GOVT COLLEGE HAMIRPUR
BATCH:2020-2023

Project Report

of

" *Railway Reservation System*"

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Table Of Content:

6. Screen Shots Of Form

7. Conclusion

8. Reference

Introduction of Railway Reservation System

Our Project: This system is basically concerned with the reservation and cancellation of railway tickets to the passengers. The need of this system arose because as is the known fact that India has the largest railway network in the whole of the world and to handle it manually is quite a tough job. By computerizing it, we will be able to overcome many of its limitations and will be able to make it more efficient. The handling of data and records for such a vast system is a very complex task if done manually but it can be made much easier if the system is computerized.

To be more specific, our system is limited in such a way that a train starting from a particular source will have a single destination

The basic functions being performed by our system are :

1. RESERVATION
2. FARE
3. CANCELATION

These functions will be handled with the help of following sub functions: -

- It reserves and cancels seats for the passenger.
- It contains information about the trains.
- It contains information about the passenger.
- It contains the details of reservation fees, any concessions etc.

INTRODUCTION TO PROJECT

About Indian Railway:

Indian Railways is an Indian state-owned enterprise, owned and operated by the Government of India through the Ministry of Railways. It is one of the world's largest railway networks comprising 115,000 km (71,000 mi) of track over a route of 65,000 km (40,000 mi) and 7,500 stations. As of December 2012, it transported over 25 million passengers daily (over 9 billion on an annual basis). In 2011, IR carried over 8,900 million passengers' annually or more than 24 million passengers daily (roughly half of which were suburban passengers) and 2.8 million tons of freight daily. In 2011–2012 Indian Railways had revenues of ₹1119848.9 million (US$17 billion) which consists of ₹696759.7 million (US$11 billion) from freight and ₹286455.2 million (US$4.4 billion) from passengers tickets.

Railways were first introduced to India in 1853 from Bombay to Thane. In 1951 the systems were nationalized as one unit, the Indian Railways, becoming one of the largest networks in the world. IR operates both long distance and suburban rail systems on a multi-gauge network of broad, meter and narrow gauges. It also owns locomotive and coach production facilities at several places in India and are assigned codes identifying their gauge, kind of power and type of operation. Its operations cover twenty eight states and seven union territories and also provide limited international services to Nepal, Bangladesh and Pakistan.

Indian Railways is the world's ninth largest commercial or utility employer, by number of employees, with over 1.4 million employees. As for rolling stock, IR holds over 239,281 Freight Wagons, 59,713 Passenger Coaches and 9,549 Locomotives (43 steam, 5,197 diesel and 4,309 electric locomotives). The trains have a 5 digit numbering system as the Indian Railways runs about 10,000 trains daily. As of 31 March 2013, 23,541 km (14,628 mi) (36%) of the total 65,000 km (40,000 mi) km route length was electrified. Since 1960, almost all electrified sections on IR use 25,000 Volt AC traction through overhead centenary delivery

CHARACTERSTIC OF THE PROPOSED SYSTEM

Searching of the trains is so easy:

It is easy to search for the wished train as train code, train no are there, you do not need to remember those, you just have to mention source and destination

Provides fare tables for passengers:

A fare table is already there so that passengers can know the specific price of their ticket. And as it is stored there the amount cannot wrong.

Reduce the possibility to make mistake:

Due to excessive amount of work the employers tend to do mistakes by manual form. Here the chance of mistake is minimum.

Reservation can be done very easily:

The overall method is very easy and based on few steps. No huge amount of knowledge is needed to complete the task.

MODULAR DESCRIPTI

ON

- RESERVATION FORM :
  This form is used for the reservation of ticket. The main advantage of the form is that it has the easiest of the user interface. This makes it user friendly and easy to use. It has Passenger's name, address, age , date of ticket booking, source and destination station name and codes.

- CANCELLATION FORM :
  This form consists of cancelation. the user interface is again easy. One just needs the PNR number to cancel a ticket.

- FARE RECORDS :
  This form is used for the fare between two station with a specific class.

- TRAIN ENQUIRY
  Train enquiry is used for knowing available trains between two stations. We need to provide source and destination names or codes and then we will be given the train names between those two stations.

- RESERVATION ENQUIRY
  This form is used to know if there is any seat available in a train. Here we need to provide date, train no, source and destination stations.

- SEAT DETAILS This form is used to know about the seat later using our PNR no.

