**AMITY INTERNATIONAL SCHOOL, NOIDA**

***Computer Science Project***

***AIRLINE MANAGEMENT SYSTEM***



By:

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ACKNOWLEDGEMENT

***Computers, in this day and age, are relevant at only one place; and that is everywhere. We cannot express enough gratitude to our school for the wonderful platform and opportunities it provides to us in the form of computer science education and much else.***

***We acknowledge the remarkable efforts of all our teachers, how great they are at imparting their vast libraries of knowledge to us.***

***At Amity, where modernity blends with tradition, we can never fail to thank our parents for the blessings that they are, for letting us opt for this wonderful field of study; not by pressuring us, but purely because we wanted to. We learn computers for recreation as much as for education.***

***Thanking you all for your favors to us and hoping that you will appreciate its incredible competency, we present to you our beloved code.***

***- Omaima Kamran and Ishita Srivastava***

CERTIFICATE

**AMITY INTERNATIONAL SCHOOL, NOIDA**

*This is to certify that* ***Omaima Kamran*** *Roll number: 18 of Class* ***12 – E a****nd****Ishita Srivastava*** *Roll number: 27 of Class* ***12 – D*** *have successfully completed the* ***Computer Science Project: “Sujata Yatra: Airline Management System”*** *under my supervision according to the guidelines laid down by CBSE.*

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***Ms. Kirti Tripathi***

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INTRODUCTION

We have created an Airline Management System, that keeps track of the travels made by customers, in an SQL database.

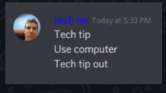
All transactions happen through python. Inputs are taken through an interactive graphical user interface.

The customer can create an account with the airline, schedule travels on a particular date and a price is calculated according to the loyalty points scheme of the airline.

**REQUIREMENTS**

The game requires the following hardware –

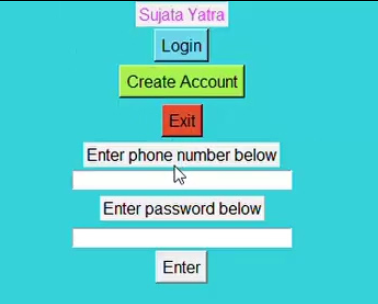
1. A Keyboard (To provide the necessary inputs)
2. A Mouse / Track-pad (To navigate through the GUI)
3. A computer



