#### **BUS TICKET RESERVATION SYSTEM**

**Academic Year: 2021-22 ODD-SEMESTER** 

Department with Specialization: B-Tech Computer Science and

**Engineering with** 

Specialization in Artificial Intelligence and Machine

Learning.

Semester : 1

Course Code : 18CSS101J

Course Title : Programming for Problem

**Solving** 

Submitted by

ASTITVA VEER GARG (RA2111026010247)
SAI SATWIKA MAHANKALI (RA2111026010226)

KUNAL CHOPRA (RA2111026010245)

Under the Guidance of

Dr. R.LAKSHMINARAYANAN

(Associate Professor, NWC)



DEPARTMENT OF COMPUTING

COLLEGE OF ENGINEERING AND TECHNOLOGY

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

KATTANKULATHUR- 603 203

JANUARY 2022

# **AIM**

To create a Bus Ticket Reservation System which shows you Bus List, Allows you to book tickets, cancel tickets and check Bus seats availability.

#### **ABSTRACT**

This bus reservation system in c program has a login system, which makes it more stable. There is no risk of data abuse or loss, and it takes very little time. This bus reservation system mini project in c design is straightforward and clean, making it easy for users to learn, use, and navigate.

The Bus Reservation System Project is developed using C programming language. In this bus reservation system in c helps the user to reserve a bus tickets.

#### **ALGORITHIM**

- > **STEP-1**: START
- > STEP-2: DECLARE ALL THE FUNCTIONS USED
  - 1. LOGIN
  - 2. BUS LIST
  - 3. BOOKING
  - 4. CANCEL RESERVATION
  - **5.** STATUS
  - **6.** STATUS 1
  - 7. READ NAME
  - 8. READ NUMBER
  - 9. NAME NUMBER
- > STEP-3: DECLARE THE VARIABLES TO BE USED
- ➤ <u>STEP-4</u>: GET THE USERNAME AND PASSWORD FROM THE USER. IF THE GIVEN INFORMATION IS VALID GO TO THE MAIN SCREEN.
- > STEP-5: USE SWITCH CASE STATEMENT TO WORK ON EACH CASE.
  - **CASE-1**: IF THE USER CHOICE IS 1, GO TO BUS() FUNCTION AND DISPLAY ALL THE BUSES LIST.
  - <u>CASE-2</u>: IF THE USER CHOICE IS 2, GO TO BOOKING() FUNCTION AND ASK THE USER TO ENTER THE BUS NUMBER. THEN ASK FOR NUMBER OF TICKETS REQUIRED. THEN ASK FOR THE DETAILS

OF THE RESEPECTIVE SEAT.THEN FINALLY DISPLAY THE BOOKING AMOUNT.

- <u>CASE-3</u>: IF THE USER CHOICE IS 3,THEN ENTER THE CANCLE FUNCTION, THEN ASK FOR THE BUS NUMBER AND DISPLAY THE SEATS AND ASK FOR SEAT NUMBER. THEN CANCEL THE SEAT AND DISPLAY MONEY REFUNDED.
- <u>CASE-4</u>: IF THE USER CHOICE IS 4, THEN ENTER TO BUS STATUS FUNCTION. ASK FOR BUS NUMBER AND THEN DISPLAY THE SEATS CURRENT STATUS.
- <u>CASE-5</u>: IF USERS CHOICE IS 5, THEN EXIT THE MAIN SCREEN AND DISPLAY THANKYOU.
- > <u>STEP-6</u>: EXIT THE PROGRAM...

# **FLOW CHART** Start Authentication Unsuccessfull Failed 3 Times End The Login() Ask User to Try Again, Program Authentication Successfull Go To Main Screen Take Input Case 1 Bus() Switch Display Bus List Break; Booking() Case 2 Input The No. Of Select The Bus Number Tickets Enter the Ticket Display Amount Details Break; Case 3 Cancel() Select The Bus Number Display Money Input Seat Number Refunded Break; Case 4 Select The Bus Number Status() Break; Display Seats Status If Input is equal to Display Ending Lines END

#### **SOURCE CODE**

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
char ch[10][130]={"Astitva SuperFast Express","Satwika Express","Kunal
Express","ASK Express","UDS Express"};
char name[32][100]=\{'\0'\};
char number[32][2]={'\0'};
int num1[32]=\{0\};
int trno;
void bus();
void name number(int booking,char numstr[100]);
void booking();//for booking the tickets
int read number(int trno);//for reading the number from the file
void read name(int trno);//for reading the name from the file
void status();//for printing the status by user input
void status 1(int trno);//for printing the status while booking ticket
void cancle();
int main()
{
     login();
  int num,i;
  do{
  system("cls");
```

