# PROJECT ON

# AIRLINE RESERVATION SYSTEM

















































# **ACKNOWLEDGEMENT**

I would like to take this opportunity to express my gratitude towards all the people who have in various ways, helped in the successful completion of my project.

I must convey my gratitude to Mr. Shitanshu Jain for giving me the constant source of inspiration and help in preparing the project, personally correcting my work and providing encouragement throughout the project.

I also thank all my faculty members for steering me through the tough as well as easy phases of the project in a result oriented manner with concern attention.



# **CERTIFICATE**

This is to certify that this is a bona fide record to the project work done satisfactorily at **O.E.C** by 6 students .of **Information Technology Branch** (**IV**<sup>th</sup> **Semester**).

This report or the similar report on this topic has not been submitted for any other examination and does not form part of any other course undergone by the candidate.

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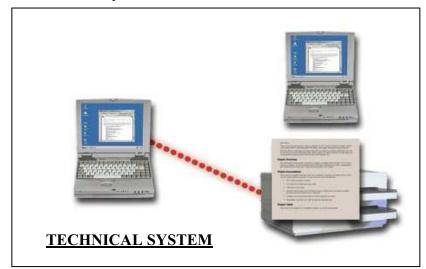
10.SCOPE OF IMPROVEMENT

### PROBLEM DEFINITION

The definition of our problem lies in manual system and **a** fully automated system.

<u>Manual system</u>: The system is very time consuming and lazy. This system is more prone to errors and sometimes the approach to various problems is unstructured.

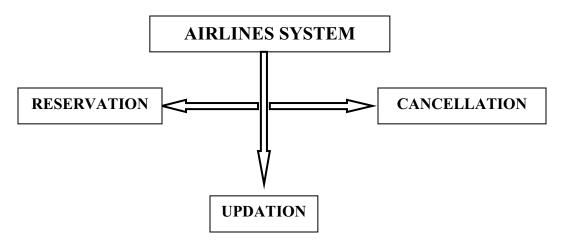
<u>Technical system</u>: With the advent of latest technology if we do not update our system then our business result in losses gradually with time. The technical systems contains the tools of latest trend i.e. computers printers, fax, Internet etc. The systems with this technology are very fast, accurate, user-friendly and reliable.



### **Need of Airlines system**

A few factors that directs us to develop a new system are given below -:

- 1) Faster System
- 2) Accuracy
- 3) Reliability
- 4) Informative
- 5) Reservations and cancellations from any where to any place



### **FEASIBILITY STUDY**

Feasibility study is to check the viability of the project under consideration. Theoretically various types of feasibilities are conducted, but we have conducted three type of feasibilities explained as under.

#### **ECONOMIC FEASIBILITY**

With the manual system the operating cost of the system is about <u>60 Lacks P.A.</u> This cost comprises salary of 25 people, stationary, building rent, electricity, water, telephone etc. But with the new system this reoccurring cost comes out to be about <u>20 Lacks P.A</u>. Hence the new system is economically feasible.

### TECHNICAL FEASIBILITY

The new system requires only 6 trained person to work with the system and in overall 10 people per office are sufficient. So we will identify 6 best people from existing system and train them.

As our existing system is purely manual, so we need a one time investment of Rs 4 Laks for the purchase of 7 computers, 5 Ticket printers, a laser printer, AC and networking etc. It requires 20 Lacks PA as a operating cost.

With the above details our system is technically feasible as after investing 24 Lacks in a year, the company is still saving Rs 25 Lacks PA.

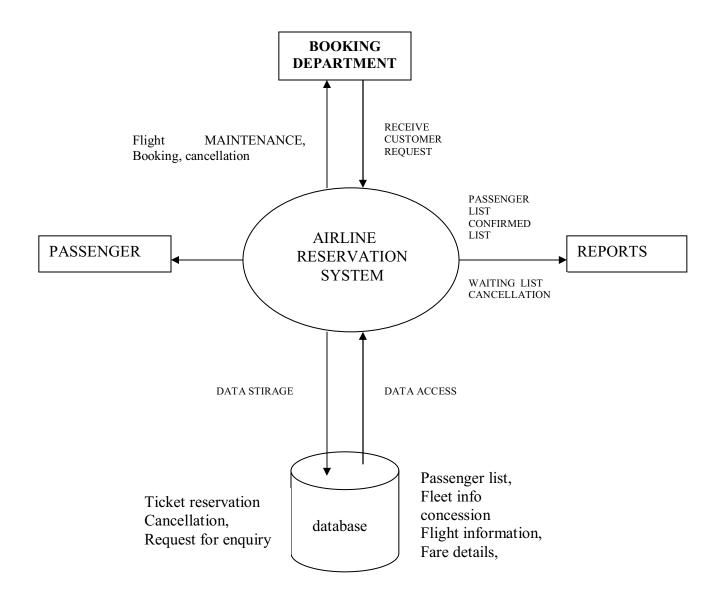
#### **OPERATIONAL FEASIBILITY**

The new solution is feasible in all sence but operationally it is not. The new system demands the expulsion of at least 15 people from the company. It creates an environment of joblessness and fear among the employees. It can lead to an indefinite strike in the company also. So the management must take corrective actions prior in advance in order to start the further proceedings.

### **SYSTEM ANALYSIS**

This was the most important phase of my project life cycle .It had connected my maximum time .The block diagram given bellow depict various fact which were understood by one during the analysis phase.

### **BLOCKDIAGRAM**



In that phase initially I had observed the system by visiting to Indiragandhi Airport(domestic terminal) and a few airline reservation agency.

Pardes Airline agencies , Lotus Airline agencies.

The above block diagram is an implementation of this observation.

In the next phase I had various quiries in my mind ,Which I tried to ask from appropriate authorities A sample of my quires is enclosed as Annex 1.

Q.1 Tick mark the	features to be	included in	the new system?
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- Enquiry
- Reservation
- Cancellation
- Report
- Edit
- Other specify

### Q2. Tick mark that the system should be?

- Multi-user
- Single user

### Q3. Tick marks the total time required for the implementation of the project?

- 3 months
- 6 months
- 9 months
- Others specify

Q4. Tick mark the reports to be Incorporated?

