

*Little Flower Vidyanikethan & Jr. College
Mundathanam*

*Project Report
On
RAILWAY RESERVATION SYSTEM*



2016-2017

*In the partial fulfillment of All India Senior
School Certificate Examination for the session
2016-2017 conducted by Central Board of
Secondary Education.*

*ARJUN KRISHNA
XII SCIENCE*

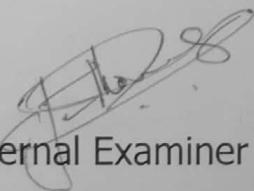
CERTIFICATE

This is to certify that this project titled **Railway Reservation System** is the record of bonafide project work carried out by **Arjun Krishna**, Reg.No:.....4809471.....of class XII Science, in the laboratory of this school during the academic year 2016-2017. He has taken proper care and sincerity in completion of this project.


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I express my deep sense of gratitude towards God Almighty who enabled me to go forth with the project.

I sincerely thank the Principal of our school Sr. Ancy Mathew and our Vice Principal Mr. C.D Varghese who facilitated the accomplishment of our project.

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ARJUN KRISHNA

Dedicated to my dear Hari sir.....

“Even though you are now far away from
us, you'll always be close to us.....
forever in our hearts.....”

**RAILWAY
RESERVATION
SYSTEM**

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INTRODUCTION

In this emerging world of computers, almost all-manual system has switched to automated and computerized system. Therefore, we are developing the software for "Railway Reservation System" to model the present system and to remove the drawbacks of the present system. This project explore show computer technology can be used to solve the problem of user. This being a big step in terms of improvement in the railway system it is widely accepted across the country. Rather than designing manually, we have made use of computer. Use of computer has solved many problems, which are faced during manual calculation. Once data are fed, it can perform accurate functions. Therefore, to reduce the complexity and efficiency a versatile and an outsourcing railway reservation system has been developed.

The customers are required to register on the server for getting access to the database and query result retrieval. Upon registration, each user has an account that is essentially the 'view level' for the customer. The account contains comprehensive information of the user entered during registration and permits the customer to get access to his/her past reservations, enquire about travel fare and availability of seats, make fresh reservations, and update his account details. Each passenger is allotted a unique PNR no. through which one can access his/her account.

The railway administrator is another member involved in the transactions. The administrator is required to login using a master password, once authenticated as an administrator, one has access and right of modification to all the information stored in the database. The railway administrator has the right to modify any information stored at the server database.

This project is dedicated to model the existing railway reservation system that aims at development of Railway Reservation System that facilitates the railway customer to manage their reservations and the railway administrator to modify the backend database in a user-friendly manner. The customer and the railway administrator are two parties that interact with the database, who have different 'view level schemas' to the database information. The software provides a comprehensive set of features to enhance the operational limits. Now one can easily plan the journey comfortably as the process is efficient and fast with being easy to access. The efficiency of the railway will increase result of computerization.

SOURCE CODE

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#include<string.h>
#include<iostream.h>
#include<time.h>
#include<iomanip.h>
#include<fstream.h>
char f[10] = "f";
char s[10] = "s";
int addr, ad, flag, f1, d, m, i, amt;
float tamt;
class login
{
public:
char id[100];
char pass[100];
char *password;
void getid()
{
cout << "Enter your id:"; gets(id);
password = getpass("Enter the password:");
strcpy(pass, password);
}
void displayid()
{
cout << "Id:"; puts(id);
cout << "Password:"; puts(pass);
}
};
class detail
{
public:
int tno;
char tname[100];

