A Mini Project Report

on

CR7 AIRLINE MANAGEMENT SYSTEM

Submitted in partial fulfillment of the requirements for the

degree

Second Year Engineering – Computer Science Engineering (Data Science)

by

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CERTIFICATE

This to certify that the Mini Project report on **CR7 AIRLINE MANAGEMENT SYSTEM** has been submitted by **GAURAV SHETTY(23107127), CHARUTOSH WANKHADE(23107134), SHLOK SAWANT(23107142)** who are bonafide students of A. P. Shah Institute of Technology, Thane as a partial fulfillment of the requirement for the degree in **Computer Science Engineering (Data Science)**, during the academic year **2024-2025** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Chapter 1

Introduction

An Airline Reservation System is a software application that automates the process of booking flights, managing ticketing, and scheduling flight operations. It allows passengers to search for available flights, select their seats, and book tickets online. The system typically integrates with a database to handle flight schedules , passenger information. Key features often include user registration, flight search, booking management, cancellation. The project involves developing a user-friendly interface for both passengers and administrators and enhancing overall travel convenience.

1.1 Purpose:

The purpose of an Airline Reservation System is to automate the process of booking flights, managing seat availability, and handling ticketing operations. It streamlines the reservation process for both passengers and admin, providing information, facilitating online bookings, and ensuring efficient management of customer data and cancellations. This system enhances customer experience, reduces manual work for airline and improves operational efficiency.

1.2 Objectives:

To provide a user-friendly platform for booking, modifying, and canceling flights:

We provide this by giving the user a friendly page which have the options book flight,cancel flight.

To Securely store and manage customer profiles, preferences, and booking details:

We provide this by giving the user a option for adding his personal details in add customer detail button which gets stored in the database.

To provide a user search bar to search and book flights basedon destination and select date:

We give this by having a flight info in which the user can check the available flights.

To provide the list of flights using table format :

The user and the admin can see the flight information which can help the user for searching the flight availability.

1.3 SCOPE:

Can be applied for seamless online booking:

We achieve this scope by givng them a user page for booking flights by a button Book Flight.

Can be applied for flight scheduling:

We achieve this scope by having a admin page for add flights which will update flight when added.

Can be applied for government growth in aviation:

We achieve this scope by having a user page which will be in the site and the income generated will help in government.

Chapter 2

Problem Statement

The airline industry faces significant challenges in managing reservations efficiently, especially as the number of passengers grows. Current systems struggle with providing a seamless booking experience and secure data handling. Additionally, these systems must manage which can be overwhelming for both customers and airlines.

Data Management:

Not Handling Passenger data efficiently and not storing .

Inefficient Booking Process:

Customers often face difficulty in booking, or canceling flights.

No proper Admin Dashboard:

No new flight availability updation in flight info .

Chapter 3

Proposed System

The Airline Reservation System (ARS) is a comprehensive solution designed to handle all aspects of flight bookings, from and customer relationship management . This system will be user-friendly and secure, offering a seamless experience for both customers and airline administrators.

Online Booking Portal:

Allows customers to search for flights and book tickets.

Admin Dashboard:

Airline staff can manage flight schedules.

Customer Account Management:

Creation of customer profiles to store preferences, frequent flyer miles, and history.

3.1. Features & Functionality:

Flight Status Updates:

Provide passengers on flight avabilities, cancellations and choosing date.

Online Booking:

Enable passengers to book flights through Online.

Booking Management:

Modify, cancel, and update passenger booking .

Chapter 4

Project outcomes

With the use of the Airline Reservation System we expect the following outcomes:

- User can create account or login to existing account to access personalized data and manage their reservations .
- User can view detailed information about Flight avability service.
- User can book and cancel ticket by providing following input

  1.Book Flight

  User can book flight by using our page by putting the aadhar card details.

  2.Cancel Flight

  User can cancel flight by using our page by putting the PNR details.
- Improved customer experience by providing an easy-to-use platform for viewing and booking flights.

