

# Flyaway.com

Kartikaya Srivastav

v (0.1)

## 1. Introduction

### 1.1. Purpose

### 1.2. Requirement Overview

FlyAway is a ticket-booking portal that lets people book flights on their website.

Code can be found at : <https://github.com/ksrivastav/FlyawayWeb.git>

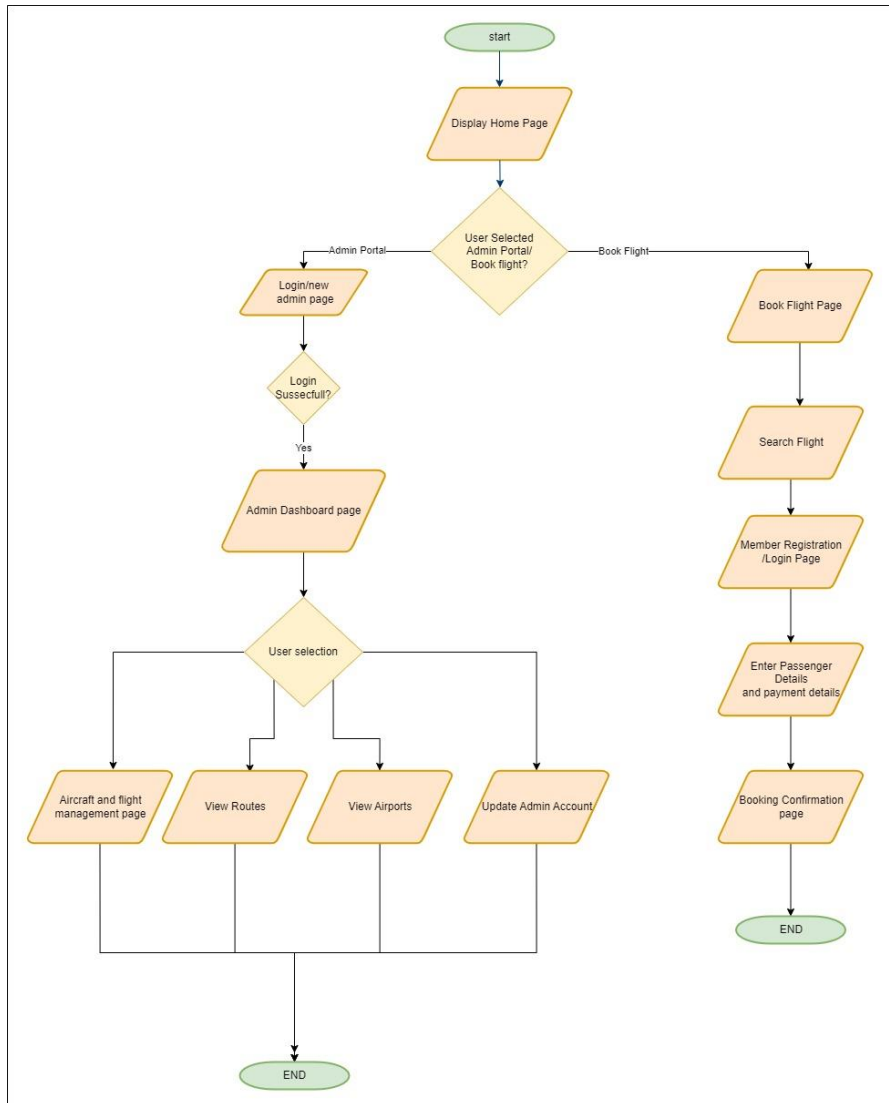
## 2. Product Specifications.

### 2.1. Product Specifications

Flyaway Website will have following features.

- I.
  - A search form in the homepage to allow entry of travel details, like the date of travel, source, destination, and the number of persons.
  - Based on the travel details entered, it will show the available flights with their ticket prices.
  - Once a person selects a flight to book, they will be taken to a register page where they must fill in their personal details. In the next page, they are shown the flight details of the flight that they are booking, and the payment is done via a dummy payment gateway. On completion of the payment, they are shown a confirmation page with the details of the booking.
- II. For the above features to work, there will be an admin backend with the following features:
- III.
  - An admin login page where the admin can change the password after login, if he wishes
  - A master list of places for source and destination
  - A master list of airlines
  - A list of flights where each flight has a source, destination, airline, and ticket price

