Mini Project Synopsis on

Flight Booking System

S.E. - I.T Engineering

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CERTIFICATE

This to certify that the Mini Project report on Learning System Management has been submitted by Soham More[21104042], Rohit Nigade[21104101], Ronit Naik[21104083]who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2022-2023** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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TABLE OF CONTENTS

1. Introduction

A flight booking system is a digital platform that enables customers to search for, book, and manage their flight reservations online. This system has transformed the way people book their travel, making it faster and more convenient than ever before. With the click of a button, customers can search for flights, compare prices, and book their tickets, all without leaving their home or office.

The system is designed to provide customers with real-time information on flight schedules, availability, and pricing from multiple airlines. Customers can also select their preferred seats, manage their bookings, and earn rewards through loyalty programs. The flight booking system is accessible through various channels such as airline websites, travel agencies, and mobile apps.

The use of flight booking systems has significantly increased over the years, as more people turn to online platforms to book their travel. Airlines are investing heavily in these systems to provide customers with a seamless booking experience, while also improving their operational efficiency.

1.1 Purpose

1. Simplifying the Booking Process: The purpose of the flight booking system is to simplify the booking process for customers. It provides a fast, convenient, and efficient way for customers to search for and book flights.

2. Providing Real-time Information: The system is designed to provide customers with real-time information on flight schedules, availability, and pricing from multiple airlines.

3. Increasing Accessibility: The purpose of the flight booking system is to make the booking process more accessible to customers. They can book their travel from anywhere and at any time, using the system.

4. Improving Operational Efficiency: For airlines, the purpose of the flight booking system is to improve operational efficiency, reduce errors, and increase revenue. It provides a centralized platform for airlines to manage flight schedules, seat inventory, passenger information, and baggage handling.

5. Generating Valuable Data and Insights: The flight booking system also generates valuable data and insights. It can generate reports and analytics on booking trends, revenue, and customer behavior, which can help airlines make data-driven decisions to improve their operations and services.

6. Enhancing the Customer Experience: The flight booking system is also intended to enhance the customer experience. It provides a user-friendly interface for customers to browse available flights, view flight schedules and fares, select seats, make reservations, and purchase tickets online.

1.2 Objectives

1. Managing Details: The first objective of the airline ticket management system is to manage all the details related to airlines tickets, flights, customers, booking counters, and vendors. This includes information such as flight schedules, seat availability, pricing, customer details, and vendor information.

2. User-Friendliness: The system should provide a user-friendly interface with various controls to make it easier for users to manage their tasks. The controls should be intuitive and easy to use, reducing the time and effort required to manage the system.

3. Project Management: The system should make overall project management much easier and flexible. This includes features such as real-time data updates, automated reporting, and customizable dashboards to provide a complete view of the project status.

4. High-Level Security: The system should provide a high level of security to ensure that the data is protected from unauthorized access. This includes different levels of authentication, access controls, and encryption to protect the data from external threats.

5. Scalability: The system should be scalable to accommodate the changing needs of the airline industry. It should be able to handle a large volume of data and transactions, and provide reliable performance under heavy load.

6. Integration: The system should be able to integrate with other systems used in the airline industry, such as payment gateways, booking engines, and customer relationship management (CRM) systems. This will provide a seamless experience for users and improve overall system efficiency.

1.3 Scope

1. Generic Software: The flight booking system is a generic software that can be applied by any business organization in the airline industry. The system is not specific to any particular airline, allowing any airline to use the system for managing their flight bookings and operations.

2. Facility for Users: The system provides a facility for users to browse available flights, view flight schedules and fares, select seats, make reservations, and purchase tickets online or through other booking channels such as travel agents or airline ticket offices. This provides customers with a seamless and convenient experience when booking their travel.

3. Modules: The system includes various modules for managing flight schedules, ticket booking and reservation, check-in, passenger information, seat allocation, baggage handling, and payment processing. These modules provide a comprehensive platform for airlines to manage their operations and provide better services to customers.