Working Of Present System

- Data redundancy:

It means that same data fields appear in many different files and often in different formats. In manual system, it poses quite a big problem because the data has to be maintained in large volumes but in our system, this problem can be overcome by providing the condition that if the data entered is duplicate, it will not be entered, otherwise, updating will take place.

- Difficulty in accessing the data:

In manual system, searching information is time consuming but in our system, any information can be accessed by providing the primary key.

- Unsatisfactory security measures

In manual system, no security measures were provided but in this system, password security has been provided. The person can access the system by providing the correct password otherwise he is denied the access

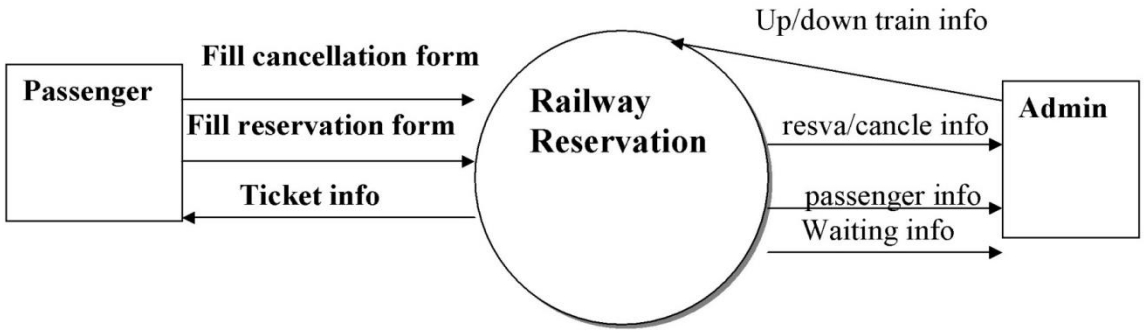
Data Flow Diagram

Definition of DFD:

The data flow diagram is a graphical representation that depicts information flow and the transforms that are applied as data moves from input to output. The DFD may be used to represent a system or software at any level of abstraction. In fact DFD may be partitioned into levels that represent increasing information flow and functional detail.

LEVEL 0 DFD OR CONTEXT FREE DIAGRAM:

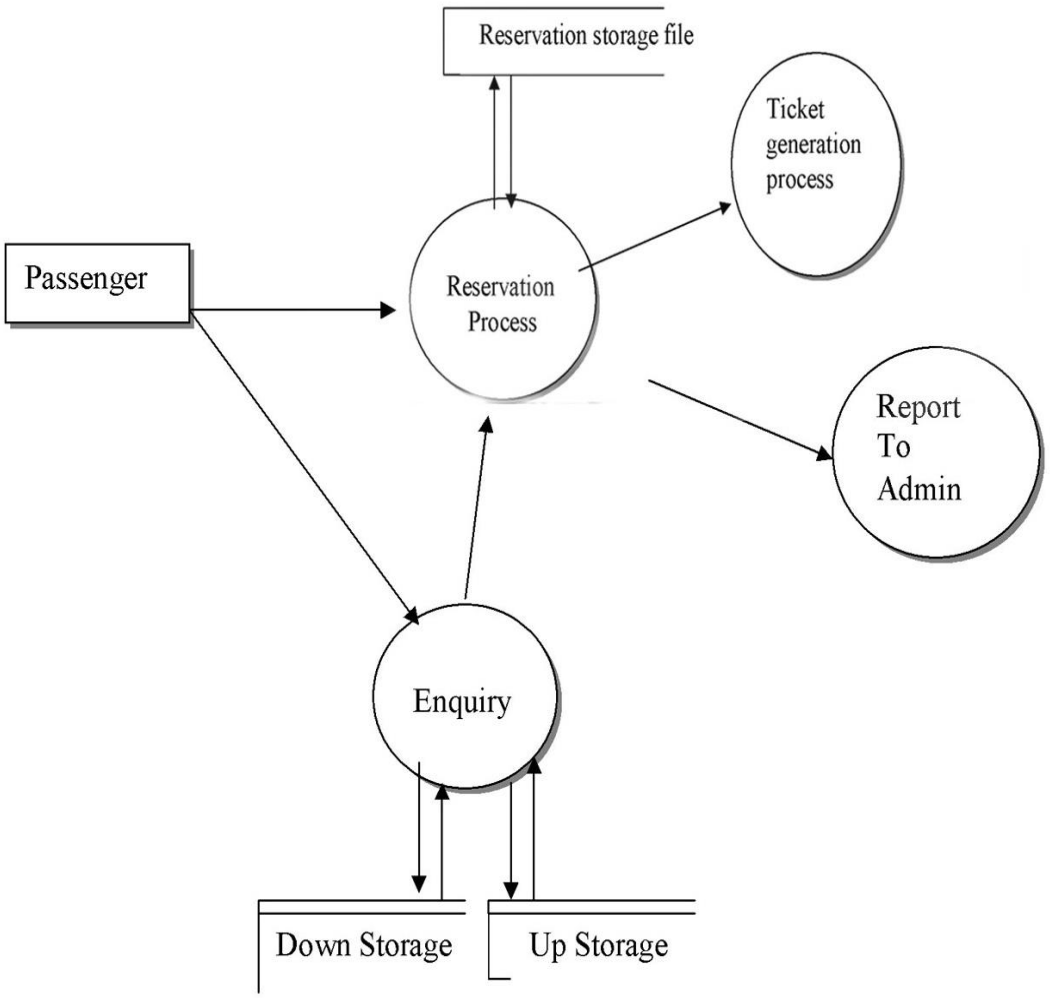
The level 0 DFD or a context model represents the entire software element as a single bubble with input and output data indicated by incoming and outgoing arrows, respectively.
In level 0 diagram shown below, the passenger fills either the reservation or cancellation form as input. He gets the ticket as the output and the report is sent to the administration.