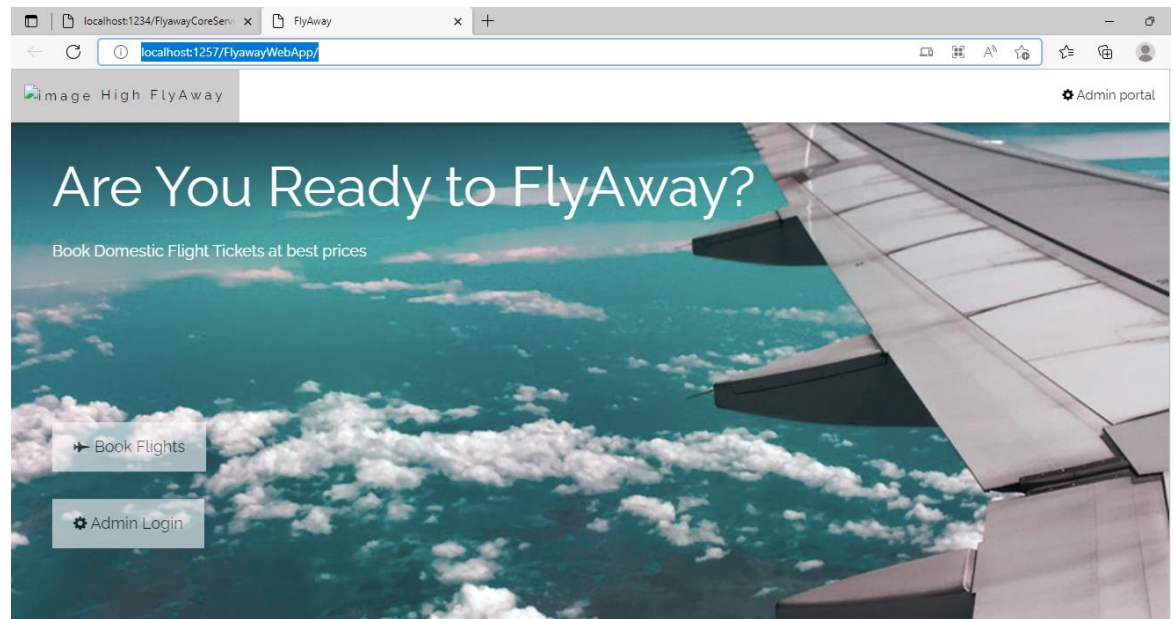
### 2.2. Application Flow Diagram



### 2.3. User experience and user manual.

2.3.1. Flyaway is Spring MVC based web application.

2.3.2. When the Application starts, you are landed on the home page. Below is the screenshot of the home page.



There are two menus in Flyaway web application. Users can choose from the menu simply by clicking on them.

### 2.3.3. Working with Book Flight

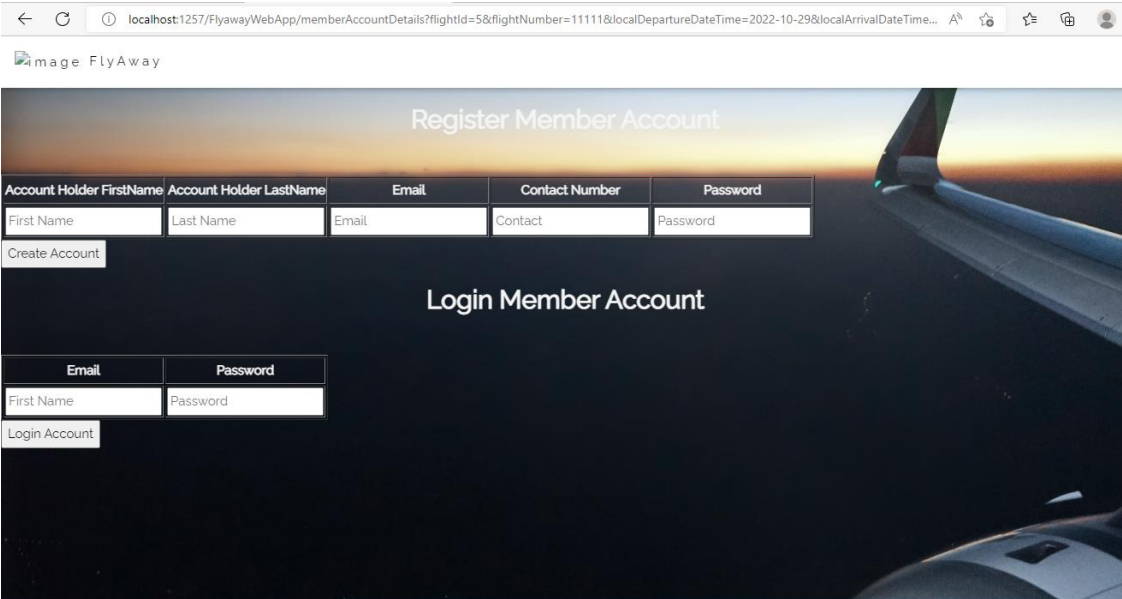
2.3.3.1. After navigating to menu 1 from the main screen you will be landed on flight search page. Here you can see list of all available flights and a search panel. Using the search panel, you can search for a particular flight based on the search criteria.