4. Streamlined Operations: The flight booking system streamlines the operations of airlines, reducing errors, and improving operational efficiency. The system provides a centralized platform for managing flight schedules, seat inventory, passenger information, and baggage handling, reducing the time and effort required for manual processes.

5. Improved Revenue: The system can help airlines improve their revenue by providing real-time information on flight schedules, availability, and pricing. It also provides valuable data and insights on booking trends and customer behavior, which can help airlines make data-driven decisions to improve their operations and services.

6. Multi-Channel Booking: The flight booking system enables customers to book their travel through multiple booking channels such as online, travel agents, or airline ticket offices. This provides customers with flexibility and convenience when booking their travel, improving the overall customer experience.

2. Problem Definition

1. Time-consuming: The manual booking process of airlines is a time-consuming process that involves several manual steps such as filling out paper forms, making phone calls, and entering data into spreadsheets. This process can be very slow and inefficient, leading to delays and frustration for both customers and employees.

2. Prone to Errors: The manual booking process is also prone to errors, such as incorrect data entry, double booking, and scheduling conflicts. These errors can lead to customer dissatisfaction, flight delays, and cancellations, which can be costly for the airlines.

3. Streamline the Process: An automated booking system can help to streamline the booking process by eliminating manual steps and automating many of the tasks involved in booking flights. This can significantly reduce the time required to book a flight and minimize errors.

4. Enhance Efficiency: An automated booking system can also enhance the efficiency of the booking process by providing real-time information on flight availability, pricing, and schedules. This can help customers make informed decisions and allow airlines to optimize their seat inventory and pricing strategies.

5. Improved Customer Experience: An automated booking system can improve the customer experience by providing a seamless and user-friendly interface for booking flights. Customers can easily search for flights, select seats, and complete their bookings without any hassle, leading to increased satisfaction and loyalty.

6. Cost Savings: An automated booking system can also lead to cost savings for airlines by reducing the need for manual labor, minimizing errors, and optimizing seat inventory and pricing strategies. This can help airlines improve their profitability and competitiveness in the market.

3.Proposed system

Course management: The proposed LMS system should provide a centralized platform for educators to create, upload, and manage course content, schedule and manage course activities, and track student progress and performance.

Content management: The proposed LMS system should provide tools for educators to manage and organize course content, including lectures, readings, multimedia materials, and assessments.

Assessment and evaluation: The proposed LMS system should provide tools for educators to assess and evaluate student performance, such as quizzes, exams, and assignments.

Administrative functions: The proposed LMS system should automate administrative tasks such as course scheduling, enrollment, and grading, reducing the administrative burden on educators and administrators.

Data analytics: The proposed LMS system should provide data analytics on student performance, course completion rates, and other metrics, allowing educators and administrators to make data-driven decisions to improve the online learning experience.

3.1 Features and Functionalities

Customizable search filters: The system should provide customizable search filters to allow users to narrow down their search results according to their preferences, such as flight duration, layovers, airline preferences, and price range.

Multi-lingual support: To cater to a global audience, the system should support multiple languages to provide a better user experience and increase accessibility.

User profile management: The system should allow users to create and manage their profiles, including their personal information, frequent flyer miles, and travel preferences. This will help personalize the user experience and provide tailored recommendations.

Real-time flight status: The system should provide real-time flight status updates, including delays, cancellations, and gate changes, to keep users informed and avoid any inconvenience.

Seamless integration with third-party APIs: The system should seamlessly integrate with various third-party APIs such as airline reservation systems, payment gateways, and travel-related services to provide a comprehensive booking experience.

Multiple payment options: The system should provide users with multiple payment options, including credit/debit cards, net banking, e-wallets, and other popular payment methods to cater to a wider audience.

Secure data handling: The system should ensure the security of user data, including personal and payment information, using secure encryption methods to protect against any potential data breaches.