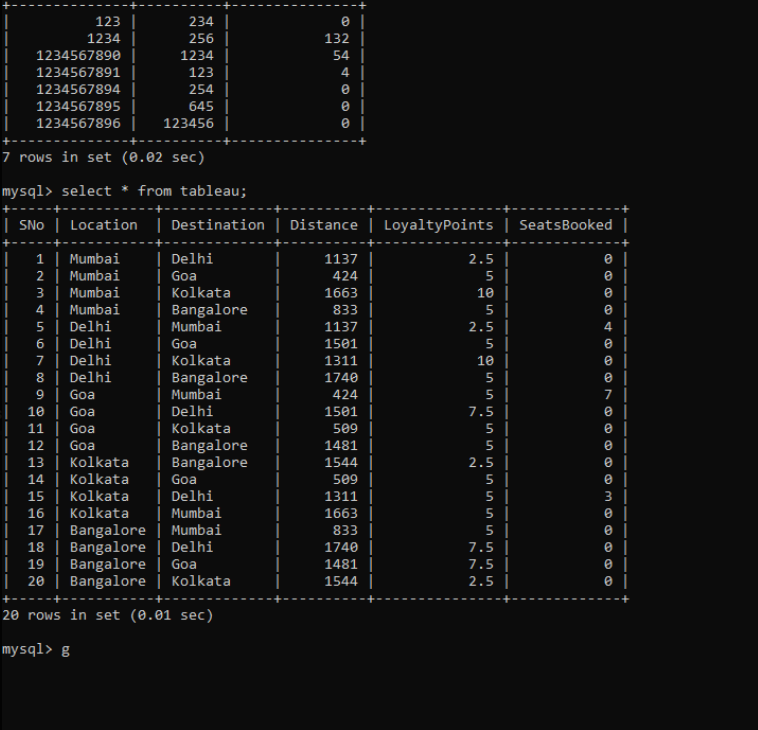
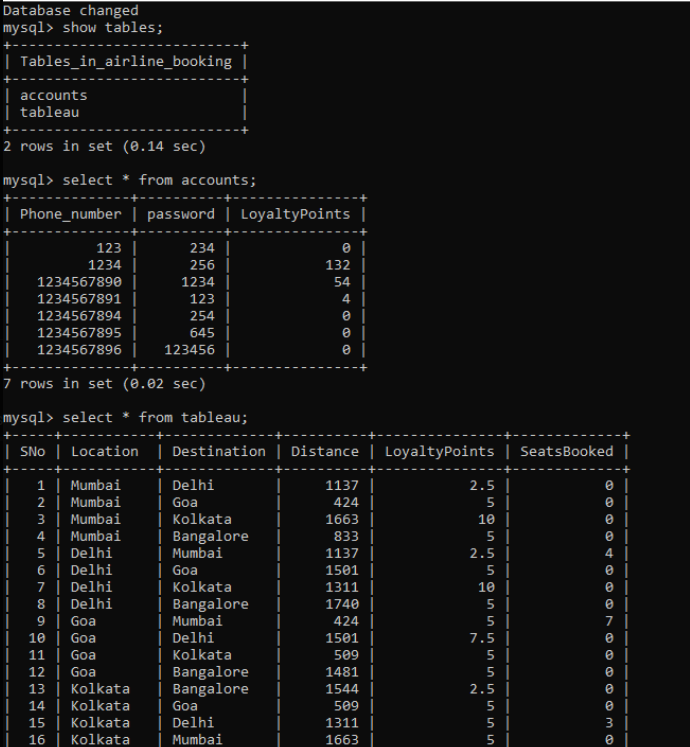
The game requires the following software –

1. OS – Microsoft Windows
2. Processor – 1 GHz Intel compatible CPU
3. Hard disk space – 3 MB or greater
4. Python 3.7 or higher
5. MySql
6. Installation of the python libraries mysql-connector-python and pymysql through the pip installer. 

WORKING OF THE CODE

Upon running the code, a tkinter window appears and the user has the option to Login, Create Account and Exit.

After creating account, user can proceed to book flights to and from locations given in a dropdown menu. The specialty of our code lies in the business aspect of it. For every trip that is booked, a given number of loyalty points is awarded to the user. The number of loyalty points earnt per trip depend upon the popularity of the locations.

E.g.- No of loyalty points earnt upon travelling from Mumbai to Delhi is less than no of loyalty points earnt upon travelling from Goa to Bangalore. This is to encourage travel between the said destinations.  Each time a flight is booked, from destination A to destination B, the no. of flights is incremented in the airline’s database, to help assess the popularity of travel destination; to help the company improve upon business schemes.

SOURCE CODE

**Creating Database**

**import mysql.connector**

**conn=mysql.connector.connect(host='localhost',password='passwd',user='root')**

**c1=conn.cursor()**

**if conn.is\_connected:**

**c1.execute("create database airline\_booking;")**

**print("database created successfully")**

**Creating Table Accounts**

**import mysql.connector**

**conn=mysql.connector.connect(host='localhost',password='passwd', user='root',database='airline\_booking')**

**c1=conn.cursor()**

**c1.execute('create table accounts(Phone\_number bigint(13) primary key,password  bigint(10),LoyaltyPoints int default 0);')**

