Software Requirements Specification

for

Airline Reservation System

Version 1.0

Prepared by

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2. Overall Description

This section will give an overview of the whole system. The second one provides information about the application functionalities. This chapter also presents different types of stakeholders and constraints. At last, the constraints and assumptions for the system will be presented.

2.1. Product Perspective

This system will consist of one web portal. A Web portal will be used for managing the information about the flights and the system as a whole. Since this is a data-centric product it will need somewhere to store the data. For that, a database will be used. The web portal will use the database to get data, but also to add and modify data.

2.2. Product Functions

The application is intended for two types of audiences. One is the customer and the other is the administrator of the website.
The users will be able to search for flights. Flight details includes the originating flight terminal and destination terminal, along with the stops in between and the arrival and departure times, the number of seats booked/available seats between two destinations and the type of plane.
The result of the search will be viewed in a list view
A user can create, edit and delete an online account. the user can access the home page where they can search for flights and see their price and the number of remaining seats for that price and they can buy tickets for multiple flights. The website also provides the contact details of the company and instructions on how to book a flight. Moreover, clients can create an account so they are able to make reservations and receive offers and deals. The reservation includes customer details, code number, flight number, date of booking, date of travel and the chosen type of payment.
Administrator - this type of user can login/logout, manage the lists of reservations, flights and clients, modify details of the web application and send email confirmations to the customers.

2.3. User Characteristics

The system is intended to anyone who wants to search or buy plane tickets.
There are two kinds of users for the Airline Reservation System. One is the customer and the other is the administrator.
The system is designed to be user friendly, so the customer doesn't need any training or technical background to use the application and can successfully use the application regardless of their educational level or experience. The administrator does need training to use the application and is responsible to provide the customers with instructions on how to make flight reservations.

2.4. Operating Environment

2.4.1 Hardware

- ***Web application server:***

Memory: 8GB
CPU: 4 core intel xenon@2.2GHz
Storage: HDD 10GB
Network: 10Gbps

- ***Database server:***

Memory: 16GB
CPU: 4 core intel xenon@2.2GHz
storage: HDD 100GB

2.4.2 Software

- ***Web application server***

OS: Windows Server 2016
Application Server: Microsoft IIS
Other applications: .NET Core 3.1 Runtime

- ***Database server***

OS: Linux RedHat Server
Database Engine: SQL Server

2.5. Constraints

Regulatory policies*: No field must be left empty*
Control functions*: The application must be user-friendly and display appropriate error messages*
Parallel operations*: The application must allow many users simultaneously*
Reliability requirements*: Data redundancy must be avoided*
Higher order language requirements*: C#*

The application fetches data from the database over the internet, so the internet connection is also a constraint for the application.
The database should allow a big amount of data. The application will be designed in such a way that it can be run on the latest versions of the most used operating systems and browser. The .NET technology shall be used to implement the web application and SQL Server shall be used to manage the database. The user should have a browser installed on his system.

2.6. Assumptions and Dependencies

A booking/cancellation of a flight from any source to any destination, giving connected flights in case no direct flight between the specified Source-Destination pair exist.

It is assumed that the user has an internet access and can do online payments. The performance of ARS depends on the quality and speed of the internet connection.

2.7. Apportioning of Requirements

Some functions may be implemented in the future, such as the development of a mobile application that will allow users to store their boarding passes offline.