

FlyAway

Software Requirements Document

Payam Dowlatyari

Post Graduate Program in Full Stack Web Development

Caltech CTME - Simplilearn

January 2022

Table of Contents

Introduction	1
Purpose	1
Intended Audience	1
Product Scope	1
Iteration Process	1
Requirements	2
User Personas	2
John	2
Sarah	2
User Stories	3
User Acceptance Criteria	3
User Interface	4
Home Page	4
Admin Login	4
Admin Dashboard	5
Add New Customer	5
Customer List	6
Flight List Before	6
Add New Flight	7
Flight List After	7
Add New Ticket	8
Purchase Ticket	8
Ticket Confirmation	9
Other Requirements	9
Non-Functional Requirements	9
Constraints and Assumptions	9
Future Iterations	10

Introduction

Purpose

The main purpose of this document is to collect data and perform analysis to define the details of a backend development of a website named FlyAway based on the requirements.

Intended Audience

- **Developers** include UX/UI designers, graphic designers, front-end engineers, backend engineers, database administrators, QA specialists, testers, etc.
- **Project Managers** including product owners and scrum master
- **Marketing Team** including public relations specialists, advertising experts, etc.
- **FlyAway Managers** including all levels of management and supervision
- **FlyAway Employees** including technical and non-technical personnel
- **FlyAway Owner(s)** including the founder(s), CEO, CTO, advisers, and other board members and shareholders.
- **End-Users** users who will end up using the product and services

Product Scope

The scope of this project belongs to *the* new software application **FlyAway**. The project is designed for an airline company and the process of selling its flights tickets. Customers can go on the website and enter their names and information and book their ticket and purchase it. The prototype of the application shall be developed and be available to the management team and other stakeholders. All tools and technologies shall be introduced including programming languages and tools. The main repository should be created and become accessible to stakeholders. The design of the database, security protocols, and user interface shall be approved by the stakeholders before developing a high-fidelity prototype of the application.

Iteration Process

The first release of the backend application is scheduled to be delivered in 15 working days and two sprints.

- Kick-off meeting: discuss the goals, constraints, and assumptions
- Sprint week one: design of the database and object-oriented structure
- Sprint week two: implement user mapping and initial testings

Requirements

User Personas



John

38 years old, Businessman

John is a single businessman and has to travel a lot. He flies to different cities to meet with factory owners and their sales teams to make deals. He has recently been overwhelmed because of the price and unavailability of flight tickets. He is looking for a safe website with fair prices to buy tickets for himself and also his employees. John thinks using buying tickets a few months before can save his business a lot of time and money and is convenient to the employees.

Goals and Motivations:

- Finding the best prices
- Option to reserve a few months before
- Safe and secure payment system



Sarah

32 years old, Assistant Professor and Researcher

Sarah is married but has no children. She has recently been graduated with a Ph.D. degree in science and became an Assistant Professor at the University of California. She is also involved in a research project that requires her to fly to New York City every month and needs to buy tickets easily and safely.

Goals and Motivations:

- Access to the portal to buy flight tickets
- Security of payments
- Speed of transaction

User Stories

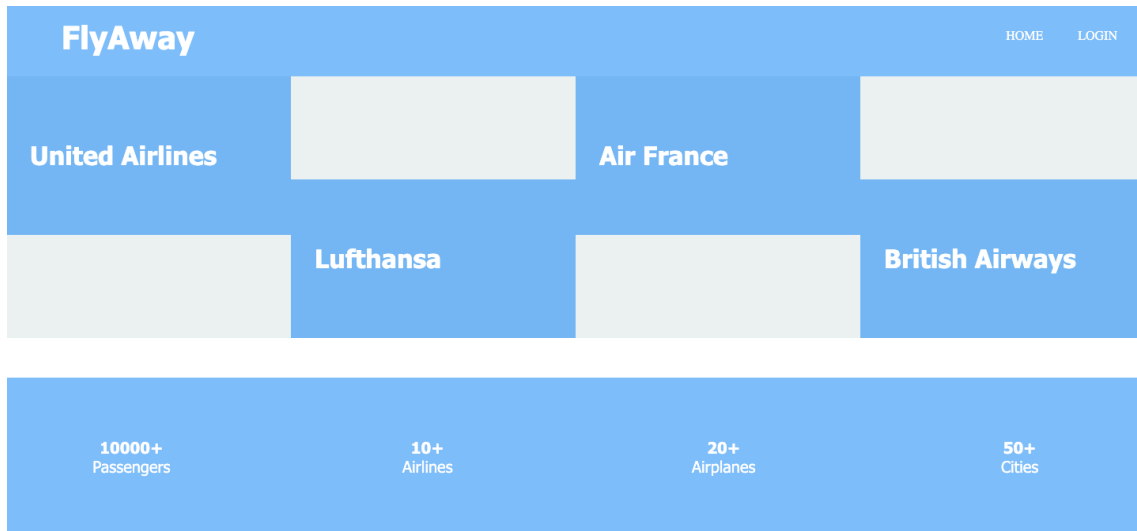
1. As an external user, I want to be able to find, book and cancel tickets, so that I can easily buy and cancel tickets.
2. As an external user, I want to see all the flight options with details, so that I can find the best option.
3. As an external user, I want to be able to see my tickets, so that I can have access to the date and time of my flights.
4. As an external user, I want to be able to print my ticket, so I can save my time at the airport.
5. As an external user, I want to be able to navigate easily through the menu so that I can view all the menu options.
6. As an external user, I want to be able to make a secure purchase, so I can make sure my credit cards information is safe.

