INSTITUTE FOR ADVANCED
COMPUTING AND
SOFTWARE DEVELOPMENT
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Documentation On

"Airline Reservation System" PG-DAC
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Airline Reservation System

Introduction:

Purpose:

The Airline Reservation System (ARS) provides an interface to schedule flights and reservations for an airline that services. It is responsibility is to keep track of system users, customers, Airbus information, flight information and cancellation. The functionality of the ARS is broken into various primary groups.

The objective of this project is to create an airline reservation system where a traveler can request all flight information as per their journey dates. They can get information regarding time, cost, etc all at the same time and place. When the customer calls the Counter Assistant for his/her travel needs, the counter assistant will enter the customer's details (flight requirements) in the system. The system displays all the available airlines, schedules and prices. This system would help the airline to better serve its customers by catering to their needs. The site would use a Database to hold this information as well as the latest pricing and availability information for the airlines

Customer reservation information and user were added, deleted and updated in the implementation phase to account for the way we decide to implement security. User keeps track of the username, password information and customer reservation information link provides a link between the customers reservation information and login table.

Doucumentation Purpose :

Airline reservation systems were first introduced in the late 1950s as relatively simple standalone systems to control flight inventory, maintain flight schedules, seat assignments and aircraft loading. The modern airline reservation system is comprehensive suite of products to provide a system that assists with a variety of airline management tasks and service customer needs from the time of initial reservation through completion of the flight.

One of the most common modes of travel is traveling by air. Customers who wish to travel by air nowadays have a wide variety of airlines and a range of timings to choose from. Nowadays competition is so fierce between airlines that there are lot of discounts and a lot of luxuries given to customers that will give an edge to that particular airline.

The World Wide Web has become tremendously popular over the last four years, and currently most of the airlines have made provision for online reservation of their flights. The Internet has become a major resource for people looking for making reservations online without the hassle of meeting travel agents. My Project intends to serve these purposes. It intends to check all the available airline databases and return a string of results, which can help them in their travel plans.

The objective of this project is to create an airline reservation system where a traveler can request all flight information as per their journey dates. They can get information regarding time, cost, etc all at the same time and place. When the customer calls the Counter Assistant for his/her travel needs, the counter assistant will enter the customer's details (flight requirements) in the system. The system displays all the available airlines, schedules and prices. This system would help the airline to better serve its customers by catering to their needs. The site would use a Database to hold this information as well as the latest pricing and availability information for the airlines

Enhance Business Processes:

To be able to use internet technology to project to the global world
instead of limiting their services to their local domain alone, thus
increase their return on investment (ROI).

Door To Door Service:

> People don’t have to go to airport to book their flights instead they can be anywherein any remote location with internet just to use this service

Secure Payment:

> They can pay from remote location as they wish. This builds the relation between user and sellers.

Problem Statement

The AIR VISCA company is the Airline Reservation Company which we are managing to build. They can get information regarding time, cost, etc all at the same time and place.
The Airline Reservation System (ARS) provides an interface to schedule flights and reservations for an airline that services. It is responsibility is to keep track of system users, customers, Airbus information, flight information and cancellation. The functionality of the ARS is broken into various primary groups.
Customer reservation information and user were added, deleted and updated in the implementation phase to account for the way we decide to implement security. User keeps track of the username, password information and customer reservation information link provides a link between the customers reservation information and login table.

The system contain the following features:-

1. Search for information about the flight by means of flight number and destination.

2. While displaying information about the flight it has to provide availability of seats.

3. While reserving tickets the system obtain following information from the user Passenger Name, Sex, Age, Address. Credit Card Number, Bank Name. Flight number, Flight name, Date of Journey and number of tickets to be booked.

4. Based on the availability of tickets, the ticket has to be issued. The ticket issued should contain the following information –ticket number, flight no, flight name, date of journey, number of passengers, sex, age and departure time.

