar.Attributes.Name;
import java.util.logging.Logger;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JOptionPane;

import java.awt.Font;
import javax.swing.SwingConstants;
import javax.swing.JTextField;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.JPasswordField;
import javax.swing.ImageIcon;

public class Signup {

	private	JFrame	frame;
	private JTextField textField;
	private JTextField textField_1;
	private JTextField textField_2;
	private JTextField textField_3;

	/**
	 * Launch the application.
	 */
	public static void main(String[] args)throws ClassNotFoundException, SQLException {
		EventQueue.invokeLater(new Runnable() {
			public void run() {
				try {
					Signup window = new Signup();
					window.frame.setVisible(true);
				} catch (Exception e) {
					e.printStackTrace();
				}
			}
		});
	}
```

```
/**
 * Create the application.
 */
public Signup() {
          initialize()
          ;
          Connect();
          frame.setVisible(true);
}

Connection
con;
Statement st;
ResultSet rs;
private JPasswordField
passwordField; public void Connect()
{
          try {
                    Class.forName("com.mysql.cj.jdbc.Driver");

con=DriverManager.getConnection("jdbc:mysql://localhost:3306/vrs","root","");
                              } catch (ClassNotFoundException | SQLException e){
                    // TODO Auto-generated catch block
                    e.printStackTrace();
          }

}



/**
 * Initialize the contents of the frame.
 */
private void initialize() {
          frame = new JFrame();
```

```
frame.setBounds(100, 100, 687, 397);
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE
); frame.getContentPane().setLayout(null);
```

```
JLabel lblNewLabel = new JLabel("SIGN UP");
lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD, 14));
lblNewLabel.setBounds(170, 11, 266, 14);
frame.getContentPane().add(lblNewLabel);

JLabel lblNewLabel_1 = new JLabel("Name");
lblNewLabel_1.setBounds(137, 40, 46, 18);
frame.getContentPane().add(lblNewLabel_1);

JLabel lblNewLabel_1_1 = new JLabel("E-Mail");
lblNewLabel_1_1.setBounds(137, 81, 46, 14);
frame.getContentPane().add(lblNewLabel_1_1);

JLabel lblNewLabel_1_2 = new JLabel("Phone number");
lblNewLabel_1_2.setBounds(137, 119, 80, 14);
frame.getContentPane().add(lblNewLabel_1_2);

JLabel lblNewLabel_1_3 = new JLabel("Driving Licence");
lblNewLabel_1_3.setBounds(137, 159, 80, 14);
frame.getContentPane().add(lblNewLabel_1_3);

JLabel lblNewLabel_1_4 = new JLabel("Password");
lblNewLabel_1_4.setBounds(137, 194, 46, 14);
frame.getContentPane().add(lblNewLabel_1_4);

textField = new JTextField();
textField.setColumns(10);
textField.setBounds(470, 37, 86, 20);
frame.getContentPane().add(textField)
;

textField_1 = new JTextField();
textField_1.setColumns(10);
```

```
textField_1.setBounds(470, 75, 86, 20);
```

```
        frame.getContentPane().add(textField_1);

        textField_2 = new JTextField();
        textField_2.setColumns(10);
        textField_2.setBounds(470, 113, 86, 20);
        frame.getContentPane().add(textField_2)
        ;

        textField_3 = new JTextField();
        textField_3.setColumns(10);
        textField_3.setBounds(470, 153, 86, 20);
        frame.getContentPane().add(textField_3)
        ;

        JButton btnNewButton = new JButton("SAVE");
        btnNewButton.addActionListener(new ActionListener() {


            public void actionPerformed(ActionEvent e)
                { String name = textField.getText();
                String Email = textField_1.getText();
                String number =
                textField_2.getText(); String licence =
                textField_3.getText();
                String Password = new
                String(passwordField.getPassword()); try {
                    st = con.createStatement();
                    String        sql        =        "INSERT
                                  INTO
signup(name,Email,number,Drivinglicence,Password)
                                  values
('"+name+"','"+Email+"','"+number+"','"+licence+"','"+Password+"');";
                    int k=st.executeUpdate(sql);
                    if(k==1) {
                        JOptionPane.showMessageDialog(frame,"You      have
successfully registered!");
                                                  textFie
                                                  ld.setT
                                                  ext("")
                                                  ;
                                                  textFie
                                                  ld_1.s
                                                  etText
                                                  ("");
                                                  textFie
                                                  ld_2.s
                                                  etText
                                                  ("");
                                                  textField_3.setText("");
```

```
                                        passwordField.setText("");
                                    }
                                    else {
                                                                        JOptionPane.showMessageDialo
                                                                        g(frame,"Registration
failed!");
                                    }
                            }


                                catch (SQLException ex) {
                                        ex.printStackTrace()
                                        ;


                    }
            }
            }
            );
            btnNewButton.setBounds(277, 297, 89, 23);
            frame.getContentPane().add(btnNewButton)
            ;

