RAILWAY RESERVATION SYSTEM

A Course Project Report submitted to the

JAWAHARLAL NEHRU TECHNOLOGICALUNIVERSITY HYDERABAD

in partial fulfillment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE ENGINEERING

Submitted by

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Mrs.Swapna

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Estd. 1995

VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institute, NAAC Accredited with 'A++' Grade (CGPA: 3.73/4.0)
NBA Accredited for CE, EEE, ME, ECE, CSE, EIE, IT B.Tech. Programmes
Approved by AICTE, New Delhi, Affiliated to JNTU-H, Recognised as "College with Potential for Excellence" by UGC
VignanaJyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad TS 500 090 India

2021

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Estd. 1995

CERTIFICATE

This is to certify that **Soumika Mallidi(20071A05B1)**, **Sreya Tirumalaraju(20071A05B2)**, **Nikhitha Devi Talluri (20071A05B3)**,**Tejeswara Murthy Palwadi(20071A05B4)**,**Telugu Sindhu (20071A05B5)** ,**Vikas Kamarapu (21075A0512),** have successfully completed their Course Based Project work at **Computer Science & Engineering Department** of **Vallurupalli Nageswara Rao Vignana Jyothi Institute of Engineering and Technology,** Hyderabad entitled **"RAILWAY RESERVATION SYSTEM"** in partial fulfillment of the requirements for the award of **B.Tech** during the academic year 2021-2022**.**

This work is carried out under my supervision and has not been submitted to any other University/ Institute for award of any degree/ diploma.

Mrs.Swapna
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External
Examiners

DECLARATION

This is to certify that the project work entitled **"Railway reservation system"** submitted in VNR Vignana Jyothi Institute ofEngineering & Technology in partial fulfillment of requirement for the award of Bachelor of Technology in Computer Science and Engineering is a bonafide report of the work carried out by us under the guidance and supervision of S.SWAPNA, Assistant Professor, Department of CSE, VNRVJIET. To the best of our knowledge, this report has not been submitted in any form to any university or institution for the award of any degree or diploma.

Team Details:

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An endeavor over a long period can be successful only with the advice and support of many well-wishers. We take this opportunity to express our gratitude and appreciation to all of them.

First of all we thank the lord almighty who has been with us from the beginning to the end of our project. We are indebted to our venerable principal **Dr. C. D. Naidu** for this unflinching devotion, which led us to complete this project. The support, encouragement given by him and his motivation lead us to complete this project.

We wish to express our profound gratitude to **Dr. S Nagini, Associate Professor** and **HOD CSE** Department**, VNR Vignana Jyothi Institute of Engineering and Technology** for their constant and dedicated service to brighten our career.

Finally we wish to express our deep sense of gratitude and sincere thanks to our parents, friends and all our well-wishers who have technically and non-technically contributed for the successful completion of our course based project.

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ABSTRACT

Railway ticket reservation will help the passengers to book their tickets for their journey, search train between two stations and get details of particular train schedules including their fare details.

To use this system, its users should be registered and should have a valid login and password to make their reservation. By choosing reservation of ticket, user has to enter the name, number of tickets and then choose by which train to travel according to their destination. Then the system will ask for ticket confirmations.

Passengers will be provided with total fare charges and mode of payment which they want to select for making final payment. Passenger will be also provided with a qr code which makes the ticket verification east for the tc.

INDEX

CHAPTER-I

INTRODUCTION

Software has to be developed for automating the manual reservation system of railway.

The existing system is highly manual involving a lot of paper work and calculation and therefore may be erroneous. This has lead to inconsistency and inaccuracy in the maintenance of data.

To Overcome this problem we have designed a Computerized system. The computerization of the reservation system will reduce a lot of paperwork and hence the load on the administrative staff.

These System should be designed to provide functionalities like booking of tickets in which a user should be able to applied for tickets of any train and of any class.

CHAPTER-2

FEATURES OF RAILWAY RESERVATION SYSTEM

- Searching of data is easy
- Information is accurate
- It is a fast process
- Data efficiency is more
- Data can also be accessed after the program.