- List of all passenger
- List of all flights
- List of passenger(date wise)
- List of passenger(flight wise)
- Any other

After getting solution my queries I started studying database structure used in the existing system. In this connection I had come to know about various master files as

<u>In passenger list</u>: Passenger name, Address, tel no, do b, profession father name,

<u>Fleet info:</u> No aircraft, club\_pre\_capacity, economic capacity, engine type,cruisespeed,air length,

**Flight info**: f name, f code, c code,t exeseat no, t economic seat no.

 $\underline{\textbf{Concession:}} \quad \text{concession name , concession code , class , discount , $v\_o\_t$ , baggage allowance , fare.}$ 

Move of payment: Passenger code ,Date of paid ,Current date, cash, Debit,cheque,credit.

**Fare**: route, destination place, source place, Departure time, Arrival time, Flight code, class, Fare.

**Reservation:** Ticket report, PNR, flight code, destination place, source place, departure time arrival time, Class, number of passenger, Age, sex, Fare, seat.

**Enquiry**: Ticket no, seat number, pnr.

Cancellation: Pnr, ticket no, Days left, Basic amount, Cancel amount.

Various categories of flight code are display here CD455,IC548,IC7896,IC567,CD445 Flight schedule - gau to del 12.33 pm to2.33 pm

In this process further I had visited the air port again in order to INTER VIEW people to know more about the system

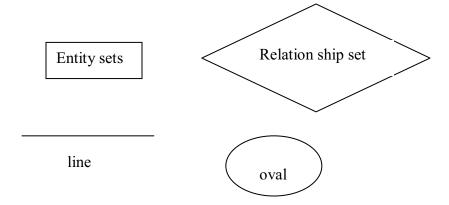
The main purpose was To analyses the method of calculating daily in come reservation cost generation methods, and few concern things. Duty schedule .

# 4.SYSTEM DESIGN

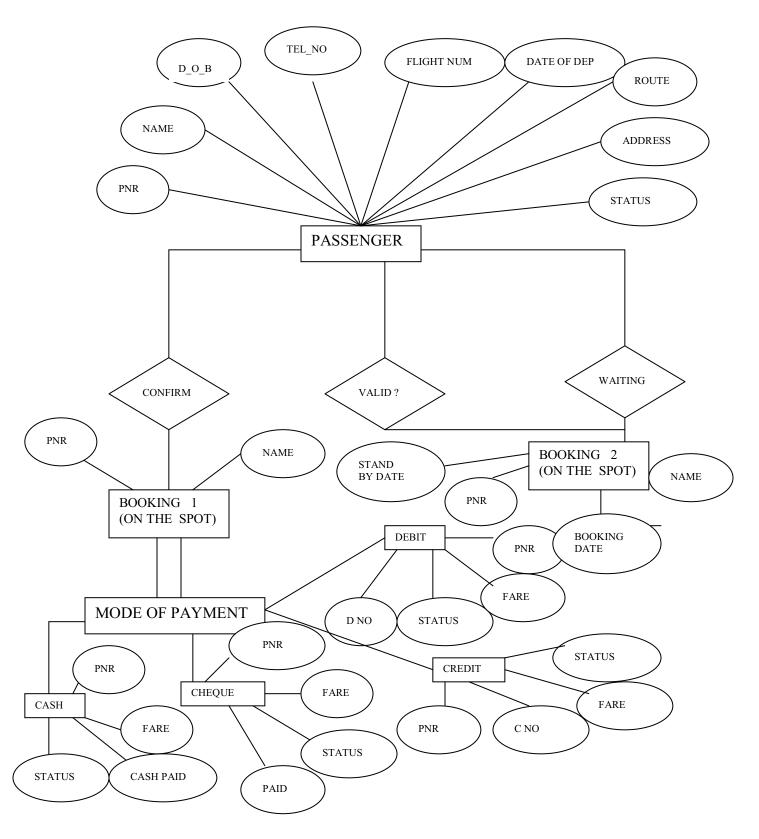
In this phase initially I had designed E-R diagram of the processes, in order to identify various entities and relation ship set, entity set, attributers, link attributes. The Diagram of this process as under.

After this step We had tried design the data base for the new system and normalized it The tables motivated in data dictionaries enclosed as annex II is an out come of this step