4. Project outcomes

To begin the booking process, a new user needs to sign-up or sign-in to the flight booking system. Once logged in, the user can enter the necessary passenger details, such as name, date of birth, and contact information. Next, the user can search for available flights by selecting their desired start and end destinations. The system will provide a list of available flights as output, which the user can review and select. After selecting a flight, the user must provide additional details such as the type of class they wish to book and the number of passengers travelling with them. The system will then calculate the total fare based on the user's selections. Once the user has confirmed the booking details, they can proceed to make payment through the online payment portal provided by the system. The payment portal will be secure and reliable, ensuring that user's personal and financial information is protected. After completing the payment, the system will generate a confirmation ticket which will be sent to the user's email address. Overall, the flight booking system provides a user-friendly interface that enables users to easily book flights, make payments, and receive booking confirmations. It streamlines the booking process, reducing the time and effort required to book a flight manually.

5. Software Requirements

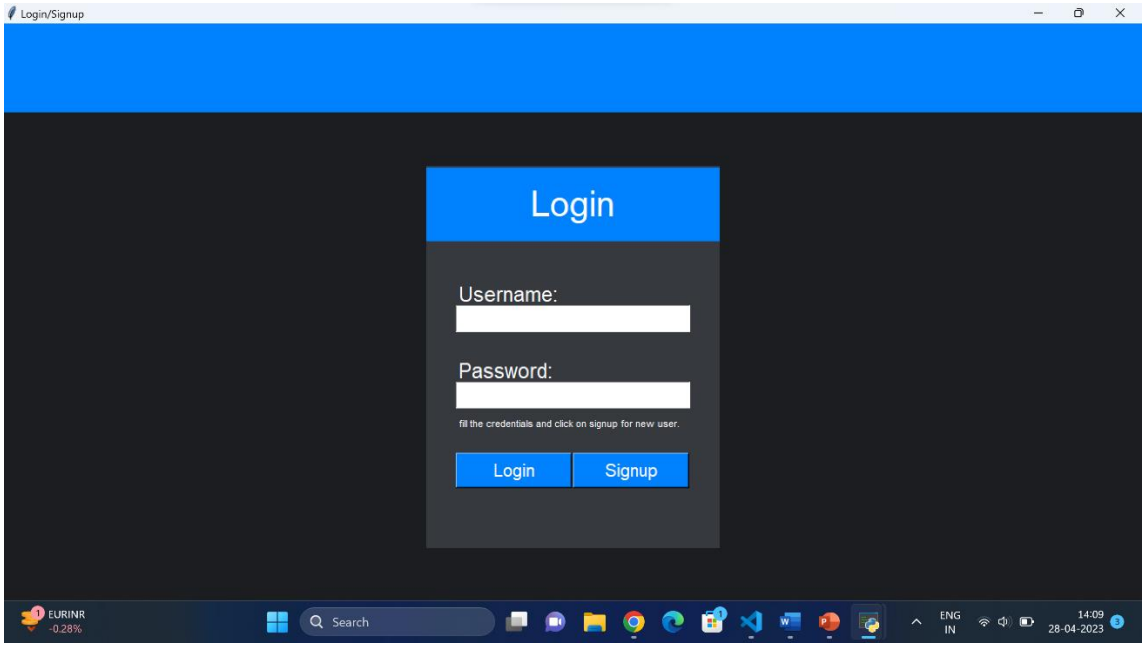
Language Used: -Python

Front End: - A user interface framework/library such as Tkinter.

