Air View

Description

Air View is a Web Application that connects the flights to its customers (ie) it is a platform for users to book flights, check-in their baggage and download their boarding passes in their local airport. This is a system to use for airport operations instead of a third party booking service or airline check in system.

Objective :

The objective of this project is to create a centralized system for airport management; normally, customers use third party booking services to book flights and check in at the airport using airline services. The goal of this project is to create a system which allows customers to book flights, check in luggages, and receive e-tickets within the application operated by airports.

Scope :

- This project has user authentication, flight booking, check in management, update and display flight status, and admin management.
- We are creating a mock database for the flights.

Target Users :

It focuses on general travelers, airport and airline administrations.

Major Component

User Authentication:

- Sign In/ Sign Up
- Logout
- Role based user access
- Email notification

Check In Management:

- Online check in
- Email Notification
- Generate and display flight ticket

Flight Search

- Search flights
- Display flight status

Booking

- Baggage Check-In
- Seat Selection
- Booking confirmation
- Email notification

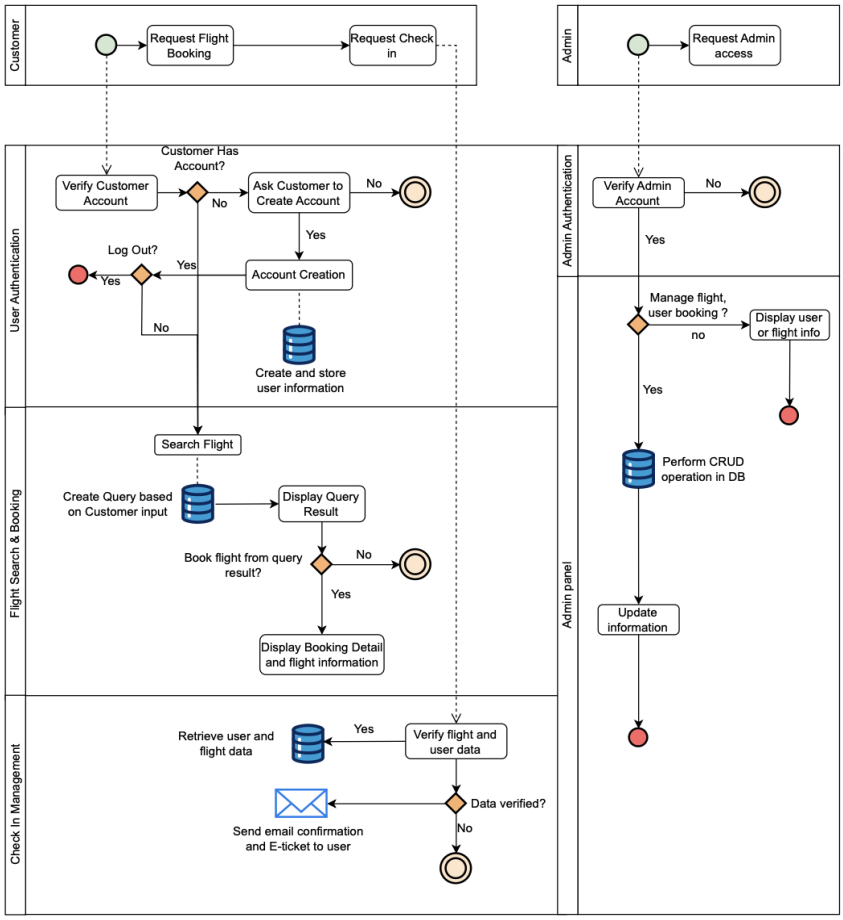
Admin panel

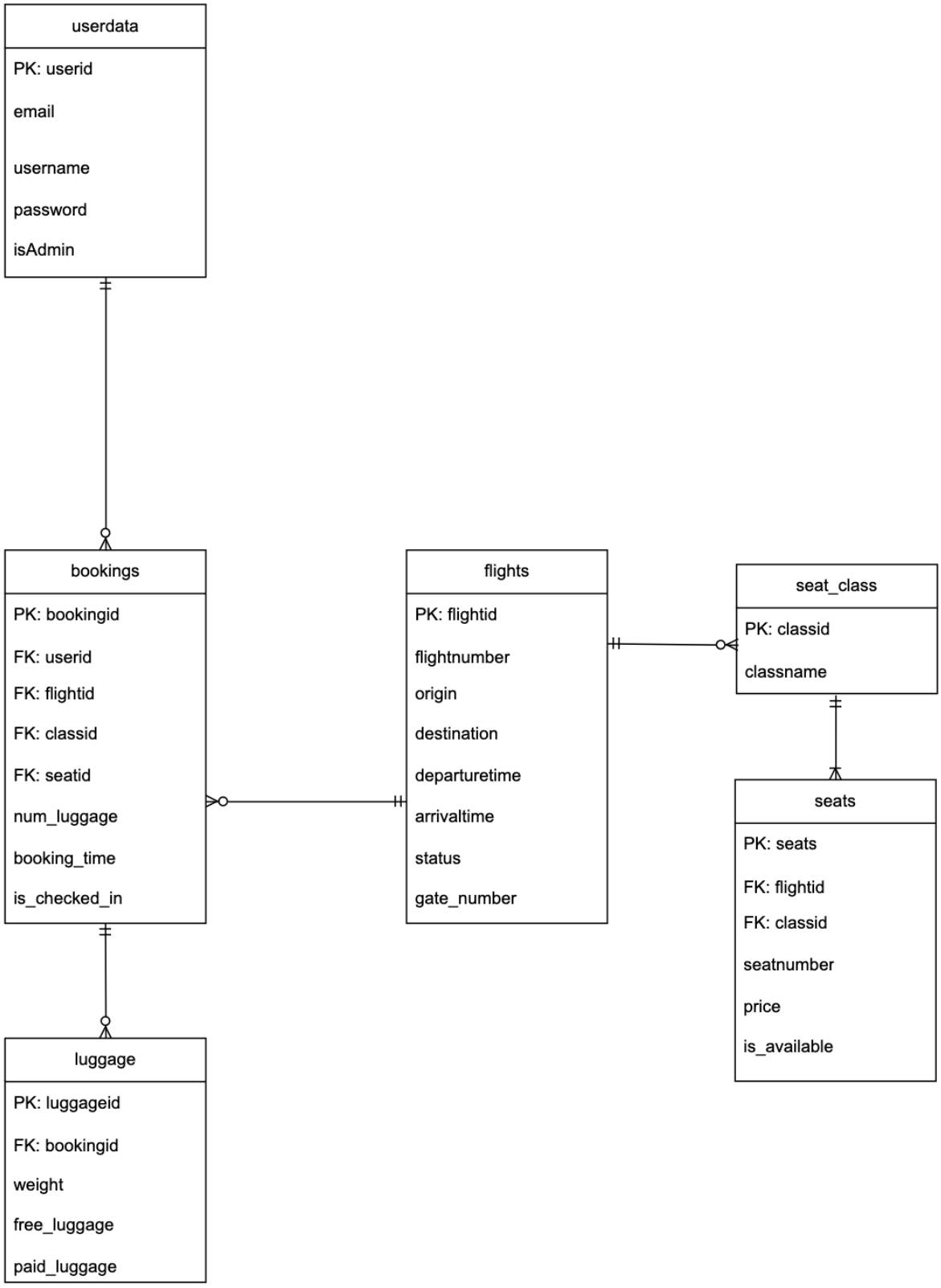
- Manage flights, booking
- Sending notification for update

User Assistance

- Chat Bot Assistance

- User Authentication interacts with database to create, update, retrieve, or delete user data for user creating, deletion, or user information update
- User authentication also interacts with Check In Management system to authenticate user for online check in process
- Check In Management system will interact with database to only retrieve flight and user data to manage customer check in process
- Check In Management system will also interact with Email service to send confirmation and E-ticket to user
- Flight Search and Booking system will interact with Check In Management to update CIM with booking detail
- Flight Search and Booking system will also interact database to create query to display flights based on user input and it will also create new booking information and store in database
- Admin panel will interact with Database to manage flight, user, booking and perform CRUD operation in DB
- Admin panel will also interact with Check In Management system to manipulate/update check in data

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seatnumber
price
is_available
luggage
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weight
free_luggage
paid_luggage

User Stories and Estimation

- As a new customer, I want to register an account so that I can access the airport check-in system.
    - Overall story points: 5
    - **Justification:**
        - Creating a new use requires creating a register form