char bp[100];
char dest[100];
int c1, c1fare;
```

```
int c2,c2fare;
int d,m,y;
void getdetail()
{
cout<<"Enter the details as follows\n";
cout<<"Train no:";cin>>tno;
cout<<"Train name:";gets(tname);
cout<<"Boarding point:";gets(bp);
cout<<"Destination pt:";gets(dest);
cout<<"No of seats in first class & fare per ticket:";
cin>>c1>>c1fare;
cout<<"No of seats in second class & fare per ticket:";
cin>>c2>>c2fare;
cout<<"Date of travel:";cin>>d>>m>>y;
}
void displaydetail()
{
cout<<tno<<"\t"<<tname<<"\t"<<bp<<"\t"<<dest<<"\t";
cout<<c1<<"\t"<<c1fare<<"\t"<<c2<<"\t"<<c2fare<<"\t";
cout<<d<<"-"<<<m<<"-"<<<y<<"\t"<<endl;
}
};
class reser
{
public:
int pnr;
int tno;
char tname[100];
char bp[10];
char dest[100];
char pname[10][100];
int age[20];
char clas[10];
int nosr;
int i;
int d,m,y;
int con;
```

```
float amc;
void getresdet()
{
    cout<<"Enter the details as follows\n";
    cout<<"Train no:";cin>>tno;
    cout<<"Train name:";gets(tname);
    cout<<"Boarding point:";gets(bp);
    cout<<"Destination pt:";gets(dest);
    cout<<"No of seats required:";cin>>nosr;
    for(i=0;i<nosr;i++)
    {
        cout<<"Passenger name:";gets(pname[i]);
        cout<<"Passenger age:";cin>>age[i];
    }
    cout<<"Enter the class f-first class s-second class:";
    gets(clas);
    cout<<"Date of travel:";cin>>d>>m>>y;
    cout<<"Enter the concession category\n";
    cout<<"1.Military\n2.Senior citizen\n";
    cout<<"3.Children below 5 yrs\n4.None\n";
    cin>>con;
    cout<<".....END OF GETTING DETAILS.....\n";
}
void displayresdet()
{
    cout<<".....\n";
    cout<<".....\n";
    cout<<"Pnr no:"<<pnr;
    cout<<"\nTrain no:"<<tno;
    cout<<"\nTrain name:";puts(tname);
    cout<<"Boarding point:";puts(bp);
    cout<<"Destination pt:";puts(dest);
    cout<<"No of seats reserved:"<<nosr;
    for(i=0;i<nosr;i++)
    {
        cout<<"Passenger name:";puts(pname[i]);
        cout<<"Passenger age:"<<age[i];
    }
}
```

```

cout<<"\nYour class:";puts(clas);
cout<<"\nDate of reservation:"<<d<<"-"<<<m<<"-"<<<y;
cout<<"\nYour concession category:"<<con;
cout<<"\nYou must pay:"<<amc<<endl;
cout<<"*****\n";
cout<<".....END OF RESERVATION.....\n";
cout<<"*****\n";
}

};

class canc
{
public:
int pnr;
int tno;
char tname[100];
char bp[10];
char dest[100];
char pname[10][100];
int age[20];
int i;
char clas[10];
int nosc;
int d,m,y;
float amr;
void getcancdet()
{
cout<<"Enter the details as follows\n";
cout<<"Pnr no:";cin>>pnr;
cout<<"Date of cancellation:";cin>>d>>m>>y;
cout<<".....END OF GETTING DETAILS.....\n";
}
void displaycancdet()
{
cout<<".....\n";
cout<<".....\n";
cout<<"Pnr no:"<<pnr;
cout<<"\nTrain no:"<<tno;
cout<<"\nTrain name:";puts(tname);
cout<<"Boarding point:";puts(bp);
}

```

```

cout<<"Destination pt:";puts(dest);
cout<<"\nYour class:";puts(clas);
cout<<"no of seats to be cancelled:<<nosc;
for(i=0;i<nosc;i++)
{
cout<<"Passenger name:";puts(pname[i]);
cout<<"passenger age:"<<age[i];
}
cout<<"\nDate of cancellation:<<d<<"-"<<<m<<"-"<<<y;
cout<<"\nYou can collect:<<amr<<"rs"<<endl;
cout<<"*****\n";
cout<<".....END OF CANCELLATION.....\n";
cout<<"*****\n";
}
};

void manage();
void can();
void user();
void database();
void res();
void reserve();
void displaypassdetail();
void cancell();
void enquiry();
void main()
{
clrscr();
int ch;
cout<<"~~~~~\n";
cout<<".....WELCOME TO RAILWAY RESERVATION
SYSTEM.....\n";
cout<<"~~~~~\n";
do
{
cout<<"^^^^^MAIN MENU^^^^^";
cout<<"1.Admin mode\n2.User mode\n3.Exit\n";
cout<<"Enter your choice:";

```

