

# Software Requirement Specification

## 1. Hotel Management : ~~Hotel Book at Branch~~

### 1.1. Introduction:

#### 1.1.1. Purpose of this document:

The purpose of this document is to record and document all the requirements produced and specified by the client.

#### 1.1.2. Scope of this document:

The primary objective of this document is to manage the diverse functionalities of a hotel in order to make sure that there is no discrepancy in the different activities carried out by the hotel.

#### 1.1.3. Overview:

This project aims at streamlining the process of booking food from home for home delivery, takeaway. This interface also allows the customer to book the table for dining. This is how it works.

### 2. General Description:

The product aims at providing convenience to the users as well as the hotel manager.

orders in a much more systematic way. The functionalities provided by the interface allows the user to book food (and also) tables for dining.

### 3. Functional Requirements

- 3.1. Login / Registration : Prompts the user to login.
- 3.2. View menu : Allows the user to view and select the items.
- 3.3. Place the order : Allows the user to place the order and make the payment.
- 3.4. Logout : Allows the user to logout.

### 4. Interface Requirements :

- 4.1. User Interface : A web based interface for guests and staff.
- 4.2. API Integration : Interfaces for external payment systems.
- 4.3. Data exchange : Data interchange between modules.

### 5. Performance Requirements :

- 5.1. Response time : The response time must be less than 1 ms.
- 5.2. Concurrent users : The product must be able to handle 50,000 users at a time.

Design Constraints

6. Technology Stack : Must use specified frameworks.
- 6.2 Database : Use of relational database (MySQL)

Non-functional attributes

7.1 Reliability : The product should not crash even if the number of users are high.

7.2 Security : The product must be secure to contain the data of the customers.

Preliminary Schedule and Budget

8.1 Estimated Schedule : This project will require 6 months.

8.2 Estimated budget : This project requires 20,000 lines and the budget will be £85,000 including the overhead expenses. (Requirements = £10,000, Design = £15,000, Testing = £5,000)

Splitup

Credit Card Processing System1. Introduction

1.1 Purpose of this document : The purpose of this document is to process online and offline transactions.

1.2 Scope of this document : The scope is such that

the project enables secure and fast payment processing for businesses.

### 1.3.1. Overview:

It provides secure platform between e-commerce platforms, customers and financial institutions that handles credit card authentication.

### 2. General Descriptions:

This system ensures secure credit card processing for online transactions. It integrates with third party payment gateway.

### 3. Functional Requirements:

- Card authentication :- Validates the details
- Transaction approval :- Approves the transaction
- Fraud detection :- Detects defaulters

### 4. Interface Requirements:

- API Integration : Integrating system with e-commerce platforms

### 5. Performance Requirements:

- System must handle upto 1000 transactions at an instance
- Response time must be 3ms

6. Design Constraints:
- System should support payment integration.
  - System should ensure secure handling of data.
7. Non-Functional attributes:
- Security: securing credit card details through advanced encryption.
  - Reliability: response time must be less than 3 ms.
  - Maintainability: Segregation of code.

### 8. Preliminary Schedule and Budget

- Development time: 10 months
- Estimated cost: ₹ 2,10,000 at
- Requirement Phase = ₹ 10,000, Design Phase = ₹ 60,000
- Testing Phase = ₹ 25,000 and overhead expenses = ₹ 5000

## Library Management System

1. Introduction

Purpose: To automate library operations like cataloging, inventory management and user tracking, additionally digital copies.

Scope:

Covers borrowing, returns and fine collection. Library management system will automate the management of library resources, including catalogues, borrowing, returning and

## tracking books

### 1.3 Overview:

The system will facilitate the operations of a physical library by allowing librarians to track inventory, borrowers to borrow and return books, generate reports.

### 2. General Description:

The library management system will function as a centralized platform for managing a library's resources. It will enable users to search books, etc. Librarians and administrators will have the ability to add / update / remove books.

### 3. Functional Requirements:

#### 3.1. User authentication and registration:

New users to register and existing users to log in.

#### 3.2. Book catalog:

Administrator can add / update or remove books.

#### 3.3. Book searching and borrowing:

It allows searching option for the user.

### 4. Interface Requirements:

#### 4.1. User Interface:

The system provides a easy - web based interface for both librarians and users.

#### 4.2. API:

The system will have API's for integration.