```
printf("\n\n
printf("\t BUS RESERVATION");
              printf("\n
\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n\n");
 printf(" [1] View Bus List\n\n");
 printf(" [2] Book Tickets\n\n");
 printf(" [3] Cancel Booking\n\n");
 printf(" [4] Bus Status Board\n\n");
 printf(" [5] Exit\n\n");
 printf("
printf(" ENTER YOUR CHOICE: ");
scanf("%d",&num);
switch(num)
{
 case 1:
  bus();//for list of bus
  break;
 case 2:
 booking();//for booking the tickets
  break;
 case 3:
```

```
cancle();
 break;
case 4:
 status();
 break;
}
getch();
}while(num != 5);
system("CLS");
printf("\n\n
d\xcd\n");
printf(" THANK YOU FOR USING THIS BUS RESERVATION SYSTEM");
printf("\n
d\xcd\n");
getch();
return 0;
}
void bus()
{
system("cls");
```

```
printf("\n\n
printf("\t BUS RESERVATION");
printf("\n
printf(" [1] \Rightarrow %s\n\n",ch[0]);
printf(" [2] => %s\n\n",ch[1]);
 printf(" [3] => %s\n\n",ch[2]);
 printf(" [4] => %s\n\n",ch[3]);
 printf(" [5] => %s\n\n",ch[4]);
}
void booking()
{
int i=0;
char numstr[100];
system("cls");
printf("\n\n
printf("\t BUS RESERVATION");
printf("\n
```

```
bus();//for seeing train least
printf(" ENTER THE BUS NUMBER: ");
scanf("%d",&trno);
system("cls");
printf("\n\n
printf("\t BUS RESERVATION");
printf("\n
printf("Your Bus Number is %d ******* %s",trno,ch[trno-1]);
status 1(trno);
FILE *f1, *fopen();//for reading the seats from the user.
char str1[80]="32",str2[4],str3[4];
int seat1,seat2,booking=0;
if(trno == 1)
{
f1 = fopen("tr1.txt","r+");
fgets(str1,80,f1);
fclose(f1);
}else if(trno == 2)
{
f1 = fopen("tr2.txt","r+");
fgets(str1,80,f1);
```

```
fclose(f1);
}else if(trno == 3)
f1 = fopen("tr3.txt","r+");
fgets(str1,80,f1);
fclose(f1);
}
else if(trno == 4)
{
f1 = fopen("tr4.txt","r+");
fgets(str1,80,f1);
fclose(f1);
}
else if(trno == 5)
{
f1 = fopen("tr5.txt","r+");
fgets(str1,80,f1);
fclose(f1);
}
seat1=atoi(str1);//covert the string into number
if(seat1 <= 0)
{
printf("There is no blank seat in this bus ");
}else
printf("\n
```

```
d\xcd\n");
printf("\n AVAILABLE NO OF SEATS: %d\n",seat1);
printf("\n NUMBER OF TICKETS: ");
scanf("%d",&booking);
printf("\n");
seat1=seat1-booking;
itoa(trno,numstr,10);
name number(booking,numstr);
printf(" The Total booking amount is %d",600*booking);
itoa(seat1, str1, 10);
//for reading the seats from the user.
if(trno == 1)
f1 = fopen("tr1.txt","w");
fputs(str1,f1);
fclose(f1);
else if(trno == 2)
f1 = fopen("tr2.txt","w");
fputs(str1,f1);
fclose(f1);
else if(trno == 3)
```

```
{
f1 = fopen("tr3.txt","w");
fputs(str1,f1);
fclose(f1);
}
else if(trno == 4)
f1 = fopen("tr4.txt","w");
fputs(str1,f1);
fclose(f1);
}
else if(trno == 5)
f1 = fopen("tr5.txt","w");
fputs(str1,f1);
fclose(f1);
}
void name_number(int booking,char numstr[100])
{
char tempstr[100],tempstr1[12]="status",tempstr2[12]="number";
int number;
```

```
FILE *a,*b;
 int i=0;
 strcat(numstr,".txt");
 strcat(tempstr1,numstr);
 strcat(tempstr2,numstr);
 a = fopen(tempstr1,"a");//for open the file to write the name in the file
 b = fopen(tempstr2,"a");//for open the file for writing the number in the
file
for(i=0; i<booking; i++)//for entering the person name and seat number in
the file
{
  ticket no %d \xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n\n",i+1);
  printf(" ENTER THE SEAT NUMBER: ");
  scanf("%d",&number);
  printf("\n ENTER THE PERSON NAME: ");
  scanf("%s",name[number-1]);
  printf("\n\n
d\xcd\n");
  printf("\n");
  itoa(number, tempstr, 10);
  fprintf(a,"%s ",name[number-1]);
  fprintf(b,"%s ",tempstr);
}
```

