



Highway Bus Ticket Booking System - Project Report

GROUP 3

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Introduction

In an era where convenience and efficiency are highly valued, the Highway Bus Ticket Booking System is set to revolutionize how travelers plan and book intercity bus journeys. This software application aims to provide a robust and user-friendly platform that allows users to select seats and complete bookings securely online. The system is designed to meet the growing demand for reliable and hassle-free travel options, catering to both individual travelers and travel agencies.

By integrating cutting-edge technology with a user-centric design approach, the system will enhance the overall booking experience. It will empower users with real-time information, offer a seamless booking process, and provide various payment options to ensure convenience and satisfaction.

Objectives

User-Friendly Interface: Develop an intuitive interface that simplifies the booking process, making it accessible and easy to navigate from start to finish.

Secure Transactions: Implement robust security measures to safeguard payment transactions and protect user data from unauthorized access.

Real-Time Updates: Provide accurate, real-time information on bus schedules, seat availability, and booking statuses to ensure users have the most current details.

Comprehensive Reporting: Enable administrators to generate detailed reports that offer insights into bookings, revenues, and operational metrics, facilitating better management and decision-making.

Enhanced User Experience: Focus on usability and accessibility to cater to a diverse user base, including those with limited technical expertise, ensuring a positive and inclusive experience for all users.

Features

Login Page:

- Option to select user or admin
- Link for new registration

User Page:

- Ticket Booking:
 - Seat selection
 - Payment processing
- Ticket Cancellation:
 - Option to cancel existing bookings
- View Bookings:
 - Access to view current and past bookings

Registration Page:

- Input fields for user details
- Password creation

Admin Dashboard:

- View and manage all bookings

Tools and Languages

Visual Programming Language:

- The system will be developed using Visual Basic or Visual C# for graphical user interface (GUI) development, chosen for their robustness and ease of integration with other system components.

Database:

- SQL Server will be utilized for managing and storing critical data, including bus routes, bookings, and user information. This choice ensures reliable data management and efficient querying capabilities.

Implementation Plan

System Design:

- Develop wireframes and design mockups for the user interface.
- Define the database schema and relationships.

Development:

- Front-End Development:
 - Implement the GUI using Visual Basic or Visual C#.
 - Integrate user-friendly features as outlined in the objectives.
- Back-End Development:
 - Set up and configure the SQL Server database.
 - Develop the application logic for handling bookings, payments, and reporting.

Testing:

- Conduct thorough testing to identify and fix bugs.
- Perform usability testing to ensure the interface is intuitive and accessible.

Deployment:

- Deploy the application on a suitable server or cloud platform.
- Ensure all security measures are in place before going live.

Maintenance:

- Provide ongoing support and updates based on user feedback and system performance.

Database Connection

LAPTOP-EIR428OF\S...System - dbo.bookings - Microsoft SQL Server Management Studio

File Edit View Project Query Designer Tools Window Help

Connect - LAPTOP-EIR428OF\S...System - SQL Server 16.0.1000 -

Object Explorer

- Databases
 - System Databases
 - Database Snapshots
 - Bus_System
 - Database Diagrams
 - Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.bookings
 - dbo.bus
 - dbo.user
 - Views
 - External Resources
 - Synonyms
 - Programmability
 - Query Store
 - Service Broker
 - Storage
 - Security
 - Server Objects
 - Replication
 - Management
 - XEvent Profiler

Query Results

userName	startFrom	endTo	distance	numberOf...	time	busNo	price	password
ravindu	Matara	Colombo	162	4	4PM	7	12000	123
vinul	Matara	Galle	40	4	4PM	5	6000	123
* NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Ready