**conn.commit()**

**print("Table  accounts created successfully")**

**#Creating table Tableau**

**import mysql.connector**

**conn=mysql.connector.connect(host='localhost',password='passwd', user='root',database='airline\_booking')**

**c1=conn.cursor()**

**c1.execute("create table tableau(SNo integer primary key, Location varchar (20), Destination varchar(20), Distance integer,LoyaltyPoints float,SeatsBooked int default 0) ;")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (1, 'Mumbai','Delhi', 1137,2.5);")**

**c1.execute( "insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (2,'Mumbai','Goa', 424,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (3, 'Mumbai','Kolkata', 1663,10);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (4,'Mumbai','Bangalore', 833,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (5,'Delhi','Mumbai',1137,2.5);")**

**c1.execute( "insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (6,'Delhi','Goa',1501,5);")**

**c1.execute( "insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (7,'Delhi','Kolkata',1311,10);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (8,'Delhi','Bangalore',1740,5);")**

**c1.execute( "insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (9,'Goa','Mumbai',424,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (10,'Goa','Delhi',1501,7.5);")**

**c1.execute( "insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (11,'Goa','Kolkata',509,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (12,'Goa','Bangalore',1481,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (13,'Kolkata','Bangalore',1544,2.5);")**

**c1.execute(" insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (14,'Kolkata','Goa',509,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (15,'Kolkata','Delhi',1311,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (16,'Kolkata','Mumbai',1663,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (17,'Bangalore','Mumbai',833,5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (18,'Bangalore','Delhi',1740,7.5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (19,'Bangalore','Goa',1481,7.5);")**

**c1.execute("insert into tableau(Sno,Location,Destination,Distance,LoyaltyPoints) values (20,'Bangalore','Kolkata',1544,2.5);")**

**conn.commit()**

**print("Table  tableau created successfully")**

**Main Source Code**

**import tkinter**

**import tkinter.messagebox**

**root=tkinter.Tk()**

**import mysql.connector**

**conn=mysql.connector.connect(host='localhost',password='passwd',user='root',database='airline\_booking')**

**c1=conn.cursor()**

**conn.autocommit==True**

**root.configure(bg='#28c5dd')**

**def ins():**

**phone=pho.get()**

**pasw=pas.get()**

**if len(str(phone))!=10:**

**notexist()**

**else:**

**c1.execute("insert into accounts(Phone\_number,password)values(" + str(phone) +"," +pasw  + ")")**

**conn.commit()**

**r=tkinter.Label(root,text='Account sucessfully Created',font=35).pack()**

**import sys**

**sys.exit()**

**def createacc():**

**global pho**

**global pas**

**v=tkinter.Label(root,text='Enter phone number below',font='35')**

**v.pack(padx=1,pady=1)**

**pho=tkinter.Entry(root,width=35)**

**pho.pack(padx=2,pady=2)**

**o=tkinter.Label(root,text='Enter password below',font='35')**

**o.pack(padx=4,pady=4)**

**pas=tkinter.Entry(root,width=35)**

**pas.pack(padx=3,pady=3)**

**p=tkinter.Button(root,text='Enter', font='35',command=ins).pack()**

**def notexist():**

**ne=tkinter.messagebox.showinfo('no',"Invalid Phone Number")**

**close()**

**def da():**

**global lpnew**

**global distance**

**flightdate=dat.get()**

**location=loc.get()**

**destination=str(des.get())**

**seats=se.get()**

**c1.execute("select SeatsBooked from tableau where Location="+'"'+str(location)+'"'+" and Destination="+'"'+destination+'"'+";")**

**f=c1.fetchall()**

**h=f[0]**

**nse=int(h[0])**

**nse=nse+int(seats)**

**lpe=("select LoyaltyPoints from tableau where Location="+'"'+str(location)+'"'+" and Destination="+'"'+destination+'"'+";")**

