OBJECT ORIENTED PROGRAMMING

AIRLINE TICKET RESERVATION

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INTRODUCTION

The task to manage the airline system is not simple for the airline companies to do it manually because it is too hard to keep the record of hundreds of people travelling through airlines and there is not only a single flight with a specific destination and takeoff location but there are to many flights that are travelling to different areas of world at the same day/week/month.so the problem is that it is too difficult to manage the data of too many peoples travelling through different flights to different destination. so, The Airline reservation system is developed to maintain the flight schedules, reserve seats, cancel seat and to get the detail information about the flights.

PROBLEM

The problem is that there is not enough time to book seats manually of each person and record in register according to takeoff locations and destinations. during registration employee have to tell customer about the flight schedules that will also took too much time the employee has to go through the large registers and then he could be able to tell the flight schedule, and you have to calculate the total reserved seats again after new registration and complex problem is that to assign the seat numbers because planes have different cabin classes which have different seat limits. for example if employee want to get information about the customer or traveler then employee have to search for the record in different registers, also cancel reserved seat process is high time taking. Computer can do the same work but millions and billions times faster than manual management & perform all management action in intelligently and smartly.

SOFTWARE DESCRIPTION

Login page

The Software has a login page requires username and password. The default username and password is admin not case sensitive, enter password and username then press login, so it will have logged you in and home page appears.

Flight Reservation

The software has ability to reserve the seats for passengers there is an option available named ticket reservation clicking that button a form appears fill that form and click finish it will generate the ticket immediately.

Enquiry

The software possesses the option named enquiry to view the flight schedule and ticket price of local and international flights.

View details

the software is able to display the details related to passengers and also show the number of seats reserve out of total e.g. (1/5) according to cabin classes view details was available in enquiry page. In the page of view details by providing the required information the software will display the passport numbers of passengers of that particular flight irrespective of cabin class and show the total number of reserved seats with respect to cabin class, in bottom there is text box with search option. this search box requires the passport number of single person of that flight whose information is provided in above fields. on clicking search button, the software will display the information of that person if it was registered.

The software is able to cancel the booked or reserved seat there is an option named ticket cancelation just click on it fill the passengers' information you can view the information using view details in enquiry page. After filling the fields look for the button in bottom at right side named cancel click that button if the provide information is true than a message popup "Cancel successfully" otherwise message popup "Record Not Found".

TECHNOLOGY

The software is design on Microsoft visual studio 2013 using Windows Forms, an object oriented language is used in the development of this software named c# pronounced as "c sharp". This language   was developed by Microsoft within its .NET initiative. The two languages have similarities, as **C#** was heavily inspired by **Java**, but some common bits of syntax are different.

DESIGN STRATEGY

Firstly, our group research on the management system of airline note some points about that system for example what type of information is needed to reserve or book seats for passengers, similar for flight cancelation and filing is used to store the passenger's information. Designing steps are given bellow.

GRAPHICAL USER INTERFACE(GUI)

The application is based on flat ui design, Firstly the color theme was decided after that a main panel was design which contains all the buttons for different operations. Application logo is designed on Photoshop cs6; all the pages are design using panels except view detail page which is designed on user control. labels, textboxes, picture boxes, buttons, radio buttons, group boxes are used in these panels or user control. The home page contains a slide show which is in the gif format, panels possesses a background pic which was added after the development of application.

The back end coding was based on the concepts of object oriented programming like Encapsulation, inheritance, polymorphism, abstraction all four pillars of OOP implemented in this project. We have design total 4 Classes including an abstract class an interface was also added names are given below:

- FLIGHT (ABSTRACT CLASS)
- INTERNATIONAL_FLIGHT (INHERITED FROM FLIGHT)
- LOCAL_FLIGHT (INHERITED FROM FLIGHT, ILocation_Check)
- InvalidLocationException(EXCEPTION CLASS)

Additional classes used of System.IO names space

- Directory
- Directory Info
- File Info

Seat Reservation:

After filling seat reservation form when finish button is clicked the application check look for local or international (main directory) flight directory then check for origin (take off location) subdirectory and then look for destination directory (sub directory) and then look for cabin class directory(subdirectory) in this way all the data of same flight members save in the save folder but according to different cabin classes, the file is save using the passport numbers as the name of file.