LEVEL 2 DFD:

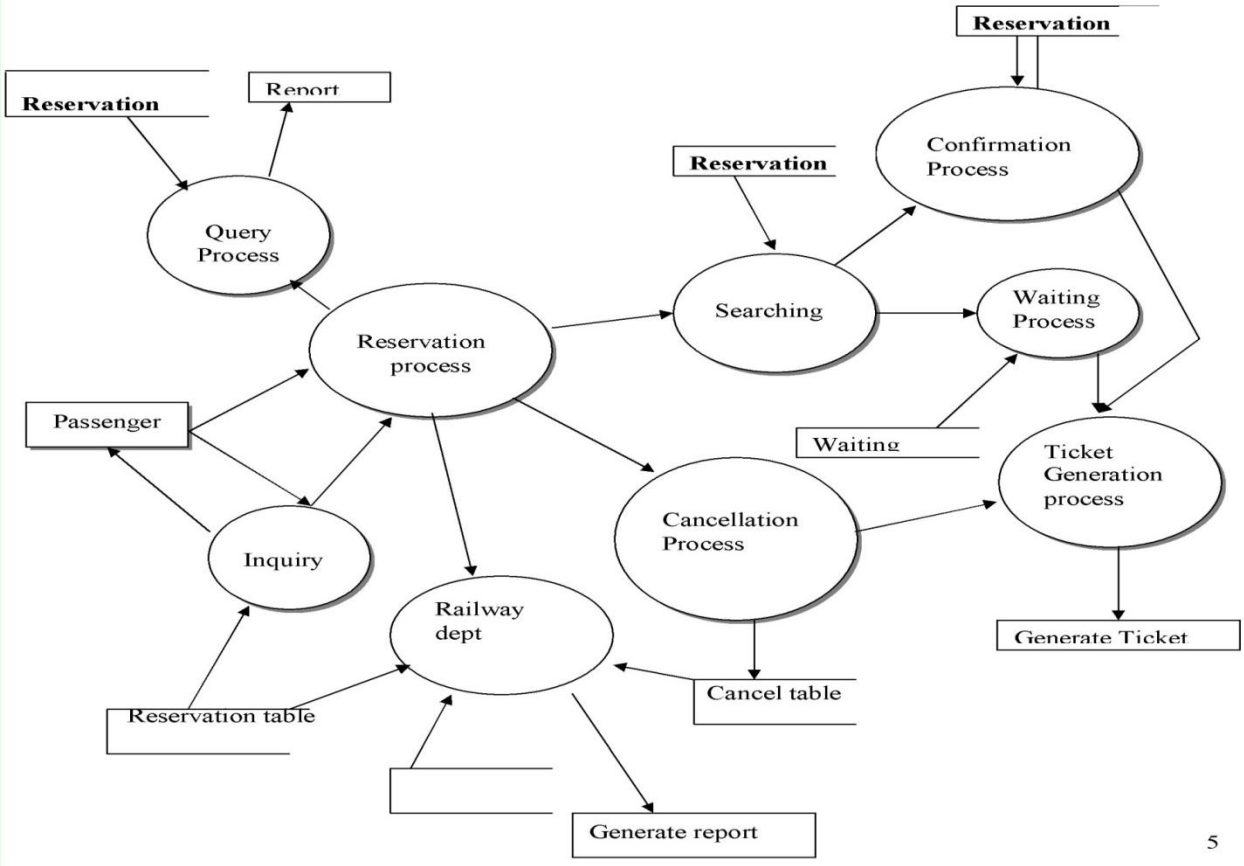
A level 1 DFD is the furthur refinement of level 0 DFD showing greater details and functionalities. In this, the single bubble of level 0 DFD is refined furthur . Each of the processes depicted at level 1 is a subfunction of the overall system depicted in the context model.

