MINI PROJECT REPORT

ON

RAILWAY RESERVATION SYSYTEM

A report submitted in partial fulfilment of the course

U21CSG01 – PROBLEM SOLVING AND C PROGRAMMING

in

COMPUTER SCIENCE AND ENGINEERING

by

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BONAFIDE CERTIFICATE

This is to certify that the Mini Project Report submitted by MADHESH K is work done by them and submitted

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Place: Coimbatore

Date: 26/12/2023

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ABSTRACT

The Railway Reservation System is a comprehensive software application designed to facilitate the efficient

Utilizing modern technologies and a user-centric design, this Railway Reservation System enables passenge

For administrators and railway staff, the system provides comprehensive tools for managing train schedules

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RAILWAY RESERVATION SYSTEM

INTRODUCTION

■The Railway Reservation System stands as a pivotal technological innovation in the domain of transportati

In an era characterized by rapid advancements in technology and a burgeoning reliance on digital solutions,

By harnessing the power of modern computing, this system enables passengers to effortlessly browse throu

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PROBLEM STATEMENT

The traditional methods of railway ticketing and administration suffer from inefficiencies, leading to manual p

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OBJECTIVES

Enhance User Experience: To Develop an intuitive and user-friendly interface for passengers to easily acce

Real-Time Seat Management: Implement a robust system for updating and managing seat availability in rea

Efficient Administration Tools: Provide comprehensive tools and functionalities for railway administrators to r

Secure Transactions and Data Management: Ensure the security and integrity of passenger information by i

Adaptability and Scalability: It is a flexible and scalable system capable of adapting to changing demands an

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CODE

```
#include <stdio.h>
#include <stdbool.h>
#include <string.h>

#define TOTAL_SEATS 50
#define MAX_NAME_LENGTH 50

bool seats[TOTAL_SEATS] = {false}; // Initializing all seats as available
char passengerNames[TOTAL_SEATS][MAX_NAME_LENGTH];

void displayAvailableSeats() {
    printf("Available Seats: ");
    for (int i = 0; i < TOTAL_SEATS; ++i) {
        if (!seats[i]) {
            printf("%d ", i + 1);
```

```
        }
    }
    printf("\n");
}

void bookSeat(int seatNumber, char* passengerName) {
    if (seatNumber > 0 && seatNumber <= TOTAL_SEATS) {
        if (!seats[seatNumber - 1]) {
            seats[seatNumber - 1] = true;
            strcpy(passengerNames[seatNumber - 1], passengerName);
            printf("Seat %d has been successfully booked for %s.\n", seatNumber, passengerName);
        } else {
            printf("Seat %d is already booked. Please choose another seat.\n", seatNumber);
        }
    } else {
        printf("Invalid seat number. Please enter a valid seat number.\n");
    }
}

void displayPassengerInfo(int seatNumber) {
    if (seatNumber > 0 && seatNumber <= TOTAL_SEATS) {
        if (seats[seatNumber - 1]) {
```

```
            printf("Seat %d is booked for: %s\n", seatNumber, passengerNames[seatNumber - 1]);
        } else {
            printf("Seat %d is currently available.\n", seatNumber);
        }
    } else {
        printf("Invalid seat number. Please enter a valid seat number.\n");
    }
}

int main() {
    int choice;
    int seatNumber;
    char passengerName[MAX_NAME_LENGTH];

    do {
        printf("\nRailway Reservation System\n");
        printf("1. Display available seats\n");
        printf("2. Book a seat\n");
        printf("3. Display passenger info\n");
        printf("4. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);

        switch (choice) {
```

```
        case 1:
            displayAvailableSeats();
            break;
        case 2:
            printf("Enter the seat number you want to book: ");
            scanf("%d", &seatNumber);
            printf("Enter passenger name: ");
            scanf("%s", passengerName);
            bookSeat(seatNumber, passengerName);
            break;



         case 3:
            printf("Enter the seat number to display passenger info: ");
            scanf("%d", &seatNumber);
            displayPassengerInfo(seatNumber);
            break;
        case 4:
            printf("Exiting the program. Thank you!\n");
            break;
        default:
            printf("Invalid choice. Please enter a valid option.\n");
    }
} while (choice != 4);
```

```
    return 0;
}
```

OUTPUT

CONCLUSION :

The Railway Reservation System marks a pivotal advancement in passenger convenience and railway mana

While achieving these milestones, the system remains adaptable for future enhancements, including improv

Its impact on transforming railway ticketing and administration underscores the profound influence of techno