Filing is used to store and retrieve data into or from directories using system.IO namespace. A static method of "Directory" class named GetCurrentDirectory this method was used to get the present location of application, that's make the application independent of changing location when run it at any PC this location contains the directories and sub directories where data of passengers store.
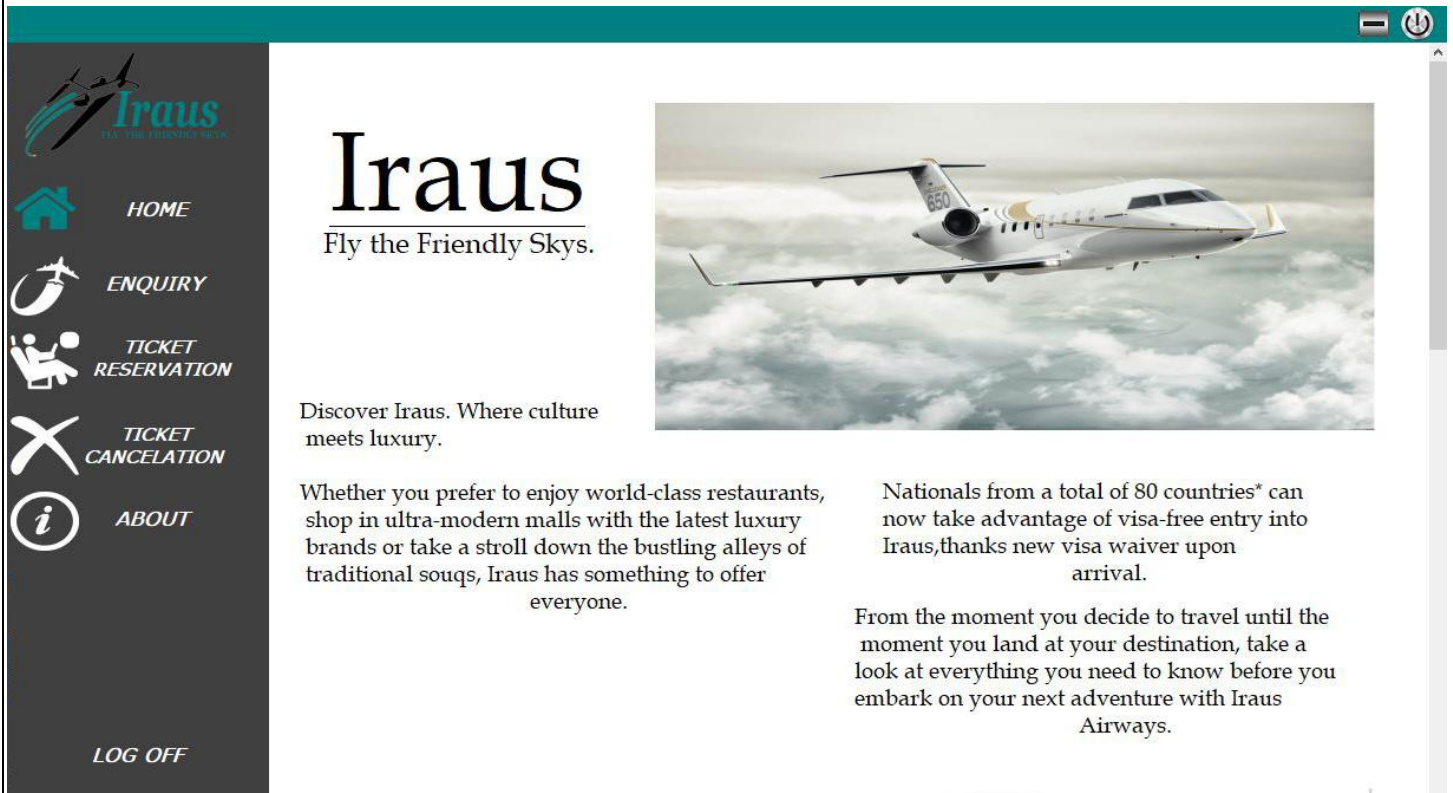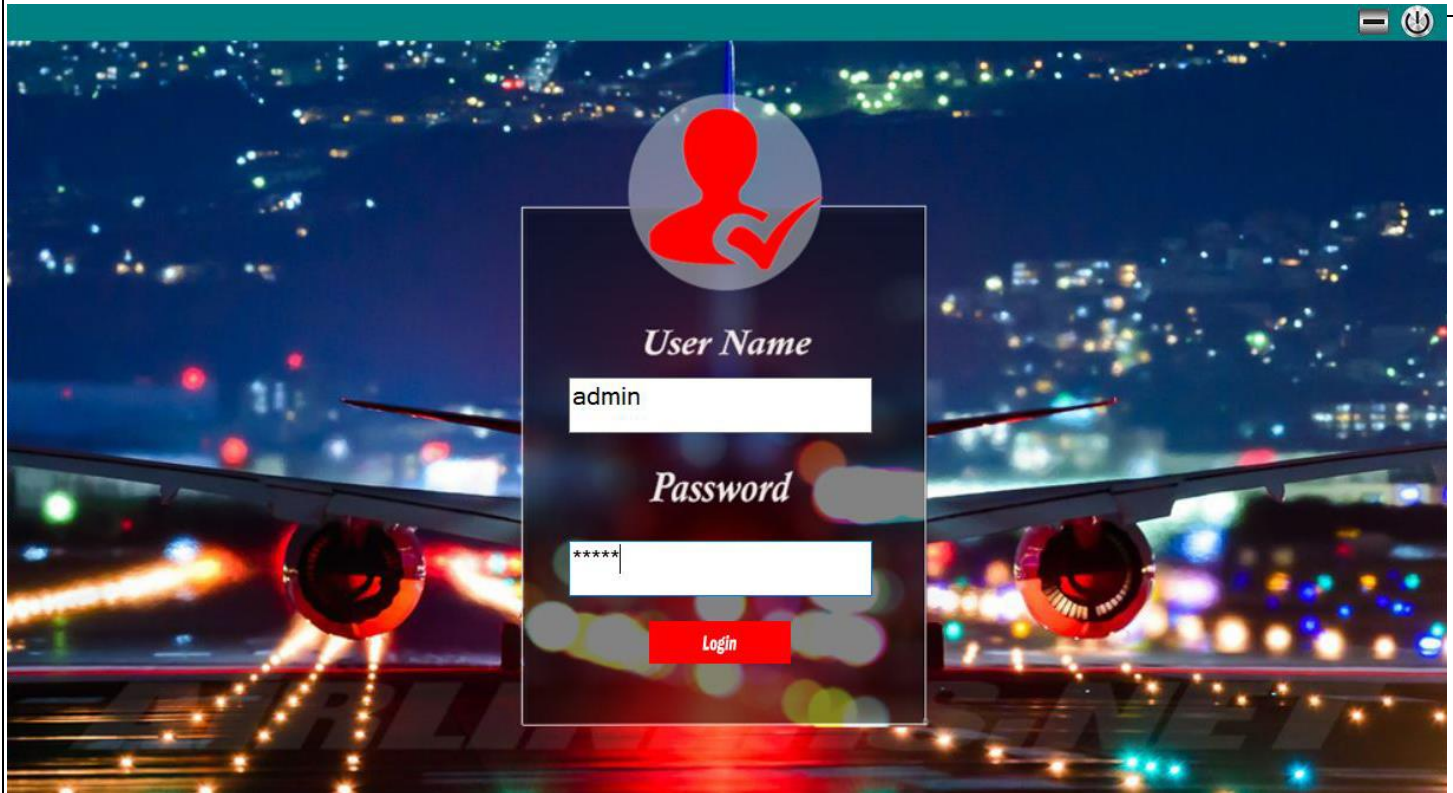
View details