```
fclose(a);
fclose(b);
}
int read_number(int trno)//for putting the numeric value in the array
{
char tempstr[100],tempstr2[12]="number";
FILE *a,*b;
char numstr[100];
int i=0,j=0,k;
itoa(trno,numstr,10);
strcat(numstr,".txt");
strcat(tempstr2,numstr);
a = fopen(tempstr2,"a+");//for open the file to write the name in the file
 while(!feof(a))
 {
   number[i][j] = fgetc(a);
   if(number[i][j] == ' ')
   {
     j=0;
     i++;
   else
```

```
{
   j++;
 }
 k=i;
 for(i=0; i<k; i++)
 {
    num1[i] = atoi(number[i]);
 }
 fclose(a);
 return k;
}
void read_name(int trno)//for putting the numeric value in the array
{
char tempstr1[12]="status";
FILE *b;
char numstr[100];
int i=0,j=0,k=0;
itoa(trno,numstr,10);
strcat(numstr,".txt");
strcat(tempstr1,numstr);
b = fopen(tempstr1,"a+");//for open the file to write the name in the file
 while(!feof(b))
 {
```

```
name[i][j] = fgetc(b);
 if(name[i][j] == ' ')
 {
  j=0;
  i++;
 }
 else
 {
 j++;
}
name[i][j]='\0';
k=i;
fclose(b);
}
void status()
{
system("cls");
 printf("\n\n
d\xcd\n");
 printf("\t\t BUS RESERVATION");
```

```
printf("\n
d\xcd\n\n");
    int i,trno,index=0,j;
    printf(" ENTER THE BUS NUMBER: ");
    scanf("%d",&trno);
    j=read number(trno);
    read name(trno);
    printf("\n
d\xcd\n");
    printf("\t\t Bus No.%d: %s\n",trno,ch[trno-1]);
    printf("
d \cdot (n \cdot n');
    char tempname[33][10]={"Empty ","Empty ","E
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty "};
    for(i=0; i<j; i++)
    {
        strcpy(tempname[num1[i]],name[i]);
    }
    for(i=0; i<8; i++)
```

```
{
 printf(" ");
 for(j=0; j<4; j++)
  {
 printf("%d.%s\t",index+1,tempname[index+1]);
 index++;
  printf("\n");
}
}
void status 1(int trno)
{
printf("Your Bus Number is %d ******* %s",trno,ch[trno-1]);
system("cls");
printf("\n\n
d\xcd\n");
printf("\t\t BUS RESERVATION");
printf("\n
d\xcd\n\n");
int i,index=0,j;
j=read_number(trno);
read name(trno);
```

```
char tempname[33][10]={"Empty ","Empty ","E
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty
","Empty ","Empty ","Empty ","Empty ","Empty ","Empty "};
        for(i=0; i<j; i++)
        {
                 strcpy(tempname[num1[i]],name[i]);
         }
        for(i=0; i<8; i++)
        {
                 printf(" ");
                 for(j=0; j<4; j++)
                          {
                  printf("%d.%s\t",index+1,tempname[index+1]);
                 index++;
                          }
                          printf("\n");
}
}
void cancle()
{
  int seat_no,i,j;
  char numstr[100],tempstr2[15]="number",tempstr1[15]="status";
  printf("\n ENTER THE BUS NUMBER: ");
```

```
scanf("%d",&trno);
itoa(trno,numstr,10);
strcat(numstr,".txt");
strcat(tempstr1,numstr);
strcat(tempstr2,numstr);
read number(trno);
read_name(trno);
status 1(trno);
printf("\n\n
d\xcd\n");
printf(" ENTER THE SEAT NUMBER: ");
scanf("%d",&seat no);
FILE *a,*b;
a = fopen(tempstr1,"w+");
b = fopen(tempstr2,"w+");
for(i=0; i<32; i++)
{
 if(num1[i] == seat no)
 {
   for(j=0; j<32; j++)
   {
    if(num1[j] != seat no && num1[j] != 0)
    {
      fprintf(b,"%d ",num1[j]);
```

```
fprintf(a,"%s",name[j]);
  }
  else if(num1[j] == seat no && num1[j] != 0)
  {
   strcpy(name[j],"Empty ");
  }
 }
 }
}
fclose(a);
fclose(b);
printf("\n\n");
printf("\n\n
d\xcd\n");
printf(" Your 600 rupees has been Returned\n");
printf("
d\xcd\n");
}
void login()
{
  int a=0,i=0;
```

```
char uname[10],c=' ';
char pword[10],code[10];
char user[10]="user";
char pass[10]="user";
 do
{
  system("cls");
 printf("\n\n
printf("\t BUS RESERVATION");
 printf("\n
printf("\n\n ENTER USERNAME: ");
  scanf("%s", &uname);
  printf(" \n ENTER PASSWORD: ");
  while(i<10)
  {
   pword[i]=getch();
   c=pword[i];
   if(c==13) break;
   else printf("*");
   i++;
  }
```