Chapter 5

Software Requirements

To develop and deploy the project, the following software requirements are necessary:

Java (Version 23) :

Used for implementing the core logic and backend functionality of the project. Java provides object-oriented programming features, making it suitable for developing the project's logic.

Netbeans IDE :

Utilized for writing, debugging, and running Java code. It offers a comprehensive set of tools, including code assistance and a GUI builder, which simplifies Java Swing development.

Graphical User Interface Framework :

Java Swing: A GUI toolkit for creating the graphical interface of the project. Java Swing is used to build the frontend components such as forms, buttons, and tables.

Database Management System :

MySQL : Serves as the relational database for storing project data. MySQL provides efficient and reliable data storage, allowing the project to perform CRUD (Create, Read, Update, Delete) operations on student and mentor information

Chapter 6

Project Design

The image shown in the above figure 6.1 shows the flow in which the project in which there are user and admin page in which home page user page have customer detail,flight info,book flight,cancel flightwith boarding pass with admin has customer detail,booked flight,cancelled flight which displays from database.

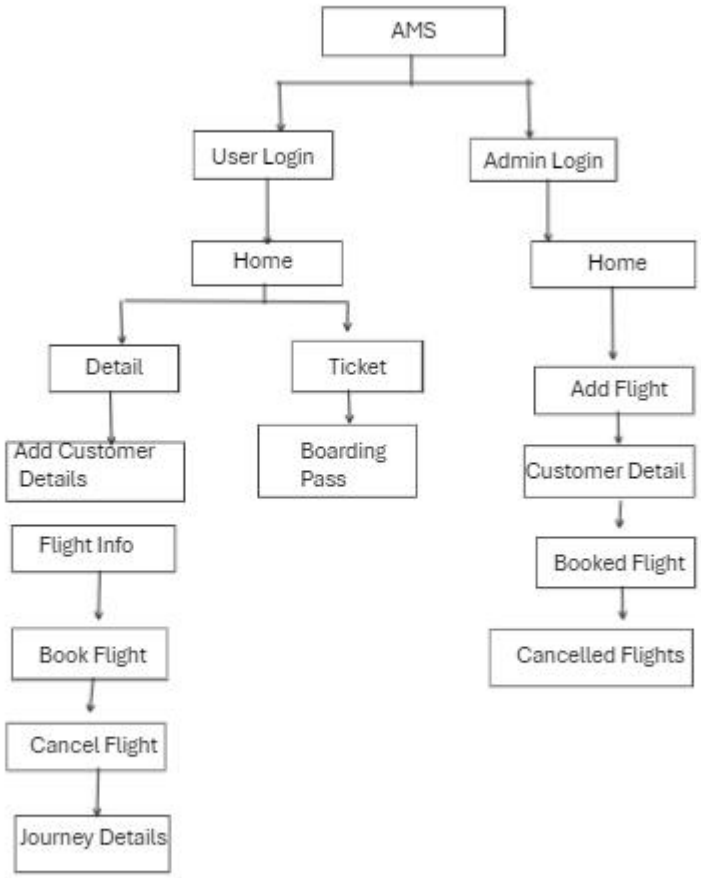

Figure 6.1:Flow of the project

Chapter 7

Project Scheduling:

The below figure 7.1 is the Grant Chart which explains the project completion and the date on which we have done as 7-9-24 we had completed Group formation and Topic finalization and on 7-23-24 we had identified the functionalities of Mini project and on 8-6-24 discussed the project topic and on 8-20-24 we designed the graphical user Interface and on 9-10-24 we did the Presentation and on 9-17-24 we did the database Design and on 9-24-24 we did Database Connectivity and ov 10-01-24 we did integration and on 10-8-24 we did presentation 2.

