TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

PURWANCHAL CAMPUS

DHARAN

Bus Reservation System

A COURSE PROJECT SUBMITTED TO THE DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE PRACTICAL COURSE ON COMPUTER PROGRAMMING [CT 101]

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Contents

1 Introduction

The Bus Reservation System is a simple yet efficient software designed to streamline the booking and management of bus seats. The system will allow users to check available seats, make reservations, cancel bookings, and view fare details. Our goal is to create a user-friendly and reliable system using C programming, ensuring smooth functionality and data management.

1.1 Objective

1.Develop an interactive Bus Reservation System using C programming.

2.Enable users to book and cancel seats efficiently.

3.Display real-time seat availability and fare details.

4.Implement file handling to store booking records securely.

5.Ensure data security and prevent duplicate bookings.

2 Existing System

Traditional bus booking methods involve manual seat reservations, which are prone to errors and inefficiencies. Many modern digital systems require internet access, making them inconvenient for offline use. Our project aims to provide a simple, offline, and efficient solution that eliminates human errors and improves the reservation process.

3 Proposed System

Our Bus Reservation System will offer the following key features:

- Seat Booking: Users can book available seats.
- Seat Cancellation: Users can cancel their reservations.
- Seat Availability Display: The system will show which seats are available and which are booked.
- Fare Details: Users can check ticket prices for different destinations.
- Data Storage: Booking records will be saved using file handling.

4 Methodology

4.1 Development Tools

- **Programming Language C**
- **IDE Code Block**
- **File Handling: Used for data storage and retrieval**

4.2 Development Process

Requirement Analysis: Identify user needs and system functionality.

System Design: Plan data structures, functions, and workflow.

Implementation: Develop booking, cancellation, and file handling modules.

Testing: Verify that seat management and data storage work correctly.

Deployment: Ensure smooth functionality and performance.

Maintenance: Provide future updates and bug fixes as required.

5 Project Scope

Core Features:

√Booking and cancellation of bus seats

√Seat availability display

√Fare details for different destinations

√File handling for data storage

Technical Features:

√User Interface: Command-line-based interaction

√Data Storage: File-based reservation system

6 Project Schedule

Week 1	Requirement Analysis & System Design
Week 2	Implementation of Booking & Cancellation Modules
Week 3	Integration of Seat Availability & Fare Display
Week 4	Testing & Debugging
Week 5	Final Deployment & Documentation