            JButton btnNewButton_1 = new JButton("Back");
            btnNewButton_1.addActionListener(new ActionListener() {
                    public void actionPerformed(ActionEvent e)
                            { LoginPage k1 = new LoginPage();
                            frame.dispose();
                    }

            });
            btnNewButton_1.setBounds(18, 297, 89, 23);
```

```
frame.getContentPane().add(btnNewButton_1)
;
```

```
                passwordField = new JPasswordField();
                passwordField.setBounds(470, 188, 86, 20);
                frame.getContentPane().add(passwordField)
                ;

                JButton btnNewButton_2 = new JButton("CLEAR");
                btnNewButton_2.addActionListener(new ActionListener() {
                        public void actionPerformed(ActionEvent e)
                                { textField.setText(null);
                                textField_1.setText(null);
                                textField_2.setText(null);
                                textField_3.setText(null);
                                passwordField.setText(null);
                        }
                });
                btnNewButton_2.setBounds(552, 297, 89, 23);
                frame.getContentPane().add(btnNewButton_2)
                ;

                JLabel lblNewLabel_2 = new JLabel("");
                lblNewLabel_2.setIcon(new
ImageIcon("C:\\Users\\DELL\\Desktop\\wallpaper2you_103045.jpg")
                ); lblNewLabel_2.setBounds(0, 0, 671, 347);
                frame.getContentPane().add(lblNewLabel_2);
        }
        }
```

SCREEN 3:HOME_PAGE CODE

```
import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.SwingConstants;
import java.awt.Font;
import java.awt.FlowLayout;
import javax.swing.JComboBox;
import javax.swing.DefaultComboBoxModel;
import javax.swing.JTextField;
import javax.swing.JProgressBar;
import javax.swing.JButton;
import java.awt.Color;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.ImageIcon;

public class Home_page {

        private JFrame frame;
        private JTextField textField;
        private JTextField
        textField_1; private
        JTextField textField_2;

        /**
         * Launch the application.
         */
        public static void main(String[] args) {
                EventQueue.invokeLater(new Runnable() {
                        public void run() {
                                try {
                                        Home_page window = new Home_page();
                                        window.frame.setVisible(true);
                                } catch (Exception e) {
                                        e.printStackTrace();
                                }
                        }
                });
        }

        /**
         * Create the application.
```

```
*/
```

```
	public Home_page() {
		initialize();
		frame.setVisible(true)
		;
	}

	/**
	 * Initialize the contents of the frame.
	 */
	private void initialize() {
		frame = new JFrame();
		frame.setBounds(100, 100, 500, 413);
		frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE
		); frame.getContentPane().setLayout(null);

		JLabel lblNewLabel = new JLabel("WELCOME");
		lblNewLabel.setBounds(50, 11, 424, 17);
		lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD, 14));
		lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
		frame.getContentPane().add(lblNewLabel);

		JComboBox comboBox = new JComboBox();
		comboBox.setModel(new DefaultComboBoxModel(new String[] {"HYDERABAD",
"HANUMAKONDA/WARANGAL", "BANGALORE", "VIZAG", "VIJAYAWADA"}));
		comboBox.setBounds(153, 65, 94, 22);
		frame.getContentPane().add(comboBox)
		;

		JLabel lblNewLabel_1 = new JLabel("Select
		city"); lblNewLabel_1.setBounds(45, 69, 72, 14);
		frame.getContentPane().add(lblNewLabel_1);

		JLabel lblNewLabel_1_1 = new JLabel("Full
		Address"); lblNewLabel_1_1.setBounds(45, 115, 72,
		14); frame.getContentPane().add(lblNewLabel_1_1);
```

```
textField = new JTextField();
```

```
textField.setBounds(153, 112, 94, 20);
frame.getContentPane().add(textField)
; textField.setColumns(10);

JLabel lblNewLabel_2 = new JLabel("Date");
lblNewLabel_2.setBounds(45, 213, 46, 14);
frame.getContentPane().add(lblNewLabel_2);

JLabel lblNewLabel_2_1 = new JLabel("Time");
lblNewLabel_2_1.setBounds(45, 168, 46, 14);
frame.getContentPane().add(lblNewLabel_2_1);

textField_1 = new JTextField();
textField_1.setBounds(153, 210, 94, 20);
frame.getContentPane().add(textField_1)
; textField_1.setColumns(10);

textField_2 = new JTextField();
textField_2.setColumns(10);
textField_2.setBounds(153, 165, 94, 20);
frame.getContentPane().add(textField_2)
;

JLabel lblNewLabel_3 = new JLabel("TYPE");
lblNewLabel_3.setBounds(45, 249, 46, 14);
frame.getContentPane().add(lblNewLabel_3);
                                          JComboBox comboBox_1 = new JComboBox();
                                          comboBox_1.setModel(new
                                          DefaultComboBoxModel(new String[] {"5
SEATER"}));                               SEATER ", "7