FlightNumber	LocalDepartureDateTime	LocalArrivalDateTime	DepAirportName	DepCity	ArrAirportName	ArrCity
11111	2022-10-29	2022-10-29	Indira Gandhi International	New Delhi	Rajbhavan Helipad	Mumbai

2.3.3.2. Select the flight you want to book and click on book flight.

2.3.3.3. On the clicking book flight, you will be redirected to Member account login/registration page.

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The screenshot shows a web browser window with the URL `localhost:1257/FlyawayWebApp/memberAccountDetails?flightId=5&flightNumber=11111&localDepartureDateTime=2022-10-29&localArrivalDateTime=...`. The page features a background image of an airplane wing against a sunset sky. The main heading is "Register Member Account". Below it, there are two forms. The first form is for registration, with fields for "Account Holder FirstName", "Account Holder LastName", "Email", "Contact Number", and "Password". The second form is for login, with fields for "Email" and "Password". Both forms have a "Create Account" or "Login Account" button.

Account Holder FirstName	Account Holder LastName	Email	Contact Number	Password
First Name	Last Name	Email	Contact	Password

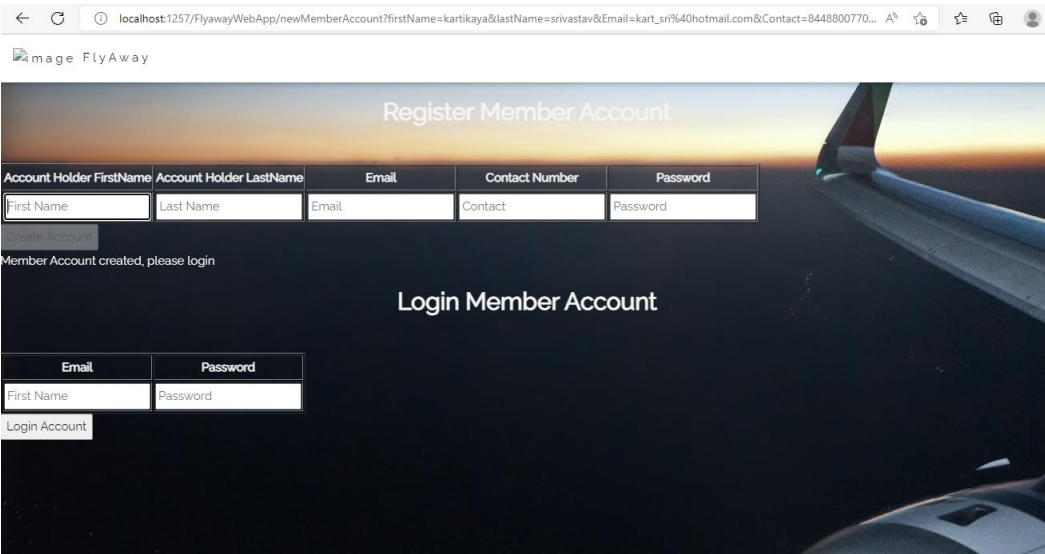
Create Account

### Login Member Account

Email	Password
First Name	Password

Login Account

2.3.3.3.1. Here you can either create new Member account and then login.



This screenshot is similar to the previous one, but it includes a message "Member Account created, please login" below the registration form. The "Create Account" button is now disabled (greyed out). The "Login Member Account" form remains visible below.

Account Holder FirstName	Account Holder LastName	Email	Contact Number	Password
First Name	Last Name	Email	Contact	Password

Create Account

Member Account created, please login

### Login Member Account

Email	Password
First Name	Password

Login Account

2.3.3.3.2. Or you can login straight away if you are an existing member account holder.

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The screenshot shows a web browser window with the URL `localhost:1257/FlyawayWebApp/newMemberAccount?firstName=kartikaya&lastName=srivastav&Email=kart_sri%40hotmail.com&Contact=8448800770...`. The page title is "image FlyAway". The main heading is "Register Member Account". Below it, there is a form with five fields: "Account Holder FirstName", "Account Holder LastName", "Email", "Contact Number", and "Password". The fields are labeled "First Name", "Last Name", "Email", "Contact", and "Password" respectively. A "Create Account" button is below the form. Below the button, it says "Member Account created, please login". The main heading is "Login Member Account". Below it, there is a form with two fields: "Email" and "Password". The fields are labeled "Email" and "Password" respectively. The email field contains "kart\_sri@hotmail.com" and the password field contains "easyjet". A "Login Account" button is below the form. The browser's address bar shows `localhost:1257/FlyawayWebApp/`.