5. Cancellation of booked tickets should be available.

Product Scope

This project traverses a lot of areas ranging from business concept to computing field, and required to perform several researches to be able to achieve the project objectives. The area covers include:

- J2EE Technology and ReactJs used for the development of the application.
- The Software can check the availability of the flight tickets for the specified flight, destination and date of journey.
- General customers as well as the Application Management Staff will be able to use the system effectively.
- If the tickets are available to the user needs and specifications then the software provide the facility to book the tickets.
- Web-platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.
- Increase security, speed, storing and accuracy. It provides using of multiple applications at a time.

Aims & Objectives

Specific goals are: -

- To produce a web-based system that allow the admin to manage users who work for website like editor shipper salesperson manager and provide functionalities to its role.
- To ease customers to buy products they wish for by providing different categories and products and managing them.
- To ease editor salesperson and shipper to help him in his work to manage orders items and delivery respectively and provide ease to customer so he can always satisfied
- Result to be received very quickly
- It uses concept of user friendliness.
- It provides using of multiple applications at a time.
- Increase security, speed, storing and accuracy.
- Customer services can not only be satisfied but also enhanced to the extent that one
- can obtain or cancel a reservation from any branch for any route at any given time
- Provide convenience to travelers.
- It decreases manpower and high cost.

Overall Description

The overall description provides interface requirements for the Airline Reservation system, product perspective, hardware interfaces software interfaces, communication interface, memory constraints, product functions, user characteristics and other constraints. Succeeding pages illustrate the characteristics of typical na⇦ve users accessing the system along with legal and functional constraints enforced that affect Airline Reservation system in any fashion.

Product Perspective

Hardware interfaces

✓ Hard disk: The database connectivity requires a hardware configuration with a fast database system running on high rpm hard-disk permitting complete data redundancy and back-up systems to support the primary goal of reliability.

✓ The system must interface with the standard output device, keyboard and mouse to interact with this software.

Software interfaces

✓ Back End: J2EE

✓ Front End: ReactJS

Operations

✓ The user mode enables the end-users to do the end user operations like checking the availability, reserving and cancelling of flight tickets.

Benefits of Airline Reservation System-

1. Faster booking process.
2. Flight listing 24x7.
3. To speed up the operation and Decrease manpower, high cost.
4. Anyone can access.
5. Flexibility for user's.
6. No reach limitations.
7. Several payment mode.
8. Increase security, speed, storing and accuracy.

Users and Characteristics:

Super Admin -

1. Super Admin manages the setting of the application
2. Super Admin can add or remove admins under it to have more security over the website.
3. Super Admin can add or terminate or update flights details.
4. Super Admin can cancel or update any user flights.
5. Super Admin can generate feedback reports.

Admin -

1. Admin manages flights details.
2. Admin also manages user details.

User -

- User needs to signup only then he can book flights.
- User can book flights according to their needs.
- User can check their flight reservations details.
- User can provide feedback.

MODULE SPECIFICATION

Non-Functional Requirements:

Following Non-Functional Requirements will be there in the insurance to the internet:

(i) Secure access to user's confidential data.

(ii) 24X7 availability.

(iii) Better component design to get better performance at peak time.

(iv) Flexible service based architecture will be highly desirable for future extension.Non-Functional Requirements define system properties and constraints.

Various other Non-Functional Requirements are:

- Security
- Reliability
- Maintainability
- Portability

- Extensibility
- Reusability
- Compatibility
- Resource Utilization

HARDWARE REQUIREMENT

Hardware requirements for insurance on internet

will be same for both parties which are as follows:

RAM	2 GB
Hard disk	320 GB
Processor	Dual Core

Software Requirements

Client side:

Web Browser	Google Chrome or any compatible browser
Operating System	Windows or any equivalent OS

Database Design-

USERS TABLE

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
card_number	varchar(255)	YES	UNI	NULL	
expiry_date	date	YES		NULL	
name_on_card	varchar(255)	YES		NULL	
email	varchar(30)	NO	UNI	NULL	
first_name	varchar(30)	YES		NULL	
last_name	varchar(30)	YES		NULL	
mobile_no	varchar(15)	YES		NULL	
password	varchar(30)	NO		NULL	
status	int	NO		NULL	
user_role	varchar(255)	YES		NULL	

