International Journal of Research Publication and Reviews

Web-Based Car Hire Management System Using PHP and MySQL A Web-Based Management Approach

Vasu Kumar Chandrakar¹, Resham Yadav², Megha Yadav³

¹²³Department of Computer Science & Engineering, Krishna Engineering College, Bhilai,India
Emails: vasuchandrakar2004@gmail.com, iryadav2702@gmail.com, meghayadav507@gmail.com

ABSTRACT :

In today's digital age, numerous services are moving online. Car rentals, which were traditionally done offline, are now being offered through websites and mobile applications. This project presents a web-based car hire system that allows users to easily book vehicles online. The system is responsive and functions effectively on both mobile and desktop platforms. Developed using PHP (backend), MySQL (database), and HTML, CSS, Bootstrap, JavaScript (frontend), the project follows the MVC architecture for clean and structured code organization. The system enables automated bookings, secure payments (via UPI, PhonePe, debit/credit cards), and offers complete administrative control. Only registered users can book vehicles, and all booking data is automatically stored in the database. Admins can manage vehicles, users, and bookings through a centralized dashboard. The system significantly improves time-efficiency, reduces manual errors, and enhances the user experience. Future enhancements such as mobile app support and GPS tracking can further improve service quality.

Keywords: Digital Car Hire, Responsive Web Portal, Secure Booking System, MVC PHP App, Vehicle Management, User Dashboard, Admin Panel

1. Introduction

Background

This web-based platform allows users to sign up, browse available vehicles, and make bookings online from any location. Key features include login, registration, vehicle listing, booking form, help section, and logout options. Once logged in, users can manage their bookings and complete payments securely. The admin panel provides complete management control over users, vehicles, and booking data.

Objectives

- Automate the car booking and payment process.
- Minimize manual data entry and operational delays.
- Ensure a user-friendly experience even for first-time users.
- Provide admins with full control without requiring technical expertise.

Purpose and Scope

The system targets small to mid-sized businesses offering vehicle rental services. It ensures 24/7 service availability and faster daily operations. Automation reduces human effort while providing a smooth experience for both customers and administrators.

2. Functional Requirements

1. Secure Login & Registration – Encrypted passwords and safe user registration.
2. Instant Car Booking – Booking confirmation after selecting a car.
3. Real-Time Updates – Bookings and registrations are instantly reflected in the database.
4. Feedback Module – Users can leave reviews and ratings.

3. Non-Functional Requirements

1. Security – Data encryption and restricted access.
2. Performance – Web pages must load within 20–25 seconds.

3. Error Handling – Clear error messages for ease of understanding.

4. Availability – Minimum downtime, ensuring high system uptime.

5. Responsiveness – Fully compatible with desktops and mobile devices.

4. System Design

Data Integrity (Based on ALCOA Principles):

- Attributable – All actions are traceable to users.

- Legible – Data is clear and understandable.

- Contemporaneous – Data is recorded in real-time.

- Original – Original data is stored securely.

- Accurate – Data is valid and free from errors.

Data Dictionary:

| Table Name	Fields
users	**username, password, phone, email, address, first_name, last_name**
admin	**same fields as users**
cars	**id, name, type, category, image_path, description, price**
placed_order	**id, username, cars_rented, address, price**

5. MVC Architecture

- Model – Handles data logic and database interaction.

- View – Displays UI elements to the user.

- Controller – Handles user requests and links models to views.

6. Security Features

- SSL Encryption – Secure data transmission.

- Password Hashing – Securely stores user passwords.

- Restricted Access – Only logged-in users can book vehicles.

7. System Screenshots

- **User Registration Interface**
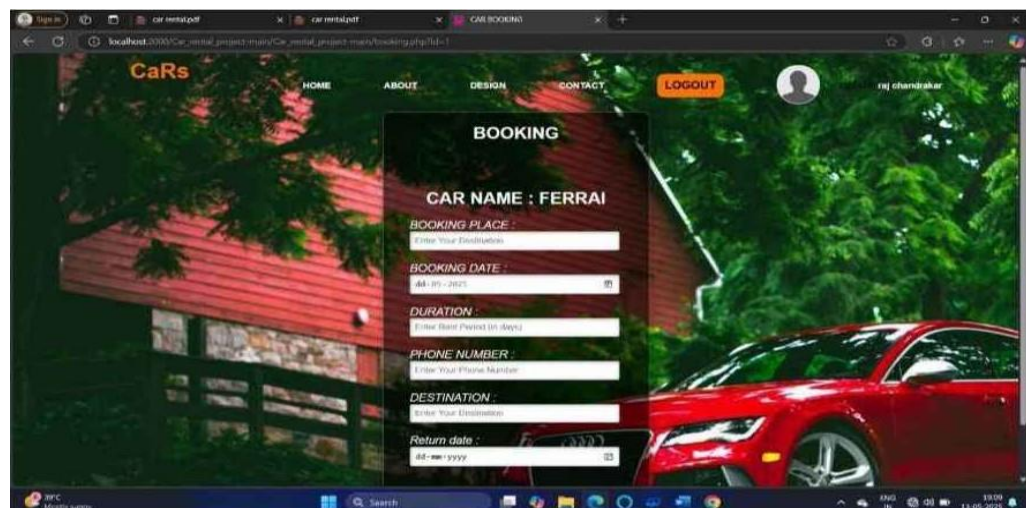
- **Vehicle Booking Confirmation**

8. Testing Methodology

- Unit Testing – Test individual modules.

- Integration Testing – Ensure module compatibility.

- Functional Testing – Validate features match requirements.

- Acceptance Testing – End-user testing before deployment.

9. Conclusion

The developed Web-Based Car Hire Management System streamlines vehicle rentals and business operations through a secure and user-friendly web platform. It minimizes manual errors, improves customer experience, and offers centralized control for admins. Future enhancements like mobile application support and real-time GPS tracking will further improve system effectiveness.

10. Acknowledgement

11. REFERENCES

1. Bhandge, M. et al., "Touchpad-Based Car Rental System Using Android App", *IJARCST*, Vol. 3, No. 2, 2015.
2. Chavan, A. et al., "Online Car Rental System on Cloud", *IJISET*, Vol. 2, No. 4, 2015.
3. Shinde, A. & Dabhade, V., "Digital Dining in Car Rental System", *IJARCSMS*, Vol. 2, No. 6, 2014.
4. Bhargave, A. et al., "Digital Ordering for Restaurants Using Android", *IJSRP*, Vol. 3, No. 4, 2013.
5. Google, SoloLearn, YouTube, Wikipedia – Learning Resources (Accessed May 2025).
6. Resham Yadav, Vasu Kumar Chandrakar, Megha Yadav (2025), *Major Project Report*, Department of CSE, Krishna Engineering College.