OPERATIONS PERFORMED

- User creation
- Ticket booking
- Ticket QR Generation
- Scheduling trains
- Ticket Checking
- Ticket History

USER INFORMATION

- User name
- User email
- User address
- User phone number

CHAPTER-3
SYSTEM DESIGN

CODE:

MAIN_CODE

```
import pickle
from pickletools import pydict
from user import User
from tkt_bk import TICKET_BOOK
import qrcode
from random import *
from pathlib import Path

class Train_Ticket():

    Admin_list = []
    Cust_list = []
    Tc_list = []
    ticket_list = []
    loc_list=[]
    pnr=[]

    def __init__(self, user = None, tkt_bk = None ):
        if isinstance(user, User) and isinstance(tkt_bk, TICKET_BOOK):
            Train_Ticket.user_list.append(user)
            Train_Ticket.ticket_list.append(tkt_bk)

    def Admin_SignUp(self):
        print('+----------------------+')
        print('   ENTER USER DETAILS    ')
        print('+----------------------+')

        name=input("Enter your Name      : ")
        mo_no=input("Enter your Phone no. : ")
        add=input("Enter your Address   : ")
```

```
        email=input("Enter your Email     : ")
        print('')
        newkey=input('Enter Username       : ')
        newvalue=input('Enter Password       : ')
        admin[newkey]=newvalue

        Train_Ticket.Admin_list.append(User(name, add,mo_no,email,newkey))
        pickle_out = open("AdminInfoList.pickle","wb")
        pickle.dump(Train_Ticket.Admin_list, pickle_out)
        pickle_out.close()

        pickle_out = open("Admindict.pickle","wb")
        pickle.dump(admin, pickle_out)
        pickle_out.close()

    def Cust_SignUp(self):
        print('+----------------------+')
        print('   ENTER USER DETAILS    ')
        print('+----------------------+')

        name=input("Enter your Name      : ")
        mo_no=input("Enter your Phone no. : ")
        add=input("Enter your Address   : ")
        email=input("Enter your Email     : ")
        print('')
        newkey=input('Enter Username       : ')
        newvalue=input('Enter Password       : ')
        cust[newkey]=newvalue

        Train_Ticket.Cust_list.append(User(name, add,mo_no,email,newkey))
        pickle_out = open("CustInfoList.pickle","wb")
        pickle.dump(Train_Ticket.Cust_list, pickle_out)
        pickle_out.close()

        pickle_out = open("custdict.pickle","wb")
        pickle.dump(cust, pickle_out)
        pickle_out.close()

    def Tc_SignUp(self):
```

```
    print('+----------------------+')
    print('   ENTER USER DETAILS    ')
    print('+----------------------+')
    name=input("Enter your Name      : ")
    mo_no=input("Enter your Phone no. : ")
    add=input("Enter your Address   : ")
    email=input("Enter your Email     : ")
    print('')
    newkey=input('Enter Username       : ')
    newvalue=input('Enter Password       : ')
    tc[newkey]=newvalue

    Train_Ticket.Tc_list.append(User(name, add,mo_no,email,newkey))
    pickle_out = open("TcInfoList.pickle","wb")
    pickle.dump(Train_Ticket.Tc_list, pickle_out)
    pickle_out.close()

    pickle_out = open("tcdict.pickle","wb")
    pickle.dump(tc, pickle_out)
    pickle_out.close()


def ADlogin(self):#ADMIN LOG IN
    my_file = Path("admindict.pickle")
    if my_file.is_file():#it will check whether file is exists or not
        pickle_in = open("admindict.pickle","rb")
        admin = pickle.load(pickle_in)
        login_username=input('Enter Username       : ')
        login_password=input('Enter Password       : ')
        if login_username in admin:
            if admin[login_username]==login_password:
                while True:
                    print('╔═[ADMIN]═══════════════════════╗')
                    print(" 1.Add new Location.")
                    print(" 2.Add new Route.")
                    print(" 3.Manage Route.")
                    print(" 0.Back.")
                    print('╚═══════════════════════════════╝')
```

```
choice=int(input('Enter Your Choice    : '))

if choice==1:
    print('+----------------------+')
    print("  CREATE NEW LOCATION    ")
    print('+----------------------+')
    #pickle_out = open("locations.pickle","wb")
    #pickle.dump(Train_Ticket.loc_list, pickle_out)
    #pickle_out.close()
    loc=input('Enter Your Location    : ')
    Train_Ticket.loc_list.append(loc)
elif choice==2:
    #pickle_in = open("locations.pickle","rb")
    #Train_Ticket.loc_list = pickle.load(pickle_in)
    From=input("Enter Source         : ")
    to=input("Enter Destination    : ")