View details panel show all the passport names using " Directoryinfo " class non-static member GetFiles(returns a file list) and save the file names in the array type FileInfo[] and uses a property called name of fileinfo class to get the name of files but the files names it gives are with extension so to remove these extension a static member of path class GetFilesWithoutExtension is used in this way all the passport numbers of passengers of same flight is shown by selecting the origin, destination and cabin class and a text box with search button will read the file when passport number is entered .

Seat cancelation

This feature was also the same phenomena as describe in seat reservation in addition it will get the file using your passport number and delete the file from the cabin class of provided origin, destination.

SCREEN SHOTS

User Name

admin

Password

*****

Login

Iraus
Fly the Friendly Skys.

HOME

ENQUIRY

TICKET RESERVATION

TICKET CANCELATION

ABOUT

LOG OFF

Discover Iraus. Where culture meets luxury.

Whether you prefer to enjoy world-class restaurants, shop in ultra-modern malls with the latest luxury brands or take a stroll down the bustling alleys of traditional souqs, Iraus has something to offer everyone.

Nationals from a total of 80 countries* can now take advantage of visa-free entry into Iraus,thanks new visa waiver upon arrival.

From the moment you decide to travel until the moment you land at your destination, take a look at everything you need to know before you embark on your next adventure with Iraus Airways.

Local Flights

International Flights

View Details

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Karachi   Lahore   Islamabad

Detail   Detail   Detail

Faisalabad   Peshawar

Detail   Detail

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Details of Filght to Islamabad

Flight Number: ISL-111
Number Of Seats: 20
Premium Economy Class' Seats: 9
Economy Class' Seats: 6
Business Class' Seats: 3
First Class' Seats: 2
Number Of Flights per Week: 2
Day: Thursday and Saturday
Timings: 11:30am

Ticket Price

Class	OneWay	Return
Premium Economy Class	7,000	13,000
Economy Class	9,000	17,000
Business Class	11,000	21,000
First Class	13,000	25,000

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Local Flights

International Flights

View Details

Screen 1 — Destinations

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Saudia Arabia — Detail
Dubai — Detail
America — Detail
London — Detail
China — Detail
Russia — Detail
United Kingdom — Detail

Screen 2 — Details of Flight to America

HOME
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Details of Filght to America

Flight Number: AMR-122
Number Of Seats: 30
Premium Economy Class' Seats: 10
Economy Class' Seats: 9
Business Class' Seats: 7
First Class' Seats: 4
Number Of Flights per Week: 1
Day: Wednesday
Timings: 08:30am

Ticket Price

Class	OneWay	Return
Premium Economy Class	29,000	57,000
Economy Class	30,000	59,000
Business Class	32,000	63,000
First Class	35,000	69,000

Back

Personal Details

First Name: Muhammad

Last Name: Rafay

Address: street-4080

Mobile Number: 03407838753

NIC Number: 265-8972-568-8

Passport Number: pk31

Flight Details

○ Local Destination
● International Destination

Origin: Karachi

Destination (For Locals):

Destination (For International): Sat-Russia

Cabin Class: Business Class

○ one way
● Return

First Name: Muhammad
Last Name: Rafay
Address: street-4080
Mobile Number: 03407838753
CNIC No.: 265-8972-568-8
Passport No.: pk31
Origin: Karachi
Destination: Sat-Russia
Class: Business Class
Type Of Ticket: Return
Seat No:KaBu0

OK

HOME

ENQUIRY

TICKET RESERVATION

TICKET CANCELATION

ABOUT

LOG OFF

Finish

Personal Details

First Name

Last Name

Address

Mobile Number

NIC Number

Passport Number

Flight Details

○ Local Destination

○ International Destination

Origin

Destination (For Locals)

Destination (For International)