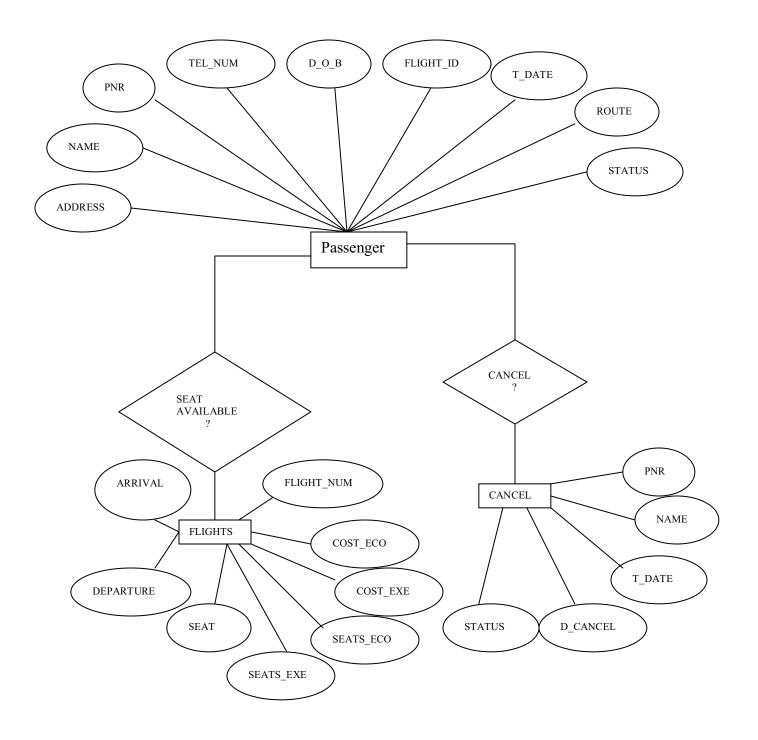
The symbol of entities are shown bellow



### **E-R DIAGRAM FOR BOOKING DEPARTMENT**



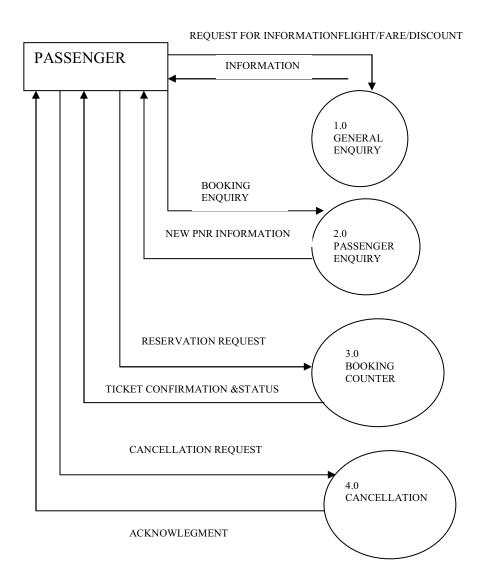
### **E-R DIAGRAM FOR CANCELLATION**



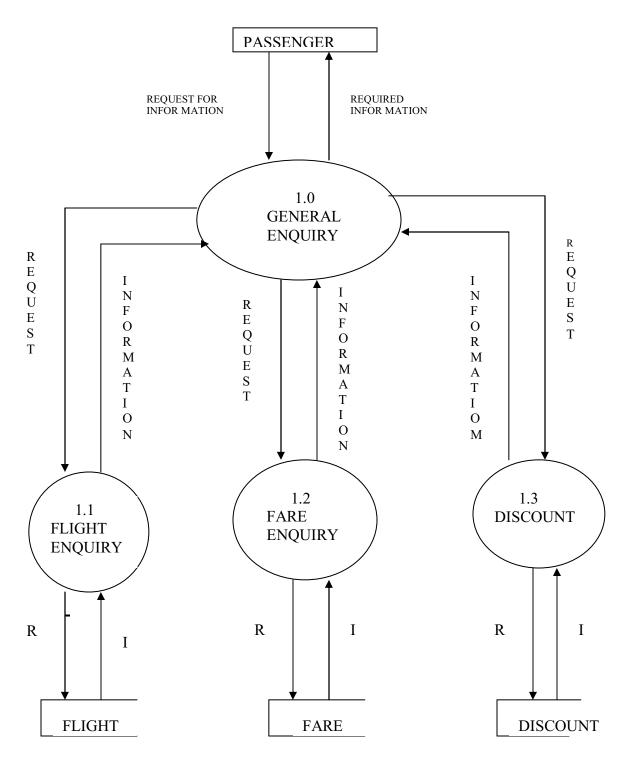
### **DATA FLOW DIAGRAM**

In order to design a better solution. I had designed the DFD for system including all technical processing details is given bellow