**c1.execute(lpe)**

**x=c1.fetchall()**

**l=x[0]**

**lpg=int(l[0])**

**lp=("SELECT LoyaltyPoints from accounts WHERE Phone\_number="+a+';')**

**c1.execute(lp)**

**y=c1.fetchall()**

**z=y[0]**

**lph=int(z[0])**

**lpnew=lpg+lph**

**c1.execute("update accounts set LoyaltyPoints="+str(lpnew) +" where Phone\_number=" +a+ ";")**

**c1.execute("update Tableau set SeatsBooked="+str(nse)+" where Location="+'"'+str(location)+'"'+" and Destination="+'"'+destination+'"'+";")**

**conn.commit()**

**p=tkinter.Label(root,text="Flight sucessfully Booked",font=35).pack()**

**c1.execute ("select Distance from tableau where Location="+'"'+str(location)+'"'+" and Destination="+'"'+destination+'"'+";")**

**tup=c1.fetchall()**

**d=tup[0]**

**distance=d[0]**

**conn.commit()**

**Lpchoices=[0, 1, 1.5, 2, 2.5]**

**global lpc**

**lpc=tkinter.StringVar(root)**

**lpc.set(Lpchoices[0])**

**ch=tkinter.OptionMenu(root,lpc,\*Lpchoices).pack(padx=1,pady=1)**

**button=tkinter.Button(root,text="Enter",command=lpcho).pack()**

**def lpcho():**

**lpchoo=float(lpc.get())**

**if lpchoo>float(lpnew):**

**t=tkinter.Label(root,text='You do not have enough points.Please try again',font='35')**

**t.pack(padx=1,pady=1)**

**else:**

**p=(distance\*25)-(lpchoo\*10)**

**q=tkinter.Label(root,text='Price is'+str(p),font='35')**

**q.pack(padx=2,pady=2)**

**q.config(bg='#db1a50')**

**lps=lpnew-lpchoo**

**c1.execute("update accounts set LoyaltyPoints="+str(lps) +" where Phone\_number=" +a+ ";")**

**conn.commit()**

**k=tkinter.Label(root,text="Flight sucessfully Booked. Thank you for choosing Sujata Yatra",font=35).pack()**

**def flight():**

**Loc=['Location','Mumbai','Delhi','Goa','Kolkata','Bangalore']**

**Des=['Destination','Mumbai','Delhi','Goa','Kolkata','Bangalore']**

**nse=['Seats','1','2','3','4','5']**

**global loc**

**global des**

**global dat**

**global se**

**se=tkinter.StringVar(root)**

**se.set(nse[0])**

**des=tkinter.StringVar(root)**

**des.set(Des[0])**

**loc=tkinter.StringVar(root)**

**loc.set(Loc[0])**

**dest=tkinter.OptionMenu(root,des,\*Des).pack(padx=1,pady=1)**

**loca=tkinter.OptionMenu(root,loc,\*Loc).pack(padx=2,pady=2)**

**sea=tkinter.OptionMenu(root,se,\*nse).pack(padx=5,pady=5)**

**t=tkinter.Label(root,text='Enter date (yyyy-mm-dd)',font='35')**

**t.pack(padx=3,pady=3)**

**dat=tkinter.Entry(root,width=35)**

**dat.pack(padx=4,pady=4)**

**button=tkinter.Button(root,text="OK",command=da).pack()**

**def sureity():**

**t=tkinter.Label(root,text='Are you sure you want to delete your account',font='35').pack()**

**y=tkinter.Button(root,text='Yes',font='35',command=deleteacc).pack()**

**n=tkinter.Button(root,text='No',font='35',command=close).pack()**

**def deleteacc():**

**c1.execute("delete from accounts where phone\_number ="+str(a)+";")**

**conn.commit()**

**n=tkinter.Label(root,text="Account