



# Software Requirements Specification

## ONLINE FLIGHT TICKET BOOKING SYSTEM

### V1.1



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## 1. Introduction

This document explains in detail about a project to test various programming skills of an individual. This will also enable us to access level of understanding an individual has about Web application technologies. It also provides detailed instructions that should be followed while executing this assignment.

## 2. Scope

### 2.1 Problem Statement

The new airline “King Flyer” is looking to have a strong start in the market and have requested for a dynamic online flight booking system. They have asked us to help them develop this flight booking system.

Our online flight booking system provides users the freedom to browse for flights across the globe, view the timings, flight fares and the duration of journey before booking the tickets. Once the customer has registered, he/she will be able to proceed with the booking and payment process of the flight tickets. The users also have the provision to book tickets for multiple passengers by providing their details. The administrator will be responsible for updating the flight schedule and prices.

This Software Requirements Specification (SRS) document outlines the steps taken to create a working solution for the initial deployment of the online booking system for King Flyer Airlines.

### 2.2 Key Features

1. System should maintain data about the users and admin.
2. The system should also allow for the creation and validation of users.
3. Admin must be able to monitor the admin dashboard and manage flight types, flight details & schedule, source & destinations and ticket fares
4. The user must be able to view the available flights from source to destination
5. The system should allow the user to book tickets with the system

## 3. Acronyms & Abbreviations

SRS – Software Requirements Specification

GUI – Graphical User Interface

## 4. Functional Requirements

1. User friendly web based GUI which is accessible over internet.
2. User registration screen where new users can register themselves and book flights.
3. Login screen that allows registered users to login to their account and view tickets they have booked. In short, Manage My Account (MMA) functionality.
4. Search screen to search flights between given locations, date and time. Display search results.



5. Flight booking screens where user can enter passenger details and book the tickets by paying appropriate fare.

#### 4.1 Persona's / Actors

Types of users

Persona/Actors	Description
User	Registered User who can login and book flight tickets and make payments
Guest User	Users who can just search for flights but cannot book tickets
Administrator	Admin User who can manage the administration module to be able to create / update flight details, fares, locations, schedule etc.,

#### 4.2 Epics

##### Epics of IFL System

Epic Id	Epic
EP-1	User Management Module
EP-2	Administration Module
EP-3	Flight Ticket booking

#### 4.3 User Story

User Story ID: EP1-FTB1

##### User Story Title: User Registration

As n User, I can register on the Flight Ticket Booking system, so that I am able to login

##### *Business Rules*

- User should be able to register on the Flight Ticket booking system
- All the necessary information required for new user registration to be captured (email, password and any other details required for booking tickets)

User Story ID: EP1-FTB2

##### User Story Title: User Login

As n User, I can Login to Flight Ticket Booking system, so that I am able to access the Flight booking system with my credentials

##### *Business Rules*

- User should be able to register on the Flight Ticket booking system
- All the necessary information required for new user registration to be captured (email, password and any other details required for booking tickets)
- Forgot password option to allow users to reset their password with appropriate validation check via email or security question



- Validation for empty fields and wrong credentials

#### User Story ID: EP1-FTB3

##### **User Story Title: User Dashboard**

As a User, I can Login to Flight Ticket Booking system, so that I am able to access my Dashboard

###### *Business Rules*

- On login, user should be able to view his/her dashboard
- Dashboard to display to the user, upcoming trips for any bookings made, section to access his/her Manage my account, Booking cancellations

#### User Story ID: EP1-FTB4

##### **User Story Title: User Manage my account**

As a User, I can Login to Flight Ticket Booking system, so that I am able to access Manage my account

###### *Business Rules*

- On login, user should be able to view his/her dashboard and access his/her Manage my account
- Manage my account section to allow users to update their profile details, passenger's details and reset the password and view the bookings (past and future bookings)
- User should be able to cancel his/her confirmed ticket bookings

#### User Story ID: EP2-FTB1

##### **User Story Title: Admin Login**

As an Administrator, I can Login to Flight Ticket Booking system, so that I am able to access Administrator Dashboard