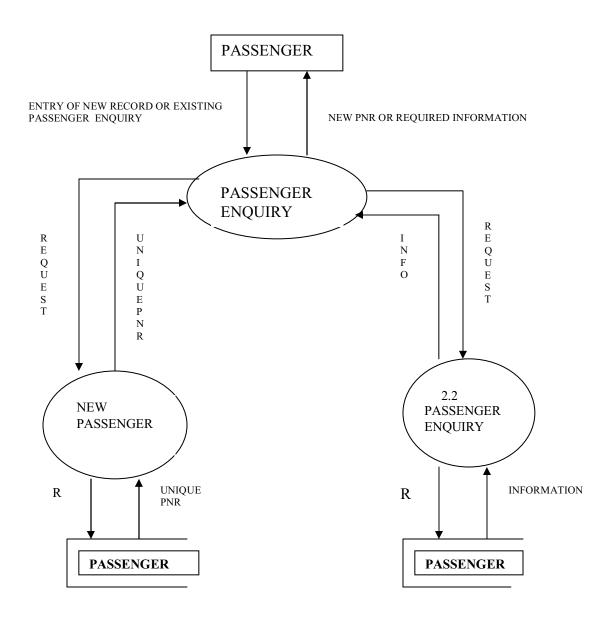
### LEVEL 0 DATA FLOW DIAGRAM



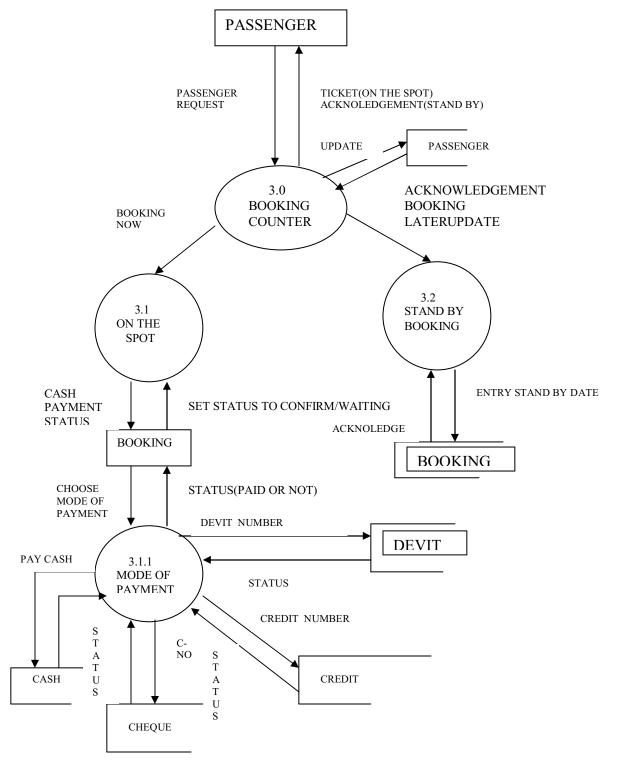
# LEVEL 1 DATA FLOW DIAGRAM OF GENERAL ENQUIRY SYSTEM



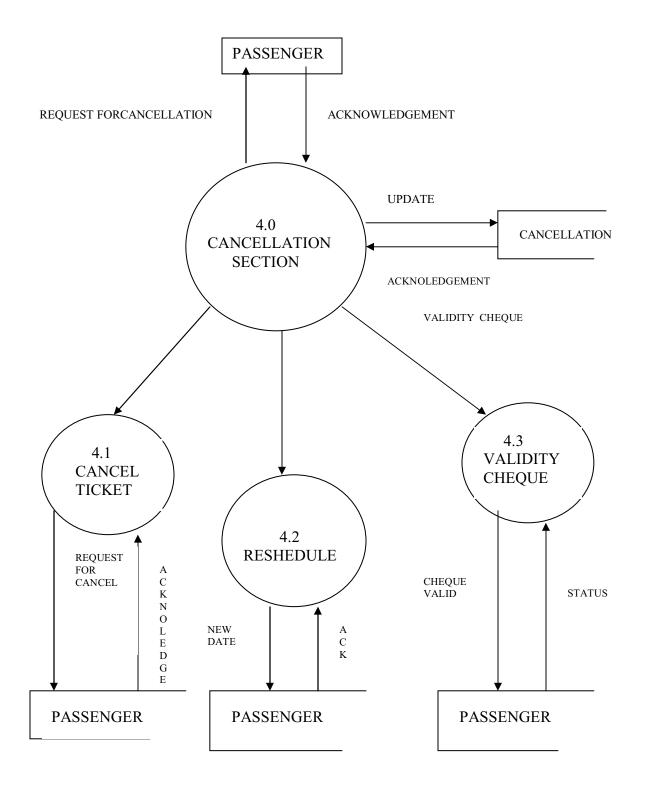
# LEVEL 1 DATA FLOW DIAGRAM OF PASSENGER ENQUIRY <u>SECTION</u>



### **LEVEL 2 DFD OF BOOKING**



### **LEVEL 2 DFD OF CANCELLATION**



### **ALGORITHM**

In this phase further I had designed algorithms for various technical sub problem a few than are enclosed here with.

### **RESERVATION**

- A PERSON COME TO RESERVED ATICKET.
- THEN HE GIVES HIS FULL DETAILS
- IN CUSTOMER FORM THOSE DETAILS WERE WRITTEN.
- THEN COMPUTER CHEQUE THE DATE WHAT DATE THE PERSON RESER VED
- DATE WISE IT CHEQUE THE FLIGHTS
- IF THE FLIGHT IS FLING THAT DAY
- THEN SYSTEM JUSTIFY THE SPECIFIC FLIGHT ID
- IT CHEQUE ITS SEAT CLASS.
- IF THE PASSENGER WANT TO ECONOMIC CLASS AND WINDOW SIDE SEAT
- THEN SYSTEM CHEQUE IF THERE ANY SEAT IN ECONOMIC CLASS WHICH IS INSIDE THE WINDOW
- IF SEAT IS EMPTY THEN SYSTEM RESERVED THE SEAT .
- THEN TICKET IS GENERATED.
- THE TICKET IS CONFIRMED.
- IF THE CONDITION IS NOT APPLIED THEN IT CHEQUE NEXT SEAT
- AND JUSTIFIED IT.
- IF IT IS NOT ALSO EMPTY THEN IT CHEQUE NEXT BY NEXT.
- IF THERE IS NO SEAT THEN SYSTEM TAKE TICKET WHICH IS NOT CONFIRMED
- THEN IT GIVE WAITING LIST.
- END.

### **CANCELLATION**

- A PASSENGER COME TO CANCEL THE TICKET
- THEN THE SYSTEM OPEN THE DELET FORM
- THEN CLICK SHOE COMMAND
- IT DISPLAY ALL THE PASSENGER LIST
- THEN SELECT THE PNR NUMBER AND CLICK DELET OPTION
- THE SYSTEM SHOW RECORD IS DELETED.

WHEN PASSENGER COME TO RESERVED A TICKET THEN SYSTEM FIND OUT THE FLIGHT DETAILS.

SYSTEM CLICK FLIGHT DETAILS OPTION THEN THE FLIGHT DETAILS FORM OPEN

THOSE SYSTEM ARE FOLLOWED.

#### FLIGHT DETALS:-

- . IN FLIGHT DEAILS WE FIRST CREATE A FORM.
- . THEN WE MAKE ALL TEXT BOX.
- . WE CREATE COMMAN BOX..
- . IN THIS FORM WE ARE USE VARIOUS COMMAND BOX THOSE ARE
- PREVIOUS, FIRST, NEXT, ADD, NEW, UPDATE, DELETE, SAVE
- . IN THIS FORM WE ADD NEW FLIGHT RECORD AND UPDATE IT THEN THE
- VALUIS GO TO THE DATABASE.
- .WHEN WE CLICK NEXT, LAST, PREVIOUS, FIRST COMMAND BUTTON
- THEN IT SHOW VARIOUS THING SERIALLY.
- A PERSON COME TO KNOW THE TIMMINGS FOR THE FLIGHT WHICH IS GO

FROM DELHI TO GAU.

• THEN WE CLICK SHOW COMMAND BUTTON.

### **CONCESSION**

- FIRST IT CLICK THE CONCESSION BOX.
- CONCESSION BOX OPEN
- IT SELCT THE CETEGORI.
- THEN IT IS CALCULATE.
- AND THE FARE IS CALCULATE.
- THEN FINAL FARE IS GENERATE IN TICKET.

### **INPUT SCREEN**

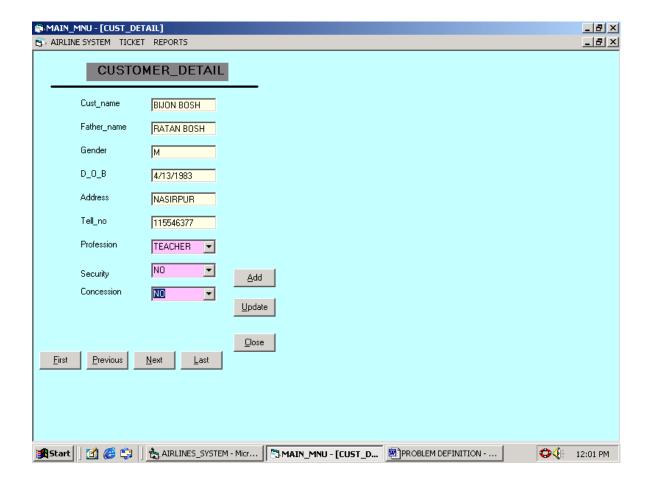
As a last step in design phase I had designed various Input and out put inter phase screen .The sample format of this screens is enclosed in annex III..