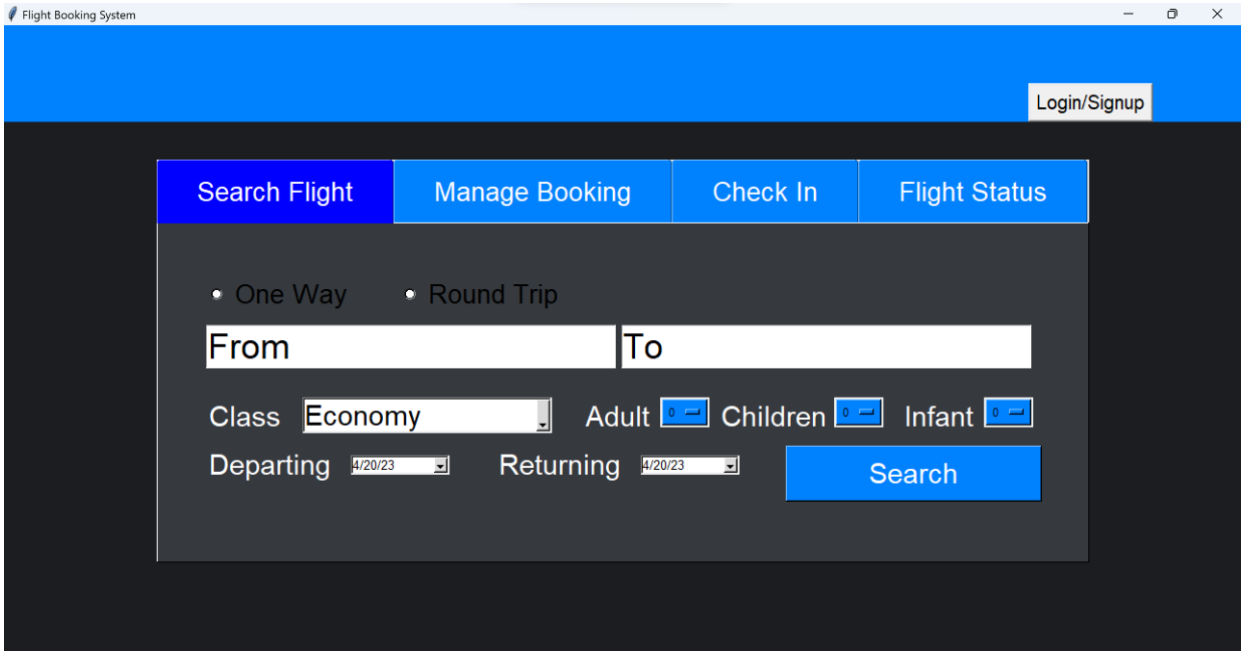
Back End: -A database access layer such as AST for communicating with the database. For Database purpose we have used sqlite3.