deleted",font='35').pack()**

**import sys**

**sys.exit()**

**def exist():**

**l=tkinter.Label(root,text='Logged in',font='35').pack(padx=7,pady=7)**

**m=tkinter.Label(root,text='What can i do for you?',font='70').pack(padx=8,pady=8)**

**p=tkinter.Button(root,text='Book Flight', font='35',command=flight).pack(padx=9,pady=9)**

**d=tkinter.Button(root,text='Delete Account', font='35',command=sureity).pack(padx=11,pady=11)**

**def login():**

**l=tkinter.Label(root,text='Enter phone number below',font='35')**

**l.pack(padx=2,pady=2)**

**l.config(bg='#f42069')**

**global e**

**e=tkinter.Entry(root,width=35)**

**e.pack(padx=1,pady=1)**

**p=tkinter.Button(root,text='Enter', font='35',command=checkphone)**

**p.pack(padx=5,pady=5)**

**def checkphone():**

**global a**

**a=e.get()**

**if len(a)!=10:**

**notexist()**

**else:**

**u=("select Phone\_number from accounts where Phone\_number = "+str(a)+";")**

**c1.execute(u)**

**datan=c1.fetchall()**

**s=c1.rowcount**

**s=abs(s)**

**if s!= 1:**

**notexist()**

**else:**

**exist()**

**def close():**

**root.destroy()**

**root.title('Welcome to Sujata Yatra')**

**l=tkinter.Label(root,text='Sujata Yatra',font='70',fg='#ea50f7')**

**l.pack(padx=2,pady=1)**

**b=tkinter.Button(root,text='Login', font='35',bg='#64D0F3', command=login)**

**b.pack(padx=1,pady=1)**

**c=tkinter.Button(root,text='Create Account', font='35',bg='#a1e249',command=createacc)**

**c.pack(padx=2,pady=2)**

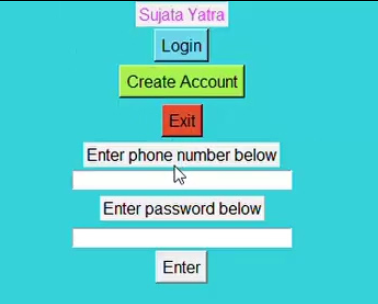
**button\_quit=tkinter.Button(root,text='Exit',font='30',bg='#f1592b',command=close).pack(padx=4,pady=4)**

**root.mainloop()**

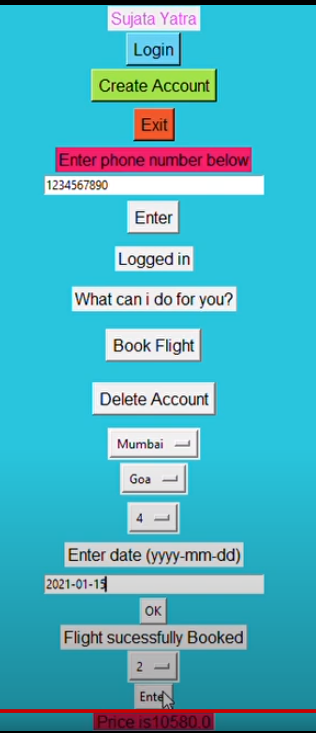


Output & Screenshots

*Screen 1: - Creating an account*



*Screen 2:- Booking a flight*

* Price being displayed*

CONCLUSION & FUTURE EXPANSION

Our project was designed and implemented in Developer python using SQL and the tkinter graphics library. It was tested and any bugs found were addressed. The interface does not currently display any problems.

**The future of the project:-**

* There could be more fields of input,
  + discount based on number of days left until flight
  + an OTP verification step using fields such as phone number and email ID
  + We had designed a table indicating number of flights from one destination to another, for different destinations; depending upon their popularity. The availability of flights according to that table on a particular date can be incorporated into the code
  + updating customer information without deleting account
  + Basically, condensing the code and making it more efficint
  + and much more… Because at Sujata Airlines, sky is not the limit, it is the point of view
* The portal can be hosted on the internet
* The portal could be made available on various platforms such as Mac OS, iOS, Android, etc.

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