As shown in the DFD above, the passenger either enquires about the trains or goes directly for the reservation or the cancellation processes as a result of which he gets the ticket generated. The reports are then sent to the administration



Level 2 DFD :

The level 2 DFD is the further refinement of the level 1 DFD. As shown in the DFD above the passenger has many options like he can directly go to the reservation counter or can first inquire and then go to the reservation counter or he can just inquire and return back. If the passenger wants reservation then the seats are checked for availability and if the seats are available the confirmation ticket is generated otherwise he is asked for waiting and waiting ticket is generated if he wants. If the user wants tickets to be cancelled he is given the cancellation ticket and the reports of all the transactions are sent to the administrator.



Entity Relationship Diagram

The entities and their attributes are: -

1 Passenger
- #. Name
  - *. Full name
- #. Gender
- #. Age

2 Form
- #. Form no.

3 Ticket
- #. Ticket no.
  - *. Waiting
  - *. Confirmed
  - *. Cancelled

4 Reservation counter

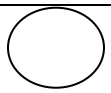
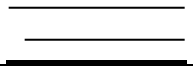
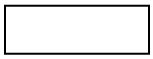
5 Administrator

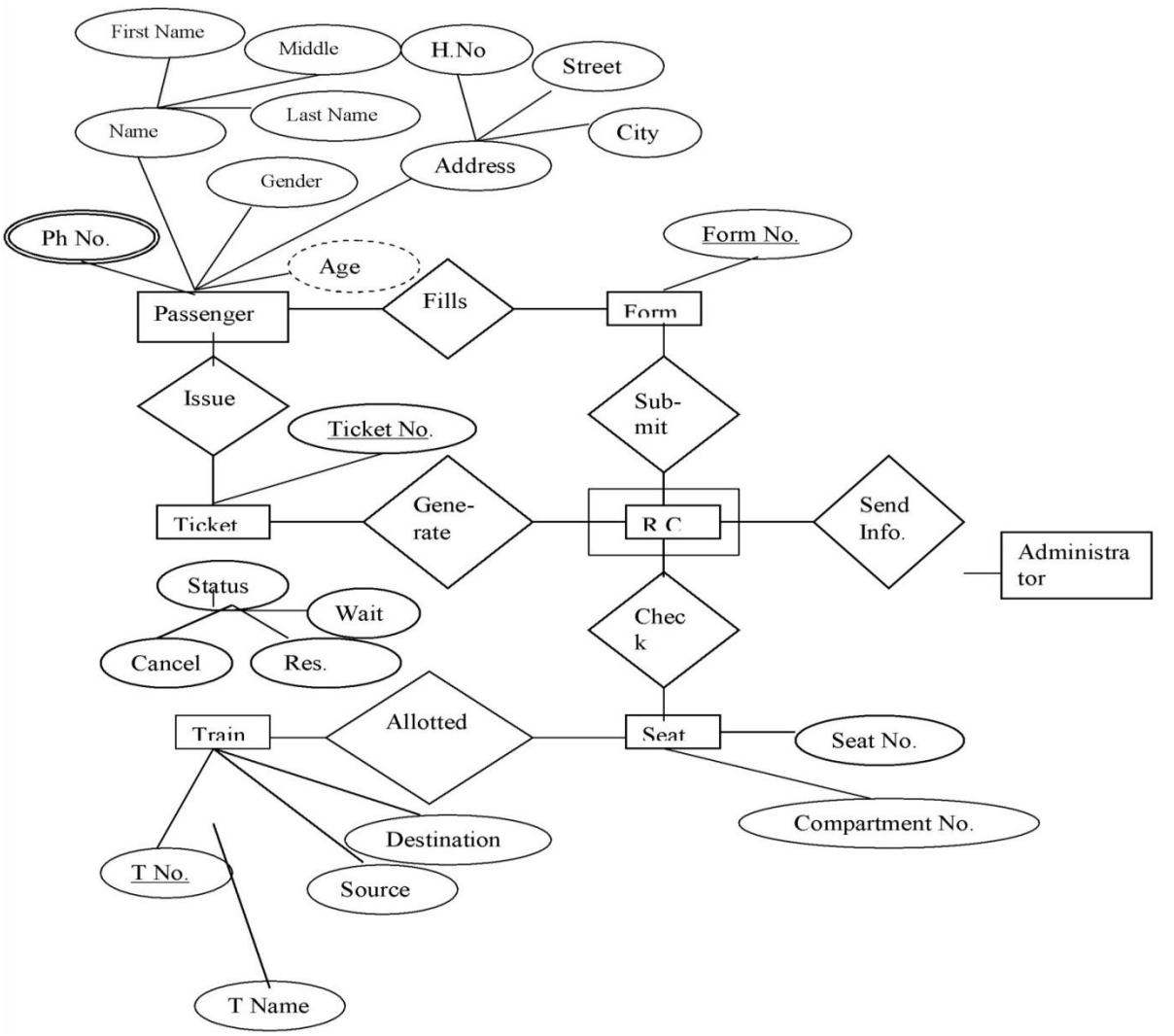
6 Train
- #. Train no
- #. Train name
- #. Source
- #. Destination