5. Performance Requirements:  
5.1. Load testing : Conduct load test to ensure it can handle peak usage.  
5.2. Disaster recovery : Implement robust disaster recovery plans to minimize downtime in case of failure.

## 6. Design Constraints:

6.1. Security : Prioritize security measures to protect user data.  
6.2. Scalability : Design the system to accommodate future growth.

6.3. Integration : Consider the integration points with other library systems.

## 7. Non-functional requirements:

7.1. Usability : Conduct usability test to ensure the system is intuitive.

7.2. Maintainability : Use clear coding standards to maintain the code.

7.3. Interoperability : Ensure compatibility with industry standards.

## 8. Preliminary Schedule and Budget :

8.1. Estimated schedule - 6 months

8.2. Estimated budget - £95,000

- Requirement phase - £10,000

- Design and Implementation - £65,000

- Testing and validation - £50,000

- Maintenance phase - £15,000

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## Stock Maintenance System

### 1. Introduction

#### 1.1 Purpose of this document

The purpose of this document is to specify the requirements for a stock maintenance system that will enable businesses to effectively manage their inventories.

#### 1.2 Scope of this document:

The SMS aims to automate stock tracking, provide real-time inventory levels, and generate stock reports.

#### 1.3 Overview

The SMS will enable users to manage stock items, monitor stock levels, and receive alerts for low inventory.

### 2. General description:

The SMS will serve warehouse staff and inventory managers. Users will benefit from features like stock level monitoring, alerts, and comprehensive reporting tools to ensure optimal stock levels and reduce wastage.

3. Functional Requirements:
- Stock Item Management: Users can add / update or delete stock items.
  - Stock level monitoring: Real-time tracking of stock levels.
  - Reorder alerts: Notifications for low stock levels.

#### 4. Interface Requirements:

- User Interface: A web based application with a central dashboard for stock overview.

- Database Interface: Connection to a NoSQL database.

- API Integration: RESTful API for third-party integration.

#### 5. Performance Requirements:

- Response time: Should respond to user actions within 1 second.

- Concurrent users: Support at least 5,000 concurrent users.

- Data handling: Efficient management of up to 20,000 stock records.

#### 6. Design Constraints:

- Technology Stack: Must use Python for backend and MongoDB for the database.

- User authentication: Implementation of JWT for secure user sessions.

7. Non functional attributes
- 7.1. Security : All user data must be protected.
- 7.2. Portability : Should be accessible via various devices.
- 7.3. Reliability : Target for availability - 99.5%.
8. Preliminary Schedule and Budget
- 8.1. Estimated time - 6 months.
- 8.2. Estimated budget - £1,15,000
- Requirement phase - £30,000
  - Design and implementation - £60,000
  - Testing and validation - £10,000
  - Maintenance phase - £15,000

## V Passport Automation System

1. Introduction
- 1.1. Purpose:  
This document provides the software requirements for the development of the passport automation system.
- 1.2. Scope:  
It will enable citizens to apply for passport online, track the status of their application, schedule appointments and receive notifications on progress.

### 1.3 Overview :

This system will provide a user-friendly platform for citizens to submit their passport applications & allow government officials to process & verify applications.

### General Description:

It has the online passport application feature. It also features document submission and verification. It also has the feature of tracking the application.

### 3. Functional Requirements:

3.1. The system will allow applicants to upload scanned documents.

3.2. Application Tracking: It allows the user to track their application.

### 4. Interface Requirements:

4.1. Payment gateway API's are required.

4.2. User interface: A web based application for citizens to submit & track their passport applications.

### 5. Performance requirements:

5.1. The system should respond to all user queries.

5.2. The system must support more concurrent users at a time.

## 6. Design Constraints:

- 6.1. The system must be compatible with major browsers.
- 6.2. The system must comply with data privacy & security regulations.

## 7. Non-functional attributes:

- 7.1. The system must be accessible on various devices.
- 7.2. The system must provide backup & recovery mechanisms to prevent data loss.

## 8. Preliminary Schedule and Budget:

- 8.1. Estimated schedule - 3 months.
- 8.2. Estimated budget - ₹ 2,00,000.  
Requirements phase - ₹ 50,000  
Design and Implementation - ₹ 1,00,000  
Testing and validation - ₹ 10,000  
Maintenance - ₹ 40,000

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