RAMAIAH
Institute of Technology

BUS RESERVATION SYSTEM.

OOPS PROJECT.

A Project Report submitted as part of the course Object Oriented Programming(MD35)
Ramaiah Institute of Technology, Bangalore
(Autonomous Institute Affiliated to VTU)

BACHELOR OF ENGINEERING

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INTRODUCTION:

Bus Reservation System is software that handles the entire booking data of the bus. It is fully based on the concept of reserving bus tickets for various destinations.

Features of Bus Reservation System:

- In this project anyone can add buses and do the reservation.
- The passenger can book the bus only if bus is available.
- Passengers will be able to check the availability of seats of particular bus, whether seats are reserved or not.
- Passengers are able to see the status of available buses.

CODE:

```
#include <cstdio>
#include <iostream>
#include <string.h>
#include <cstdlib>
using namespace std;
static int p = 0;
class a
{
  char busn[5], driver[10], arrival[5], depart[5], from[10], to[10], seat[8][4][10];
public:
  void install();
  void allotment();
  void empty();
  void show();
  void position(int i);
}
bus[10];
void vline(char ch)
{
for (int i=80;i>0;i--)
```

```
  cout<<ch;
}
void a::install()
{
  cout<<"\n\n\n\t\t\tEnter bus no: ";
  cin>>bus[p].busn;
  cout<<"\n\t\t\tEnter Driver's name: ";
  cin>>bus[p].driver;
  cout<<"\n\t\t\tArrival time: ";
  cin>>bus[p].arrival;
  cout<<"\n\t\t\tDeparture: ";
  cin>>bus[p].depart;
  cout<<"\n\t\t\tFrom: ";
  cin>>bus[p].from;
  cout<<"\n\t\t\tTo: ";
  cin>>bus[p].to;
  bus[p].empty();
  p++;
 cout<<"\n\t\t\tBus added Sucessfully ";
}
void a::allotment()
{
  int seat;
```

```
char number[5];
top:
cout<<"\n\n\n\t\t\tBus no: ";
cin>>number;
int n;
for(n=0;n<=p;n++)
{
  if(strcmp(bus[n].busn, number)==0)
  break;
}
while(n<=p)
{
  cout<<"\n\t\t\tSeat Number: ";
  cin>>seat;
  if(seat>32)
  {
  cout<<"\n\t\t\tThere are only 32 seats available in this bus.";
  }

  else
  {
  if (strcmp(bus[n].seat[seat/4][(seat%4)-1], "Empty")==0)
    {
```

```
        cout<<"\t\t\tEnter passanger's name: ";
        cin>>bus[n].seat[seat/4][(seat%4)-1];
        cout<<"\t\t\tSeat Reserved Sucessfully ";
        break;
      }
    else
      cout<<"\t\t\tThe seat no. is already reserved.\n";
      }
      }
    if(n>p)
    {
      cout<<"\t\t\tEnter correct bus no.\n";
      goto top;
    }
  }
void a::empty()
{


  for(int i=0; i<8;i++)
  {
    for(int j=0;j<4;j++)
    {
```

```
      strcpy(bus[p].seat[i][j], "Empty");
    }
  }
}
void a::show()
{
  int n;
  char number[5];
  cout<<"\t\t\tEnter bus no: ";
  cin>>number;
  for(n=0;n<=p;n++)
  {
    if(strcmp(bus[n].busn, number)==0)
    break;
  }
while(n<=p)
{
  vline('*');
  cout<<"\t\t\tBus no: \t"<<bus[n].busn
  <<"\n\t\t\tDriver: \t"<<bus[n].driver<<"\t\tArrival time: \t"
  <<bus[n].arrival<<"\t\t\tDeparture time:"<<bus[n].depart
  <<"\n\t\t\tFrom: \t\t"<<bus[n].from<<"\t\tTo: \t\t"<<
  bus[n].to<<"\n";
```

```
  vline('*');
  bus[0].position(n);
  int a=1;
  for (int i=0; i<8; i++)
  {
    for(int j=0;j<4;j++)
    {
      a++;
      if(strcmp(bus[n].seat[i][j],"Empty")!=0)
      cout<<"\n\t\t\tThe seat no "<<(a-1)<<" is reserved for "<<bus[n].seat[i][j]<<".";
    }
  }
  break;
  }
  if(n>p)
    cout<<"\t\t\tEnter correct bus no: ";
}


void a::position(int l)
{
  int s=0;p=0;
  for (int i =0; i<8;i++)
```

```
{
  cout<<"\n";
  for (int j = 0;j<4; j++)
  {
    s++;
    if(strcmp(bus[l].seat[i][j], "Empty")==0)
      {
        cout.width(5);
        cout.fill(' ');
        cout<<s<<".";
        cout.width(10);
        cout.fill(' ');
        cout<<bus[l].seat[i][j];
        p++;
      }
      else
      {
      cout.width(5);
      cout.fill(' ');
      cout<<s<<".";
      cout.width(10);
      cout.fill(' ');
      cout<<bus[l].seat[i][j];
```

```
        }
      }
    }
  cout<<"\n\n\t\t\tThere are "<<p<<" seats empty in Bus No: "<<bus[l].busn;
  }
int main()
{
system("cls");
int w;
while(1)
{
  cout<<"\n\n\n\n\n";
  cout<<"\t\t\tBus Reservation System Project in C++\n\n";
  cout<<"\t\t\t1.Add Bus\n\t\t\t"
  <<"2.Bus Reservation\n\t\t\t"
  <<"3.Show\n\t\t\t"
  <<"4.Exit";
  cout<<"\n\t\t\tEnter your choice:-> ";
  cin>>w;
switch(w)
  {
    case 1:  bus[p].install();
      break;
```

```
    case 2:  bus[p].allotment();
      break;
    case 3:  bus[0].show();
      break;
    case 4:  exit(0);
  }
}
return 0;
}
```

