VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A FILE STRUCTURE MINI PROJECT REPORT ON

BUS RESERVATION SYSTEM

IN

INFORMATION SCIENCE & ENGINEERING

By

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CERTIFICATE

This is to certify that the . . . Mini Project entitled " **BUS RESERVATION SYSTEM** " has been successfully completed by

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the bonafide students of **Department of Information Science & Engineering, Alva's Institute of Engineering and Technology** in **DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2022–2023. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the Bachelor of Engineering Degree.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The Bus Reservation System is a computerized application designed to streamline the process of reserving and managing bus tickets. This wholesystem is in the C++ language. It serves as a platform where users can search for bus routes, check seat availability, make reservations, and perform various administrative functions. This project aims to develop a file structures-based solution for managing the data associated with the bus reservation system efficiently.

This is a simple contact details management system which developed using C++. The primary goal of this mini project is to implement a file-based data structure that enables efficient storage, retrieval, and manipulation of bus reservation information. The system will leverage file structures concepts to optimize data organization and access, ensuring fast and reliable operations for both users and administrators.

1.2 PROBLEM STATEMENT

The current bus reservation process lacks efficiency and convenience due to the absence of a computerized system. Manual handling of bus ticket reservations leads to a time-consuming and error-prone process for both users and administrators. Therefore, there is a need for a Bus Reservation System that leverages file structures to address the following challenges:

1. Inefficient Data Management: The absence of a structured data storage system makes it difficult to efficiently manage and retrieve bus route information, seat availability, user details, and reservation data. This results in slower response times and inefficient resource utilization.

2. Lack of Real-time Updates: Without a computerized system, updating and retrieving real-time seat availability and reservation status becomes challenging. Users are often unaware of the latest seat availability, resulting in suboptimal booking choices and potentially unfulfilled reservations.

3. Manual Ticketing Process: The current manual ticketing process is prone to errors, and users may face difficulties in ticket generation, modification, and cancellation. The absence of automated ticket generation and management affects the overall user experience.

4. Limited Reporting and Analytics: The absence of data analysis capabilities prevents administrators from generating reports and gaining insights into bus route popularity, seat occupancy rates, and revenue generation trends. This hinders effective decision-making and business growth.