                                          comb
                                          oBox
                                          _1.set
                                          Boun
```

```
ds(15
3,
245,
94,
22);
frame
.getC
onten
tPane
().add
(com
boBo
x_1);

JLabel lblNewLabel_4 = new JLabel("carlist");
lblNew
Label_
4.setBo
unds(4
5, 296,
46, 14);
frame.g
etConte
ntPane(
).add(lb
lNewL
abel_4)
;
```

```
		JButton btnNewButton_1 = new JButton("Look");
		btnNewButton_1.addActionListener(new ActionListener() {
			public void actionPerformed(ActionEvent e)
				{ carlist hm = new carlist();
				frame.dispose();
			}
		});
		btnNewButton_1.setBounds(153, 292, 99, 23);
		frame.getContentPane().add(btnNewButton_1)
		;

		JLabel lblNewLabel_5 = new JLabel("");
		lblNewLabel_5.setIcon(new ImageIcon("C:\\Users\\DELL\\Desktop\\11125.jpeg"));
		lblNewLabel_5.setBounds(0, 5, 484, 369);
		frame.getContentPane().add(lblNewLabel_5);
	}
}
```

SCREEN 4:ADMIN PAGE CODE

```
import java.awt.EventQueue;


import javax.swing.JFrame;
import javax.swing.JTable;
import javax.swing.table.DefaultTableModel;
import javax.swing.JScrollPane;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import java.sql.Statement;
import java.awt.event.ActionEvent;
import javax.swing.JLabel;
import java.awt.Font;
import javax.swing.SwingConstants;

public class admin {

        private JFrame frame;
        private JTable table;
        private JLabel lblNewLabel;

        /**
         * Launch the application.
         */
        public static void main(String[] args) {
                EventQueue.invokeLater(new Runnable() {
                        public void run() {
                                try {
                                        admin window = new admin();
                                        window.frame.setVisible(true)
                                                        ;
                                } catch (Exception e) {
                                        e.printStackTrace();
                                }
                        }
                });
        }

        /**
         * Create the application.
         */
        public admin() {
                initialize();
                frame.setVisible(true)
                ;
        }

        /**
```

```
* Initialize the contents of the frame.
*/
```

```
        private void initialize() {
                frame = new JFrame();
                frame.setBounds(100, 100, 661, 403);
                frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE
                ); frame.getContentPane().setLayout(null);

                JScrollPane scroll = new
                JScrollPane(); scroll.setBounds(150,
                51, 475, 304);
                frame.getContentPane().add(scroll);

                scroll.setVisible(false);

                table = new JTable();
                scroll.setViewportView(table)
                ;

                JButton btnShow = new JButton("Bookings");
                btnShow.addActionListener(new ActionListener() {
                        public void actionPerformed(ActionEvent e)
                                { try {
                                        scroll.setVisible(true);
                                        Class.forName("com.mysql.cj.jdbc.Driver")
                                        ;
                                        Connection                  con                  =
DriverManager.getConnection("jdbc:mysql://localhost:3306/vrs", "root", "");
                                        Statement stmt = con.createStatement();
                                        String qry = "select * from books";
                                        ResultSet rs = stmt.executeQuery(qry);
                                        ResultSetMetaData rmd =
                                        rs.getMetaData(); int cc =
                                        rmd.getColumnCount();
                                        DefaultTableModel    model    =    (DefaultTableModel)
table.getModel();
                                                    String[]
```

```
cols =
new
String[cc
]; for(int
i = 0;
i<cc;
i++)
        cols[i] =
        rmd.getColumnName(i+1);
model.se
tColumn
Identifier
s(cols);
while(rs.
next()) {
```

```
                                        String seater = rs.getString(1);
                                        String model1 = rs.getString(2);
                                        String paymentMode = rs.getString(3);
                                        String Duration = rs.getString(4);
                                        String row[] = {seater,model1,paymentMode,Duration};
                                        model.addRow(row);
                                   }
                                                 }
                                                 catch(Exception e1) {e1.printStackTrace();}
                                            }
                    });

                    btnShow.setBounds(10, 164, 130, 39);
                    frame.getContentPane().add(btnShow)
                    ;

                    lblNewLabel = new JLabel("ADMINISTRATION");
                    lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
                    lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD, 24));
                    lblNewLabel.setBounds(20, 11, 617, 38);
                    frame.getContentPane().add(lblNewLabel);

                    JButton btnNewButton = new JButton("Back");
                    btnNewButton.addActionListener(new ActionListener() {
                         public void actionPerformed(ActionEvent e)
                              { LoginPage c =new LoginPage();
                              frame.dispose();
                         }

                    });
                    btnNewButton.setBounds(10, 330, 89, 23);
                    frame.getContentPane().add(btnNewButton)
                    ;
               }
          }
```

SCREEN 5:CAR LIST PAGE CODE