2.3.3.3.3.

2.3.3.4. Once you log in, you are redirected to passenger details and payment page. Here you can simply enter you passenger details and submit booking.

The screenshot shows a web browser window with the URL `localhost:1257/FlyawayWebApp/loginMemberAccount?email=kart_sri%40hotmail.com&password=easyjet`. The page title is "image FlyAway". The main heading is "Booking -> Flight Search Page". Below it, there is a table with flight details. The table has columns: "FlightNumber", "LocalDepartureDateTime", "LocalArrivalDateTime", "DepAirportName", "DepCity", "ArrAirportName", and "ArrCity". The table contains one row with the following data: "5", "11111", "2022-10-29", "2022-10-29", "Indira Gandhi International Airport", "New Delhi", "Rajbhavan Helipad", and "Mumbai". Below the table, there is a "Book Flight" button. The main heading is "Enter Passenger Details". Below it, there is a form with five fields: "Salutation", "FirstName", "LastName", "Age", and "Gender". The fields are labeled "Salutation", "FirstName", "LastName", "Age", and "Gender" respectively. The salutation field contains "Mr", the first name field contains "Kartikaya", the last name field contains "Srivastav", the age field contains "30", and the gender field contains "Male". Below the form, there is a table with payment details. The table has columns: "Payment Card Type", "Card Number", "Card Holder Name", "Card Expiry Date", and "CVV". The table contains one row with the following data: "1", "Visa", "44332211", "kartikaya sriv", "19/08/2025", and "556". Below the table, there is a "Create Booking" button.

Author: Kartikaya Srivastav



2.3.3.5. Once click on create booking, you will be displayed with booking confirmation page summarizing all your booking details.

FlightNumber	LocalDepartureDateTime	LocalArrivalDateTime	DepAirportName	DepCity	ArrAirportName	ArrCity
5 1111	2022-10-29	2022-10-29	Indira Gandhi International Airport	New Delhi	Rajbhavan Helipad	Mumbai