```
{  
case 1:  
database();  
break;  
case 2:  
user();  
break;  
case 3:  
exit(0);  
}  
}while(ch<=3);  
getch();  
}  
void database()  
{  
clrscr();  
char *password;  
char *pass="abc";  
password=getpass("Enter the administrator password:");  
detail a;  
fstream f;  
intch;  
char c;  
if(strcmp(pass,password)!=0)  
{  
cout<<"Enter the password correctly \n";  
cout<<"You are not permitted to logon this mode\n";  
goto h;  
}  
if(strcmp(pass,password)==0)  
{  
char c;  
do  
{  
cout<<".....ADMINISTRATOR MENU.....\n";  
cout<<"1.Create detail data base\n\t\t2.Add details\n";  
cout<<"3.Display details\n\t\t4.User management\n";  
cout<<"5.Display passenger details\n\t\t6.Return to main menu\n";  
cout<<"Enter your choice:";  
cin>>ch;
```

```
cout<<endl;
switch(ch)
{
case 1:
f.open("t.txt",ios::out|ios::binary);
do
{
a.getdetail();
f.write((char *) &a,sizeof(a));
cout<<"Do you want to add one more record?\n";
cout<<"y-for Yes\nn-for No\n";
cin>>c;
}while(c=='y');
f.close();
break;
case 2:
f.open("t.txt",ios::in|ios::out|ios::binary|ios::app);
a.getdetail();
f.write((char *) &a,sizeof(a));
f.close();
break;
case 3:
f.open("t.txt",ios::in|ios::out|ios::binary|ios::app);
f.seekg(0);
while(f.read((char *) &a,sizeof(a)))
{
a.displaydetail();
}
f.close();
break;
case 4:
manage();
break;
case 5:
displaypassdetail();
break;
}
}while(ch<=5);
f.close();
}
```

```
displaypassdetail();
break;
}
}while(ch<=5);

f.close();
}
h:
}
void reserve()
{
int ch;
do
{
cout<<"1.Reserve\n2.Return to the main menu\n";
cout<<"Enter your choice:";
cin>>ch;
cout<<endl;
switch(ch)
{
case 1:
res();
break;
}
}while(ch==1);
getch();
}
void res()
{
detail a;
reser b;
fstream f1,f2;
time_t t;
f1.open("t.txt",ios::in|ios::out|ios::binary);
f2.open("p.txt",ios::in|ios::out|ios::binary|ios::app);
int ch;
b.getresdet();
while(f1.read((char *) &a,sizeof(a)))
{
```

```

amt=a.c1fare;
addr=f1.tellg();
ad=sizeof(a.c1);
f1.seekp(addr-(7*ad));
a.c1=a.c1-b.nosr;
f1.write((char *) & a.c1,sizeof(a.c1));
if(b.con==1)
{
cout<<"Concession category:MILITARY PERSONNEL\n";
b.amc=b.nosr*((amt*50)/100);
}
else if(b.con==2)
{
cout<<"Concession category:SENIOR CITIZEN\n";
b.amc=b.nosr*((amt*60)/100);
}
else if(b.con==3)
{
cout<<"Concession category:CHILDREN BELOW FIVE\n";
b.amc=0.0;
}
else if(b.con==4)
{
cout<<"You cannot get any concession\n";
b.amc=b.nosr*amt;
}
srand((unsigned) time(&t));
b.pnr=rand();
f2.write((char *) &b,sizeof(b));
b.displayresdet();
cout<<"_____ \n";
cout<<"____ Your ticket is reserved ____ \n";
cout<<"-----End of reservation menu-----\n";
}
else
{
cout<<"*****Sorry req seats not available*****\n";
}
}
else if(strcmp(b.clas,s)==0)

```