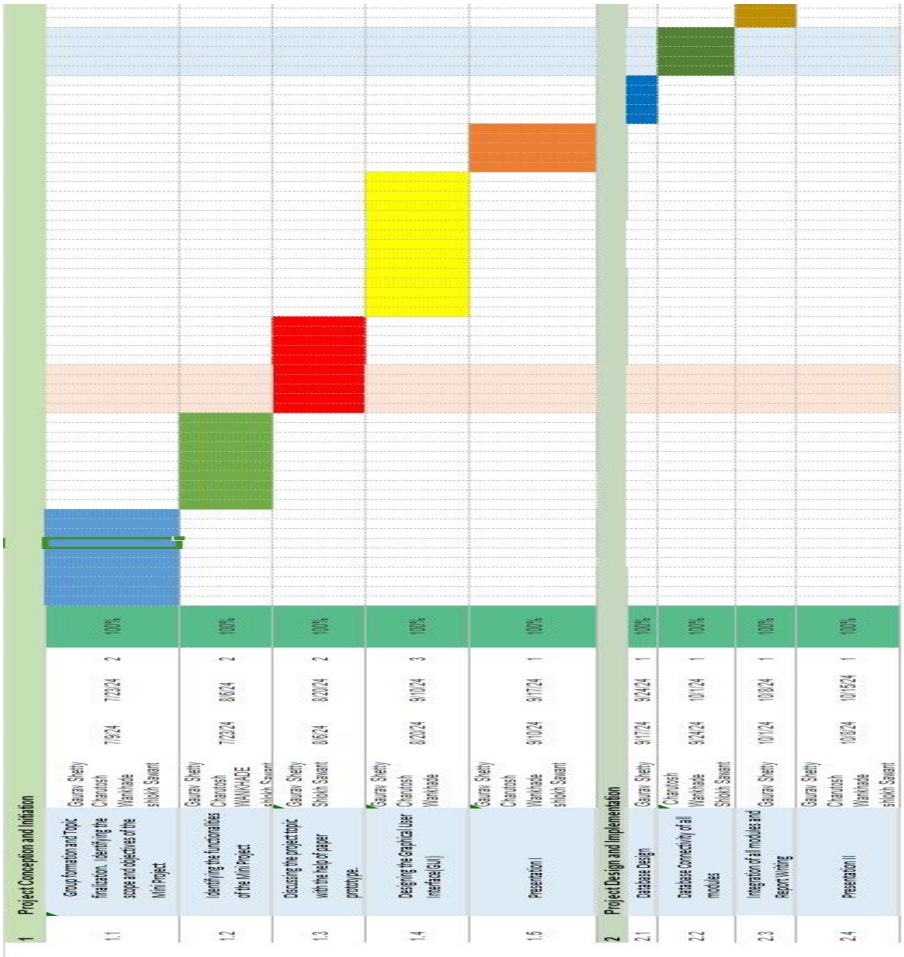

Figure 7.1:Grant Chart

Chapter 8

Result

The below figure 8.1 is the customer detail page in User Portal in which the user Can Fill details of himself as aadhar number,name,nationality, ddress,gender,Phone which will be stored in the database

Figure 8.1:Customer detail page

The below figure 8.2 shows the Book Flight Page in User Portal in which the user can book details of himself by putting his PNR detail which will be stored in the database .

