A Course based Project on

RAILWAY RESERVATIONS

submitted to the

Department of Information Technology

In partial fulfilment of the requirements for the completion of the course

(A19ES2IT01) DATA STRUCTURES LABORATORY

BACHELOR OF TECHNOLOGY

In

INFORMATION TECHNOLOGY

TAMASŌMA JYOTIRGAMAYA

DEPARTMENT OF INFORMATION TECHNOLOGY

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<u>CERTIFICATE</u>

This is to certify that the course based project work entitled "Railway Reservations" is being submitted by Sathwik Kasukurthi(21071A12J3),Shaik Ashrafulla(21071A12J3), Sisir Varma Chintalpati (21071A12J7) and V Nidhi Reddy (21071A12K1) in partial fulfilment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY in INFORMATION TECHNOLOGY to the Department of Information Technology, Hyderabad during the academic year 2020-21 is a record of Bonafide work carried out by them under our guidance and supervision.

The results embodied in this report have not been submitted by the students to any other University or Institution for the award of any degree or diploma.

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<u>DECLARATION</u>

 I hereby declare that the course-based project entitled "Railway Reservations" submitted for the year as part of B. Tech Degree in IT, is our original work and the project has not formed the basis for the award of any degree, associate ship, fellowship, or any other similar titles.

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ABSTRACT

The Railway Reservation system is a project which uses C programming and Data Stuctures Of C and it was developed with the aim of facilitating the passengers to enquiry about the trains available based on source and destination, booking and cancellation of tickets, enquiry about the status of the booked ticket.

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INTRODUCTION

A railway reservation system is software that handles distribution, pricing, scheduling, and other railway operations. Most providers have some of these functions digitized, but as we mentioned, this is done sporadically.

CHAPTER 2 SYSTEM REQUIREMENTS

A System Requirements Specification that describes the features and behaviour of a system or software application.

2.1 SOFTWARE REQUIREMENTS:

The software requirements are description of features and functionalities of the target system.

    1. Integrated Development Environment: Dev C++

    2. Programming Language: C language

2.2 HARDWARE REQUIREMENTS:

Hardware requirements often specify the operating system version, processor type, memory size, available disk space and additional peripherals.

    Operating System: Microsoft Windows 7(Minimum)

    Hard Disk: 100 kb (Minimum)

    Processor: i3(Minimum)

CHAPTER 3

## 3.1 Algorithm: Natural Representation:

Step 1:   Provide the total number of passengers and submit all the necessary details of the passengers.

Step 2:   Enter the source and destination.

Step 3:   A list of available trains will appear. Among them, the user must choose one.

Step 4: The ticket value will be evaluated. The system will ask to enter the seat choice by showing the seat matrix. At last, a receipt will be generated on the screen.