```

{
if(a.c2>=b.nosr)
{
amt=a.c2fare;
addr=f1.tellg();
ad=sizeof(a.c2);
f1.seekp(addr-(5*ad));
a.c2=a.c2-b.nosr;
f1.write((char *) & a.c2,sizeof(a.c2));
if(b.con==1)
{
cout<<"Concession category:MILITARY PRESONNEL\n";
b.amc=b.nosr*((amt*50)/100);
}
else if(b.con==2)
{
cout<<"Concession category:SENIOR CITIZEN\n";
b.amc=b.nosr*((amt*60)/100);
}
else if(b.con==3)
{
cout<<"Concession category:CHILDREN BELOW FIVE\n";
b.amc=0.0;
}
else if(b.con==4)
{
cout<<"You cannot get any concession\n";
b.amc=b.nosr*amt;
}
f2.write((char *) &b,sizeof(b));
b.displayresdet();
cout<<"-----\n";
cout<<"-----Your ticket is reserved----\n";
cout<<"----End of reservation----\n";
}
else
{
cout<<"*****Sorry req no of seats not available*****\n";
}
}

```

```

b.displayresdet();
cout<<-----\n";
cout<<----Your ticket is reserved----\n";
cout<<----End of reservation----\n";
}
else

{
cout<<"*****Sorry req no of seats not available*****\n";
}
}
getch();
goto h;
}
else
{
flag=0;
}
}
if(flag==0)
{
cout<<".....Wrong train no.....\n";
cout<<".....Enter the train no from the data base....\n";
}
f1.close();
f2.close();
getch();
h:
}
void displaypassdetail()
{
fstream f;
reser b;
f.open("p.txt",ios::in|ios::out|ios::binary);
f.seekg(0);
while(f.read((char *) &b,sizeof(b)))
{
b.displayresdet();
}

```

```
f.close();
getch();
}
void enquiry()
{
fstream f;
f.open("t.txt",ios::in|ios::out|ios::binary);
detail a;
while(f.read((char *) &a,sizeof(a)))
{
a.displaydetail();
}
getch();
}
void cancell()
{
detail a;
reser b;
canc c;
fstream f1,f2,f3;
f1.open("t.txt",ios::in|ios::out|ios::binary);
f2.open("p.txt",ios::in|ios::out|ios::binary);
f3.open("cn.txt",ios::in|ios::out|ios::binary);
cout<<"*****CANCELLATION MENU*****\n";
c.getcancdet();
while(f2.read((char *) &b,sizeof(b)))
{
if(b.pnr==c.pnr)
{
c.tno=b.tno;
strcpy(c.tname,b.tname);
strcpy(c.bp,b.bp);
strcpy(c.dest,b.dest);
c.nosc=b.nosr;
for(int j=0;j<c.nosc;j++)
{
strcpy(c.pname[j],b.pname[j]);
c.age[j]=b.age[j];
}
```

```
addr=f1.tellg();
ad=sizeof(a.c1);
f1.seekp(addr-(7*ad));
f1.write((char *) & a.c1,sizeof(a.c1));
tamt=b.amc;
if((c.d==d)&&(c.m==m))
{
cout<<"You are cancelling at the date of departure\n";
c.amr=tamt-((tamt*60)/100);
}
else if(c.m==m)
{
cout<<"You are cancelling at the month of departure\n";
c.amr=tamt-((tamt*50)/100);
}
else if(m>c.m)
{
cout<<"You are cancelling one month before the date of departure\n";
c.amr=tamt-((tamt*20)/100);
}
else
{
cout<<"Cancelling after the departure\n";
cout<<"Your request cannot be completed\n";
}
goto h;
c.displaycancdet();
}
}
}
else if(strcmp(c.clas,s)==0)
{
while(f1.read((char *) &a,sizeof(a)))
{
if(a.tno==c.tno)
{
a.c2=a.c2+c.nosc;
d=a.d;
m=a.m;
addr=f1.tellg();
```

