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Travel Star

Software Requirements Specification

CS5391-Round Rock Group

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# **1. Introduction**

## 1.1. Purpose

This document servers as an agreement between the customer (Travel Star Agency) and the developer regarding the formal requirements for the customer’s online booking system, hereinafter referred to as the system.

## 1.2. Scope

The primary function of the system is to allow the user to book flight tickets and hotel rooms, find flight deals, and search for flight status. The System also allows the user to register, login, redeem and accumulate mileage based on the travel and provides feedback for the System.

The system is standalone and has no integration with other systems. (how about the credit card part?)

## 1.3. References

[ ] IEEE Std 830-1998, …

[1] *“Manuscript Templates for Conference Proceedings*”, Available: <https://www.ieee.org/conferences/publishing/templates.html>, 2018

## 1.4. Overview

The rest of the document is organized as follows: Section 2 of this document contains the overall description of the system, including the hardware/software specification, general requirements and their rational. Section 3 of this document describes each individual requirement in detail.

# **2. Overall Description**

## 2.1. Product Perspective

The system is a typical 3-tier web application, where the user accesses web server using browser, and web server acquires related data from database server.

## 2.2. Product Functions

### **2.2.1 Create an Account/Register**

#### **2.2.1.1. Description**

This function allows a user to create an account with the system so that the system can store user information, previous order information and accumulated mileage details. For registration, the user needs to provide first name, middle name (if any), Last name, email address, username, password, and default credit card information (optional).

#### **2.2.1.2. Rationale**

The purpose of this function is to allow the system to identify the user, facilitate and trace the reservation.

### **2.2.2 Login**

#### **2.2.2.1. Description**

The system allows a user to login under a pre-registered account using username and password.

#### **2.2.2.2. Rationale**

The purpose of this function is to allow the user manager the account and trace the reservation history.

### **2.2.3 Book a Flight**

#### **2.2.3.1. Description**

This function allows the user to search for flights according to departure airport, destination airport, departure date(dd/mm/yyyy), return date(dd/mm/yyyy), number of passengers, and select flights, and make reservation with payment information.

#### **2.2.3.2. Rationale**

The purpose of this function is to allow the customers to book a flight.

### **2.2.4 Book a Hotel**

#### **2.2.4.1. Description**

This function allows the user to search for hotels according to destination, check-in and check-out dates(dd/mm/yyyy), number of rooms, and make reservation with payment information.

#### **2.2.4.2. Rationale**

The purpose of this function is to allow the user to book a hotel.

### **2.2.5 Book Flight and Hotel Together**

#### **2.2.5.1. Description**

This function allows the user to book flight and hotel together so that there can be 20% discount from the original total price.

#### **2.2.5.2. Rationale**

The purpose of this function is to encourage the user to have bundle reservation.

### **2.2.6 Check Flight Status**

#### **2.2.6.1. Description**

This function allows the user to check the flight status using flight number and departure date.

#### **2.2.6.2. Rationale**

The purpose of this function is to get the user prepared for specific flight.

### **2.2.7 Accumulate Mileage**

#### **2.2.7.1. Description**

This function allows a user to accumulate mileage that he/she has traveled.

#### **2.2.7.2. Rationale**

The purpose of this function is to encourage the user to make more flight reservation through the system.

### **2.2.8 Redeem Mileage**

#### **2.2.8.1. Description**

This function allows a user to purchase a plane ticket using the mileages accumulated. 25,000 miles can be redeemed for a domestic flight and 50,000 for an international flight.

#### **2.2.8.2. Rationale**

The purpose of this function is to encourage the user to make more flight reservation through the system.

### **2.2.9 Finding Deals**

#### **2.2.9.1. Description**

This function allows user to search for deals (flight on sale) according to source airport, destination airport, time period and the price range.

#### **2.2.9.2. Rationale**

The purpose of this function is to help to the user find flight deal.

### **2.2.10 Feedback**

#### **2.2.10.1. Description**

This function allows a user to give feedback of his/her experience with the website. The user can send in comments and a number in 1-10 (1 is the lowest) to show his/her satisfaction with the website.

#### **2.2.10.2. Rationale**

The purpose of this function is to get feedback from the user and make improvement according.

## 2.3. User Characteristics

The user of the system is expected to have basic knowledge of computer and internet operation along with payment ability. Besides that, there is no specific educational or occupational restraints for the user.

## 2.4. Constraints (can delete)

There is no specific constraint for the developer to implement the system.

## 2.5. Assumptions and Dependencies

There is no specific assumption and dependency for normal operation of the system.

# **3. Specific Requirements**

This Section describes the functional requirements and non-functional requirement of the system in detail.

## 3.1 Functional Requirements

The system has 10 functional requirements as following.

