**Case Study**

**Flight Booking System**

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**Database:**

MongoDB and MySQL is used for Database.

* Flights Collection:

1. Flight Number
2. Flight Name
3. Take-off ( Source )
4. Landing ( Destination )
5. Date & Time ( Date and Time of flight )
6. Fare
7. Duration
8. Layover

* User Collection:

1. Username
2. Password
3. Age
4. Gender
5. User Id
6. role

* Booking Collection:

1. Passenger Object
2. Flight Number
3. User Id
4. Booking Amount
5. Booking Id

* Ticket Collection

1. PNR
2. FareNum
3. Flight Number
4. Flight Name
5. Takeoff
6. Landing
7. Duration
8. Departure Date
9. Departure Time
10. Arrival Time
11. Passenger Object
12. Ticket Amount
13. User Id

* Passenger

1. First Name
2. Last Name
3. Age
4. Gender

**Flow Chart Diagram (Customer)**

Landing Page

Take-off landing entered

Flights List page

Selecting desired flight

User logged in

No

Login/ Register page

Booking page

Fare estimator

Booking page

Payment

Ticket Status page

**Micro services:**

* Flight Search:
  + - * 1. User will enter his departure and destination and choose type of travelling (one way or roundabout), date of departure.
        2. On submit will check flight database and will print the results in list.
        3. After user chooses a desired flight to book it takes user to booking micro service if the user is already logged in.
        4. If user is not logged in then it will prompt the user to login before moving to booking micro service.
* Booking:

1. It contains a form which user captures passengers’ details and the data is stored in booking collection.
2. After capturing the details when clicked on next below the form fare micro service is called in order to calculate the final amount.
3. After calculating the final amount it sends the fraenum of the fare to the ticket micro service and creates a ticket for the booking.

* Fare:

It calculates the booking expenses of the respective flight and adds the necessary taxes for proceeding to the mode of payment.

* Ticket:

1. It creates a PNR and gets value from farenum parameter provided as input. Here I have used sequence generator for PNR and used rest template to get objects and assign values to ticket fields.
2. User can only view his/her bookings as the bookings are shown by the user id parameter which I’m passing while creating the booking.

**Front-End:**

* Landing Page: Contains horizontal navigation bar, flight search box and header tag with routes to pages.
* Login Page: Email input, password input and submit button.
* Register page: First name, Last name, Age, Gender, User id, roles.
* Admin page: Contains an option to add or delete flights, bookings.
* Booking page: Form consisting of user details.
* Ticket Page: It displays all tickets booked by the users till date.
* View All Bookings: List of all bookings.