```
ad=sizeof(a.c2);
f1.seekp(addr-(5*ad));
f1.write((char *) & a.c2,sizeof(a.c2));
tamt=b.amc;
if((c.d==d)&&(c.m==m))
{
cout<<"You are cancelling at the date of departure\n";
c.amr=tamt-((tamt*60)/100);
}
else if(c.m==m)
{
cout<<"You are cancelling at the month of departure\n";
c.amr=tamt-((tamt*50)/100);
}
else if(m>c.m)
{
cout<<"You are cancelling one month before the date of departure\n";
c.amr=tamt-((tamt*20)/100);
}
else
{
cout<<"Cancelling after the departure\n";
cout<<"Your request cannot be completed\n";
}
goto h;
c.displaycancdet();
}
}
}
}
}
else
{
flag=0;
}
}
h:
if(flag==0)
{
cout<<"Enter the correct pnr no\n";
}
```

```
c.displaycancel();
}
}
}
}
else
{
flag=0;

}
}
h:
if(flag==0)
{
cout<<"Enter the correct pnr no\n";
}
f1.close();
f2.close();
f3.close();
getch();
}
void can()
{
int ch;
do
{
cout<<.....CANCELLATION MENU.....\n";
cout<<"1.Cancel\n2.Return to the main menu\n";
cout<<"Enter your choice:";
cin>>ch;
cout<<endl;
switch(ch)
{
case 1:
cancel();
break;
}
}while(ch==1);
getch();
```

```
}

void user()
{
login a;
int ch;
cout<<"*****\n";
cout<<"*****WELCOME TO THE USER MENU**\n";
cout<<"*****\n";
char *password;

fstream f;
f.open("id.txt",ios::in|ios::out|ios::binary);
char id[100];
puts("Enter your id:");gets(id);
password=getpass("Enter your password:");
while(f.read((char *) &a,sizeof(a)))
{
if((strcmp(a.id,id)==0)&&(strcmp(a.pass,password)==0))
{
do
{
cout<<"1.Reserve\n2.Cancel\n3.Enquiry\n4.Return to the main
menu\n";
cout<<"Enter your choice:";
cin>>ch;
cout<<endl;
switch(ch)
{
case 1:
reserve();
break;
case 2:
cancel();
break;
case 3:
enquiry();
break;
}
}while(ch<=3);
```

```
fstream f;
char c;
login a;
cout<<"....WELCOME TO THE USER MANAGEMENT MENU....\n";
do
{
    cout<<"1.Create id data base\n2.Add details\n";
    cout<<"3.Display details\n4.Return to the main menu\n";
    cout<<"Enter your choice:";

    cin>>ch;
    cout<<endl;
    switch(ch)
    {
        case 1:
            f.open("id.txt",ios::out|ios::binary);
            do
            {
                a.getid();
                f.write((char *) &a,sizeof(a));
                cout<<"Do you want to add one more record\n";
                cout<<"y-Yes\nn-No\n";
                cin>>c;
            }while(c=='y');
            f.close();
            break;
        case 2:
            f.open("id.txt",ios::in|ios::out|ios::binary|ios::app);
            a.getid();
            f.write((char *) &a,sizeof(a));
            f.close();
            break;
        case 3:
            f.open("id.txt",ios::in|ios::out|ios::binary);
            f.seekg(0);
            while(f.read((char *) &a,sizeof(a)))
            {
                a.displayid();
            }
            f.close();
            break;
    }
}
```

```
 }  
 }while(ch<=3);  
 getch();  
 }
```

OUTPUT

....WELCOME TO RAILWAY RESERVATION SYSTEM....

~~~~~MAIN MENU~~~~~

- 1.Admin mode
- 2.User mode
- 3.Exit

Enter your choice:1\_

Enter the administrator password:

.....ADMINISTRATOR MENU.....

- 1.Create detail data base
- 2.Add details
- 3.Display details
- 4.User management
- 5.Display passenger details
- 6.Return to main menu

Enter your choice:1

Enter the details as follows

Train no:87878

Train name:Kanyakumari Exp

Boarding point:Delhi

Destination pt:Kanyakumari

No of seats in first class & fare per ticket:100 200

No of seats in second class & fare per ticket:200 100

Date of travel:17 10 2016

Do you want to add one more record?

y-for Yes

n-for No

n\_

.....ADMINISTRATOR MENU.....