    if From in Train_Ticket.loc_list:
        if to in Train_Ticket.loc_list:
            train[From]=to
            pickle_out = open("Route.pickle","wb")
            pickle.dump(train, pickle_out)
            pickle_out.close()
            print("Route is added!!!")
        else:
            print('Invalid Destination!!!')
    else:
        print('Invalid Source!!!')


elif choice==3:
    print("Manage Route")
    while True:
        print('╔═[ADMIN]═══════════════════════╗')
        print(" 1.Delete Route.")
        print(" 2.Change Route.")
        print(" 0.Back.")
        print('╚═══════════════════════════════╝')
        choice=int(input('Enter Your Choice    : '))
```

```
if choice==1:
    From=input("Enter Source        : ")
    to=input("Enter Destination    : ")
    if From in train:
        if train[From]==to:
            del train[From]
            print("Successfully Removed!!!!")
        else:
            print("Invalid Destination!!!")
    else:
        print("Invalid Source!!!")
elif choice==2:
    print('╔═[ADMIN]═══════════════════════╗')
    print(' 1.Update Source.')
    print(' 2.Update Destination.')
    print(' 0.Back.')
    print('╚═══════════════════════════════╝')
    choice=int(input('Enter Your Choice    : '))

    if choice==1:
        From=input("Enter Source        : ")
        to=input("Enter Destination    : ")
        if From in train:
            if train[From]==to:
                new_key=input('Enter New Source :')
                train[new_key] = pydict.pop(From)
                print("Successfully Update!!!!")
            else:
                print("Invalid Destination!!!")
        else:
            print("Invalid Source!!!")

    elif choice==2:
        From=input("Enter Source        : ")
        to=input("  Enter Destination    : ")

        if From in train:
            if train[From]==to:
                new_value=input('Enter New Destination :')
```

```
                        train[From] = new_value
                        print("Successfully Update!!!!")
                    else:
                        print("Invalid Destination!!!")
                else:
                    print("Invalid Source!!!")
            elif choice==0:
                break

        elif choice==0:
            break
    elif choice==0:
        break
else:
    print('Invalid username or password')

else:
    print("Signup first!!!")



def CUSlogin(self):#CUSTOMER LOG IN
    my_file = Path("custdict.pickle")
    if my_file.is_file():#it will check whether file is exists or not
        pickle_in = open("custdict.pickle","rb")
        cust = pickle.load(pickle_in)
        login_username=input('Enter Username       : ')
        login_password=input('Enter password       : ')
        if login_username in cust:
            if cust[login_username]==login_password:

                while True:
                    print('╔═[CUSTOMER]═══════════════════╗')
                    print(" 1.Book Ticket.")
                    print(" 2.View History.")
                    print(" 0.Back.")
                    print('╚══════════════════════════════╝')

                    print('')
```

```
                choice=int(input('Enter Your Choice    : '))
                print('')

                if choice==1:
                    pickle_in = open("Route.pickle","rb")
                    train = pickle.load(pickle_in)
                    From=input("Enter Source         : ")
                    to=input("Enter Destination    : ")
                    if From in train:
                        if train[From]==to:
                            print('Train is available for given route')
                            t.ticket_book(login_username)
                        else:
                            print('user entered the wrong input')
                    else:
                        print('train is not available for given route')

                elif choice==2:
                    print('+----------------------+')
                    print("     RECENT HISTORY     ")
                    print('+----------------------+')
                    for o in list(t.ticket_list):
                        o.display()
                elif choice==0:
                    break

            else:
                print('Invalid username or password')

        else:
            print("signup first!!!")




def TClogin(self):#TICKET CHECKER LOG IN
    my_file = Path("tcdict.pickle")
    if my_file.is_file():#it will check whether file is exists or not