```
pword[i]='\0';
   //char code=pword;
   i=0;
   //scanf("%s",&pword);
      if(strcmp(uname,"user")==0 && strcmp(pword,"user")==0)
   {
 printf("\n
printf(" \n\n WELCOME USER !!!!");
   printf("\n\n\n Press any key to continue...");
   getch();//holds the screen
   break;
   }
   else
    printf("\n
printf("\n\n LOGIN IS UNSUCESSFUL...PLEASE TRY AGAIN...");
      a++;
      getch();//holds the screen
   }
}
   while(a<=2);
```

```
if (a>2)
{
      printf("\nSorry you have entered the wrong username and password for four times!!!");

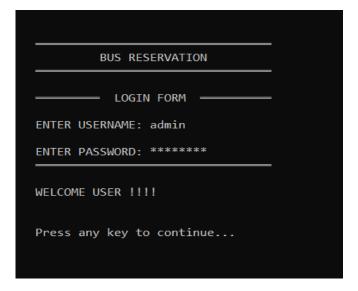
      getch();
}
      system("cls");
}
```

# **OUTPUT**

1. Login screen:



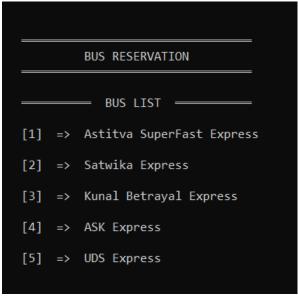
2. After login:



3. Main page:

BUS RESERVATION
MAIN MENU
[1] View Bus List
[2] Book Tickets
[3] Cancel Booking
[4] Bus Status Board
[5] Exit
ENTER YOUR CHOICE:

#### 4. Bus():



# 5. Booking() Page 1:



#### 6. Booking() Page 2:



# 7. Booking() Page 3:

	BUS	RESERVATION	
13.Empty 17.Empty 21.Empty 25.Empty	2.Empty 6.Empty 10.Empty 14.Empty 18.Empty 22.Empty 26.Empty 30.Empty	3.Empty 7.Empty 11.Empty 15.Empty 19.Empty 23.Empty 27.Empty	4.Empty 8.Empty 12.Empty 16.Empty 20.Empty 24.Empty 28.Empty 32.Empty
	SEATS: 32 TICKETS: 2		
		ails for ticket no 1	
	PERSON NAME:		
	Enter the det	ails for ticket no 2	
ENTER THE	SEAT NUMBER:	6	
ENTER THE	PERSON NAME:	Kunal	
The Total	booking amoun	t is 400	

# 8. Cancel() Page 1:

BUS RESERVATION

MAIN MENU

[1] View Bus List

[2] Book Tickets

[3] Cancel Booking

[4] Bus Status Board

[5] Exit

ENTER YOUR CHOICE: 3

ENTER THE BUS NUMBER: 1

# 9. Cancel() Page 2:

BUS RESERVATION					
1.Empty	2.Empty	3.Empty	4.Empty		
5.Corey	6.Kunal	7.Empty	8.Empty		
9.Empty	10.Empty	11.Empty	12.Empty		
13.Empty	14.Empty	15.Empty	16.Empty		
17.Empty	18.Empty	19.Empty	20.Empty		
21.Empty	22.Empty	23.Empty	24.Empty		
25.Empty 29.Empty	26.Empty 30.Empty	27.Empty 31.Empty	28.Empty 32.Empty		
	SEAT NUMBER: 6	atunnad			

#### 10. Status():

#### BUS RESERVATION ENTER THE BUS NUMBER: 1 Bus No.1: Astitva SuperFast Express 4.Empty 1.Empty 2.Empty 3.Empty 5.Corey 6.Empty 7.Empty 8.Empty 9.Empty 10.Empty 11.Empty 12.Empty 13.Empty 14.Empty 15.Empty 16.Empty 17.Empty 18.Empty 19.Empty 20.Empty 23.Empty 24.Empty 21.Empty 22.Empty 25.Empty 26.Empty 27.Empty 28.Empty 29.Empty 30.Empty 31.Empty 32.Empty

# 11. Exit():

THANK YOU FOR USING THIS BUS RESERVATION SYSTEM

#### **RESULT**

Our project bus reservation system provides an easy way for booking the bus tickets. Our project has succeeded in managing the data and providing the best output.

### **CONCLUSION**

Utilising the concepts of programming embedded in C language, the three developers have tried their best to create a simple and optimized program that does the work of a Bus Ticket Reservation System in real life, with a user-friendly terminal for the executable file of the source code. It has also exposed the developers to the intricate technicalities when working with older generation high level languages, in this case C, which is a 3rd generation High Level Language as opposed to modern 4th generation High Level languages like Python, Ruby etc., which has made the three developers appreciate the older generation languages which pioneered the programming scenarios among the general masses while also laying the foundation for the latest generation languages.