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**Software  
Requirements  
Specification  
for  
Travel Agency System**

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# 1 Introduction

The Software Specification is designed to describe the convenience of the customer while traveling from point A to point B and further feasibility of staying on a particular hotel of a user's preference. The purpose is to provide a comprehensible and descriptive statement of user requirements that can be used as a reference in further research and development of the software system. This document is divided into various sections, logically partitioning the key components of the software requirements for better accessibility.



## 1.1 Purpose

The primary objective of this document is to present a clear and detailed explanation of the proposed website called the travel agency system, which is planned to ensure that users do not have to visit multiple websites in order to book tickets and hotels.

The concept of this system is to provide easier accessibility and possible options while encouraging clients to use the endorsed product, by offering simple and effective site navigation, discounts and so forth. The site not only allows the customer to purchase airway tickets but also offers various hotel reservations [1] in the specific location that the user is planning to stay.

## 1.2 Intended Audience

This product is primarily intended for those who would like to visit a particular place and would like user-friendliness guidance to help settle in their desired trip location. [2]

Moreover, it would offer a lower cost while also accommodating and quickly responding to any difficulties the customer experiences during their visit.

### 1.3 Intended Use

Travel agency system is designed and constructed to guarantee a simple and easy to use User Interface (UI), permitting the customer to properly search for available flights from their current location without any need to type in anything.

After deciding on which hotels or airways tickets to purchase, the client would have to verify his/her credit card authorizations [3] which would then book the specific product for the user.

### 1.4 Product Scope

The proposed software product is the Travel Agency System. The purpose of this system is to ease flight management and to create a convenient and easy-to-use application for users. The system is based on a relational database with its flight management and reservation functions. We will have a database server supporting hundreds of major cities around the world as well as thousands of flights by various airline companies. This system can prove to be immensely useful for travelers and travel agents with little to no management facilities.

The system will be used to provide the necessary information about the available flights in that certain place where the user wants to travel for with the time and hotels pre-booking system. Requirements statements in this document are both functional and non-functional which would be discussed and explored in section 3.

Above all, the main purpose is to provide a comfortable user experience along with the best available pricing.

### 1.5 Risk Definition

There can be a risk to the quality of airways. Low quality of airways, low qualification of flight crews or pilots, poor navigation system and tools can make users dissatisfied and frustrated.

The risk of the quality of the hotel is also a crucial part. Poor hotel service and poor room quality can disappoint users.

## 2 Overall Description

In this section, this document describes some of the technical aspects of the software requirement system.

### 2.1 User Classes and Characteristics

There are two group of users. First one is General Users and another is admin.

#### **Characteristics of General Users:**

- They must have device (i.e. laptop, mobile, etc.), internet facility and browser for browsing website.

- They need to be educated enough to know how to navigate the site and have experience in online shopping or service.
- They should have the idea about booking flights and hotels.
- They must have credit card to purchase the services provided.

#### **Characteristics of Admin:**

- They must have device, internet facility, browser. Without any one of these, admin won't be able to perform. They also need to be skillful in some programming languages for building web pages.
- They must have experience in any type of management skills.
- They must know how to fix bugs while changing or adding any features. Even they must have knowledge to add or remove any features.
- They must possess proper communication skills or a least have customer servicing experience.

## **2.2 User Needs**

For General Users:

- Any type of device (i.e. laptop, mobile, etc.)
- Browser (Google Chrome, Mozilla Firefox, Microsoft Edge, Safari etc.)
- Internet Facility
- Credit Card
- Knowledge of Browsing Website

For Admin:

- Any type of device (i.e. laptop, mobile, etc.)
- Browser (Google Chrome, Mozilla firebox, Microsoft Edge, Safari etc.)
- Internet Facility
- Any Management Skill.
- Good at Communication Skill

## 2.3 Operating Environment

The website is expected to be hosted on an open-source cross-platform web server called XAMPP Server, which will allow for easier and extremely fast web migration as the web server is expected to be running on a virtual machine. [4] Due to the web nature of the system, it allows better compatibility with any type of operating system with internet access and at least one web browser. Furthermore, with Mozilla Firefox being one of the most used browsers in the world, the primary derivative is to prioritize optimum compatibility and efficient optimization procedure towards the usage of the specified browser.

## 2.4 Constraints

The difficulties in developing such a system include the virtualization of airways and hotel service for a specific country. The user might wish to visit somewhere which is not present in the system database. Thus, the addition of locations, airways, and hotel reservations can be challenging for an admin to fulfill the user's request, especially when the demand for such a trip to those countries is very low. [5]

Moreover, security is not a primary concern for this system. The database may store passwords in plain text and the password recovery feature may not be present nor lockout after numerous invalid login attempts. As a result, the system may not work properly in terms of security.