### THIS IS A PICTURE OF THE MAIN MENU.



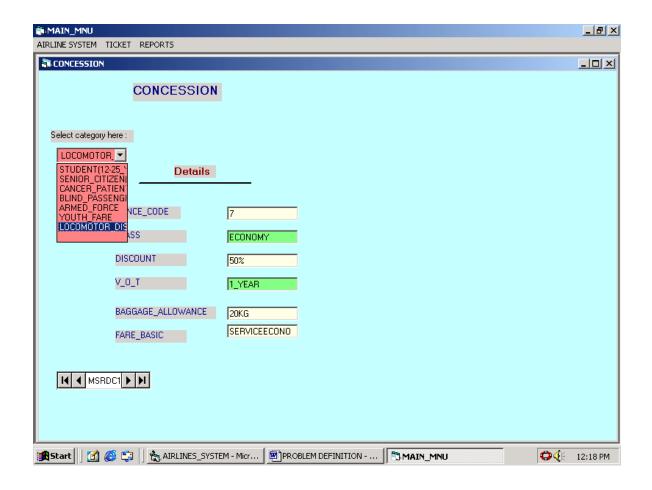
In this picture there are three parts. Those are master file, ticket, report, When we click in master file then it show six forms those are custodial, concession Flight info, fleet info, fare ,payment. when we click any one of this then the form is Open. Now we open each file one by one.

### THIS IS A FORM OF CUSTOMER DETAIL



In this form we enter the customer detail. When we enter the new name then we click add button and then update .Then it is automatically update .This is under master file. In this form first button work for show first record ,next button work for show next record. Preview show the just preview record.

### THIS IS A FORM OF CONCESSION



In this form there are several concession type are shown.

Those	concessions	are 1	Student
1 11056	COHCESSIONS	are i	.Student

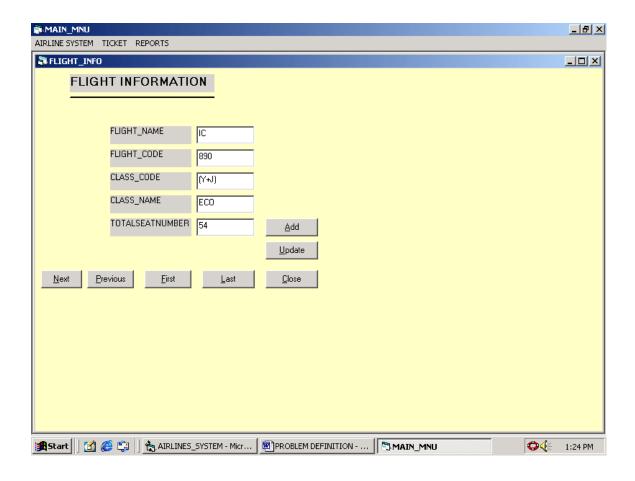
- 2. Senior citizen.
- 3. Cancer patient.
- 4. Blind passenger.
- 5. Armed force.
- 6.Youth fare.
- 7. Locomotor

When we click any one of them the relevant condition are open.

In this form when we click locomotor category then it show its conditions

- code ......7
- class.....economic
- discount......50%
- v\_o\_t.....1 year
- baggage allowance..20kg
- fare basis .....service concerned.

### THIS IS A FORM OF FLIGHT INFORMATION

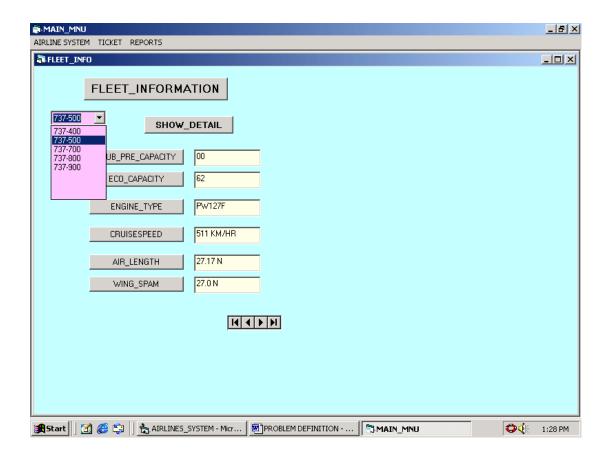


In this form we are watching the flight information .It has several fields those are

- Flight name
- Flight code
- Class code
- Class name
- Total seat number.

In this form we enter the flight detail . When we enter the new flight then we click add button and then update . Then it is automatically update . This is under master file. In this form first button work for show first record , next button work for show next record. Preview show the just preview record

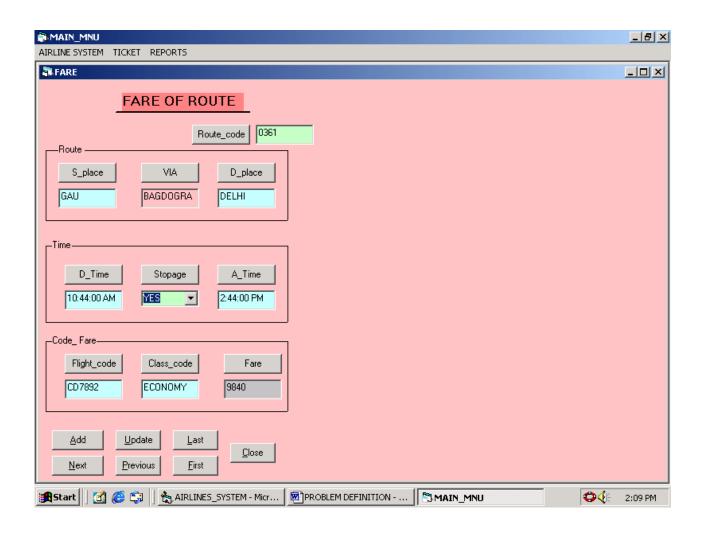
### THIS IS A FORM OF FLEET INFORMATION.



