

AIRCONNECT: REAL-TIME RESERVATION AND TICKETING SYSTEM

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Abstract: Airline reservation system is a modern way and improved method in which clients can easily access all information about flights without manual efforts. Most people now days travel by means of air, hence this project aims at simplifying their needs by offering a wide range of airlines and timings where they can choose from and book their travels. The online reservation system gives all details of flight schedules, cost, time, seats and check-in details making it easier for the traveller. The outcome was implemented using programming languages like JavaScript, html, and database management system [MySQL], this improved method will help solve the manual system drawbacks which included time consuming and other manual errors. Hence it is more efficient.

Keywords: Air reservation system, online reservation system.

1. INTRODUCTION

Airline reservation system is a platform that is designed to meet the demand of customers and clients that are booking a particular flight online to a certain destination. The main purpose of this software application is to reduce incorrect information given out to airline technicians such as dates of departure or arrival due to language barriers and misunderstanding. This online platform will make it convenient for customers and potential clients to book a flight at any point of time. The users will also have the right to modify the flight details, make a new reservation, view flight schedule, and also to cancel the flight as per their wishes. Furthermore, Airline reservation system contains details of the flight such as flight costs, passenger reservations and ticket datasheet records added to its database. Customers do not have to visit at the airline office to make a traveling reservation. This software was designed to eliminate the old manual system and to implement artificial based technology. The system is user friendly software that no formal education or profession is needed to make use it. Airline reservation system provides alternatives for watching identical and non-identical routes available at a particular timeframe. The system checks for available seats on a particular flight and if are to be find available then only a customer would be able to make a reservation hence or otherwise the person will consider.

2. LITERATURE SURVEY

Evolution of Airline Reservation Systems: Early airline reservation systems emerged in the mid-20th century, primarily designed for basic seat booking. The development of the Semi-Automated Business Research Environment (SABRE) system in the 1960s marked a turning point, enabling automated booking and scheduling (Garrow & Koppelman, 2004). Over time, ARS integrated with global distribution systems (GDS) to offer multi-airline booking options and real-time availability (Alamdari & Mason, 2006).

Modern Technologies in ARS:

Modern ARS are increasingly leveraging technologies such as cloud computing, artificial intelligence, and blockchain. Cloud-based ARS allow for scalable data management (Kapoor et al., 2020), while AI enhances customer experience through chatbots and predictive analytics (Verma & Mehta, 2021). Blockchain technology offers potential in improving ticket security and transparency (Wang et al., 2019).from a variety of sources, such as government websites. An IoT device was setup to collect the atmospheric data using the components like Soil sensors, Dht11 sensor for humidity and temperature, and Arduino Uno with At mega as a processor

User Experience and Personalization: With increasing competition among airlines, user experience has become a crucial factor. Modern ARS focus on personalization through data analytics, providing tailored booking recommendations and flight options (Smith et al., 2022). Furthermore, mobile-based ARS interfaces improve accessibility and convenience (Johnson & Davis, 2018).

3. PROPOSED SYSTEM

The proposed Airline Reservation System is a comprehensive, user-friendly platform designed to streamline the process of booking and managing airline travel. It allows customers to search for available flights, make reservations, select seats, process payments securely, and receive booking confirmations through email or SMS. The system also enables users to manage their bookings, including modifying or canceling reservations and checking in online. For airline staff and administrators, the system provides tools to manage flight schedules, monitor seat availability, generate reports, and handle pricing and promotions. The backend of the system handles core business logic, integrates with secure payment gateways, and ensures reliable data storage using a robust database. A responsive web and mobile interface ensure accessibility for users, while security features like user authentication and role-based access control maintain data integrity and protect sensitive information. Additionally, the system can be expanded to support loyalty programs, multi-language functionality, and integration with hotel and car rental services, making it a scalable and future-ready solution for modern air travel management.