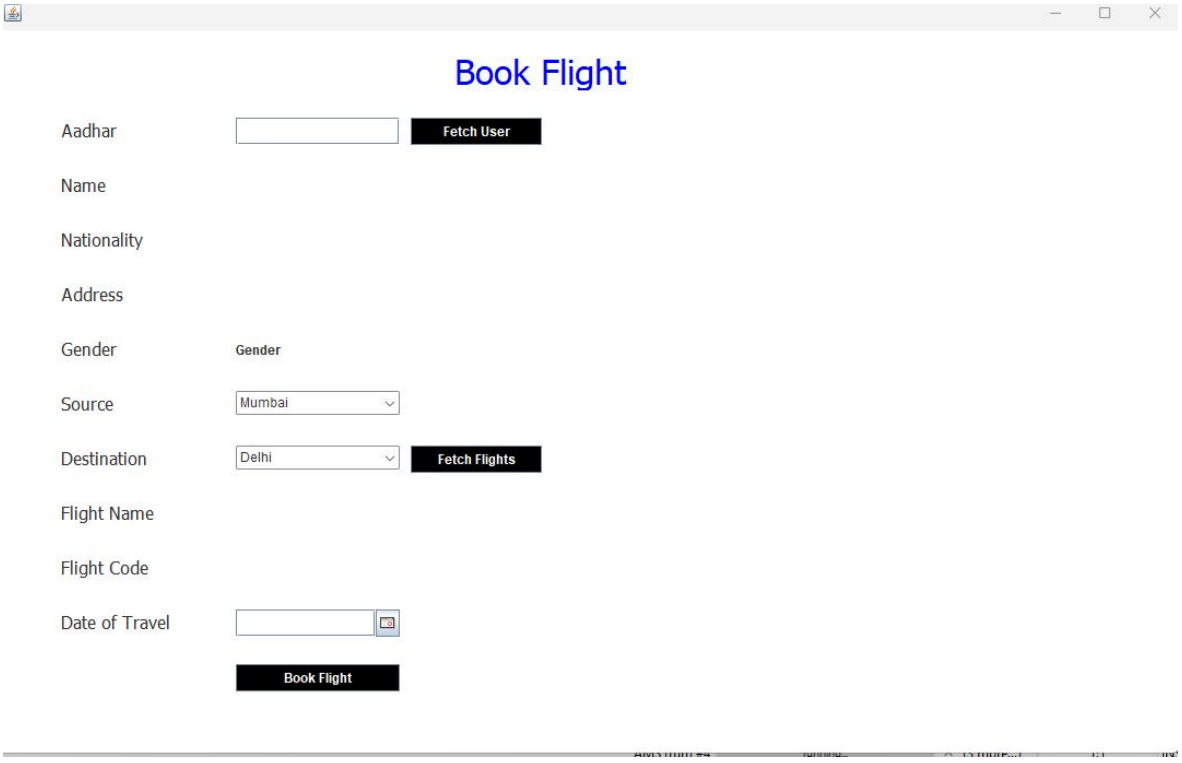

Figure 8.2:Booking flight page

The below fig 8.3 shows the Journey detail page in user portal in which the user can see his booked Flight details of himself by putting his Aadhar detail which will be stored in the database .

Figure 8.3: Journey Detail Page

The below figure 8.4 shows the Cancel detail Page in user portal in which the user can cancel flight details of himself by putting his PNR detail which will be stored in the database which will also generate a cancel no.