Fleet information is a special type of form in this form there are some field are include .In db como1 list of flight are coming when we click in run time. In fleet information there are basic type of flights those are

737-400	
737-500	Clube pre capacity00
737-700	Economic capacity62
737-800	Engine typePW127F
737-900	Cruisespeed511km/hr
	Air length27.17N
	Wing spam27.0 N

### THIS IS A FORM OF THE ROUTE BASIS FARE.



This is a form of fare in this fare form there are various fields those are

- Route
- S\_place
- D\_place
- Via
- D\_time
- A\_time
- Stoppage
- Flight\_code
- Class\_code
- Fare

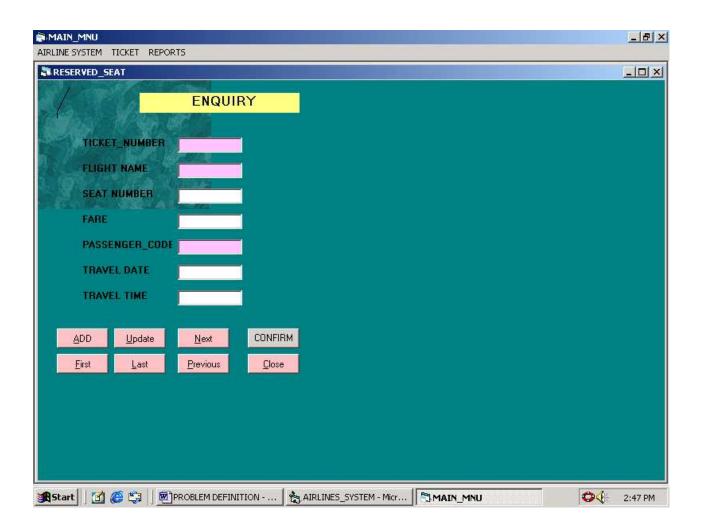
In this form we enter the fare detail .When we enter the new fare then we click add button and then update. Then it is automatically update. This is under master file. In this form first button work for show first record ,next button work for show next record. Preview show the just preview record

### THIS IS A FORM OF RESERVATION.

MAIN_MNU - [TICKET_REPORT]  AIRLINE SYSTEM TICKET REPORTS			_ B ×
TICKET RESE	RVATION		
	TICKET NUMBER 1111 PNR 234		
FLIGHT CODE CD7755			
SOURCE GAU DESTINATIO	N AGR		
DEPARTURE 12:22:00 PM ARIVAL	1:33:00 PM		
CLASS ECONOMIC T	2645 AGE SEX SEAT	FARE	
DATE OF JOURNY 2/12/2004	22 M 1 1 2 2	2645 <u>Print</u>	I
NUMBER OF PASSENGER 4	22 M 3 23 M 4	2645 <u>Exit</u>	
CURRENT DATE 22/11/2	TOTAL	<u>S</u> ave	
<b>∭Start</b>	Y	TICKET_REP   SMAIN_MNU	<b>⇔</b>

This is reservation form or ticket .PNR number are generated automatically .When click passenger age then fare is coming by the route based. When we click total button then total fare is shown. When we click in Print command button then the ticket is print. And when we click in exit button then the form is closed.

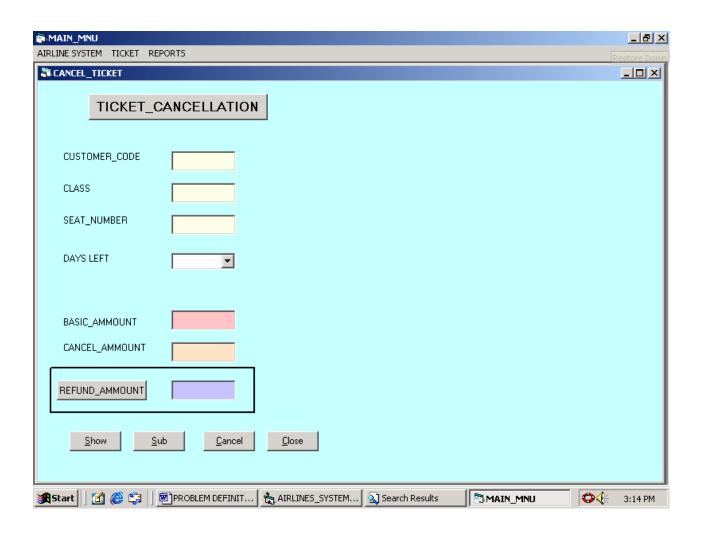
### THIS FORM IS ENQUIRY.



This is a form of ENQUIRY.

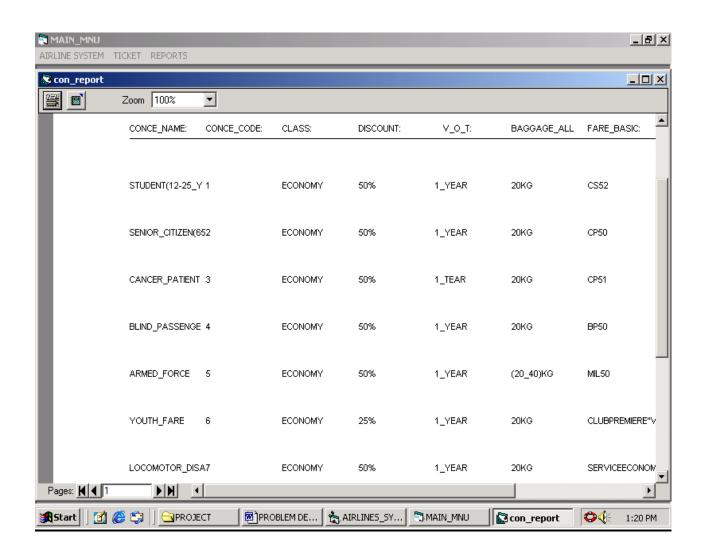
If any person come to AIRPOART want to know that its seat reserved or not Then system open the enquiry form and put the value of ticket no and click confirm box. If it is confirmed then it show value of the all concerning data. Either show not confirmed.

### THIS IS A CANCELLATION FORM.



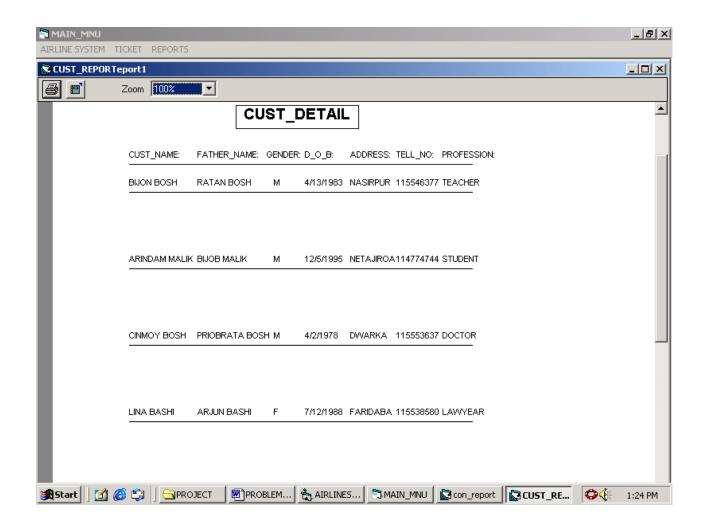
This is a form of cancellation . When a person come to cancel his ticket then ,in the form the passenger code are put and click the show button system will show the value of data and refund amount. Then click on the cancel command. Then automatically the record is deleted.