        pickle_in = open("tcdict.pickle","rb")
```

```
tc = pickle.load(pickle_in)
login_username=input('Enter Username       : ')
login_password=input('Enter Password       : ')
if login_username in tc:
    if tc[login_username]==login_password:

        while True:
            print('╔═[TC]═══════════════════════════╗')
            print(' 1.Check In Database.')
            print(' 0.Back.')
            print('╚════════════════════════════════╝')

            print('')
            choice=int(input('Enter Your Choice    : '))
            print('')

            if choice==1:
                print('+----------------------+')
                print('   CHECK IN DATABASE     ')
                print('+----------------------+')
                print('')
                pickle_in = open("pnr.pickle","rb")
                Train_Ticket.pnr = pickle.load(pickle_in)
                a=int(input('Enter PNR NO.        : '))
                if a in Train_Ticket.pnr:
                    print('+----------------------+')
                    print("      TICKET DETAILS     ")
                    print('+----------------------+')
                    pickle_in = open("ticket_list.pickle","rb")
                    Train_Ticket.ticket_list = pickle.load(pickle_in)
                    print( Train_Ticket.ticket_list[0])
                else:
                    print ("Invalid PNR!!!")
            elif choice==0:
                break

else:
    print('Invalid username or password')
```

```
        else:
            print("Signup first!!!")



    def ticket_book(self,usr):
        print('+----------------------+')
        print('   RESERVATION FORM      ')
        print('+----------------------+')
        Class=input('Enter Class         : ')
        bdg_pt=input('Enter Bording point  : ')
        quota=input('Enter Quota         : ')

        Train_Ticket.ticket_list.append(TICKET_BOOK(Class, bdg_pt, quota, str(usr)))
        pickle_out = open("ticket_list.pickle","wb")
        pickle.dump(Train_Ticket.ticket_list, pickle_out)
        pickle_out.close()


        x = randint(1000000000,10000000000)#random number
        Train_Ticket.pnr.append(x)
        pickle_out = open("pnr.pickle","wb")
        pickle.dump(Train_Ticket.pnr, pickle_out)
        pickle_out.close()
        # The data that you want to store
        data = ("USER             ::"+str(usr)+"\t\n"+"PNR NO            ::
"+str(x)+"\t\n"+"CLASS             :: "+Class+"\t\n"+"BOARDING PT ::
"+bdg_pt+"\t\n"+"QUOTA             :: "+quota)
        # Add data

        img = qrcode.make(data)
        # Create an image from the QR Code instance
        name_img=input("Name the file       : ")#e.g. file.jpg
        name_img+='.png'
        img.save(name_img)
```

```
admin = {}
cust = {}
tc = {}
train = {}
t=Train_Ticket()

while True:

    print('╔═[Main Menu]═══════════╗')
    print(' 1.Admin Account.')
    print(' 2.Customer Account.')
    print(' 3.Ticket Checker.')
    print(' 0.Exit.')
    print('╚═══════════════════════╝')


    choice=int(input('Enter Your Choice    : '))
    print('')

    if choice==1:
        while True:
            print('╔═[ADMIN]═══════════════╗')
            print(' 1.Log In.')
            print(' 2.Sign up.')
            print(' 0.Back.')
            print('╚═══════════════════════╝')

            choice=int(input('Enter Your Choice    : '))
            print('')
            if choice==1:
                t.ADlogin()
            elif choice==2:
                t.Admin_SignUp()
            elif choice==0:
                break

    elif choice==2:
        while True:
            print('╔═[CUSTOMER]════════════╗')
```

```
        print(' 1.Log In.')
        print(' 2.Sign up.')
        print(' 0.Back.')
        print('╚═══════════════════════════════════════╝')

        choice=int(input('Enter Your Choice    : '))
        print('')
        if choice==1:
            t.CUSlogin()
        elif choice==2:
            t.Cust_SignUp()
        elif choice==0:
            break

    elif choice==3:
        while True:
            print('╔═[TC]═══════════════════════════╗')
            print(' 1.Log In.')
            print(' 2.Sign up.')
            print(' 0.Back.')
            print('╚═══════════════════════════════╝')

            choice=int(input('Enter Your Choice    : '))
            print('')
            if choice==1:
                t.TClogin()
            elif choice==2:
                t.Tc_SignUp()
            elif choice==0:
                break

    elif choice==0:
        break
```

