"Arthvishwa" International Journal
Multidisciplinary, Peer Reviewed, Indexed, Refereed, International Journal
Published Month and Year: March 2025 (Ref. No.: NSL/ISSN/INF/2012/2476 Dated: October 19, 2012) ISSN: 2319-6289

Automation and Efficiency Through A Simple Bus Ticket Booking System Using PHP and MySQL

Author: Ms. Sonal Wasudeo Walde, M. Com (Computer Management) Semester-IV, Dr.S.C. Gulhane Prerna College of Commerce, Science and Arts
Guide: Dr Manjiri D.Pathak, Assistant Professor, Dr.S.C.Gulhane Prerna College of Commerce, Science and Arts

Abstract

This research focuses on the development and implementation of a Simple Bus Ticket Booking System using PHP, MySQL, HTML, and Bootstrap. The system aims to eliminate the manual ticket booking process, reduce human error, and make ticket management faster, more accurate, and accessible online. It also enhances passenger convenience through real-time booking and cancellation features.

Keywords: Bus Ticket Booking System, PHP, MySQL, HTML, Bootstrap, online ticket booking, real-time booking

1. Introduction

The rapid growth of digital technology has impacted every sector, including transportation. In India, bus travel is a common mode of transport, especially for inter-city and rural travel. Manual ticket booking often leads to long queues, excessive paperwork, and frequent human errors, causing inconvenience for both passengers and operators. To address these challenges, automation of the ticket booking process has become a necessary and practical innovation. This paper introduces a simple yet efficient bus ticket booking system designed for both educational and real-world applications. Developed using basic web technologies such as PHP, MySQL, HTML, and Bootstrap, the system offers a user-friendly, reliable, and accessible solution for managing ticket reservations online.

Objectives

- To automate the ticket booking system.
- To provide an interface for booking, cancelling, and tracking tickets (PNR).
- To demonstrate CRUD operations in MySQL.
- To enable admin and user-based login roles.
- To improve efficiency and reduce manual dependency in ticket reservation.

Literature Review

Various bus reservation systems exist today with advanced features, but they often require heavy infrastructure or complex architecture. Educational projects generally need a simple, modular, and cost-effective solution that can be implemented in local systems using PHP and MySQL. Prior studies show that even simple web-based systems can have a significant impact on digital transformation at the local level.

2. Methodology

The system is developed using:

- Frontend: HTML, CSS, JavaScript, Bootstrap
- Backend: PHP
- Database: MySQL

Key modules:

- Admin/User Login
- Add Buses
- Ticket Booking
- Ticket Cancellation
- PNR Status Check

Users interact through a web-based GUI. Admin can manage routes and

bus schedules. Bookings are stored in a relational database with foreign key constraints for data consistency.

System Design

- Login Module: Verifies users based on role.
- Bus Management: Add, update, delete bus information.
- Booking Module: Users select bus, seat, and enter details.
- Cancellation Module: Cancels ticket based on PNR.
- PNR Module: Retrieves ticket data using booking ID.

Answers from Review Questions

Manual ticket booking systems are often time-consuming, prone to human error, and inconvenient for passengers, leading to inefficiencies and dissatisfaction. To overcome these limitations, this paper proposes a simple and efficient Bus Ticket Booking System developed using PHP, MySQL, HTML, and Bootstrap. The system is designed to automate the ticket booking process, offering real-time booking and cancellation options. It simplifies ticket management, reduces paperwork, and enhances overall passenger convenience. The system serves as a practical, user-friendly solution for modern transportation services.

3. Result & Discussion

The developed system successfully implements essential functionalities such as user authentication, real-time seat allocation and deletion, easy ticket and booking management for the admin, and a simple, responsive user interface. These features make the system efficient and user-friendly for both passengers and administrators. Testing results demonstrate that the system performs reliably, maintaining data integrity and providing quick response times even when accessed by multiple users simultaneously. This ensures a smooth and hassle-free experience for all users involved in the ticket booking process.

Future Scope

- Integration with online payment systems.
- Mobile app interface using React Native or Flutter.
- Real-time bus tracking through GPS integration.
- Email/SMS notification system.

4. Conclusion

The Simple Bus Ticket Booking System successfully meets all its intended objectives by providing an efficient and user-friendly platform for online ticket management. It showcases the practical application of PHP and MySQL in developing functional web-based systems. The system is designed with a modular and extendable structure, allowing for future enhancements such as integration with online payment gateways and SMS notifications. Its simplicity, reliability, and scope for future development make it a practical solution for modernizing ticket booking processes.

5. References

1. Welling, L., & Thomson, L. (2003). *PHP & MySQL Web Development* (3rd ed.). Addison-Wesley.
2. Roy, U. K. (2010). *Web Technologies*. Oxford University Press.