6. Project Design

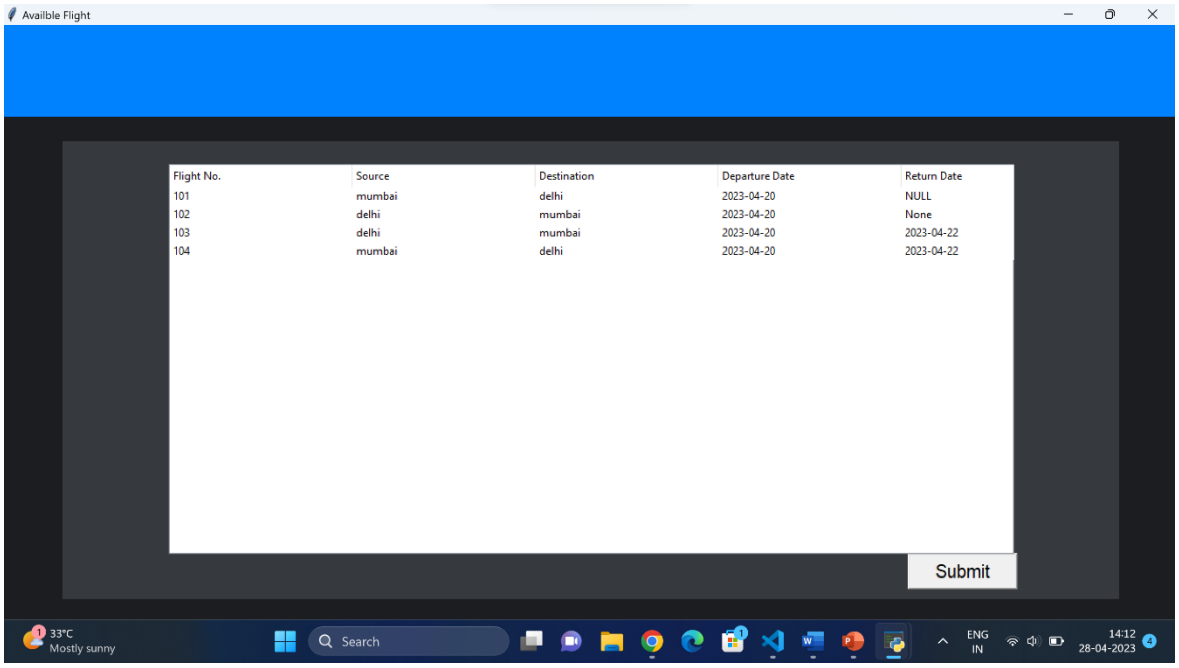
i. Login Page



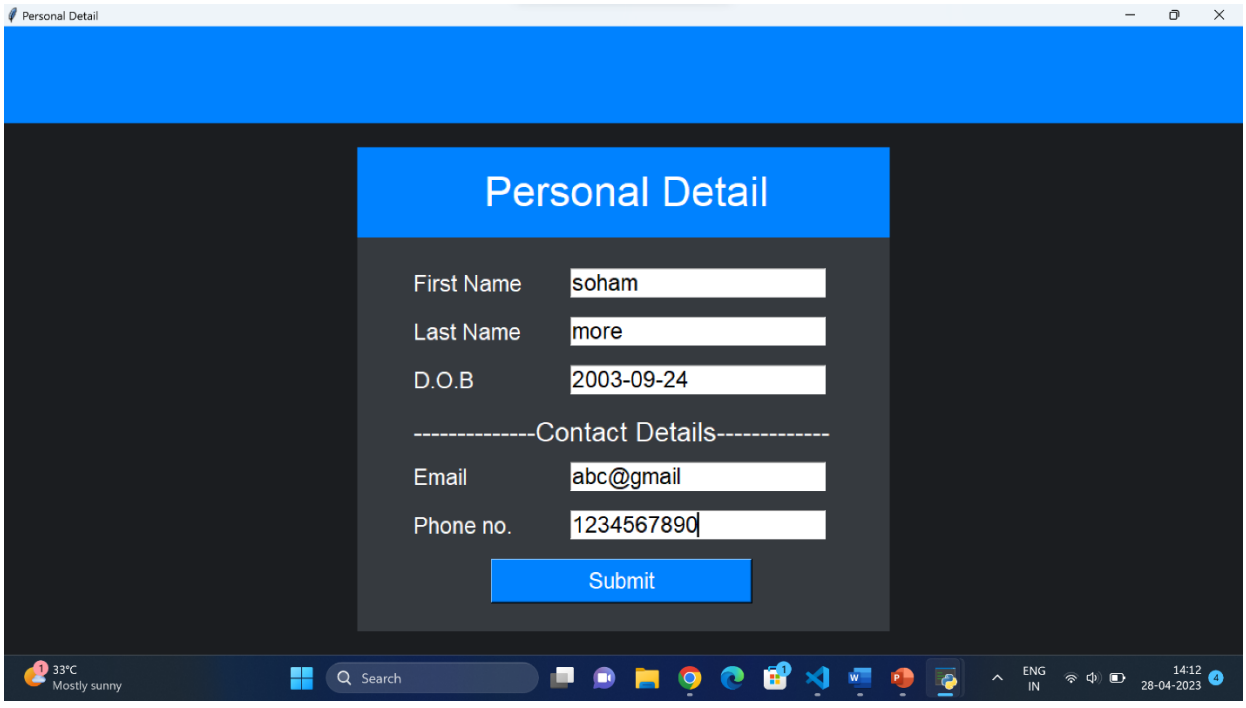
ii. Home Page



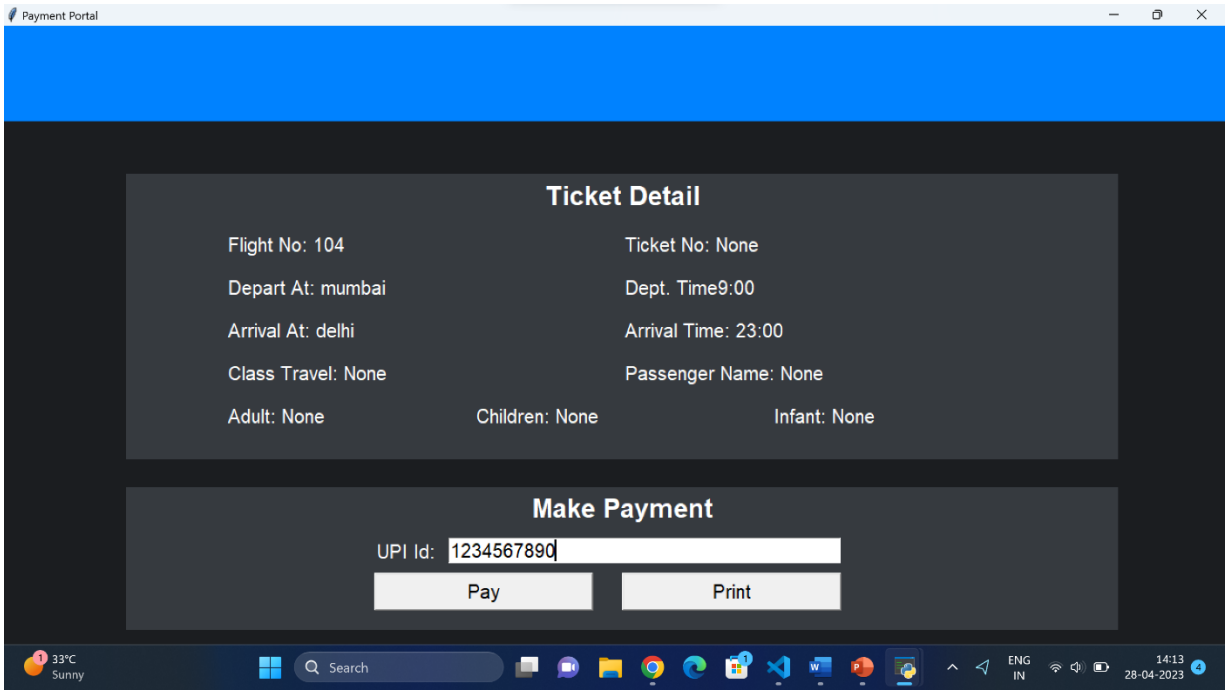
Available flight page:



Personal detail:



Payment portal:



7.Project Scheduling

Group member	Time duration	Work to be done
Soham More Rohit Nigade Ronit Naik	Week 1 - Week 3	Implementing 1st module Implemented GUI using Tkinter
	Week 3- Week 4	Testing 1st Module Added some features after the feedback
	Week 4 - Week 6	Implementing 2nd module Implementation of database connectivity using Sqlite3
	By End Of The Week	Implementing 3rd module Learnt basics of connectivity and Report making

7. Conclusion

A flight booking system is an essential tool that simplifies the process of booking and managing flights for both airlines and customers. From an airline's perspective, a well-designed flight booking system can help increase revenue by offering a variety of options and prices for flights. Airlines can tailor their offerings to meet the needs of different customers, such as business travelers, families, or budget travelers. By providing a user-friendly platform that allows customers to easily search, compare prices, and make reservations, airlines can improve customer satisfaction and increase sales. Airlines can also streamline their operations by using a flight booking system. The system can manage bookings and cancellations, track passenger information, and provide data analysis to optimize their operations. For example, airlines can use data analysis to determine the most popular destinations, peak travel times, and pricing strategies that will attract more customers.

In conclusion, a flight booking system is a crucial tool that benefits both airlines and customers. It provides a convenient, efficient, and cost-effective way to book and manage flights, increasing revenue and customer satisfaction for airlines and providing a streamlined and stress-free experience for customers.

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8. References

a. Python module of the week by Doung Hellman

b. https://docs.python.org/3/library/tkinter.html

c. https://youtu.be/byHcYRpMgI4