USERS

```
class User(object):
```

```
    """docstring for User"""

    def __init__(self, name=None, mo_no=None, add=None, email=None, usr=None):
        super(User, self).__init__()
        self.name = name
        self.mo_no = mo_no
        self.add = add
        self.email = email
        self.usr=usr

    def __str__(self):
        return "\nName : " + self.name +\
               "\nAdd  : " + str(self.add) +\
               "\nMo No: " + str(self.mo_no) +\
               "\nEmail: " + str(self.email)

    def display(self):
        print ("Name : ", self.name)
        print ("Add  : ", self.mo_no)
        print ("Mo No: ", self.add)
        print ("Email:", self.email)
```

TICKET_BOOK

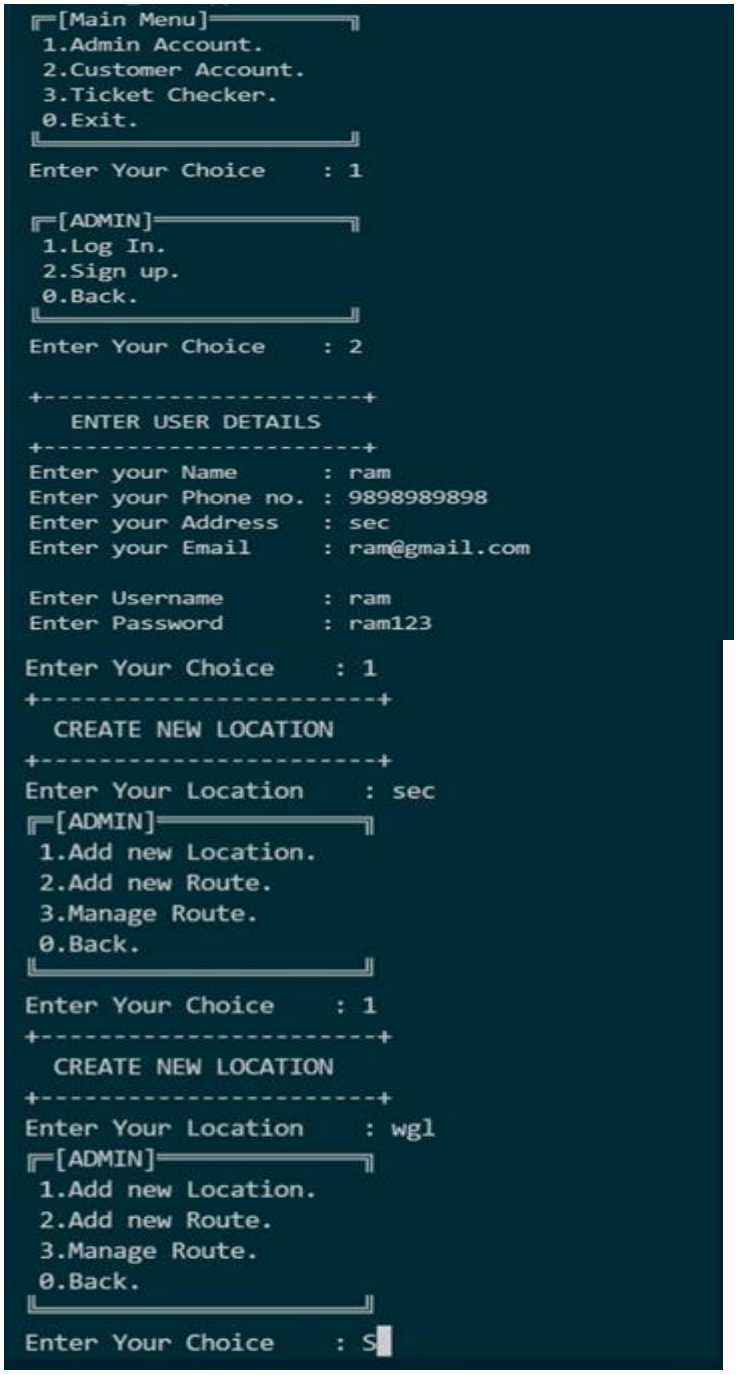
```
class TICKET_BOOK (object):
    """docstring for User"""
    def __init__(self, Class=None, bdg_pt=None, quota=None,usr=None):
        super(TICKET_BOOK, self).__init__()
        self.Class = Class
        self.bdg_pt = bdg_pt
        self.quota=quota
        self.usr=usr

    def __str__(self):
        return "============================="+\
                "\nuser : "+ str(self.usr)+\
               "\nClass : " + self.Class+\
               "\nbdg_pt: "+ str(self.bdg_pt)+\
               "\nquota : "+ str(self.quota)+\
```

```
        "\n============================="+\
        " "

def display(self):
    print ("=============================")
    print ("USER        : ",self.usr)
    print (" CLASS      : ",self.Class)
    print (" BOARDING PT.: ",self.bdg_pt)
    print (" QUOTA      : ",self.quota)
    print ("=============================")
```