- 1.Create detail data base
- 2.Add details
- 3.Display details
- 4.User management
- 5.Display passenger details
- 6.Return to main menu

Enter your choice:3\_

|            |             |           |             |     |       |     |       |
|------------|-------------|-----------|-------------|-----|-------|-----|-------|
| Trno       | Trname      | Bpt       | Dpt         | Fs  | FFare | Ss  | SFare |
| DateofDept |             |           |             |     |       |     |       |
| 22342      | Kanyakumari | Exp Delhi | Kanyakumari | 100 | 200   | 200 | 100   |
| 17-10-2016 |             |           |             |     |       |     |       |

[.....ADMINISTRATOR MENU.....]

- 1.Create detail data base
- 2.Add details
- 3.Display details
- 4.User management
- 5.Display passenger details
- 6.Return to main menu

Enter your choice:4

[....WELCOME TO THE USER MANAGEMENT MENU....]

- 1.Create id data base
- 2.Add details
- 3.Display details
- 4.Return to the main menu

Enter your choice:1

[Enter your id:Ashwin

Enter the password:

Do you want to add one more record

y-Yes

n-No

n

[Id:Ashwin

Password:11111111

- 1.Create id data base
- 2.Add details
- 3.Display details
- 4.Return to the main menu

Enter your choice:4

[.....ADMINISTRATOR MENU.....]

- 1.Create detail data base
- 2.Add details
- 3.Display details
- 4.User management
- 5.Display passenger details
- 6.Return to main menu

Enter your choice:5

.....ADMINISTRATOR MENU.....

- 1.Create detail data base
- 2.Add details
- 3.Display details
- 4.User management
- 5.Display passenger details
- 6.Return to main menu

Enter your choice:6

~~~~~MAIN MENU~~~~~

- 1.Admin mode
- 2.User mode
- 3.Exit

Enter your choice:2

*****WELCOME TO THE USER MENU**

Enter your id:

Ashwin

Enter your password:_

*****WELCOME TO THE USER MENU**

Enter your id:

Ashwin

Enter your password:

- 1.Reserve
- 2.Cancel
- 3.Enquiry
- 4.Return to the main menu

Enter your choice:1_

1.Reserve

2.Return to the main menu

Enter your choice:1

Pnr no:32704
Train no:22342
Train name:Kanyakumari Exp
Boarding point:Delhi
Destination pt:Kanyakumari
No of seats reserved:3Passenger name:amal
Passenger age:12Passenger name:Ajmal
Passenger age:32Passenger name:Aman
Passenger age:22
Your class:f

Date of reservation:12-3-2132

Your concession category:2

You must pay:360

...END OF RESERVATION.....

Your ticket is reserved_____
-----End of reservation menu-----

1.Reserve
2.Return to the main menu
Enter your choice:2_

*****WELCOME TO THE USER MENU**

Enter your id:

Ashwin

Enter your password:

1.Reserve
2.Cancel
3.Enquiry
4.Return to the main menu
Enter your choice:3_

| Trno | Trname | Bpt | Dpt | Fs | FFare | Ss | SFair |
|------------|-----------------|-------|-------------|----|-------|-----|-------|
| DateofDept | Kanyakumari Exp | Delhi | Kanyakumari | 97 | 200 | 200 | 100 |
| 22342 | | | | | | | |
| 17-10-2016 | | | | | | | |

1.Reserve
2.Cancel
3.Enquiry
4.Return to the main menu
Enter your choice:4

~~~~~MAIN MENU~~~~~

1.Admin mode  
2.User mode  
3.Exit

Enter your choice:3\_

# BIBLIOGRAPHY

1. Computer Science with c++ - Sumita Arora
2. Object Oriented Programming with C++ - Balaguruswamy
3. [www.cprogramming.com](http://www.cprogramming.com)
4. <http://projects.icbse.com/cpp-221>