```
import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JScrollPane;
import javax.swing.JLabel;
import java.awt.Font;
import javax.swing.SwingConstants;
import javax.swing.JButton;
import javax.swing.JPanel;
import
javax.swing.border.TitledBorder;
import javax.swing.JTabbedPane;
import javax.swing.JTable;
import javax.swing.table.DefaultTableModel;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.ImageIcon;

public class carlist {

        private JFrame frame;
        private JTable table;
        private JTable table_1;

        /**
         * Launch the application.
         */
        public static void main(String[] args) {
                EventQueue.invokeLater(new Runnable() {
                        public void run() {
                                try {
```

```
carlist window = new carlist();
```

```
                    window.frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the application.
     */
    public carlist() {
        initialize();
        frame.setVisible(true)
        ;
    }

    /**
     * Initialize the contents of the frame.
     */
    private void initialize() {
        frame = new JFrame();
        frame.setBounds(100, 100, 555, 403);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE
        ); frame.getContentPane().setLayout(null);

        JLabel lblNewLabel = new JLabel("CAR DETAILS");
        lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
        lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD, 14));
        lblNewLabel.setBounds(55, 6, 424, 14);
        frame.getContentPane().add(lblNewLabel);

        JLabel lblNewLabel_1 = new JLabel("5 SEATER ");
        lblNewLabel_1.setFont(new Font("Tahoma", Font.BOLD, 12));
        lblNewLabel_1.setBounds(22, 31, 88, 14);
```

```
frame.getContentPane().add(lblNewLabel_1);
```

```
JLabel lblNewLabel_1_1 = new JLabel("7 SEATER ");
lblNewLabel_1_1.setFont(new Font("Tahoma", Font.BOLD, 12));
lblNewLabel_1_1.setBounds(22, 176, 88, 14);
frame.getContentPane().add(lblNewLabel_1_1);
JButton btnNewButton_1_7 = new JButton("NEXT");
btnNewButton_1_7.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e)
                { Book f = new Book();
                frame.dispose();


        }
});
btnNewButton_1_7.setBounds(385, 330, 89, 23);
frame.getContentPane().add(btnNewButton_1_7)
;

JScrollPane scrollPane = new
JScrollPane(); scrollPane.setBounds(32, 56,
443, 101);
frame.getContentPane().add(scrollPane);

table = new JTable();
scrollPane.setViewportView(table);
table.setModel(new DefaultTableModel(
        new Object[][] {
                {"Kwid", new Integer(1392)},
                {"Santro", new Integer(1584)},
                {"Tigor", new Integer(1776)},
                {"Dzire", new Integer(1848)},
                {"Baleno", new Integer(2184)},
                {"Polo", new Integer(2376)},
        },
        new String[] {
                "options", "24 hours"
        }
    ));
```

```
        JScrollPane scrollPane_1 = new JScrollPane();
        scrollPane_1.setBounds(31, 214, 443, 101);
        frame.getContentPane().add(scrollPane_1);

        table_1 = new JTable();
        scrollPane_1.setViewportView(table_1);
        table_1.setModel(new DefaultTableModel(
            new Object[][] {
                {"Triber", new Integer(1992)},
                {"Eritga", new Integer(2707)},
                {"XUV 500 Sunroof", new Integer(3689)},
                {"Xuv700 Sunroof", new Integer(5976)},
                {"kia Carens", new Integer(5987)},
                {"Bolero", new Integer(2767)},
            },
            new String[] {
                "options", "24 hours"
            }
        ));
    }
}
```

SCREEN 6: BOOK PAGE CODE

```
import java.sql.*;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import java.awt.Font;
import javax.swing.SwingConstants;
import javax.swing.JComboBox;
import javax.swing.JTextField;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.awt.Color;

public class Book {
    private JFrame frame;
    private JComboBox<String> seaterComboBox;
    private JComboBox<String> modelComboBox;
    private JComboBox<String> paymentModeComboBox;
    private JTextField durationTextField; // Add JTextField for duration
    private JLabel costLabel; // Add JLabel for displaying cost

    Connection con;

    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run()
                { try {
                    Book window = new Book();
                    window.frame.setVisible(true)
                    ;
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    public Book()
        { initialize();
        Connect();
        frame.setVisible(true);
    }

    public void Connect()
        { try {
            Class.forName("com.mysql.cj.jdbc.Driver");
```

```
con = DriverManager.getConnection("jdbc:mysql://localhost:3306/vrs", "root", "");
```

```
    } catch (ClassNotFoundException | SQLException e)
        { e.printStackTrace();
    }
}

private void initialize() {
    frame = new JFrame();
    frame.setBounds(100, 100, 450, 300);
    frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE
    ); frame.getContentPane().setLayout(null);

    JLabel lblNewLabel = new JLabel("BOOKING");
    lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
    lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD, 14));
    lblNewLabel.setBounds(45, 12, 266, 14);
    frame.getContentPane().add(lblNewLabel);