CHAPTER - 4

OUTPUT

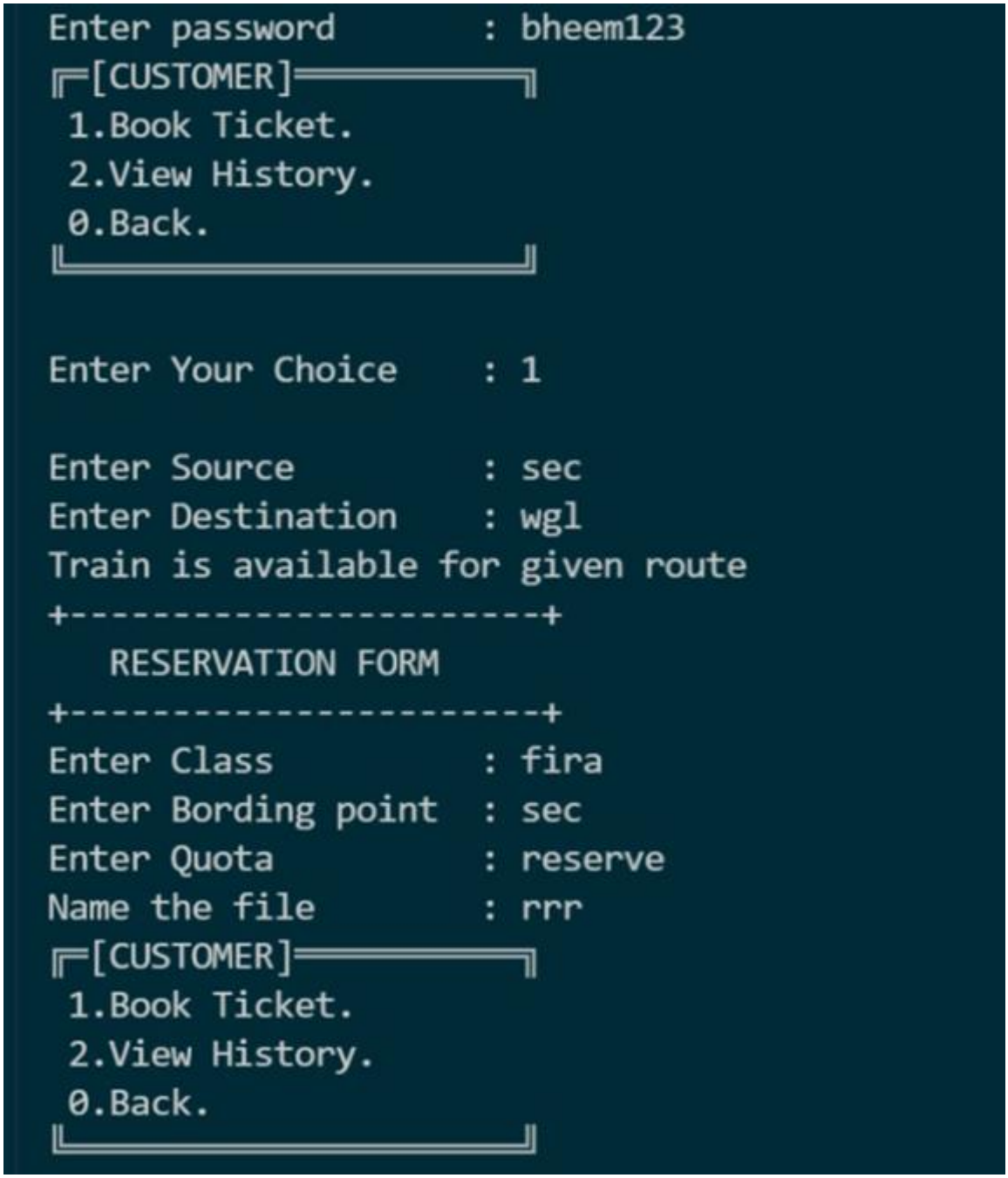
ADMIN LOGIN:



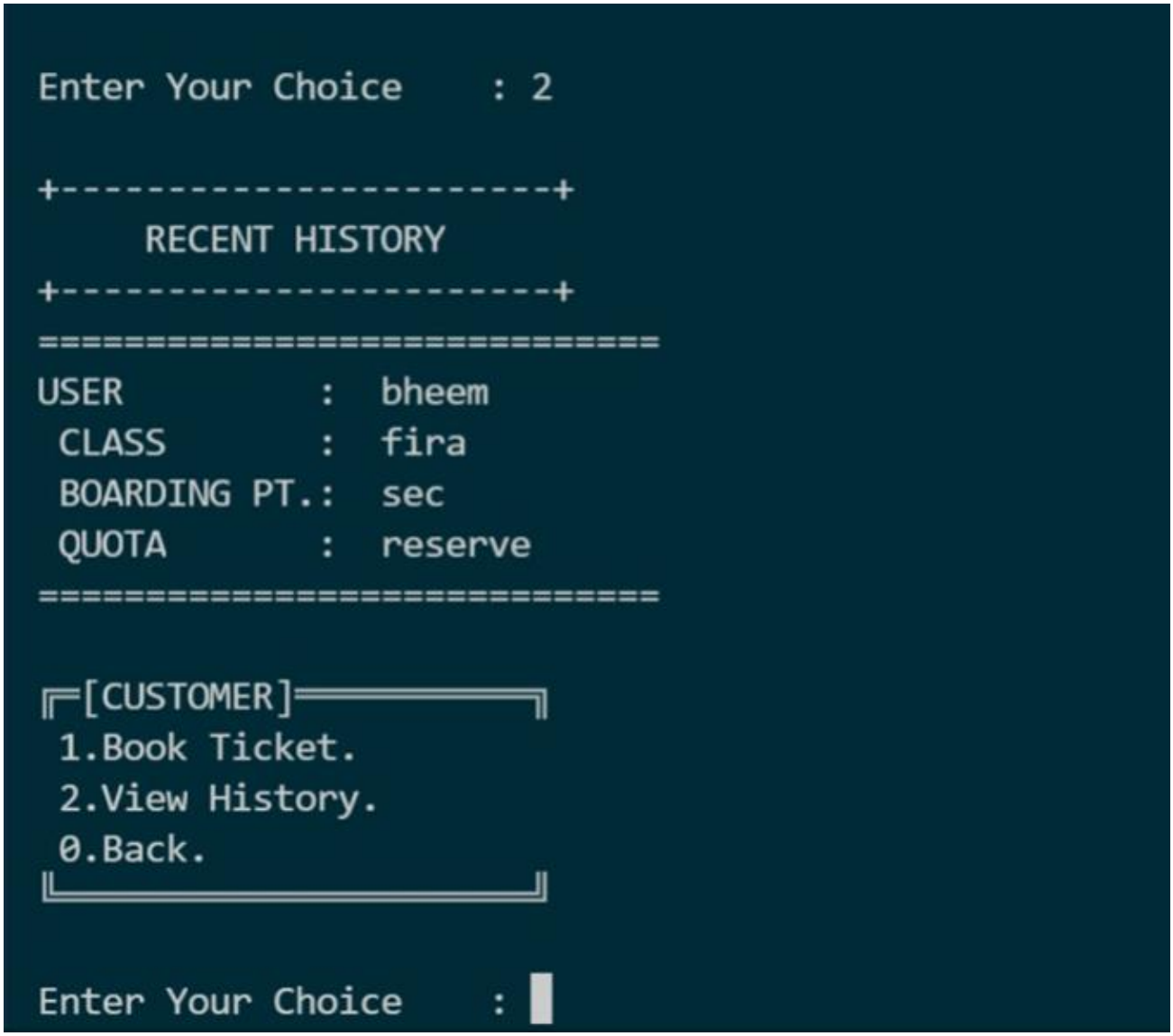
USER LOGIN:

```
Enter Your Choice    : 2

+-----------------------+
   ENTER USER DETAILS
+-----------------------+
Enter your Name       : bheem
Enter your Phone no.  : 909
Enter your Address    : wgl
Enter your Email      : bheem@gmail.com

Enter Username        : bheem
Enter Password        : bheem123
╔[CUSTOMER]═══════════╗
 1.Log In.
 2.Sign up.
 0.Back.
╚═══════════════════════╝
Enter Your Choice    : 1

Enter Username        : bheem
Enter password        : bheem123
╔[CUSTOMER]═══════════╗
 1.Book Ticket.
 2.View History.
 0.Back.
╚═══════════════════════╝
```