METHODOLOGY:

1. Add Bus:

By choosing this menu option you'll be able to add the bus which is going to depart from the particular location. To add a new one you have to choose the menu as 1. After choosing the first menu software ask you to enter some details of the bus which are:

- The Bus number.
- Name of the driver.
- Time of Departure.
- Arrival Time.
- The location from which bus will departure.
- Arrival location.

The software will ask you all the above details every time during the addition of a new bus. After entering all the information and successful addition of bus, the software will display one message "Bus added Successfully".

```
Bus Reservation System Project in C++

            1.Add Bus
            2.Bus Reservation
            3.Show
            4.Exit
            Enter your choice:-> 1
            Enter bus no: 276
            Enter Driver's name:Mukesh
            Arrival time: 11
            Departure: 11:15
            From: Rajajinagar
            To: Hebbal
            Bus added Sucessfully
```

```
      Bus Reservation System Project in C++

      1.Add Bus
      2.Bus Reservation
      3.Show
      4.Exit
      Enter your choice:-> 1
      Enter bus no: K2
      Enter Driver's name: Rahul
      Arrival time: 11:30
      Departure: 11:45
      From: Sanjaynagar
      To: Yeshwanthpur
      Bus added Sucessfully
```

2. Bus Reservation:

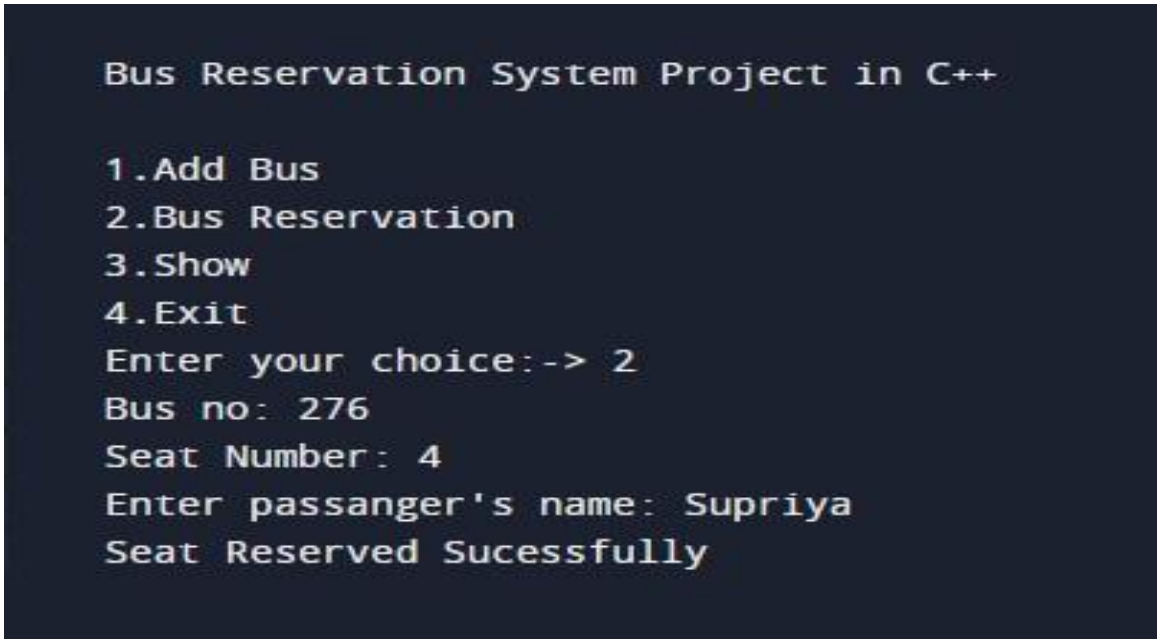
This section is the main section of our project where the passenger will be able to reserve the ticket for the available buses.