    JLabel lblNewLabel_1 = new JLabel("Seater");
    lblNewLabel_1.setBounds(61, 37, 46, 18);
    frame.getContentPane().add(lblNewLabel_1);

    JLabel lblNewLabel_1_1 = new JLabel("Model");
    lblNewLabel_1_1.setBounds(61, 78, 46, 14);
    frame.getContentPane().add(lblNewLabel_1_1);

    JLabel lblNewLabel_1_3 = new JLabel("Payment Mode");
    lblNewLabel_1_3.setBounds(61, 116, 80, 14);
    frame.getContentPane().add(lblNewLabel_1_3);

    seaterComboBox = new JComboBox<>();
    seaterComboBox.setBounds(225, 36, 86, 20);
    seaterComboBox.addItem("5 Seater");
    seaterComboBox.addItem("7 Seater");
    frame.getContentPane().add(seaterComboBox)
    ;
```

```
modelComboBox = new JComboBox<>();
modelComboBox.setBounds(225, 75, 86, 20);
frame.getContentPane().add(modelComboBox)
;

paymentModeComboBox = new JComboBox<>();
paymentModeComboBox.setBounds(225, 113, 86, 20);
paymentModeComboBox.addItem("Online");
paymentModeComboBox.addItem("Offline");
frame.getContentPane().add(paymentModeComboBox)
;

seaterComboBox.addActionListener(new ActionListener()
  { public void actionPerformed(ActionEvent e) {
      updateModels();
  }
});

JButton btnNewButton = new JButton("SAVE");
btnNewButton.addActionListener(new ActionListener() {
  public void actionPerformed(ActionEvent e) {
      // Get the selected options
      String seater = seaterComboBox.getSelectedItem().toString();
      String model1 = modelComboBox.getSelectedItem().toString();
      String paymentMode = paymentModeComboBox.getSelectedItem().toString();
      String durationStr = durationTextField.getText();
      String costStr = costLabel.getText().substring(10);

      // Validate input
      if (durationStr.isEmpty() || costStr.isEmpty()) {
          JOptionPane.showMessageDialog(frame, "Please calculate cost first.");
          return;
      }

      // Convert duration and cost to appropriate data types
```

```
int duration = Integer.parseInt(durationStr);
int cost = Integer.parseInt(costStr);
```

```
            // Insert data into the database
            try {
              String sql = "INSERT INTO books(seater, model1, paymentMode, Duration) VALUES
       (?, ?, ?, ?)";
                                                  PreparedStatement
                                                  preparedStatement =
                                                  con.prepareStatement(sql);
                                                  preparedStatement.setString(
                                                  1, seater);
                                                  preparedStatement.setString(
                                                  2, model1);
                                                  preparedStatement.setString(
                                                  3, paymentMode);
                                                  preparedStatement.setInt(4,
                                                  duration);


                                                  int
                                                  k =
                                                  pre
                                                  par
                                                  ed
                                                  Sta
                                                  te
                                                  me
                                                  nt.e
                                                  xec
                                                  ute
                                                  Up
                                                  dat
                                                  e();
                                                  if
                                                  (k
                                                  ==
1)
{
   JOptionPane.showMessageDialog(frame,
   "THANK YOU FOR BOOKING");
   seaterComboBox.setSelectedIndex(0);
   model
   Comb
   oBox.
   setSel
   ectedI
   ndex(
   0);
   payme
   ntMod
   eCom
   boBox
   .setSel
   ectedI
   ndex(
   0);
   durati
   onTex
   tField.
   setTex
   t("");
   //costLabel.setText("");
} else {
   JOptionPane.showMessageDialog(frame,
   "Booking failed!");
             }
         } catch (SQLException ex) {
             ex.printStackTrace();
         }
     }
  });
  btnNewButton.setBounds(148, 227, 89, 23);
  frame.getContentPane().add(btnNewButton)
  ;

  JLabel lblNewLabel_1_4 = new JLabel("Duration(days)"); // Add a label for duration
  lblNewLabel_1_4.setBounds(61, 155, 100, 14);
  frame.getContentPane().add(lblNewLabel_1_4);
```

```
durationTextField = new JTextField();
durationTextField.setBounds(225, 152, 86, 20);
frame.getContentPane().add(durationTextField)
;

JButton btnNewButton_2 = new JButton("Calculate Cost");
btnNewButton_2.setForeground(Color.BLACK);
btnNewButton_2.addActionListener(new ActionListener() {
   public void actionPerformed(ActionEvent e) {
      calculateCost();
   }
});
btnNewButton_2.setBounds(61, 185, 150, 23);
frame.getContentPane().add(btnNewButton_2)
;

costLabel = new JLabel("");
costLabel.setForeground(Color.RED);
costLabel.setBounds(225, 185, 150,
23);
frame.getContentPane().add(costLabel);