BOOKINGS TABLE

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
airline_id	int	NO		NULL	
arrival_date	date	YES		NULL	
arrival_time	time	YES		NULL	
booking_date	date	YES		NULL	
departure_time	time	YES		NULL	
feedback	varchar(1000)	YES		NULL	
journey_date	date	YES		NULL	
seat_type	varchar(255)	YES		NULL	
status	int	NO		NULL	
total_fare	double	NO		NULL	
user_id	int	YES	MUL	NULL	

AIRLINE TABLE

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
airline_name	varchar(30)	YES		NULL	
airline_no	varchar(30)	YES	UNI	NULL	
arrival_date	date	YES		NULL	
arrival_time	time	YES		NULL	
available_seats	int	NO		NULL	
business_fare	double	NO		NULL	
capacity	int	NO		NULL	
departure_date	date	YES		NULL	
departure_time	time	YES		NULL	
economy_fare	double	NO		NULL	
from_city	varchar(30)	YES		NULL	
to_city	varchar(30)	YES		NULL	

PASSENGERS TABLE

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
gender	varchar(255)	YES		NULL	
passenger_age	int	NO		NULL	
passenger_name	varchar(30)	YES		NULL	
passenger_type	varchar(255)	YES		NULL	
seat_number	int	NO		NULL	
booking_id	int	YES	MUL	NULL	

