

# Software Required Specification (SRS)

## Introduction:

Purpose of the Document : The purpose of this document is to outline the requirements and specifications for the development of a ~~hostel~~ Hotel Management System.

It will provide a clear understanding of the project objectives, scope and deliverables.

Scope of the Document : This document identifies the overall working and main objectives of the Hotel Management System. It includes a description of the development cost and time required for the project.

Overview : It is a software solution designed for streamlining hotel operations including reservation management, guest check-in/check-out, room assignment, booking and reporting.

2) General Description : The Hotel management system will cater to the needs of ~~hostel~~ hotel staff and management, providing features such as room booking, guest profiles, inventory management and financial reporting. It will be accessible to users with varying levels of technical expertise.

3) Functional Requirements :

i) Reservation Management : Allows the user to make reservations online or through the front desk. It also generates reservation confirmations and sends the notification to guests.

### ii) Room Management :

- Assigns the rooms for guests based on availability and preferences.
- Tracks the room status (clear, occupied, wait) in real-time.

### iii) Guest Management :

- Maintains guest profiles with personal information, preferences and booking history.
- facilitates the guest check-in and check-out process.

### iv) Billing and Invoicing

- Generates accurate bills for room charges, additional services and taxes.
- Accepts various payment methods and generates invoices for corporate clients.

## User Interface Requirements

### i) User Interface

- Intuitive and user-friendly interface for hotel staff and guests.
- Accessible via web browsers - mobile devices and desktop applications.

### 2) Integration Requirements:-

- Integration with payment gateways for secure transactions.
- Integration with third-party booking platforms for search, reservation management.

## Performance Requirements:

### i) Response Time:

- The system should respond to user actions within 2 seconds.

### ii) Scalability:

Can handle a minimum of 1000 concurrent users during peak hours.

### iii) Data Integrity:

Ensures data consistency and accuracy across all nodes.

## Design Constraints:

### i) Hardware Limitations:

The system should be compatible with standard hotel hardware.

### ii) Software Dependencies:

Utilizes a relational

## Client - based management system for data storage.

- Use programming languages and frameworks conducive to XML modelling.

### 7) Non - Functional Attributes

- Security : Implement robust authentication and authorization mechanisms to protect sensitive data.
- i) Reliability : To ensure high availability and fault tolerance to minimize system downtime.
- iii) Scalability : Design the system to handle future growth and expansion.
- iv) Portability : Supports multiple platforms and devices for user accessibility.
- v) Usability : It should have a user-friendly interface with clear navigation.
- vi) Reusability : It should use modular code design to facilitate future enhancements and maintenance.
- vii) Compatibility : It should be compatible with common web browsers. e.g.: Firefox
- viii) Data Integrity : The system should ensure accurate and consistent data storage and retrieval.

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Page No.:						
Date:						YOUVA

8) Preliminary Schedule and Budget : The development is estimated to take 6 months with a budget of \$100,000. It includes project planning, development, testing and deployment phases.

(2)

## Introduction

(1.1)

Purpose of the document : Purpose is to define the requirements for the system. It describes the functionalities, constraints and objectives of the system to ensure secure and handling of transactions, including authentication, billing and reporting.

(1.2)

## Scope of the document

- The Credit Card System will ~~not handle~~ automate financial transactions including Credit Cards by:
- Authorizing and authenticating transactions.
- Validating card - holder information.
- Processing payments b/w merchants and banks.
- Generating billing statements.
- Managing refunds and cancellations.
- Detecting and ~~processing~~ preventing fraud transactions.
- Providing reports and analytics to administrators.

The system will minimize errors, reduce transaction delays, ensure security and enhance customer trust.

(1.3)

## Overview

The CCPS will be used by merchants, banks and customers. Merchants can process payments, banks can manage settlements and customers can view billing and payment details. Administrators can monitor performance and detect anomalies.

## 2) General Description :-

The system will be highly secure, web based platform integrated with payment gateways, banking systems and merchant applications. It consists of modules such as transaction processing, Authorization, Billing and Reporting.

## 3) Functional Requirements:

- Accept and validate customer credit card details.
- Authenticate cardholder using OTP, PIN or biometrics.
- Authorize and process payments in real-time.
- Handle payments and chargebacks.