JButton btnNewButton_1 = new JButton("Next");
btnNewButton_1.addActionListener(new ActionListener() {
   public void actionPerformed(ActionEvent e) {
            Thankyou f = new Thankyou();
                              frame.dispose();


   }
});
btnNewButton_1.setBounds(335, 227, 89, 23);
frame.getContentPane().add(btnNewButton_1)
;

JLabel lblNewLabel_2 = new JLabel("BOOK");
```

```
lblNewLabel_2.setFont(new Font("Wide Latin", Font.ITALIC, 14));
lblNewLabel_2.setBounds(330, 39, 94, 14);
frame.getContentPane().add(lblNewLabel_2);
```

```
    JLabel lblNewLabel_3 = new JLabel("NOW");
    lblNewLabel_3.setForeground(new Color(255, 0, 0));
    lblNewLabel_3.setFont(new Font("Wide Latin", Font.ITALIC, 14));
    lblNewLabel_3.setBounds(335, 52, 64, 14);
    frame.getContentPane().add(lblNewLabel_3);
}

private void updateModels() {
    modelComboBox.removeAllItems()
    ;
    String selectedSeater =
    seaterComboBox.getSelectedItem().toString(); if
    (selectedSeater.equals("5 Seater")) {
        modelComboBox.addItem("Kwid");
        modelComboBox.addItem("Santro");
        modelComboBox.addItem("Tigor");
        modelComboBox.addItem("Dzire");
        modelComboBox.addItem("Baleno")
        ; modelComboBox.addItem("Polo");
    } else if (selectedSeater.equals("7 Seater")) {
        modelComboBox.addItem("Tirber");
        modelComboBox.addItem("Eritga");
        modelComboBox.addItem("XUV 500 sunroof");
        modelComboBox.addItem("XUV 700
        sunroof"); modelComboBox.addItem("Kia
        Carens"); modelComboBox.addItem("Bolero");
    }
}

private void calculateCost() {
    String selectedSeater = seaterComboBox.getSelectedItem().toString();
    String selectedModel = modelComboBox.getSelectedItem().toString();
    int cost = 0;

    try {
```

```
int duration = Integer.parseInt(durationTextField.getText());
```

```
if (selectedSeater.equals("5 Seater")) {
    if (selectedModel.equals("Kwid")) {
        cost = 1392 * duration;
    } else if (selectedModel.equals("Santro"))
        { cost = 1584 * duration;
    }
    else if (selectedModel.equals("Tigor"))
        { cost = 1776 * duration;
    }
    else if (selectedModel.equals("Dzire")) {
        cost = 1848 * duration;
    }
    else if (selectedModel.equals("Baleno")) {
        cost = 2184 * duration;
    }
    else if (selectedModel.equals("Polo"))
        { cost = 2376 * duration;
    } // Add more cases for other models
} else if (selectedSeater.equals("7 Seater"))
    { if (selectedModel.equals("Tirber")) {
        cost = 1992 * duration;
    } else if (selectedModel.equals("Eritga"))
        { cost = 2707 * duration;
    }
    else if (selectedModel.equals("XUV 500 sunroof")) {
        cost = 3689 * duration;
    }
    else if (selectedModel.equals("XUV 700 sunroof")) {
        cost = 5976 * duration;
    }
    else if (selectedModel.equals("kia Carens")) {
        cost = 5987 * duration;
    }
    else if (selectedModel.equals("Bolero")) {
```