Email Address	FirstName	LastName
kart_sri@hotmail.com	kartikaya	srivastav

Salutation	FirstName	LastName	Age	Gender
Mr	Kartikaya	Srivastav	30	

Create Booking

2.3.4. Working with Admin Portal.

2.3.4.1. On home page, when you click on admin portal, you will be redirected to admin login/registration page.

newkart.12mcr@gmail.com

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Login

Not a registered User?  
Register Below

newkart.12mcr@gmail.com

First Name

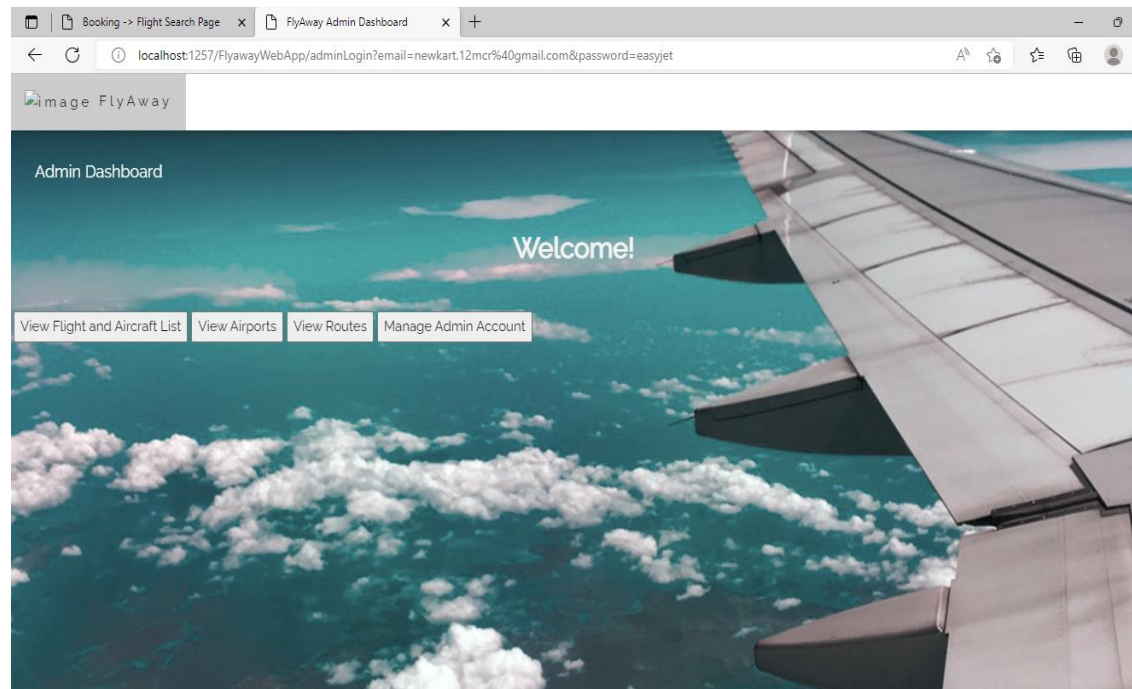
Last Name

\*\*\*\*\*

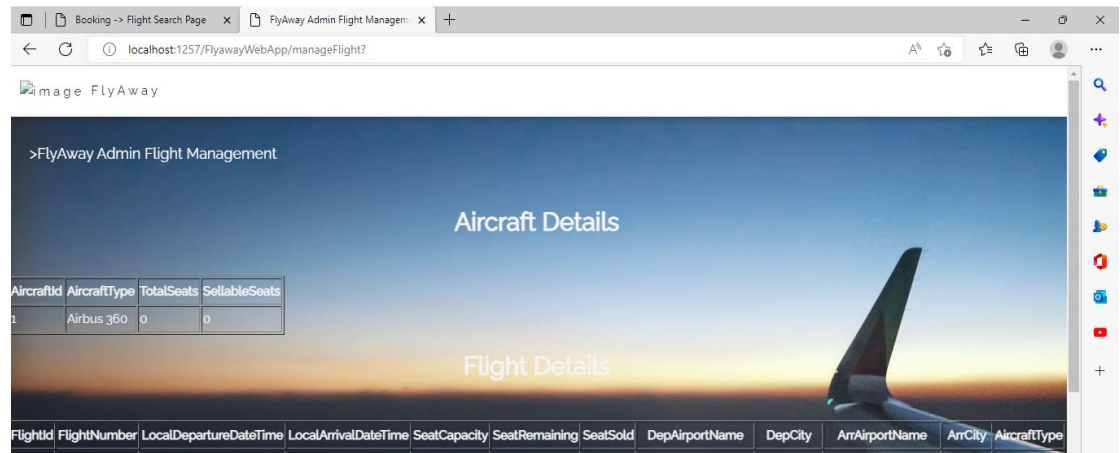
Register

2.3.4.2. If you are existing Admin, you can straightaway login or you can first create admin account and then log in. After you log in, you will be redirected to admin dashboard. Here you are provided with four functionalities, you can choose any of them to proceed further.

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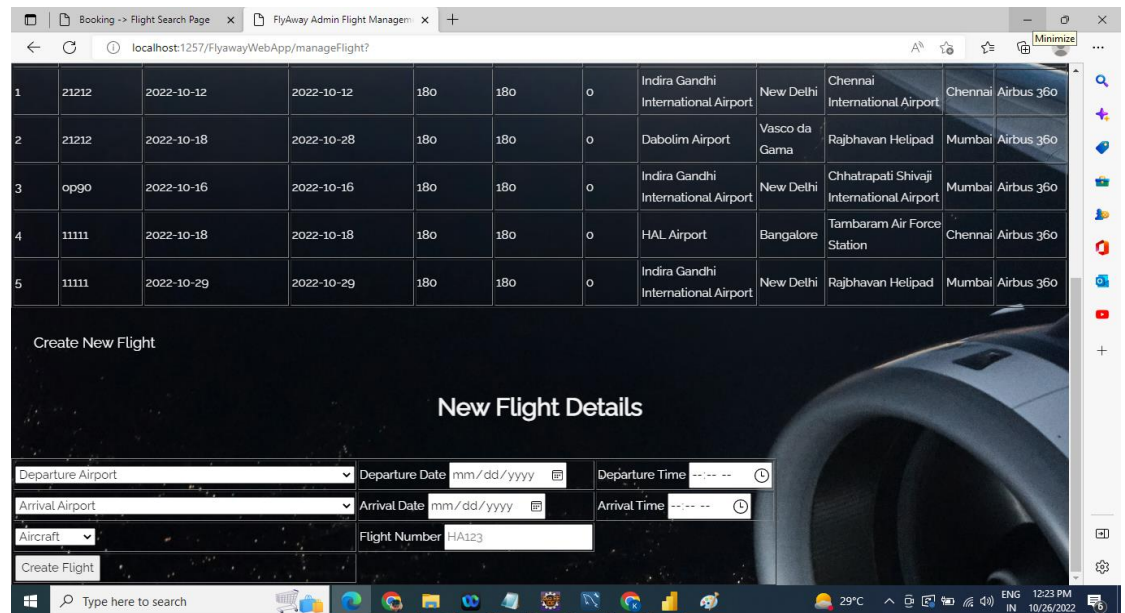


2.3.4.3. View Aircraft and Flights. On this page you can see a master list of all aircraft flyaway owns and all the flights. On this page you can also create new flights.