#### **CONCESSION REPORT ARE SHOWN BELLOW.**



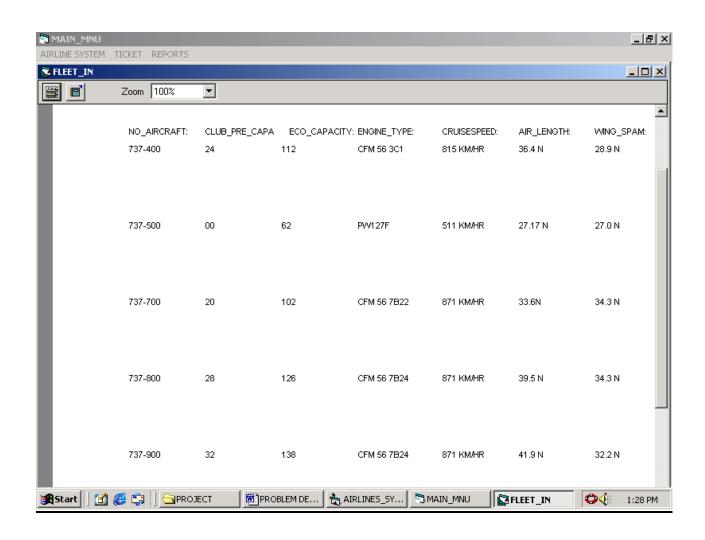
This is report of concession .Various type of concession category are shown upper.

#### THIS IS A REPORT OF CUST DETAIL.

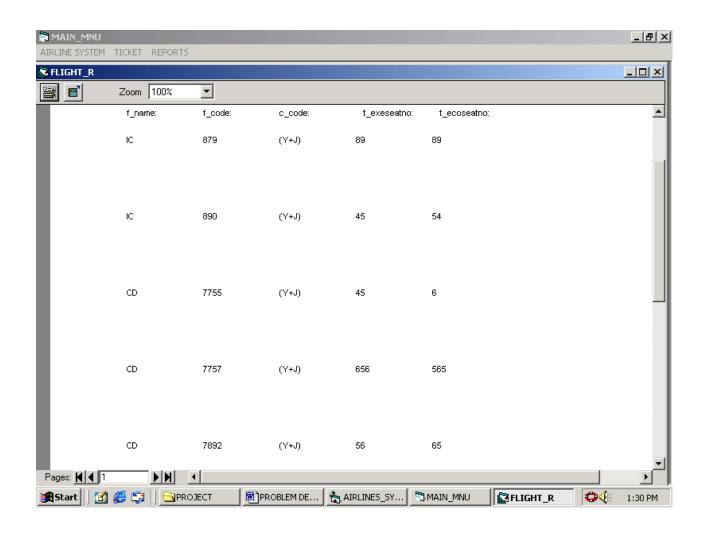


When we put passenger detail in passenger record then it is automatically set in report list.

#### THIS IS FLEET INFORMATION REPORT.



#### THIS IS A REPOT OF ALL FLIGHT.



# **TABLES**

#### THE LIST OF TABLE ARE WRITTEN HERE WHICH ARE USED IN DATABASE.

# **CUST\_DETAIL**

FIELD TYPE	ТҮРЕ	DESCRIPTION
T _DATE	TEXT	TRAVEL DAT
CUST_NAME	TEXT	CUSTOMER NAME
FATHER _NAME	TEXT	CUSTOMER FATHER NAME
GENDER	TEXT	GENDER OF CUSTOMER
D_O_B	DATE/TIME	DATE OF
		BIRTHOFCUCTOMER
ADDRESS	TEXT	ADDRESS OF CUSTOMER
TEL_NO	NUMBER	CUSTOMER TELPHONE
		NUMBER
PROFESSION	TEXT	PROFESSION OF CUSTOMER
SECURITY	TEXT	SECURITY OF CUSTOMER
CONCESSION	TEXT	CONCESSION OF SECURITY

# **FLIGHT INFORMATION**

F_NAME	TEXT	FLIGHT NAME
F_CODE	NUMBER	FLIGHT CODE
C_CODE	TEXT	CLASS CODE
T_EXE SEATNO	NUMBER	TOTAL EXECUTIVE
		SEATNUM,BER
T_ECO SEATNO	NUMBER	TOTAL ECONOMIC SEAT NUMBER

# **FLEET INFORMATION**

FIELD NAME	DATATYPE	DESCRIPTION
NO_AIRCRAFT	TEXT	NUMBER OF AIRCRAFT
CLUB_PRE_CAPACITY	TEXT	CLUB PRE CAPACITY
ECO_CAPACITY	TEXT	ECONOMIC CAPACITY
ENGINE_TYPE	TEXT	ENGINE TYPE
CRUISESPEED	TEXT	CRUISESPEED
AIR_LENGTH	TEXT	LENGTH OF AIR
WING_SPAM	TEXT	WING_SPAM

#### **CONCESSION**

CONCE_NAME	TEXT	CONCESSION NAME
CONCE_CODE	NUMBER	CODE OF CONCESSION
CLASS	TEXT	CLASS OF CONCESSION
DISCOUNT	TEXT	DISCOUNT CONCESSION
		BASIS
V_O_T	TEXT	VALIDITY OF TICKET
BAG_ALLOW	TEXT	BAGGAGE ALLOWANCE
FARE_BASIC	TEXT	FARE BASIC FIXED