```
cost = 2767 * duration;
```

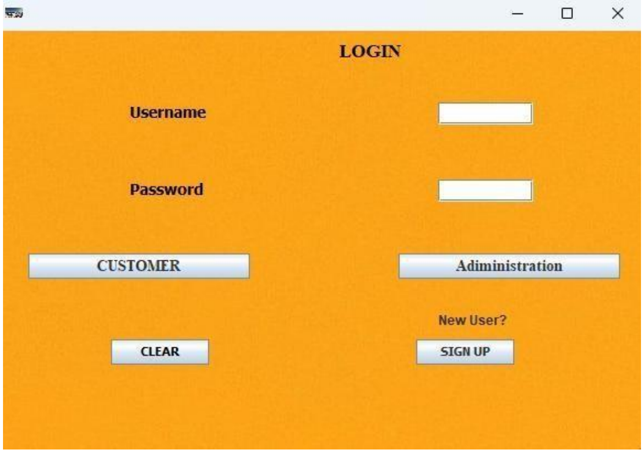
```
            } // Add more cases for other models
          }
          costLabel.setText("Cost rs" + cost);
        } catch (NumberFormatException ex) {
          JOptionPane.showMessageDialog(frame, "Invalid duration. Please enter a number.");
        }
      }
    }
```

CHAPTER 5

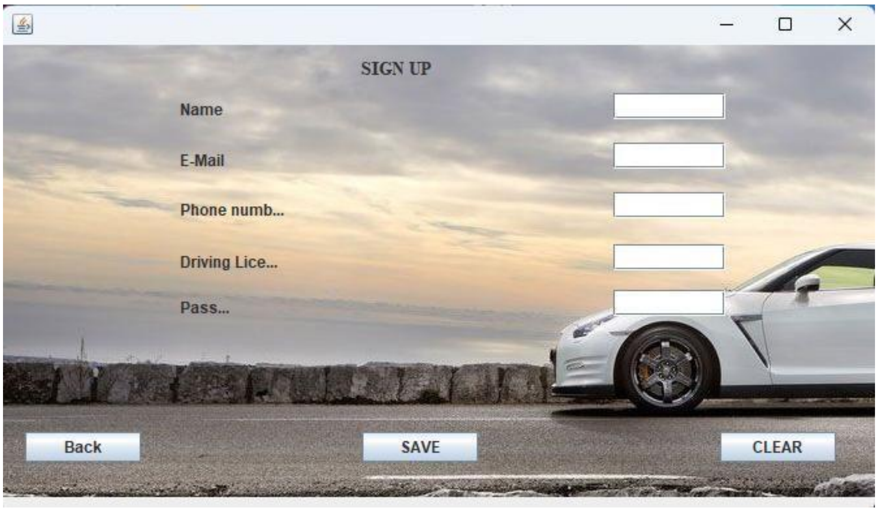
RESULT

SCREENS

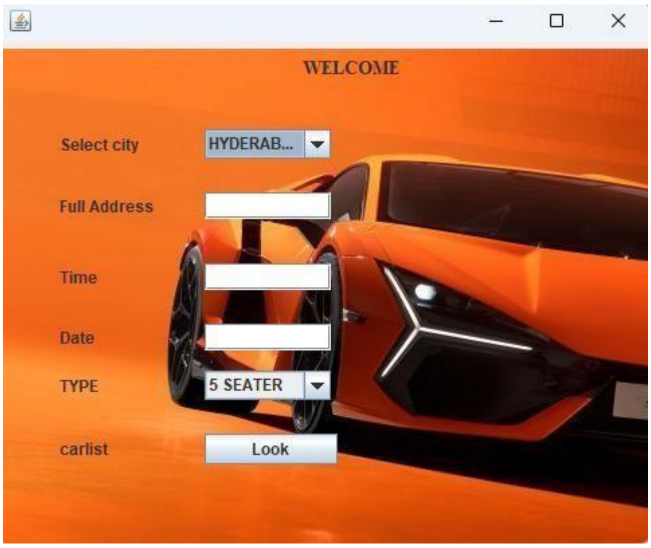
SCREEN 1:



SCREEN 2:



SCREEN 3:



WELCOME

Select city HYDERAB...

Full Address

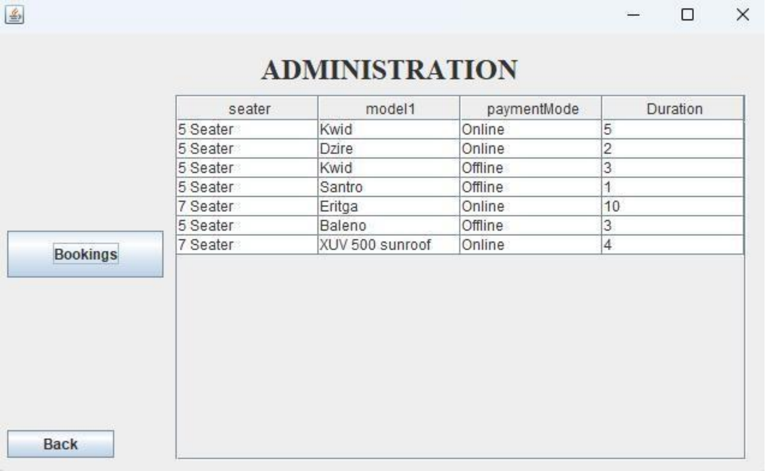
Time

Date

TYPE 5 SEATER

carlist

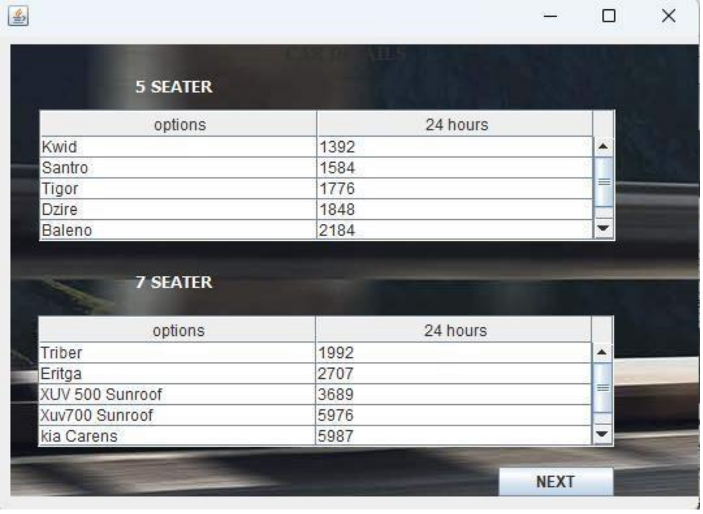
SCREEN 4:



ADMINISTRATION

seater	model1	paymentMode	Duration
5 Seater	Kwid	Online	5
5 Seater	Dzire	Online	2
5 Seater	Kwid	Offline	3
5 Seater	Santro	Offline	1
7 Seater	Eritga	Online	10
5 Seater	Baleno	Offline	3
7 Seater	XUV 500 sunroof	Online	4

SCREEN 5:



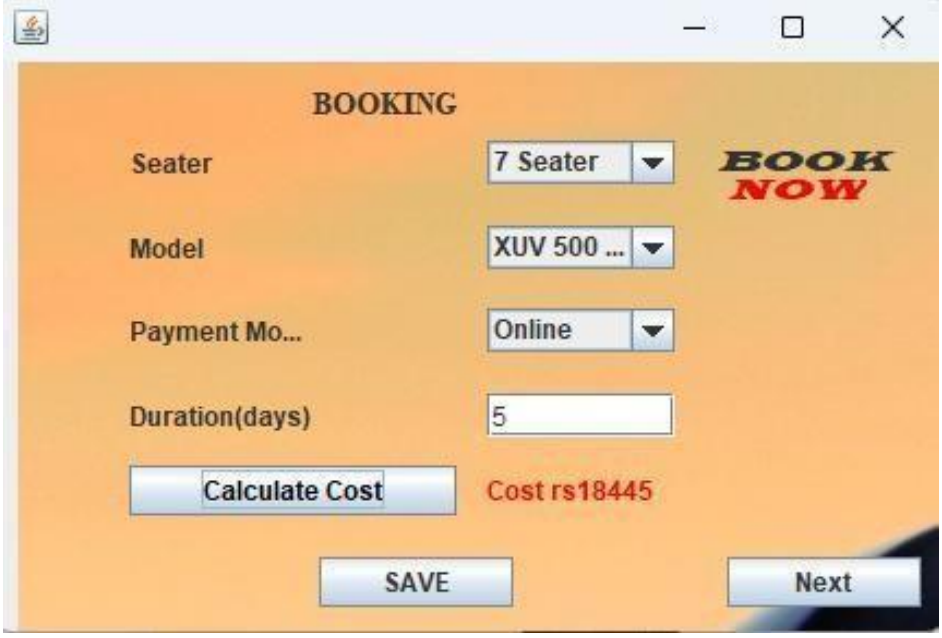
5 SEATER

options	24 hours
Kwid	1392
Santro	1584
Tigor	1776
Dzire	1848
Baleno	2184

7 SEATER

options	24 hours
Triber	1992
Eritga	2707
XUV 500 Sunroof	3689
Xuv700 Sunroof	5976
kia Carens	5987

SCREEN 6:



BOOKING

Seater: 7 Seater

Model: XUV 500 ...

Payment Mo...: Online

Duration(days): 5

Cost rs18445

CHAPTER 6

CONCLUSION

Conclusion:

The Vehicle Rental System project represents a significant step forward in the management of car rentals, offering a comprehensive solution for both customers and administrators. Throughout the project, several key objectives have been achieved, enhancing the overall user experience and efficiency of car rental services.