### **3.1.1 Create an Account**

|  |  |
| --- | --- |
| **Function** | Create an Account |
| **Description** | See section 2.2.1 for description |
| **Inputs** | User name, password, Email, mailing address,  First name, Middle name (if any), Last name,  Credit card type/number/expiration date |
| **Source** | User |
| **Output** | User record |
| **Destination** | System database |
| **Requires** | None |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Registration status (success or failure) |
| **Side-effects** | None |

### **3.1.2 Login**

|  |  |
| --- | --- |
| **Function** | Login |
| **Description** | See section 2.2.2 for description |
| **Inputs** | User name, password |
| **Source** | User |
| **Output** | User identification |
| **Destination** | System |
| **Requires** | None |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Login status (success or failure) |
| **Side-effects** | None |

### **3.1.3 Book a Flight**

|  |  |
| --- | --- |
| **Function** | Book a Flight |
| **Description** | See section 2.2.3 for description |
| **Inputs** | Trip type (one way/round trip), departure airport, departure date,  destination airport, return date, number of travelers,  travelers name and birthday,  credit card type/number/expiration date, |
| **Source** | User |
| **Output** | Order record |
| **Destination** | System database |
| **Requires** | User login (3.1.2) |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Flight information (flight number, departure time, flight time, price) for selection, and order status (success or failure) |
| **Side-effects** | None |

### **3.1.4 Book a Hotel**

|  |  |
| --- | --- |
| **Function** | Book a Hotel |
| **Description** | See section 2.2.4 for description |
| **Inputs** | Destination, check-in date, checkout date,  Number of rooms, number of people,  travelers name and birthday,  credit card type/number/expiration date, |
| **Source** | User |
| **Output** | Order record |
| **Destination** | System database |
| **Requires** | User login (3.1.2) |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Hotel information (name, location, price) for selection, and order status (success or failure) |
| **Side-effects** | None |

### **3.1.5 Book Flight and Hotel**

|  |  |
| --- | --- |
| **Function** | Book Flight and Hotel |
| **Description** | See section 2.2.5 for description |
| **Inputs** | departure airport, departure date,  destination airport, return date, number of travelers,  travelers name and birthday,  credit card type/number/expiration date, |
| **Source** | User |
| **Output** | Order record |
| **Destination** | System database |
| **Requires** | User login (3.1.2) |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Flight and hotel information for selection, and order status (success or failure). |
| **Side-effects** | None |

### **3.1.6 Check Flight Status**

|  |  |
| --- | --- |
| **Function** | Check Flight Status |
| **Description** | See section 2.2.6 for description |
| **Inputs** | Flight number, departure date |
| **Source** | User |
| **Output** | Flight status |
| **Destination** | User’s screen |
| **Requires** | None |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Flight status on user’s screen |
| **Side-effects** | None |

### **3.1.7 Accumulate Mileage**

|  |  |
| --- | --- |
| **Function** | Accumulate Mileage |
| **Description** | See section 2.2.7 for description |
| **Inputs** | Order record of flight |
| **Source** | System |
| **Output** | Total mileage |
| **Destination** | System database |
| **Requires** | User login (3.1.2) and Book flight (3.1.3) |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Mileage shown in user information after login |
| **Side-effects** | None |

### **3.1.8 Redeem Mileage**

|  |  |
| --- | --- |
| **Function** | Redeem Mileage |
| **Description** | See section 2.2.8 for description |
| **Inputs** | Mileage |
| **Source** | System for the user account |
| **Output** | Order record |
| **Destination** | System database |
| **Requires** | User login (3.1.2) and Book flight (3.1.3) |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Mileage deducted according to flight information |
| **Side-effects** | None |

### **3.1.9 Finding Deals**

|  |  |
| --- | --- |
| **Function** | Finding Deals |
| **Description** | See section 2.2.9 for description |
| **Inputs** | Departure airport, destination airport,  Start time, End time, price range |
| **Source** | User |
| **Output** | Order record |
| **Destination** | System database |
| **Requires** | User login (3.1.2) |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Flight information for selection and order status (success or failure) |
| **Side-effects** | None |

### **3.1.10 Feedback**

|  |  |
| --- | --- |
| **Function** | Feedback |
| **Description** | See section 2.2.10 for description |
| **Inputs** | Name, email,  Rating from 1 to 10, and feedback |
| **Source** | User |
| **Output** | Feedback record |
| **Destination** | System database |
| **Requires** | None |
| **Pre-condition** | The web page is open and displayed on the user’s screen |
| **Post-condition** | Feedback status |
| **Side-effects** | None |

## 3.2 Non-functional requirements

### **3.2.1 Performance**

The system supports at most 200 concurrent users and response time for each user is less than 1 second.

### **3.2.2 Reliability**

The system maintenance time (down time) is less than 2 hours per week.

### **3.2.3 Security**

The system only provides HTTPS connection (minimum version TLS 1.0) and user credential information are encrypted in database.