## 2.5 Assumptions

**Client:** Presumptions are made that all required applications inside the device are installed and are in working order. Furthermore, the user is assumed to be capable of operating the web site's basic functions such as open browsers, register or login with necessary credentials, and navigate the browser to the address of the travel agency system's website.

**Provider:** It is assumed that the travel agency system is a fully functional web server, with proper internet connection allowing to perform all communications with all clients.

**System:** The admin's login credentials can be hardcoded. The admin cannot purchase any of the products. Hence, the admin cannot be a customer. [6]

## 3 Requirements

### 3.1 Functional Requirements (in User Stories format)

#### 3.1.1 Book a Flight (by Shahriar Rahman)

- **User Story:** As a user, I need an option to book a flight, so that I can travel to my desired destination.
- **Confirmation:** Given that a customer has successfully logged in to the website,  
when the customer clicks the Flights button, a list of available flights will appear on a web page.  
This ensures accessibility of the user to book a flight.
- **Failure Conditions:** If the customer do not have sufficient funds and/or there is no more seats available in the airways,  
then he/she cannot be able to purchase any flights.

#### 3.1.2 Reserve a Hotel Room (by Shahriar Rahman)

- **User Story:** As a user, I need to reserve a hotel room, so that I can stay at the location I visited.
- **Confirmation:** Given that a customer has successfully logged in to the website,  
when the customer clicks the Reservation button, a list of available hotels will appear on a web page.  
This ensures accessibility of the user to book a flight.
- **Failure Conditions:** If the customer do not have sufficient funds and/or the hotel is out of available rooms,  
then he/she cannot be able to purchase any reservations.

#### 3.1.3 Credit Card Payment System (by Shahriar Rahman)

- **User Story:** As a user, I need to complete my payment using a credit card, so that it would be easier to finalize my payment transaction.
- **Confirmation:** Given that a customer has sufficient funds and a qualified credit card,  
when the customer clicks the purchase button, a credit card form will appear.  
This ensures the user's payment using a credit card.
- **Failure Conditions:** If the customer cannot enter his/her credit card number properly,  
then after 3 tries he/she cannot be able to purchase any reservations for a limited period of time.

#### 3.1.4 Automated Assistance (by Shahriar Rahman)

- **User Story: As a new user, I need** need assistance in various tasks such as knowing the server time and brief tutorial of how to use the website properly, **so that** my website navigation experience would be smoother.
- **Confirmation:** Given that a customer has registered and successfully logged in to the website, when the customer enters the home page, an automated A.I will welcome and assist them in various tasks.  
This ensures a new user or any previous user who has not visited the website for a long period of time can get assistance by the implemented A.I.
- **Failure Conditions:** If a customer does not have a mic, then he/she cannot be able to give commands to the assistant A.I.

#### 3.1.5 Available Airways pop-ups on Home Page (by Shahriar Rahman)

- **User Story: As a user, I need** to see the list of available airways from my current location in the home page, **so that** I could have an improved accessibility and my ease of use would be better.
- **Confirmation:** Given that a customer has mentioned the current location, when the customer enters their current location, a directional text animation will pop up showing all available flights from the specified location. This ensures the user's accessibility and improved ease of use.

#### 3.1.6 Contact Admin (by Md. Hasibur Rahman Fahim)

- **User Story: As a user, I need** to contact the site administrator, **so that** my difficulties and problems could be resolved.
- **Confirmation:** Given that a customer has face difficulty, when the customer clicks the Inbox button, a text box will appear prompting user to write the problems.  
This ensures the user's problems can always be addressed by an admin.

#### 3.1.7 Cancel Booked Flights (by Md. Hasibur Rahman Fahim)

- **User Story: As a user, I would** like to cancel my booked flight, **so that** I can get a refund of a product that I will not be using anymore.
- **Confirmation:** Given that a customer has purchased a flight previously, when the customer clicks the Cancel Flight option and that the booking date has not expired, it will cancel the booking and will provide the customer with refund.  
This ensures the user can get his/her refund after cancelling a flight.



### 3.1.8 Suggest a Flight (by Md. Hasibur Rahman Fahim)

- **User Story:** As a user, I would like the system to suggest a suitable airways for me, so that I can book my flights faster and without having much knowledge about airways.
- **Confirmation:** Given that a customer has purchased a flight previously, when the customer clicks the Flight option, a suggestion will appear based on previous user's purchases.  
This ensures the user can book flights faster and do not need any knowledge about airways.