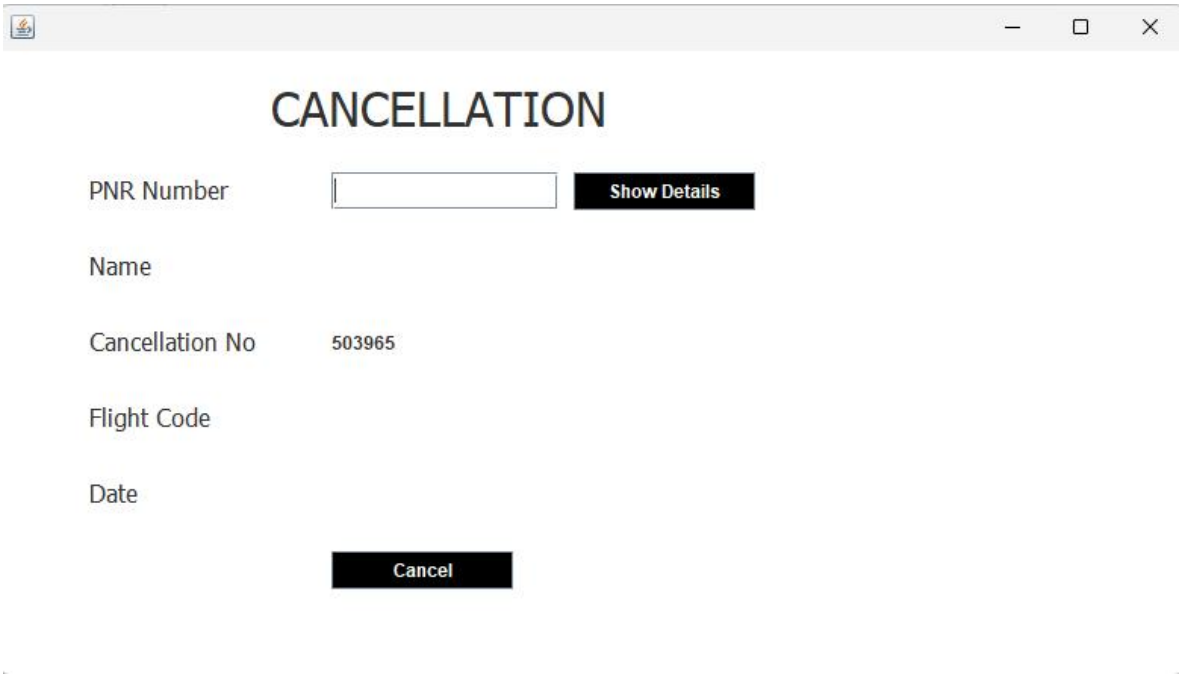

Figure 8.4:Cancel page

The below figure 8.5 shows the Add flight detail page in user portal in which the admin. can update flight details of himself by logging his username and password which will be stored in the database and will be displayed iv user page iv flight info which will also generate a cancel no.

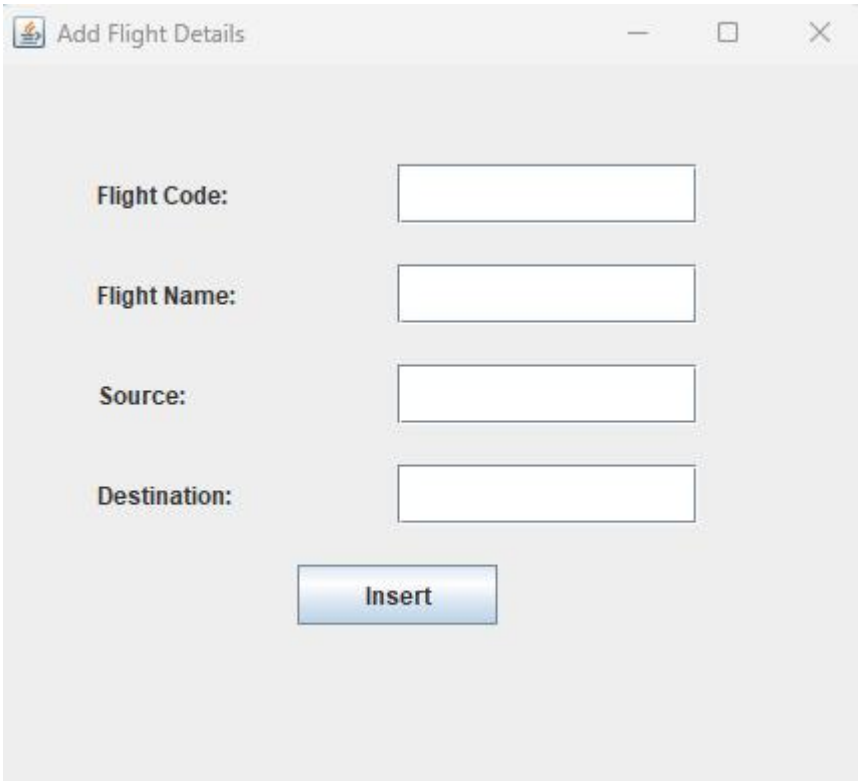

Figure 8.5: Flight Detail Page

Chapter 8

Conclusion

The Airline Reservation System (ARS) project represents a significant leap towards automating and streamlining the complex processes involved in flight booking, management, and customer service. By developing this system, we have addressed key industry challenges such as booking flights,Seeing Flight avabilities,Cancelling flights.Throughout the project, we have successfully implemented a user-friendly interface that simplifies the booking experience for customers while providing airline administrators to manage flight details operations efficiently. The system's scalability ensures that it can handle fluctuating traffic demands, while it stores sensitive customer data.This project not only meets the needs of airlines today but also establishes a foundation for future growth and innovation. By improving operational efficiency, enhancing customer satisfaction, and providing easy access features, the Airline Reservation System positions the airline.

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