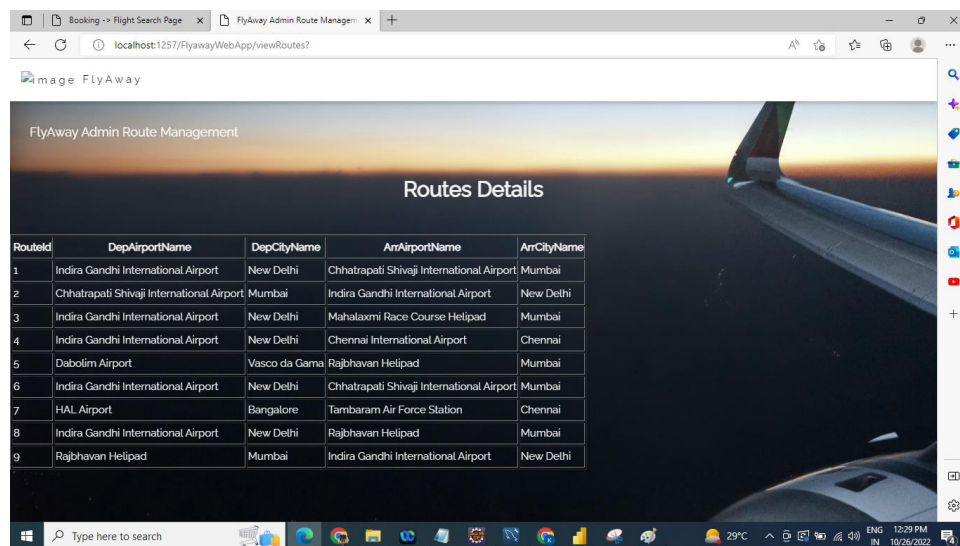




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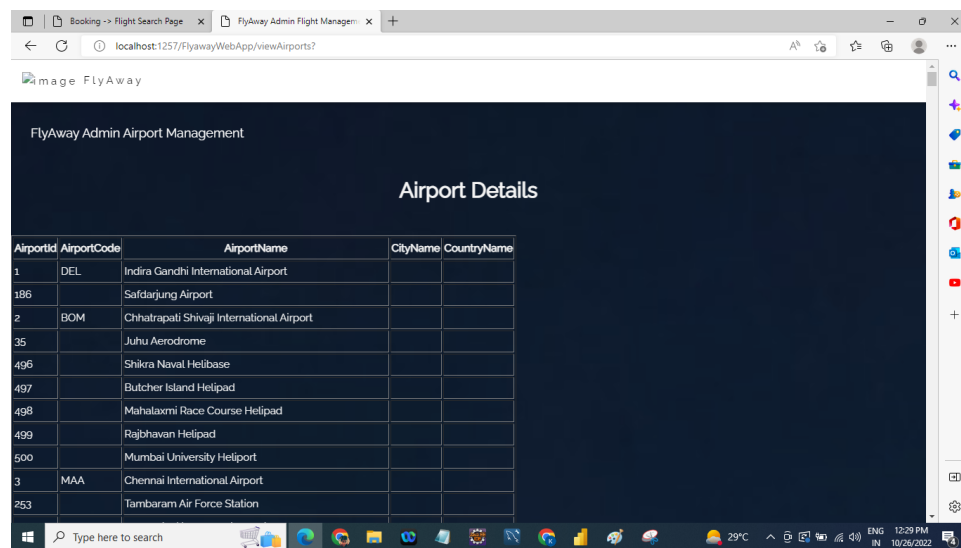


2.3.5. Similarly, you can select to View Routes. You will be redirected to view routes page where you can see master list of all routes Flyaway is operating on.