The project provides a user-friendly platform for registered customers, allowing them to browse a dynamic car inventory, view car details, and seamlessly book vehicles to meet their transportation needs. The registration process streamlines account creation, personalizing the experience for customers and facilitating future bookings. With access to booking history and personal profiles, customers can keep track of their rental activities with ease.

Administrators, on the other hand, have been equipped with powerful tools to efficiently manage the car rental system. This includes adding new vehicles to the inventory, updating car details, and closely monitoring customer bookings. The administrative control panel ensures that administrators can respond promptly to customer demands and maintain the system's integrity.

Data security has been a top priority throughout the project, safeguarding customer and car data from unauthorized access and maintaining privacy and integrity. This focus on security ensures that sensitive information remains protected within the system.

The project's design, built on the foundation of the Java programming language and developed within the Eclipse IDE, showcases the power of Java's object-oriented principles and Eclipse's development environment. This combination offers a versatile and maintainable code base that can be extended and adapted to meet changing industry requirements.

In conclusion, the Java-Based vehicle Rental System project has successfully delivered a end user and secure solution for managing car rentals. By achieving its primary objectives and leveraging Java and the Eclipse IDE, this project demonstrates the capability of technology to enhance and streamline the car rental experience for customers and administrators alike. It lays the foundation for future advancements and improvements in the car rental industry, emphasizing usability and efficiency.