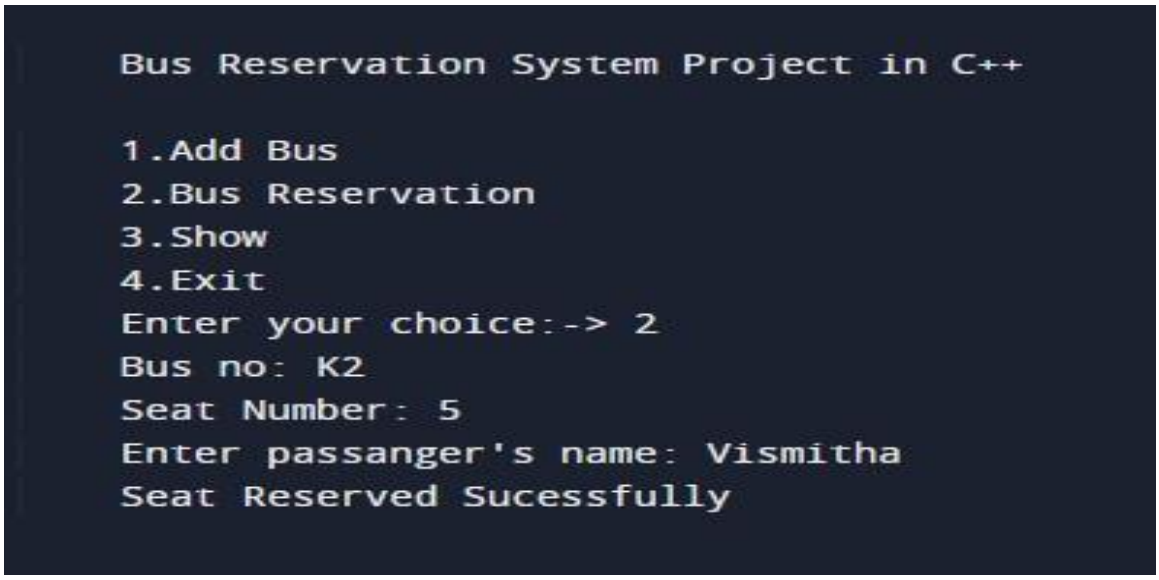
After choosing this option the software will ask for the following information:

- Bus number.
- The seat number which you want to book.
- Name of the passenger.

After entering the above information correctly the software will show the success message as “Seat Reserved Successfully”.

If the entered seat is reserved by another person already then, the software will show the message as “The seat no is already reserved”.