# **FARE**

FIELD NAME	DATATYPE	DESCRIPTION
ROUTE_CODE	TEXT	CODE NUMBER OF ROUTE
S_PLACE	TEXT	SOURCE PLACE
VIA	TEXT	VIA
D_PLACE	TEXT	DESTINATION PLACE
D_TIME	DATE/TIME	DEPARTUE TIME
A_TIME	DATE/TIME	ARRIVAL TIME
F_CODE	TEXT	FLIGHT CODE
C_CODE	TEXT	CLASS CODE
FARE	TEXT	FARE OF CLASS

# **TICKET REPORT**

TICKET NO	NUMBER	TICKET NUMBER
PNR	NUMBER	PASSENGER NUMBER
F_ID	TEXT	FLIGHT ID
S_PLACE	TEXT	SOURCE PLACE
D_PLACE	TEXT	DESTINATION PLACE
T_DATE	TEXT	TRAVEL DATE
D_TIME	DATE/TIME	DEPARTURE TIME
A_TIME	DATE/TIME	ARIVAL TIME
FARE 1	NUMBER	FARE OF FIRSTPASSENGER
FARE 2	NUMBER	FARE OF SECOND
		PASSENGER

FARE 3	NUMBER	FARE OF HIRDPASSENGER
FARE 4	NUMBER	FARE OF FOURTH
		PASSENGER
FARE 5	NUMBER	FARE OF FIFTHPASSENGER
FARE 6	NUMBER	FARE OF SIXTHPASSENGER
SEAT_NO 1	NUMBER	SEAT NUMBER OF 1 <sup>ST</sup>
		PASSENGER
SEAT_NO 2	NUMBER	SEAT NUMBER OF 2 <sup>ND</sup>
		PASSENGER
SEAT_NO 3	NUMBER	SEAT NUMBER OF 3 <sup>RD</sup>
		PASSENGER
SEAT_NO 4	NUMBER	SEAT NUMBER OF 4 <sup>TH</sup>
		PASSENGER
SEAT_NO 5	NUMBER	SEAT NUMBER OF 5 <sup>TH</sup>
		PASSENGER
SEAT_NO 6	NUMBER	SEAT NUMBER OF 6 <sup>TH</sup>
		PASSENGER
AGE 1	NUMBER	AGE OF 1 <sup>ST</sup> PASSENGER
AGE 2	NUMBER	AGE OF2ND PASSENGER
AGE 3	NUMBER	AGE OF 3 <sup>RD</sup> PASSENGER
AGE 4	NUMBER	AGE OF 4 <sup>TH</sup> PASSENGER
AGE 5	NUMBER	AGE OF 5 <sup>TH</sup> PASSENGER
AGE 6	NUMBER	AGE OF 6 <sup>TH</sup> PASSENGER
CLASS	TEXT	CLASS
PASSENGER	NUMBER	TOTAL PASSENGER

# **ENQUIRY**

T_NO	TEXT	TICKET NUMBER
F_NAME	TEXT	FLIGHT NAME
F_CODE	NUMBER	FLIGHT CODE
C_SEATNO	NUMBER	CLASS SEAT NUMBER
C_FARE	NUMBER	CLASS FARE
CUST_CODE	NUMBER	CUSTOMER CODE
T_DATE	TEXT	TRAVEL DATE
T_TIME	DATE/TIME	TRAVEL TIME

# **CANCELLATION**

CUST_CODE	TEXT	CUSTOMER CODE
CLASS	TEXT	CLASS
S_NO	NUMBER	SEAT NUMBER
DAYS LEFT	DATE/TIME	DAYS LEFT
HOURS LEFT	DATE/TIME	HOURS LEFT
BASIC AMMOUNT	TEXT	BASIC AMMOUNT
CANCELAMMOUNE	NUMBER	CANCEL AMMOUNT

# **RULES**

DATE FROM DEP	TEXT	DATE FROM DEPARTURE
PERCENTAGE	TEXT	PERCENTAGE OF CANCEL
REFUND	NUMBER	REFUND AMMOUNT

# **TERMS**

AGE	TEXT	AGE OF PASSENGER
SEX	TEXT	SEX OF PASSENGER
FARE	NUMBER	FARE OF PASSENGER

# RESERVED SEAT

F_CODE	TEXT	FLIGHT CODE
T_RES_ECO_SEAT	NUMBER	TOTAL RESERVED
		ECONOMIC SEAT
T_RES_EXE_SEAT	TEXT	TOTAL RESERVED
		EXECUTIVE SEAT
T_DATE	TEXT	TRAVEL DATE
WAITING_NO	NUMBER	WAOTING LIST

#### **TESTING DEBUGGING AND VALIDATION**

In this phases I had tried to check all the modules separately for there proper formatting.

After this step I had performed a unit test to check the functionality of the whole system.

Further I had come to know to add certain validation in project as given bellow

 Table name- Customer information Field name –Customer name Data type -Text.

When we enter number in the form then it show wrong .Because it is not number type It is a character. So it show wrong value.

2) Table name \_Customer information Field name \_ Departure time, Arrival time Data type - Date/Time.

When we enter 12.33 then it automatically show 12.33pm. When we enter 11.33 then it automatically show 11.33am.

3) Table name –Flight information Field name- Flight-code Data type- number

When we Put any other value or character then it ask validity check.

#### **IMPLEMENTATION**

For the implementation of my project the mirror H/W & S/W requirements as under

HARDWARE	SOFTWARE
Pentium II to IV Attempt 200 MHz Ram –32MB H.D .space-4xGB FDD- CD ROM DRIVE-52x	Window-9x,2000,2000server MS-Access MS-Excel MS-Word

#### **Steps implementation**

Steps of implementation are:

- First load VB in system
- Make a software .In this s/w The airlines Reservation system is stored.
- First make all form.
- Make Main menu. Join every form with Main menu.
- Main menu open .It show all forms heading.
- Now choose what form will be open then click.
- If Reservation form is open then it show new pnr and ticket number.
- After put various value we click save bottom.
- It automatically go to report.

#### **CONCLUSION**

Though the system still containing lot of scope of improvement in it. But its overall look and feel gives rough picture of on existing automation system.

I have take MS-Access at backhand but it has a limitation of 1 GB size .It over data size approaches this 1gb some other database the SQL server ,oracle, can be used with OBBC to break this barrier.

\*\*\*\*\*\*\*\*\*\*\*\*THE END\*\*\*\*\*\*\*\*\*\*