        - Validating accounting information
        - Hashing password and storing new user data in database
        - The step requires front end design and back end server logic and data creation. It is moderately complex
- As a registered customer, I want to search for flights by entering departure and arrival locations, and dates so that I can find suitable flight options for my trip.
    - Overall story points: 3
    - **Justification**
        - Designing and implementing a search form involves creating a user-friendly interface.
        - Querying the database to return matching flights involves moderate complexity due to the need for accurate data retrieval and handling user input.
- As a customer, I want to book a flight by entering passenger details and booking details so that I can confirm my booking and receive a booking confirmation.
    - Overall story points: 5
    - **Justification**
        - Creating a booking form for passenger details and payment information involves designing the form and ensuring data validation.
        - Processing the payment and storing booking details in the database requires integrating payment gateways and ensuring secure transactions.
        - Sending a booking confirmation email to the user involves back-end logic to generate and send emails, adding to the overall complexity.
- As a registered customer, I want to check in online so that I can avoid long queues at the airport.
    - Overall story points: 5
    - **Justification:**
        - User interface for online check-in (front-end design).
        - Backend logic to validate the check-in process.
        - Updating flight records to reflect the check-in status.
        - Moderately complex as it involves both user interaction and backend processing.
- As an admin, I want to manage flights so that I can add, update, or remove flights from the system.

- Overall story points: 3
- **Justification:**
    - Creating an interface for adding, updating, and deleting flights (front-end design).
    - Backend logic to handle flight data manipulation.
    - Validation of flight data and integration with existing flight schedules.
    - Moderately complex due to the need for robust data handling and validation.
    - Complex, as it involves handling sensitive passenger information securely.

Total Points: 17

Development Planning

Week 1:
- User authentication feature
- Admin Panel Setup
- Test Cases
- Debugging

Week 2:
- Flight Search Feature
- Booking Feature
- Test Cases
- Debugging

Week 3:
- Admin Feature
- CI/CD Implementation
- Test Cases
- Debugging

End Result

- Completion:
    - All Major components complete
    - All test cases passed
    - CI/CD implemented successfully
    - Workflow of Front End and Back End are sound
    - Project Complete On Time!
- Potential Improvement:
    - Secure password requirement for registration
    - Functional payment form
    - Round trip booking
    - Multiple passengers booking