Cabin Class

○ one way

○ Return

HOME

ENQUIRY

TICKET RESERVATION

TICKET CANCELATION

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LOG OFF

Finish

Screen 1

- HOME
- ENQUIRY
- TICKET RESERVATION
- TICKET CANCELATION
- ABOUT
- LOG OFF

Local Flights

International Flights

View Details

Screen 2

- HOME
- ENQUIRY
- TICKET RESERVATION
- TICKET CANCELATION
- ABOUT
- LOG OFF

○ LOCAL FLIGHT

◉ INTERNATIONAL FLIGHT

ORIGIN   Karachi ∨

LOCAL FLIGHTS   ∨

INTERNATIONAL FLIGHTS   Sat-Russia ∨

Cabin Class   Business Class ∨

SHOW LIST

ENTER PASSPORT NUMBER   [   ]
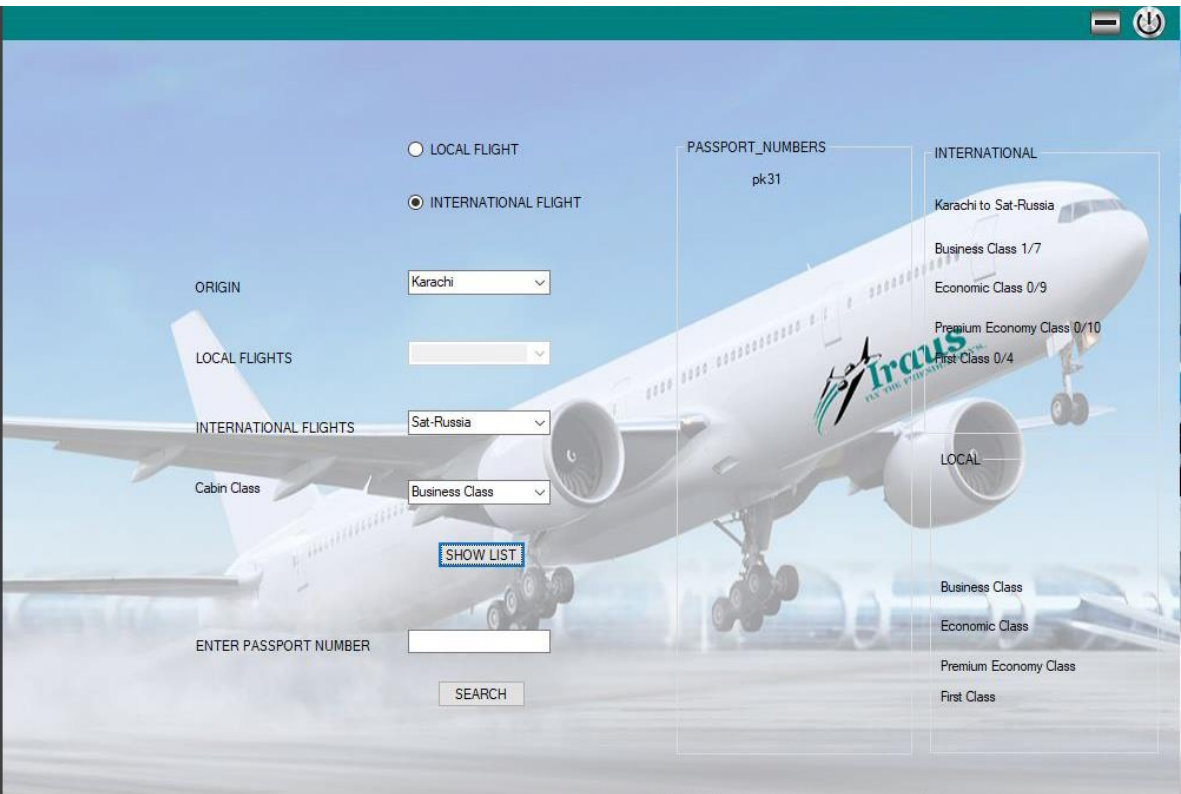
SEARCH

PASSPORT_NUMBERS

pk31

INTERNATIONAL

Karachi to Sat-Russia

Business Class 1/7

Economic Class 0/9

Premium Economy Class 0/10

First Class 0/4

LOCAL

Business Class

Economic Class

Premium Economy Class

First Class

Screen 1 — Ticket Enquiry / Search

- HOME
- ENQUIRY
- TICKET RESERVATION
- TICKET CANCELATION
- ABOUT
- LOG OFF

○ LOCAL FLIGHT
◉ INTERNATIONAL FLIGHT

PASSPORT_NUMBERS
pk31

INTERNATIONAL
Karachi to Sat-Russia
Business Class 1/7
Economic Class 0/9
Premium Economy Class 0/10
First Class 0/4

LOCAL

ORIGIN: Karachi
LOCAL FLIGHTS:
INTERNATIONAL FLIGHTS: Sat-Russia
Cabin Class: Business Class

SHOW LIST

ENTER PASSPORT NUMBER: pk31

SEARCH

×

First Name: Muhammad
Last Name: Rafay
Address: street-4080
Mobile Number: 03407838753
CNIC No.: 265-8972-568-8
Passport No.: pk31
Origin: Karachi
Destination: Sat-Russia
Class: Business Class
Type Of Ticket: Return
Seat No:KaBu0

OK

Business Class
Economic Class
Premium Economy Class
First Class

Screen 2 — Ticket Cancelation

- HOME
- ENQUIRY
- TICKET RESERVATION
- TICKET CANCELATION
- ABOUT
- LOG OFF

Personal Details
Passport Number: pk31

Flight Details

○ Local Destination
◉ International Destination

Origin: Karachi
Destination (For Locals):
Destination (For International): Sat-Russia
Cabin Class: Business Class

×
Cancel Successfully
OK

Cancel

Personal Details

Passport Number

Flight Details

○ Local Destination
○ International Destination

Origin

Destination
(For Locals)

Destination
(For International)

Cabin Class

Cancel

HOME

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Course

Object Oriented Programming CS121

Version 1.0.0

HOME

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Conclusion

The application helps to make the management simple for airline companies as application handles things more perfectly and in faster way as compare to human, searching for flight schedules, reserve seats, cancel seats and search passenger's information, total number of reserve seats in any cabin class are on just one click this saves time and more reliable than manual management systems.