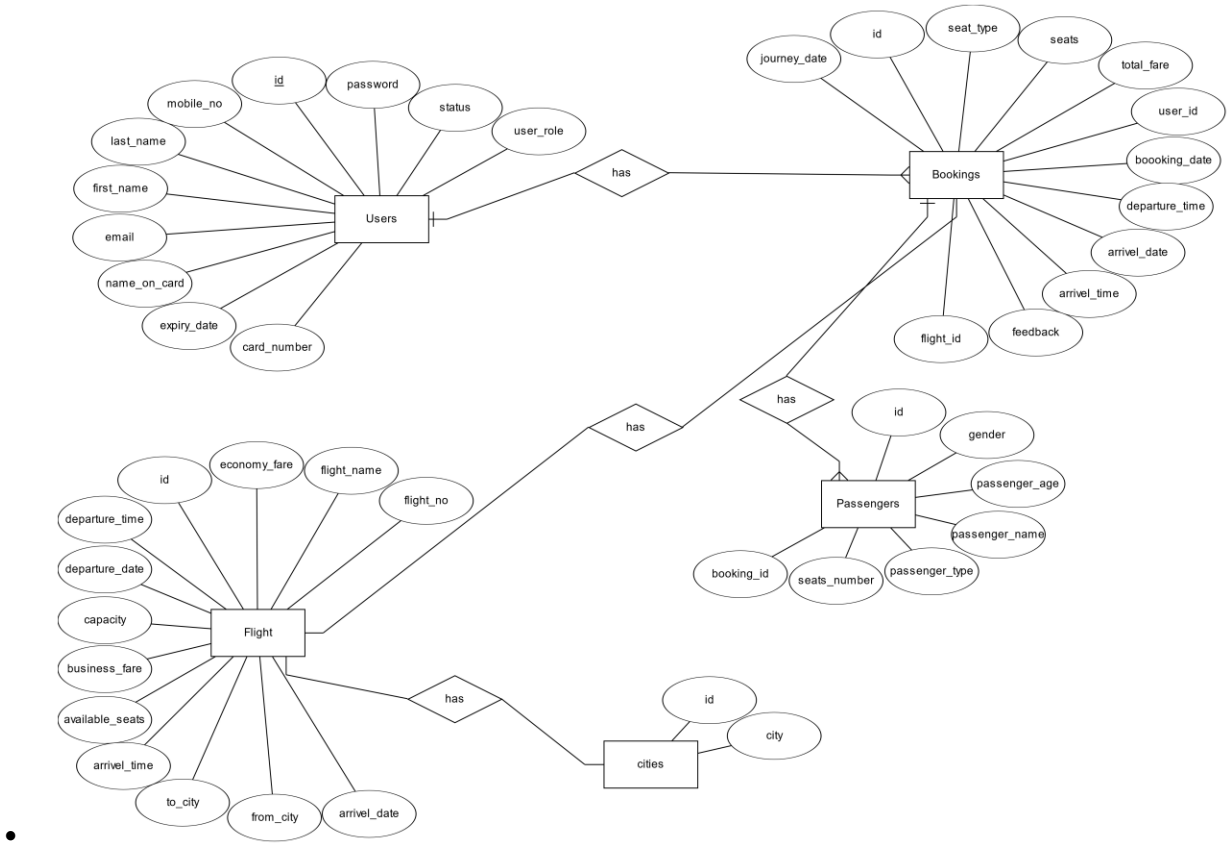
CITIES TABLE

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
city	varchar(255)	YES		NULL	

ER Diagram

The Entity-Relationship (ER) model was originally proposed by Peter in 1976 [Chen76] as a way to unify the network and relational database views. Simply stated the ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. Since Chen wrote his paper the model has been extended and today it is commonly used for database design for the database designer, the utility of the ER model is:

- • It maps well to the relational model. The constructs used in the ER model can easily be transformed into relational tables.
- • It is simple and easy to understand with a minimum of training. Therefore, the model can be used by the database designer to communicate the design to the end user.
- • In addition, the model can be used as a design plan by the database developer to implement a data model in specific database management software.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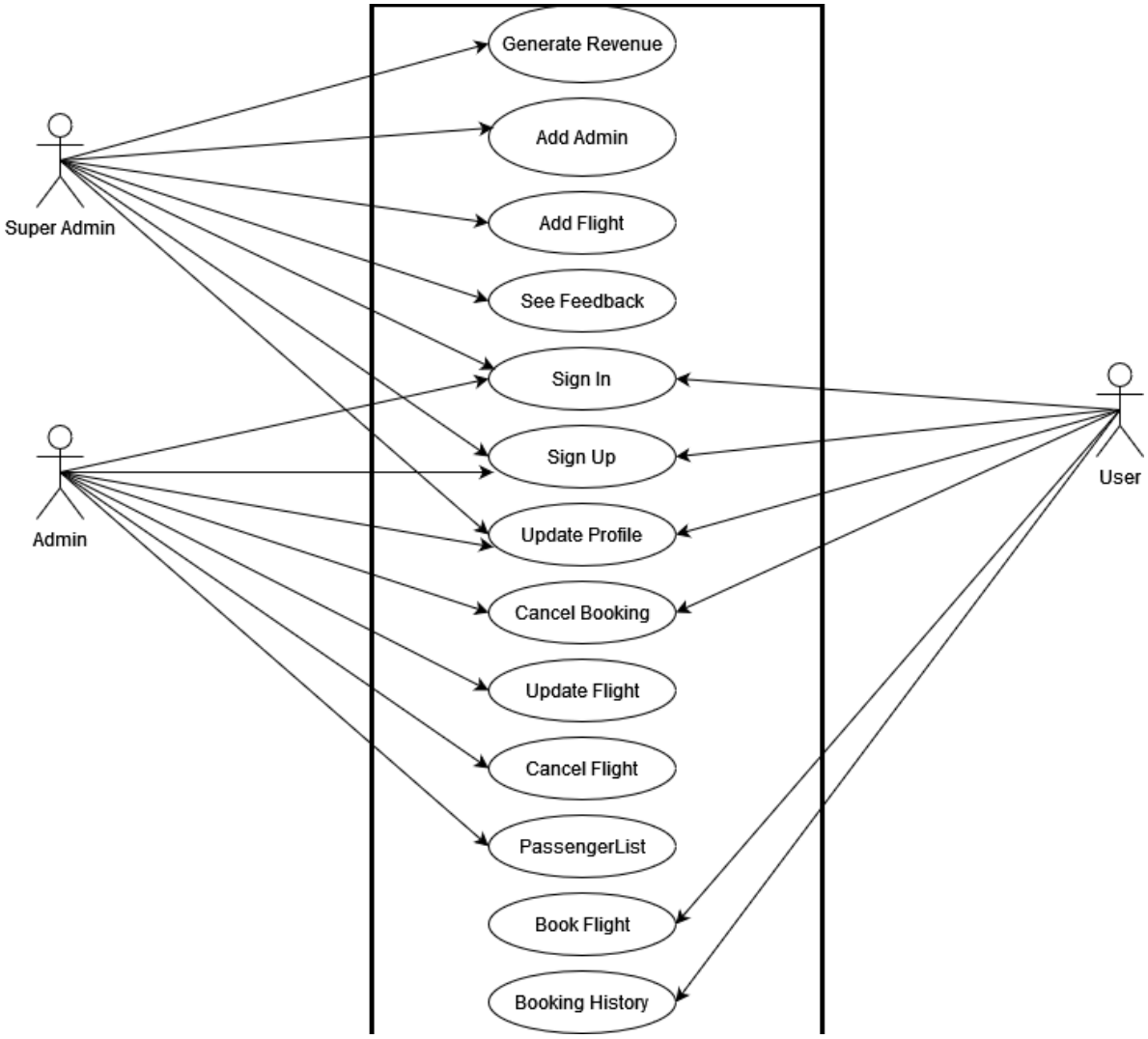
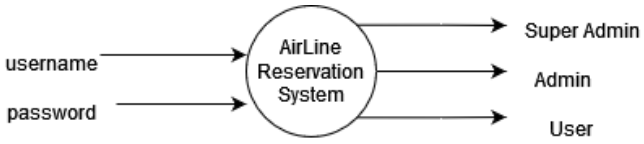
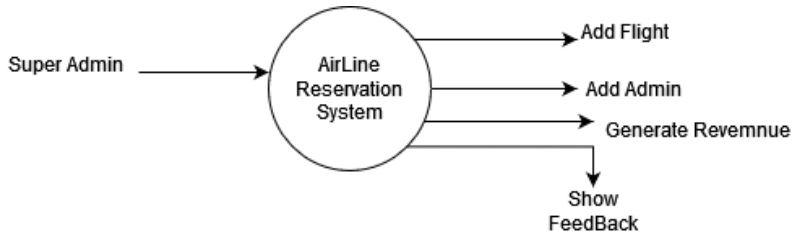
Use Case Diagram-