User Acceptance Criteria

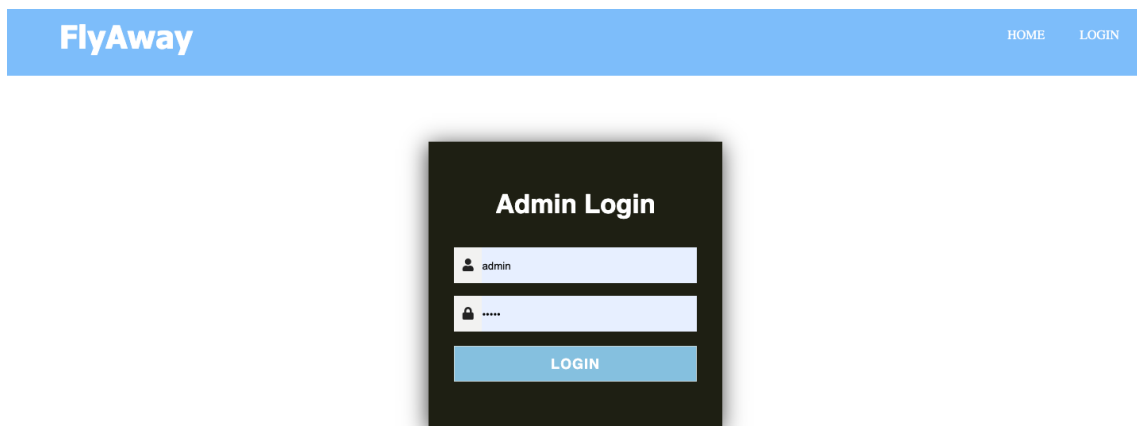
- Given any name or flight number, the system shall display the ticket.
- Given exactly the same name and other required fields, the system shall make the process of purchase with no error.
- Given non-standard or incomplete inputs, the system shall throw an exception without breaking the flow.
- Given the non-existent menu option, the system shall prompt the user to inform them they need to retry.
- Given data from users, the system must create a new row in the database for each customer in the Customer table.
- Given the chosen flight option, the system must create a new row in the database for each ticket in the Ticket table.

User Interface

Home Page



Admin Login



Admin Dashboard

FlyAway

HOME

LOGIN

Add Customer

Add Flight

Add Ticket

Add New Customer

Customer Management

[Display All Customers](#)

Add New Customer

First Name:	<input type="text"/>
Last Name:	<input type="text"/>
<div>Save</div>	

Customer List

Customer Management

List of Customers

ID	First Name	Last Name	Operations
1	Payam	Dowlatyari	Edit Delete

[Add New Customer](#)

Flight List Before

Flight Management

List of Flights

ID	Departure Airport	Arrival Airport	Departure Time	Arrival Time	Available Seats	Price	Operations
101	SFO	LAX	2021-12-31 17:30:00	2021-12-31 18:25:00	240	100	Edit Delete
102	JFK	LAX	2021-12-31 12:30:00	2021-12-31 15:45:00	320	400	Edit Delete
103	LAX	SFO	2021-12-31 20:10:00	2021-12-31 21:05:00	160	120	Edit Delete

[Add New Flight](#)

Add New Flight

Flight Management

[Display All Flights](#)

Add New Flight

Departure Airport:	SMF
Arrival Airport:	JFK
Departure Time:	2021-12-30 20:10:00
Arrival Time:	2021-12-31 00:10:00
Available Seats:	100
Price:	430
Save	

Flight List After

Flight Management

List of Flights

ID	Departure Airport	Arrival Airport	Departure Time	Arrival Time	Available Seats	Price	Operations
101	SFO	LAX	2021-12-31 17:30:00	2021-12-31 18:25:00	240	120	Edit Delete
102	JFK	LAX	2021-12-31 12:30:00	2021-12-31 15:45:00	320	400	Edit Delete
103	LAX	SFO	2021-12-31 20:10:00	2021-12-31 21:05:00	160	120	Edit Delete
104	SMF	JFK	2021-12-30 20:10:00	2021-12-31 00:10:00	200	430	Edit Delete

[Add New Flight](#)

Add New Ticket

Ticket Management

Display All Tickets

Add New Ticket

Flight ID:	104
First Name:	Payam
Last Name:	Dowlatyari
Quantity:	1
Price:	430
<div>Save</div>	

Purchase Ticket

Ticket Management

List of Tickets

Ticket No	First Name	Last Name	Flight ID	Quantity	Price	Status	Operation
1001	Payam	Dowlatyari	104	1	\$430	Pending	<div>Buy</div>

Add New Ticket

Ticket Confirmation

Ticket Confirmation

Thank you for your purchase!

Ticket No	First Name	Last Name	Flight ID	Quantity	Price	Status
1001	Payam	Dowlatyari	104	1	\$430	Paid

Other Requirements

Non-Functional Requirements

- The application must be implemented with Java and Hibernate mapping to MySQL database and using Eclipse IDE.
- HTML and JSP files shall be used to develop the frontend
- The payment process must be designed and built highly secure.
- The system must be platform-independent and works on different operating systems such as macOS, Windows, and Linux.
- The application should work fast and run smoothly.

Constraints and Assumptions

- The application can only support the English language.
- Users must have access to a keyboard for providing their inputs.
- Assuming the data is saved and backed up repeatedly.

Future Iterations

The next sprint focuses on the front end and UX design.

- Improving the user experience design and usability of the platform
- Adding features to display the latest prices of flights dynamically
- Periodically testing, bug fixing, and maintenance