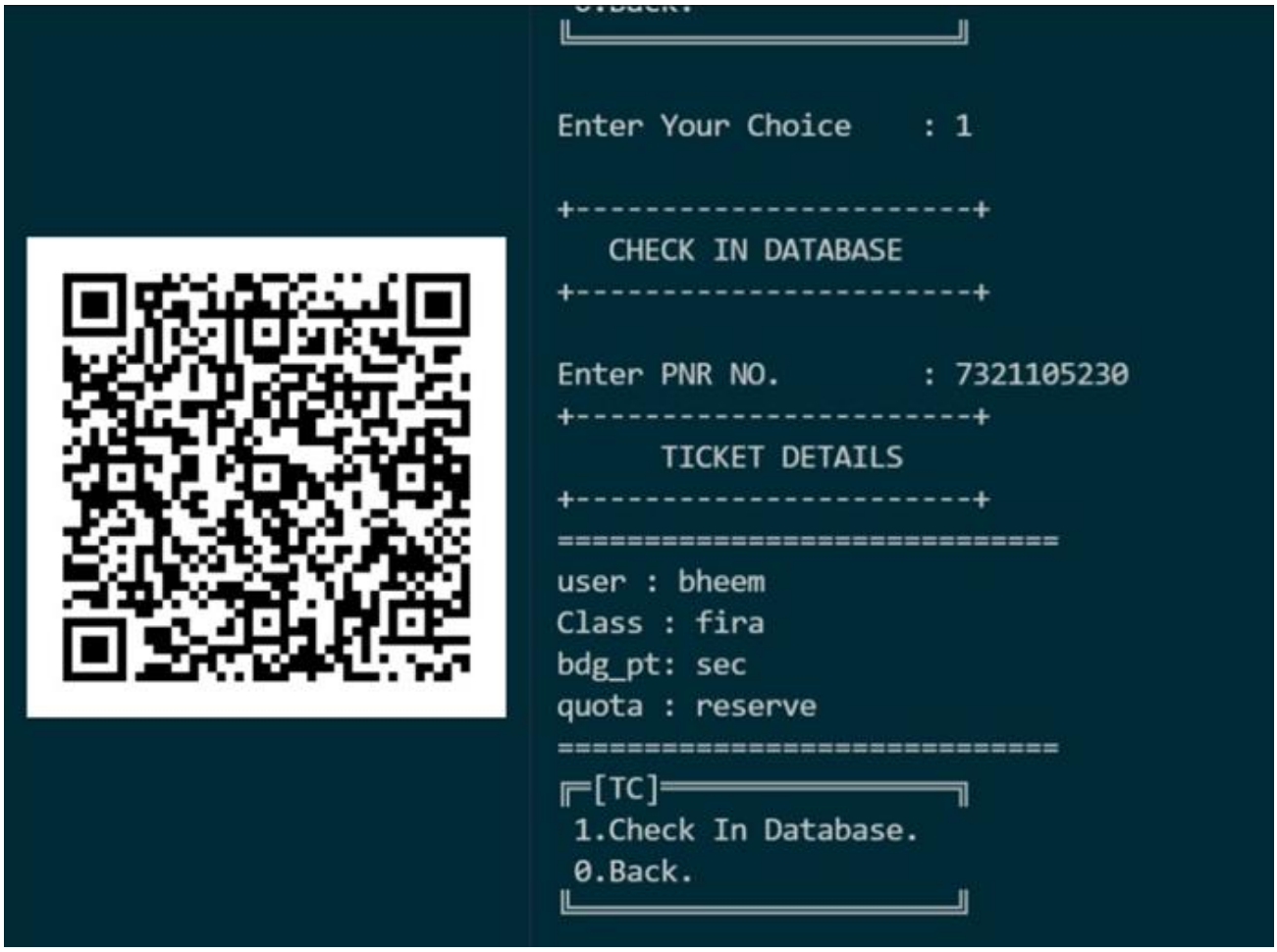
TICKET RESERVATION:



TICKET HISTORY:



TICKET DETAILS AND QR :



CHAPTER – 5

FUTURE SCOPE

Further user defined security needs can be employed. Records of client activities can be maintained.In future, there would be a chance for Multi Login System. Another improvement would be to add more features other than the existing modules to store the information in a more efficient way.

CONCLUSION

Our Program is encrypted by a Login Form. We provided an easy handling system in which users can see Reservation of Tickets. Customer can also view their Tickets after the execution of program. TC can also verify the ticket easily through the QR option provided by the code. The Main thing is that we can access user Data Base even after the execution of program with the help of File handling.