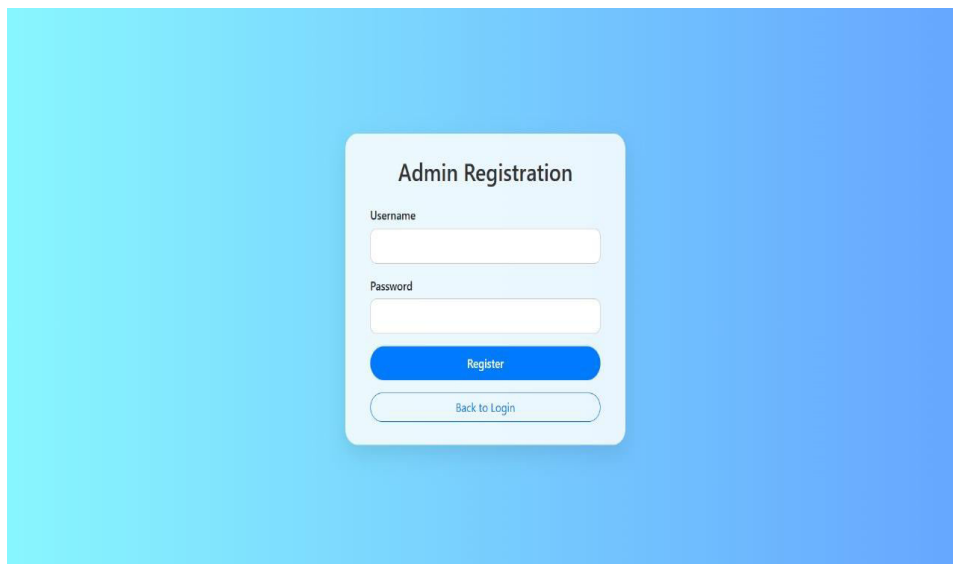
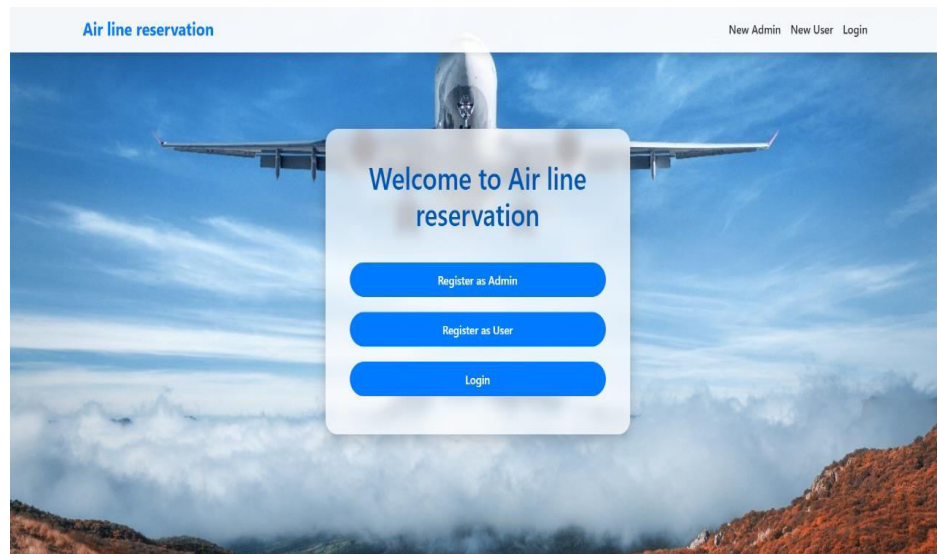
Advantages of Proposed System