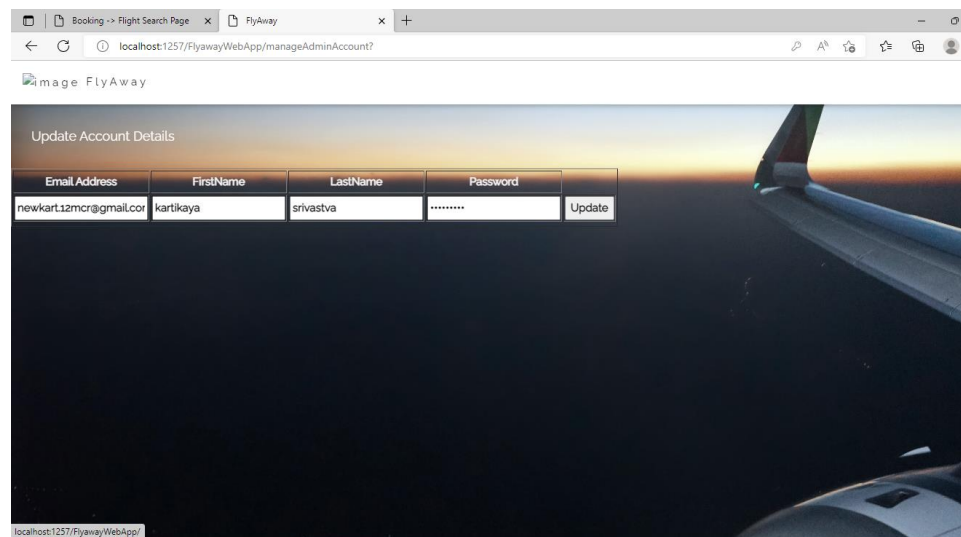


2.3.6. Similarly, you can select to View Airports. You will be redirected to view routes page where you can see master list of all airports Flyaway is operating on.

## LockedMe Application Product and Technical Specification document.

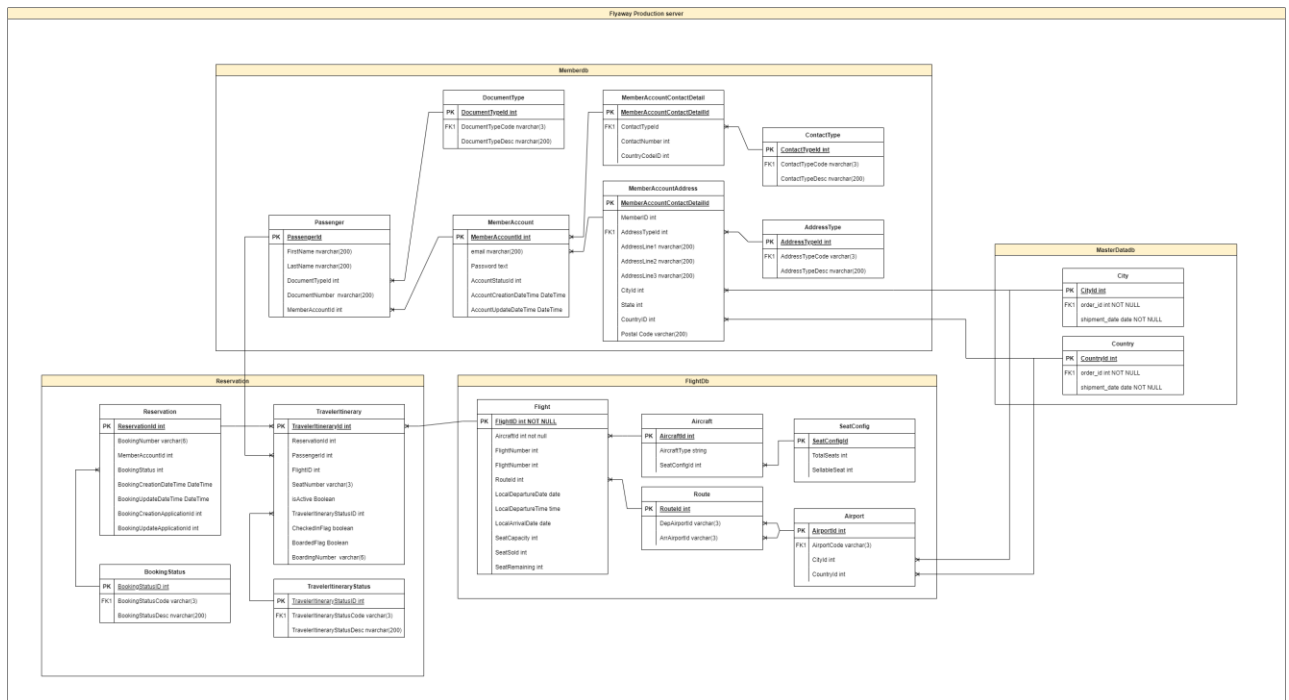


2.3.7. Similarly, you can select Admin account update where admin account holder can update account details including password.