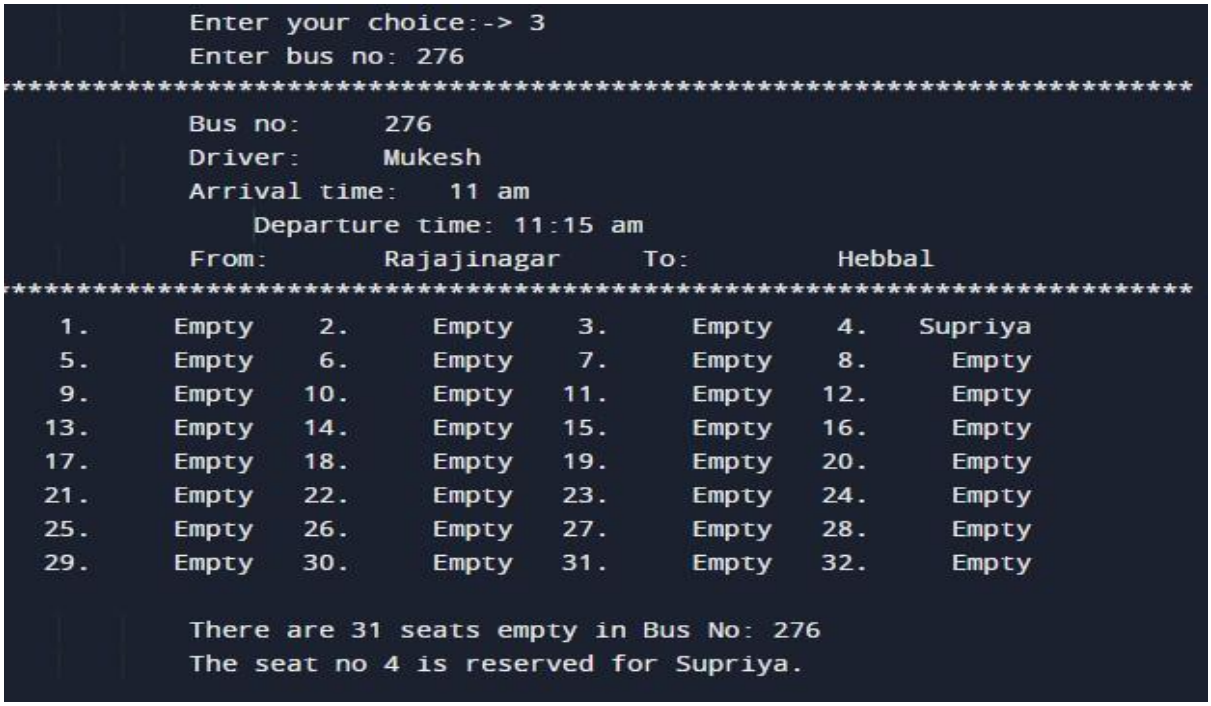


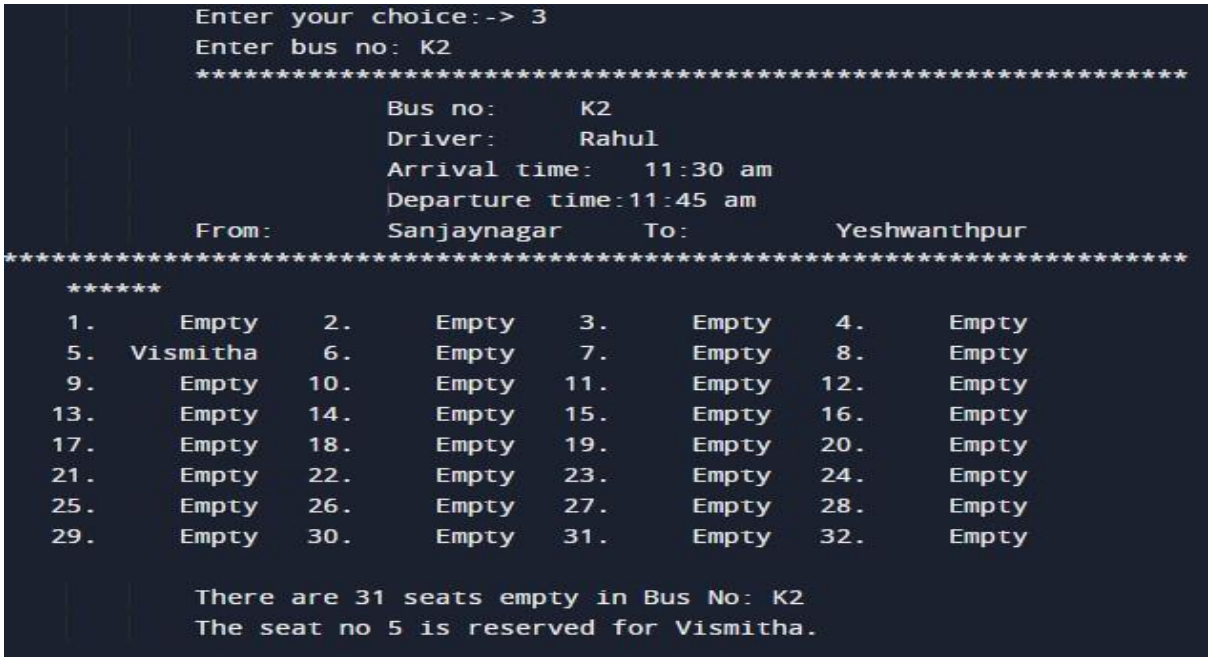


3. Show:

With the help of this option, you'll get a clear picture of the reservation data of a particular bus. Passengers have to enter the bus number in which they want to do the seat reservation.

After entering the bus number the software will show the bus map with the seat numbers. The software will give the information of seats with the name of the person who's already booked the ticket. If the seat is empty then the software will show it as "Empty".By looking at the seat map passenger will get an idea of which seat he has to book in order to travel on that bus. The software will also give the exact number of seats that are available on the bus.





4. Exit:

By choosing the 4th option the bus reservation system project will get exited.