LAPTOP-EIR428OF\S...System - dbo.user - Microsoft SQL Server Management Studio

File Edit View Project Query Designer Tools Window Help

Connect - LAPTOP-EIR428OF\S...System - SQL Server 16.0.1000 -

Object Explorer

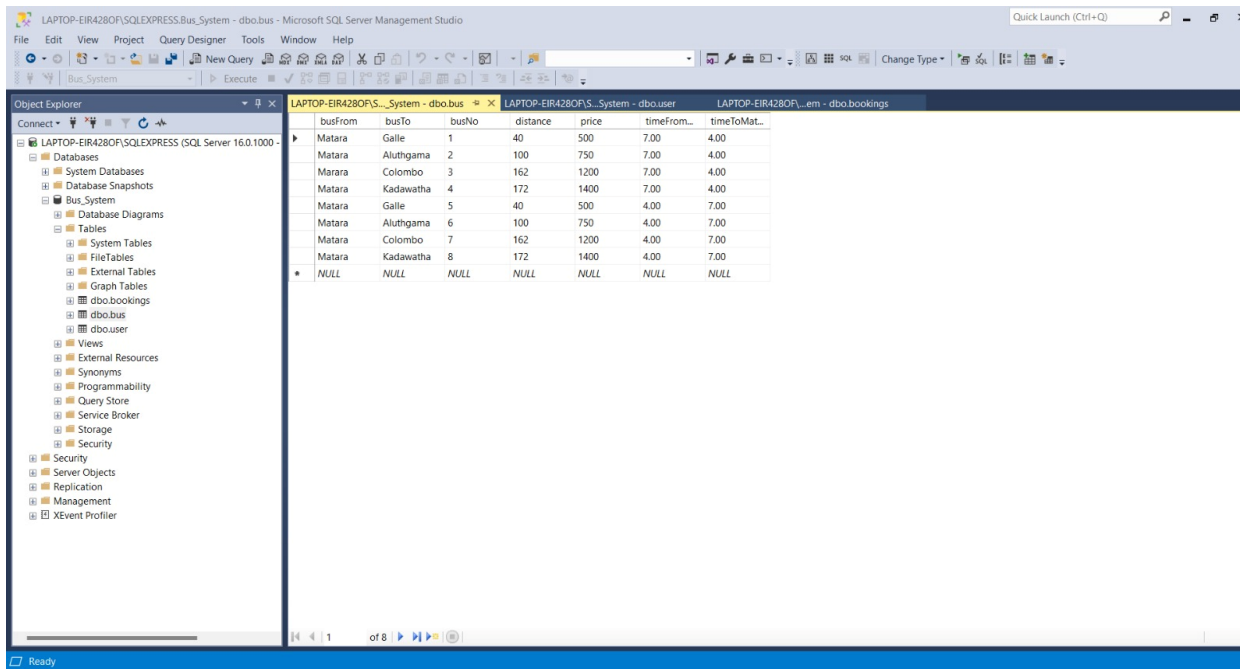
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Query Results

userName	phoneNum	email	nic	userRole	password
vinul	02343464	vinul@	3456v	user	123
admin	0123425	admin@	13235v	admin	123
user	12334443	user@.com	13124v	user	123
ravindu	0787570823	ravi@gmail...	20013455666	user	123
* NULL	NULL	NULL	NULL	NULL	NULL

Ready

Project Report



The screenshot displays the Microsoft SQL Server Management Studio interface. The 'Object Explorer' on the left shows the database structure for 'LAPTOP-EIR428OF\SQLEXPRESS (SQL Server 16.0.1000)'. The 'Query Results' pane on the right shows the output of a query executed against the 'dbo.bus' table. The query results are as follows:

busFrom	busTo	busNo	distance	price	timeFrom...	timeToMat...
Matara	Galle	1	40	500	7.00	4.00
Matara	Aluthgama	2	100	750	7.00	4.00
Matara	Colombo	3	162	1200	7.00	4.00
Matara	Kadawatha	4	172	1400	7.00	4.00
Matara	Galle	5	40	500	4.00	7.00
Matara	Aluthgama	6	100	750	4.00	7.00
Matara	Colombo	7	162	1200	4.00	7.00
Matara	Kadawatha	8	172	1400	4.00	7.00
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Discussion

While creating this system, we encountered several issues, such as securely storing passenger data, booking seats according to the number of available buses, and displaying bus timetables. We also needed to ensure that passengers could book seats based on the availability in the buses. Considering these challenges, we discussed the system's design.

We faced technical difficulties, such as integrating the booking system with existing bus service databases and payment gateways. Additionally, we needed to implement regular updates, including features like ticket cancellation and viewing bookings. Ensuring that users could not cancel someone else's tickets was another challenge. To address this, we developed a secure program that uses passwords to protect user accounts. We also discussed the facilities and services provided to users through this system. In the future, we hope to enhance this system and hand it over to the admin for bus management.

Conclusion

The Highway Bus Ticket Booking System is designed to address the needs of modern travelers by offering a seamless and efficient booking experience. By focusing on a user-friendly interface, secure transactions, real-time updates, and comprehensive reporting, the system aims to set a new standard in intercity bus travel. With the tools and technologies outlined, the project is well-positioned to deliver a reliable and impactful solution that meets the demands of both individual users and travel agencies.