###### *Business Rules*

- Administrator access provides admin privileges to manage and maintain the Flight ticket booking system
- Admin to be able to view an Admin Dashboard which provides various admin options (refer to admin related user stories below)

#### User Story ID: EP2-FTB2

##### **User Story Title: Admin Flight Details**

As an Administrator, I can Login to Flight Ticket Booking system, so that I am able to Manage Flight Details

###### *Business Rules*

- Admin should be allowed to Create or update flight details
- Flight details like Flight Number, Departure and arrival times, duration etc.,



#### User Story ID: EP2-FTB3

##### **User Story Title: Admin Flight Locations**

As an Administrator, I can Login to Flight Ticket Booking system, so that I am able Manage Flight Locations

###### *Business Rules*

- Admin should be allowed to create or update flight locations (Cities – Arrival / Departure destinations with Airport names etc.,)

#### User Story ID: EP2-FTB4

##### **User Story Title: Admin Flight Types**

As an Administrator, I can Login to Flight Ticket Booking system, so that I am able Manage Flight Types

###### *Business Rules*

- Admin should be allowed to create or update fleet status (Type of aircraft, Total # of seats – Economy, Premium, Business etc.,)

#### User Story ID: EP2-FTB5

##### **User Story Title: Admin Flight Ticket Fares**

As an Administrator, I can Login to Flight Ticket Booking system, so that I am able Manage Flight Ticket Fares

###### *Business Rules*

- Admin should be allowed to create or update flight ticket pricing details for various classes (Economy, Premium, Business etc.,) for various source & destinations

#### User Story ID: EP2-FTB6

##### **User Story Title: Admin Flight Reports**

As an Administrator, I can Login to Flight Ticket Booking system, so that I am able view flight reports and generate reports

###### *Business Rules*

- Admin should be allowed to view various reports on the flights and ticket bookings

#### User Story ID: EP3-FTB1

##### **User Story Title: Flight Search simple**

As a User or a guest user, I can search for flights, so that I am able view search for flights details

###### *Business Rules*

- With valid login credentials or without logging in into the system, user should be able to login and search for flights between two cities for a particular date

#### User Story ID: EP3-FTB2

##### **User Story Title: Flight Search advanced**

As a User or a guest user, I can search for flights with specific information, so that I am able view flight details

###### *Business Rules*



- User should be able to search on various search parameters
  - Cities
  - Flight number
  - Date and time
  - Class
  - Duration
  - One way / round trip

User Story ID: EP3-FTB3

**User Story Title: Flight ticket booking**

As a User, I can search for flight details, so that I am able to book my tickets

*Business Rules*

- Valid and logged in users should be allowed to book for a ticket if open tickets are available on a flight (flight seat status table to have the necessary information on remaining seats)
- Guest users to be routed to the login page or registration page to continue to either login or create a new account to further continue with the ticket booking
- If number of tickets booked is more than 1, passenger details for additional tickets to be mandatorily captured
- Once the necessary information on passengers for the total number of seats is collected, the user should proceed to the payment page
- On successful payment, ticket details should be displayed and sent to user's mail id
- On Unsuccessful payment, user should be notified on the payment failure and return to the payment page.

## 5. System Details

### 5.1 Use Case Diagram

<To be filled by the students>

### 5.2 Class diagram

<to be filled by the students>

### 5.3 Sequence Diagram

<To be filled by the students>



## 5.4 E-R Diagram

<To be filled by the students>

# 6. Technical Details

## 6.1 Technology Details

- Build Tool: Apache Maven latest version
- JDK: 1.8 any latest update available
- Spring Framework – Spring Microservices, Spring Boot
- Logging: Slf4j with Log4j
- DB: Oracle / MySQL / MongoDB
- IDE: STS or Eclipse
- Data Layer: JPA, Spring Transaction Management with Hibernate JPA Implementation.
- UI Layer: React, Bootstrap
- Devops Tools : Git, Docker, Jenkins, Kafka

## 6.2 UI Screens

<To be filled by the students>