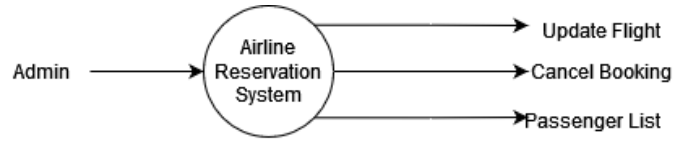
Zero Level Diagram



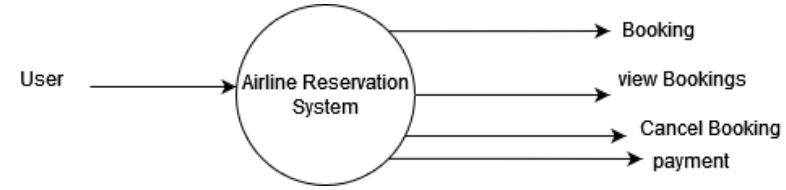
Super Admin Diagram



Admin Diagram



User Diagram



Conclusion-

The Airline reservation system has been a way of minimizing the clerical work, which is almost a routine and consumes the most precious time.
This AIRLINE RESERVATION SYSTEM has been an attempt to help the user to minimize his workload along with minimizing the paper works and saving of time.
The system has been developed in a way to make it very user friendly. It provides an on-line message and an error detection and error messages every time the user needs. Any person having a little bit of window based can run this system without any pain.
Almost all the difficulties of manual reservation have been removed by this system. To wind up let me welcome all the suggestions and other improvements, which the system needs so that it covers all the needs if the user in the user way.

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