3.2 FLOWCHART
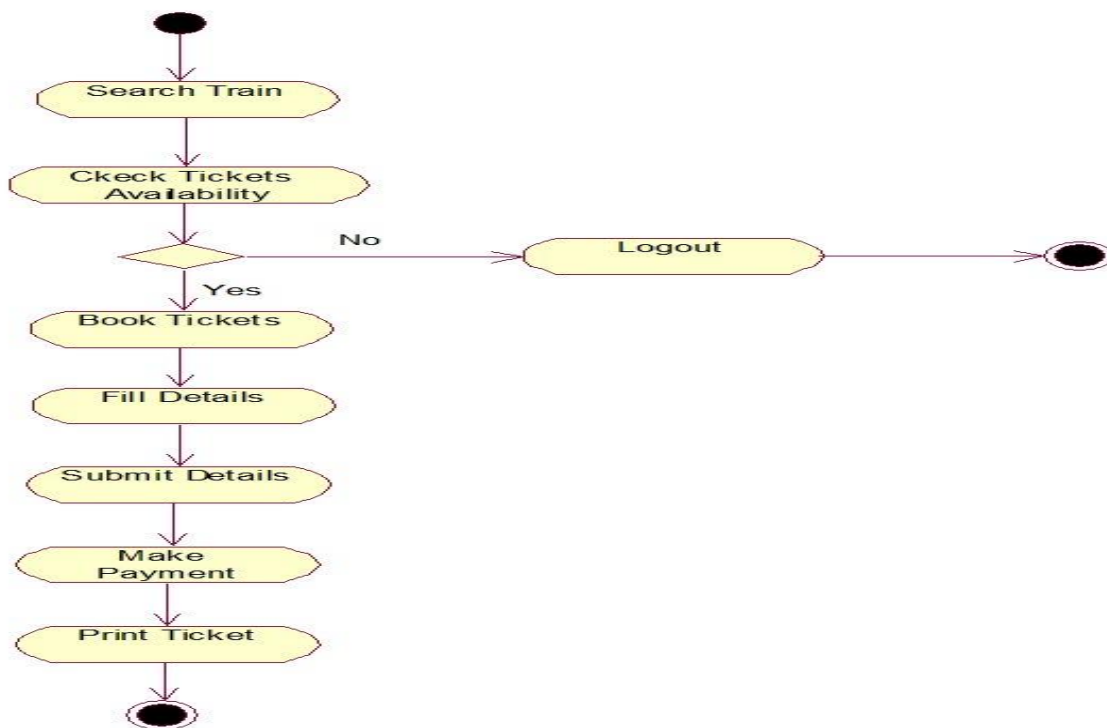
CHAPTER 4

IMPLEMENTATION

4.1 Source code :

```
#include<stdio.h>

#include<string.h>

#include<stdlib.h>

int t=0;

struct node

{

int tick,age;

char name[100];

struct node *next;

}*nn=NULL,*start=NULL,*ptr=NULL,*temp=NULL,*ttemp=NULL,*can=NULL;

struct node* book(struct node*);

struct node* display(struct node*);

struct node* cancel(struct node*);

void main()

{

  int op;

  do

  {

    printf("--------------MAIN MENU--------------\n\n1.Book a ticket\n2.Display tickets
booked\n3.Cancel a ticket\n4.Exit\nEnter a option:");

    scanf("%d",&op);

    switch(op)

    {

      case 1:start=book(start);
```

```c
        break;

    case 2:start=display(start);

        break;

    case 3:start=cancel(start);

        break;

    case 4:exit(0);

    default:printf("Invalid option");

   }

  }

  while(op<=4);

}

struct node* book(struct node* start)

{

  int a;

  char s[100];

  printf("\n--------Booking ticket----------\n\nEnter NAME:");

  scanf("%s",s);

  printf("\nEnter Age:");

  scanf("%d",&a);

  nn=(struct node*)malloc(sizeof(struct node));

  strcpy(nn->name,s);

  nn->age=a;

  t++;

  nn->tick=t;

  nn->next=NULL;

  if(start==NULL)

  start=nn;
```

```c
  else
  {
    ptr=start;
    while(ptr->next!=NULL)
    ptr=ptr->next;
    ptr->next=nn;
  }
  printf("\nTicket Booked");
  return start;
}
struct node* display(struct node* start)
{
  int l,i;
  printf("\n--------------TICKETS booked--------------\n");
  printf("TICKET NO.\t   NAME    \t AGE\n");
  ptr=start;
  while(ptr!=NULL)
  {
    printf("   %d   \t   ",ptr->tick);
    printf("%s    ",ptr->name);
    printf("\t %d \n",ptr->age);
    ptr=ptr->next;
  }
  return start;
}
struct node* cancel(struct node* start)
{
```

```c
int c;
printf("Enter ticket number to be cancelled:");
scanf("%d",&c);
ptr=start;
if(start->tick==c)
{
  start=start->next;
  can=start;
  free(ptr);
}
else
{
  while(ptr->tick!=c)
  {
    temp=ptr;
    ptr=ptr->next;
    if(ptr==NULL)
    {
printf("\nTicket number does not exist\n");
goto a;
    }
  }
  can=ptr;
  ttemp=ptr->next;
  temp->next=ttemp;
}
while(can!=NULL)
```

```c
    {
        (can->tick)--;
        can=can->next;
    }
    t--;
    printf("\nTicket has been cancelled\n");
    a:return start;
}
```

4.2 Output :

---------------MAIN MENU---------------

1.Book a ticket

2.Display tickets booked

3.Cancel a ticket

4.Exit

Enter a option:1

--------Booking ticket----------

Enter NAME:ashraf

Enter Age:18

Ticket Booked---------------MAIN MENU---------------

Enter a option:3

Enter ticket number to be cancelled:1

Ticket has been cancelled

CHAPTER 5

RESULTS :

In this project, we made a program for railway ticket booking system which allows the user to book or cancel the ticket .