## 3. System Design

### 3.1. ER Diagram



### Database Summary:

- **Reservation:** this db contains table which stores data related to booking.
- **Flight:** this db contains data related to flight, airports and routes on which Flyway operates.
- **Member:** this db contains data related to member account.
- **Masterdata:** this db is intended in storing common configuration and master data tables.

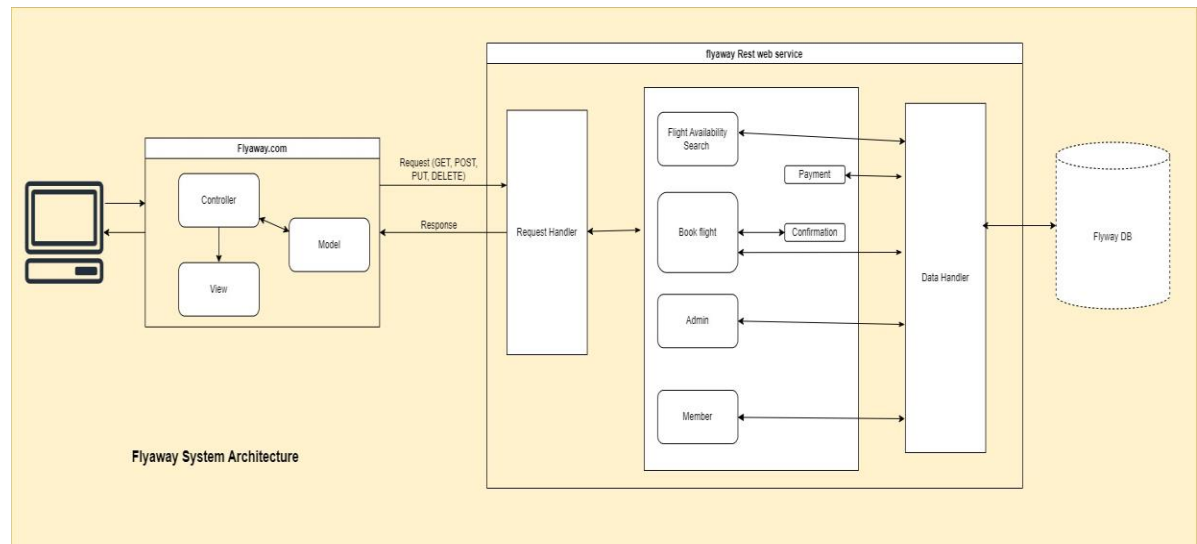
## 3.2. Flyway System Architecture

On high level Flyway is composed of three components

**3.2.1. Flyway web app application:** This is a Spring MVC based web application which interacts with user and takes input and displays output to user.

**3.2.2. Flyway core Rest Service:** is Spring rest service, it is the heart of flyaway system where all business logic is written. Flyaway web application interacts with flyaway core rest service for each operation, it performs. This service sits between db and flyaway web app and does all the heavy duty of processing business login and interacting with database.

**3.2.3. Flyaway db:** it is the main database server which stores all business data. Flyaway core interacts with db via spring hibernate.



### 3.3. Application Technical Specifications:

Application has been designed to stick to SOLID principles. Application is designed to be easily scalable where new functionalities can be added without impacting existing ones. The following points have been taken into consideration while designing the application:

- Application should be easily scalable.
- Application should have the capability to be added with more menu options easily without impacting existing menu options.
- Individual menu options can be added with new operations easily without impacting the existing ones.
- High code reusability but with maximum loose coupling.
- Thus, the application should be maximum closed for modification and open for extension.

#### 3.3.1. Design Pattern Used:

- 3.3.1.1. MVC
- 3.3.1.2. Data Access pattern
- 3.3.1.3. Dependency Injection

#### 3.3.2. Data structures used

- 3.3.2.1. ArrayList: To perform handle collection of files.
- 3.3.2.2. HashMap: maps command with operations.

## 4. Sprint Planning:

The Application has been implemented in two sprints

Sprint Number	Days	Functionalities Delivered
1	15	<ul style="list-style-type: none"><li>• Operations package</li><li>• Helper package</li></ul>
2	15	<ul style="list-style-type: none"><li>• Menu package</li><li>• Application integration and system testing</li></ul>

## 5. Unique Selling Points:

- 5.1. Application is extremely easy to use.
- 5.2. Loose coupling between business and presentation logic.
- 5.3. Highly scalable application due to implementation of Rest service.
- 5.4. Web application implemented using Spring MVC provides extremely flexible and agile capabilities.

## 6. Further improvements:

- 6.1. Allow users to book multiple flights in one booking.
- 6.2. Integration of resource file to configure repetitive config and data.