7 Seat
- #. Seat no.

The relationships between different entities are: -

1. Fill: The passenger fills the form.
2. Submit: The form is submitted to the reservation counter.
3. Check: The reservation counter checks the seats.
4. Generate: Reservation counter generates the ticket.
5. Issue: Reservation counter issues ticket to the passenger.
6. Send info: The reservation counter sends information to the administrator.
7. Allotted: The seat is allotted in the train.

Symbols	Meanings
	Data flow
	Process
	Data store
	Entity



ERD

DATA TABLE

Login Table:-

S.NO.	Field name	Data type	Description
1	User Name	Text	Store user name for checking correct username
2	Password	Text/Number	Store password corresponding to user name

RAILWAY RESERVATION RECORD TABLE:-

Sr.no.	Field name	Data type	
1	Class	Text	
2	Name	Text	
3	Age	Number	
4	Gender	Text	
5	Date	Number	

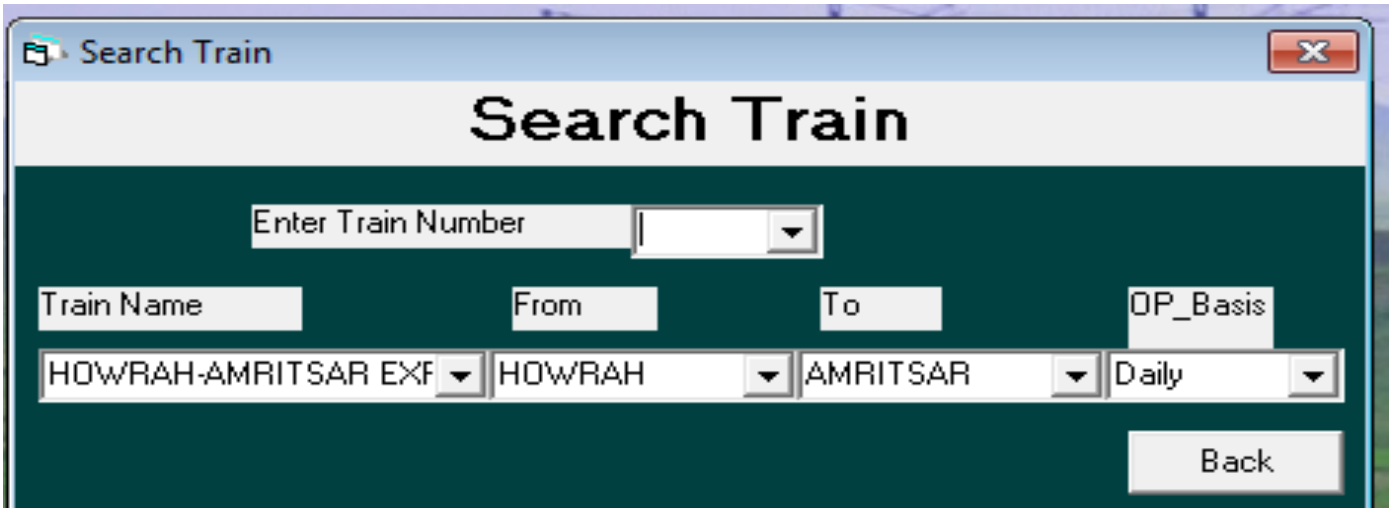
CANCELLATION RECORD TABLE:-

Sr.No.	Field name	Data type
1	P.N.R. Number	Number

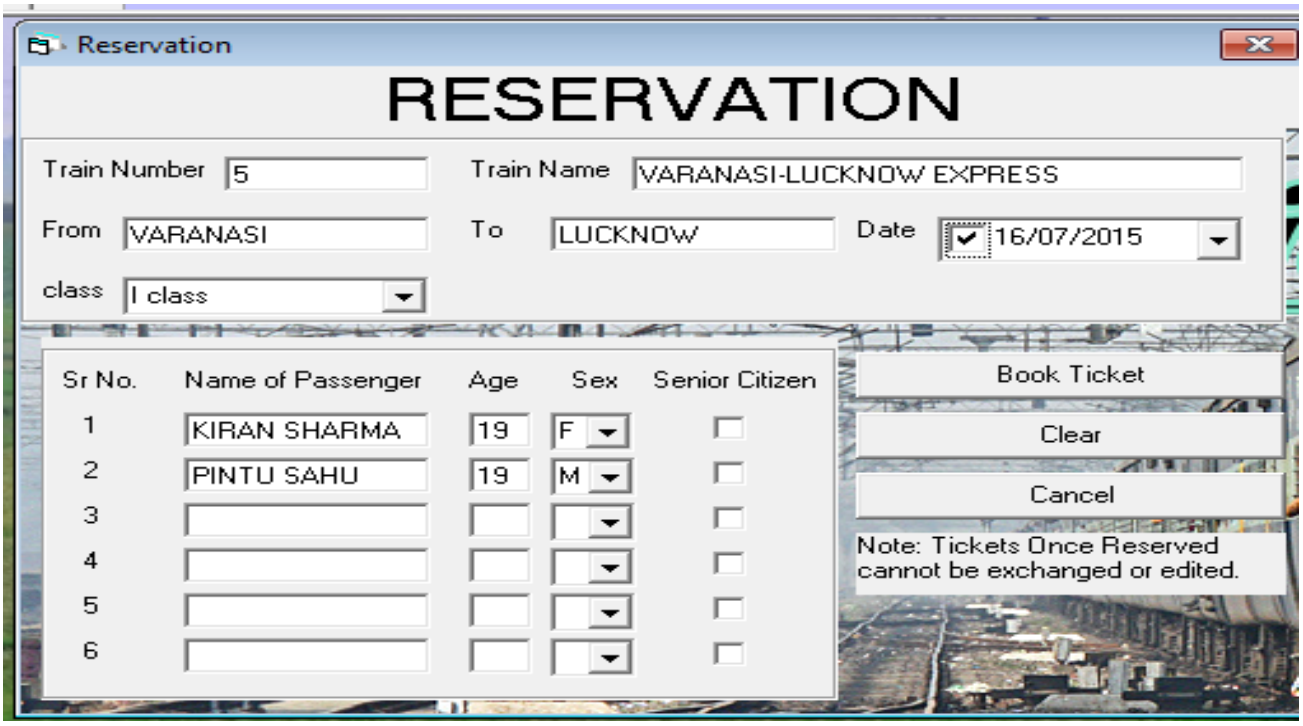
SCREEN SHORT'S OF FORM

Login Form

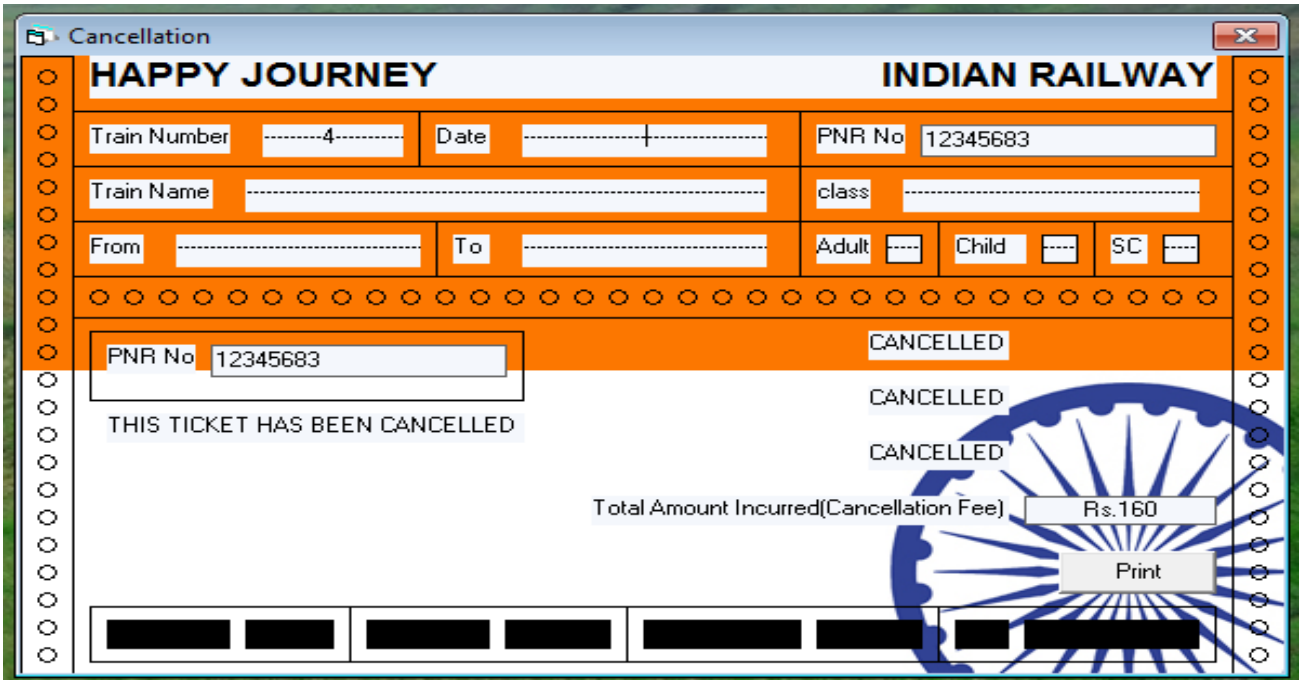
Train Search Form



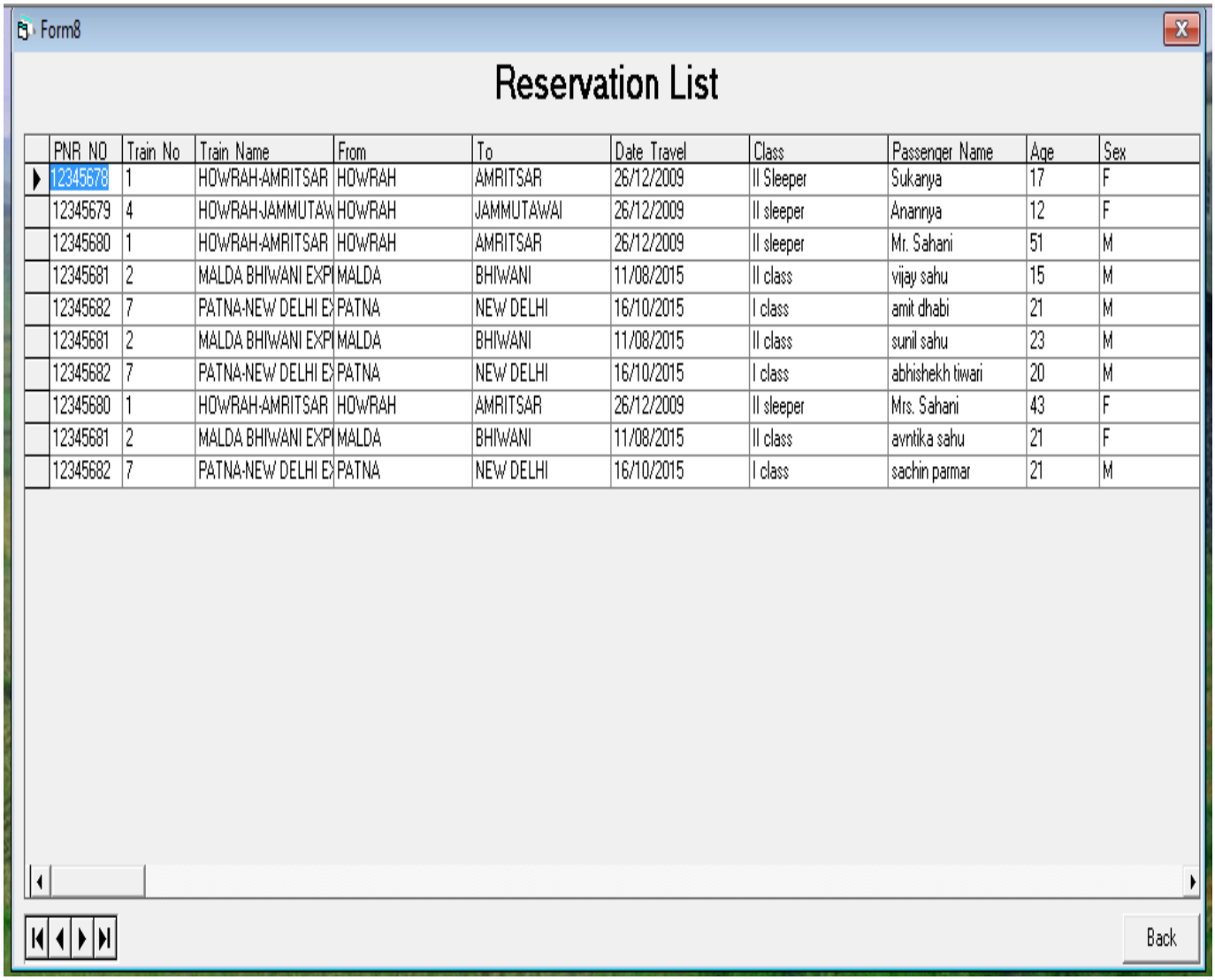
Ticket Reservation Form



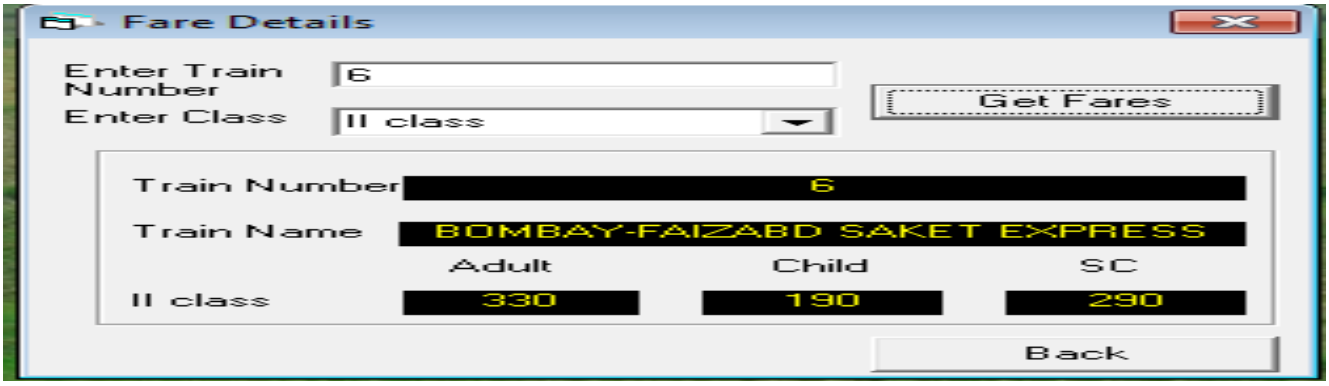
Ticket Cancel Form



Reservation Record List Form



Fare Detail Form



Conclusion

Practical Training is a very important part of the curriculum as it strengthens the concepts and enhances knowledge about the practical implementation of all the theory concepts, we have learnt so far in different subjects.

This summer training helped us learn a lot. In this training we did the project on railway reservation system. This project is used to keep a track on reserving the seat to the passenger. It helps managing the system very efficiently and conveniently.

Finally, this gives us a lot of mental satisfaction that the project we have worked upon is a real time project, which will be installed at the customer site after some more session of regress testing.

Although the project work has been done in a complete and detailed manner but due to the constraint of time, we could not include some more features we wanted to. We left these features as a part of the future development. As soon as we'll get time we'll try to add them to my project.

Reference:-

- Henry F Korth, Abraham Silberschatz, ‘’Database system concepts’’, McGraw-Hill Internation editions, Computer Science Series (1991). Second Ed.

- Mastering in visual basic 6

- Software Engineering ,McGraw-Hill Internation editions