### 3.1.9 Location Based Search (by Shazzadur Rahman)

- **User Story:** As a user, I need to search my flights based on my location, so that my searching would be more productive.
- **Confirmation:** Given that a customer has specified the current location, when the customer enters the location, a page will appear listing all details of airways on the specified location.  
This ensures the user can search for airways from his/her current location, thus the searching will be more effective.

### 3.1.10 Cancel a Reservation (by Shazzadur Rahman)

- **User Story:** As a user, I need to cancel a hotel reservation, so that I can get a refund of a product that I will not be using anymore.
- **Confirmation:** Given that a customer has reserved a hotel room and that the reservation date has not expired, when the customer clicks the cancel reservation option, it will cancel the reservation and will provide the customer with refund.  
This ensures the user can cancel a reservation without any hassle.

### 3.1.11 Rating System (by Shazzadur Rahman)

- **User Story:** As a user, I would like to have an option to rate my purchases, so that I can give proper feedback.
- **Confirmation:** Given that a customer has booked a flight or reserved a hotel room and the date has passed, when the customer clicks the Rating option, it will ask the customer to give a rating out of 5.  
This ensures the users can properly share their feedback.

### 3.1.12 Discount System (by Md. Nahid Hasan)

- **User Story:** As a frequent user, I would like to have a discount on the website, so that I could keep using the service more often.
- **Confirmation:** Given that a customer has reserved a hotel room or booked a ticket a certain number of times, when the customer purchases the next products, he/she will be offered a discount.  
This ensures the user can keep using the service more often.

### 3.1.13 Suggest a Hotel (by Md. Nahid Hasan)

- **User Story:** As a user, I need the system to suggest me hotel, so that I can reserve a hotel faster and without having much knowledge about hotels.
- **Confirmation:** Given that a customer has reserved a hotel room previously, when the customer browses the hotels, a suggestion will appear to the customer.  
This ensures the user can reserve a hotel faster and without knowledge about hotels.

### 3.1.14 Purchase History (by Md. Nahid Hasan)

- **User Story:** As a user, I need I need to see my purchases, so that I could keep track of my purchases.
- **Confirmation:** Given that a customer has reserved a hotel room previously, when the customer clicks the history, a page will appear listing all purchased products.  
This ensures the user can keep track of purchases.

## 3.2 Non-Functional Requirements

### 3.2.1 Safety Requirements:

- **Quality:** The quality of security will be properly monitored and handled. General user data will be recorded inside a database.  
Moreover, the information of the admins will also be stored in a separate database for better organization of sensitive data. This gives better safety assurance of users having access to admin information and vice-versa.
- **Reliability:** Customer information in the database will have two unique keys, username, and password making it more reliable for the users' safety in terms of security.

Furthermore, admins cannot be able to modify any personal information of a user without any verification.

- **Quality Assurance:** The website's quality depends on its security system and process management. Security will be maintained properly by ensuring user data is protected and thus, usability will be easier for all customers assuring the actual quality of the website.
- **Management Configuration activities:** This sub-section is all about covering the configuration of identity, control, status accounting, auditing, delivery, and so forth. The identification process of the general users and admins must be authentic. Controlling and auditing the website smoothly will be dependent on the admins. Status accounting configuration will be covered according to the source code.

### 3.2.2 Industry Standards:

- **Traceability:** In software engineering, Traceability is the process of tracking the working process items of our system. In our website, tracing the location of the customers in the airlines and hotels which specifies the service provided by the airlines and hotels to the customers.
- **Consistency:** The website's consistency depends on the performance of the website. Our website will be given proper feedback at runtime for all the users. If the customers send a request to the website, it will give feedback within a moderate time.
- **Number of Specific Descriptions for Safety System:** It is necessary to take proper safety assurance tests to the airlines and hotels which keep the image of our services bright.

### 3.2.3 Configuration Management Process

- **Integrity:** The process establishes and maintains the integrity of the system using configuration identification, configuration control, configuration status accounting, and configuration audits.
- **Support Other Process Area:** Information integration which has the ability to automatically update data is needed in the system. Any changes to the work products of the system under configuration management are tracked and controlled. The system informs about the status and content of software baselines to the affected users.
- **Number of Specific Descriptions for Safety System:** There are safety assurance tests maintained every 6 months.

## 4 Conclusion

The primary incentive of developing this website is to ensure all users have a memorable experience while visiting their desired location, either for vacation, business or any other purpose. This will also guarantee the user's safety as well as fair pricing policy.

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