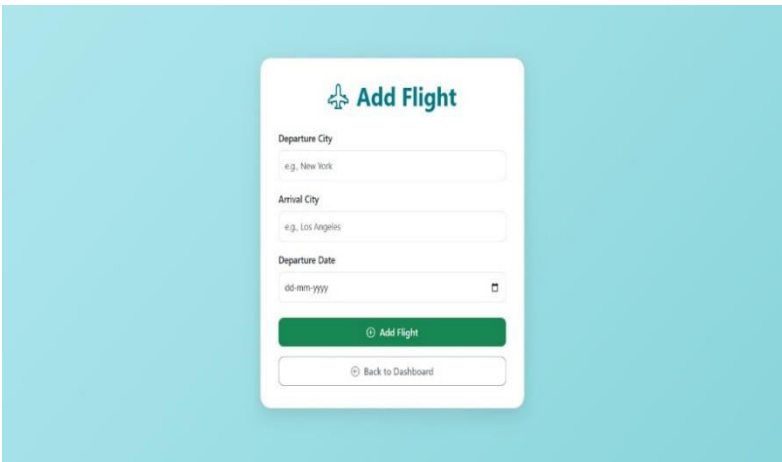
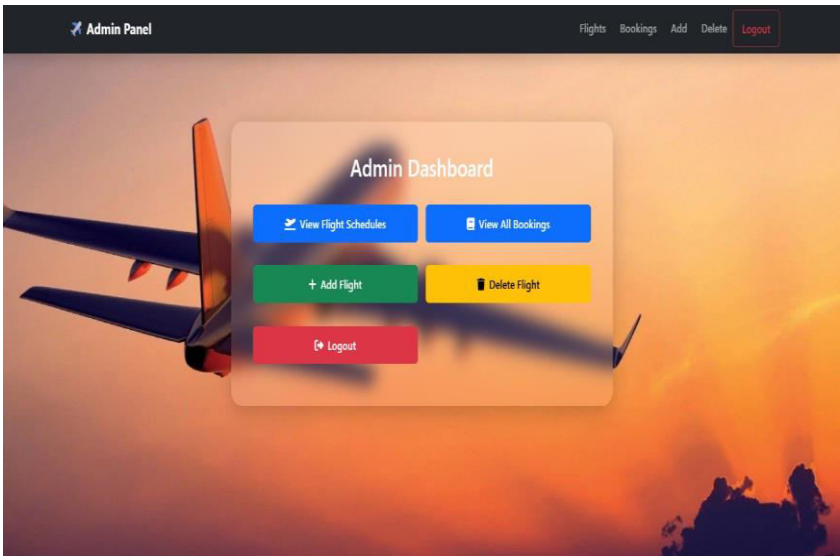
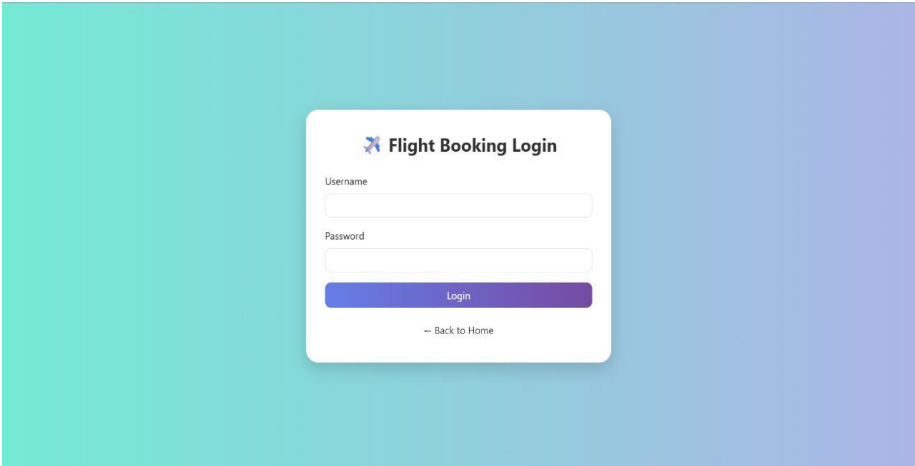
- User friendliness provided in the application with various controls.
- The system makes the overall project management much easier and flexible.
- It provides high level of security with different level of authentication.

Passenger role: On the register form, passenger should enter all their detail such as their name, passport number. Email and contact number.

Administration role: The system administrator must be able to: add, update and modify.

4. OUTPUT SCREENS





Flight Booking System

Flight Schedules

Flight Id	Departure City	Arrival City	Departure Date
2	Hyderabad	Vizag	07-May-2025
3	Jangaon	cjit college	07-May-2025
4	warangal	hyderabad	08-May-2025
6	JANGAON	HYDERABAD	10-May-2025
7	Warangal	Tirupati	07-May-2025
8	Hyderabad	Mumbai	09-Nov-2025
9	Banglore	Hyderabad	24-Nov-2025

Back to Dashboard

Username:

Password:

First Name:

Last Name:

Email:

Date of Birth:

dd-mm-yyyy

Phone:

Address:

Register

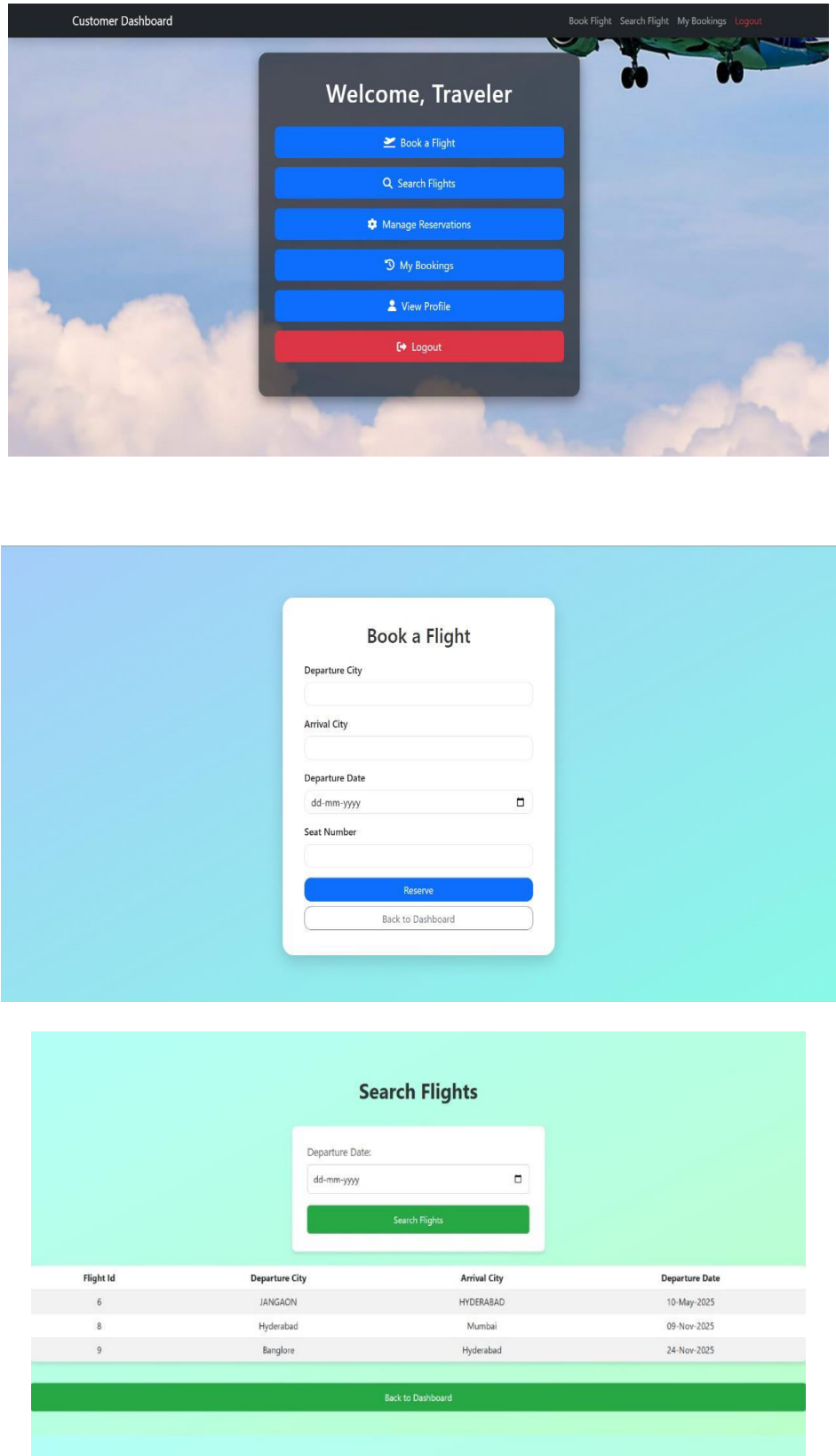
Flight Booking Login

Username

Password

Login

Back to Home



5. CONCLUSION

The Airline Reservation System plays a crucial role in modern air travel, offering an efficient, user-friendly, and automated approach to booking and managing flights. This system has revolutionized the way airlines and passengers interact, ensuring seamless reservations, ticketing, and flight management. By integrating technology, it eliminates manual errors, reduces operational costs, and enhances customer satisfaction. One of the major benefits of an Airline Reservation System is its ability to provide real-time flight availability and pricing. Passengers can easily search for flights, compare fares, and book tickets instantly from anywhere in the world. This level of convenience has significantly improved the travel experience and increased customer trust in airlines.

6. FURTHER ENHANCEMENT

The Airline Reservation System (ARS) has already transformed the aviation industry by automating the flight booking process, and its future holds even greater promise. With ongoing advancements in technology, the system is expected to evolve significantly, improving efficiency, passenger convenience, and airline profitability.

Integration of Artificial Intelligence (AI)

AI will play a crucial role in enhancing the future of ARS. With machine learning algorithms, the system can better predict passenger behavior, offer personalized travel recommendations, and dynamically adjust pricing. AI-powered chatbots will handle customer queries more effectively, ensuring 24/7 support.

Blockchain for Enhanced Security

Blockchain technology will likely be integrated to secure passenger data and payment transactions. Its decentralized nature will ensure transparency, reduce fraud, and enhance trust between airlines and passengers.

Internet of Things (IoT) Integration: IoT devices will connect various parts of the travel experience. From real-time baggage tracking to automated check-in kiosks, IoT will work alongside the reservation system to improve operational efficiency and passenger.

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