## 4) Interface Requirements:-

User Interface : Secure forms for payment, billing statements and admin dashboards.

- Hardware Interface : Supports POS machines.
- Software Interface : Integrates with banking software, merchant applications and payment gateways.

## 5) Performance Requirements:

- must handle at least 1000 concurrent transactions.
- Each transaction should process within 2-3 seconds.
- Fraud detection alerts must be generated in real-time.
- 99.9% uptime availability.

## 6) Design Constraint:

- Must comply with PCI-DSS and banking security standards.
- Data - Base must support ACID properties for financial integrity.
- Encrypted data transmission and secure store for markets, banks and consumers.
- Role - based access control for markets, banks and consumers.

#### (A) Non - Functional Requirements :

- Security : End to end encryption, fraud detection mechanisms.
- Reliability : Transaction logs and backup every hour.
- Usability : Simple UI for merchants and customers.
- Scalability : Must support global transactions across multiple banks.
- Maintainability : Easy to update compliance and security features.

#### (B) Preliminary Schedule and Budget

- Phase 1 (2 months) : Requirement gathering and system design.
- Phase 2 (4 months) : Development of transactions, authorization and pricing modules.
- Phase 3 (3 months) : Integration with banks and fraud detection system.
- Phase 4 (2 months) : Testing, compliance certification and deployment.

Estimated Budget : ₹ 20 - 25 Lakhs

### (3) Library Management System

#### 1) Introduction

##### 1.1) Purpose of the document

Purpose is to define the requirements of LMS. It describes the functionalities, constraints and objectives of the system to ensure efficient management of library operations.

##### 1.2) Scope :

The LMS will automate all major library functions such as

- \* maintaining a catalog of books and resources
- \* member registration and profile management.
- \* books issue, return, renewal process.
- \* fine calculation for due books.
- \* Generating reports of issued books, available stock and members activity.

##### 1.3) Overview

The LMS will be used by library staffs, administrators and members. Staff will manage books and transactions, ~~the~~ administrators will access reports and system usage.

#### (2) General Description:

The system is a desktop application with different modules such as Catalog Management, Member Circulation, fine and Report management. It will provide a user-friendly interface for staff and members.

### (3) Functional Requirements:

- Add, update and delete book records.
- Register new members and manage existing profiles.
- Search for books by title, author or subject.
- Issue and return books.
- Automatically calculates fines for overdue books.
- Generate reports on book circulation, availability and member activity.

### (4) Interface Requirements:-

- User - Interface : Simple forms for book entry, issue / return and admin dashboards.
- Hardware Interface : Works on Library PC, monitors and printers.
- Software Interface : Integration with databases, SMS / Email for notifications.
- Communication Interface : Internet connectivity for online access.

### (5) Performance Requirements:

- \* System should handle at least 500 concurrent users.
- \* Search results should be displayed within 2 seconds.
- \* Return transaction should be processed within 3 seconds.
- \* High System Reliability.

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Page No.:		Date:		YOUVA		

## (6) Design Constraints:

- must comply with policies.
- database should follow ACID properties.
- role-based access (Admin, Staff members).
- secure login and authentication.

## (7) Non-functional requirements:

- security: Encrypt member credentials and ensure secure access.
- reliability: Daily automatic database backup.
- Usability: Simple and intuitive UI for non-tech staff.
- Scalability: Should support multiple branches of the library.
- Maintainability: Easy updates to book catalog and member modules.

## (8) Preliminary Schedule and Budget:-

- \* Phase 1: (15 weeks) - Requirements gathering and design.
- \* Phase 2 (25 weeks): Development of catalog numbers and circulation modules.
- \* Phase 3 (15 weeks): Integration of fine management and reports.
- \* Phase 4 (1 month): Testing and deployment.

Estimated Budget : ₹ 8-10 Lakhs (including development and testing, hardware deployment)

## (4) Stock Maintenance System

### Introduction:-

- Purpose of this document: Purpose is to define the requirements of the Stock Maintenance system (SMS). It describes the functionalities, constraints and objectives of the system to ensure efficient tracking, monitoring and management of stock items, including purchase, sales, stock updates and reporting.

### Scope of the document:-

It will ~~introduce~~ ~~introduce~~ inventory management system by:-

- Adding, updating and deleting stock items.
- Tracking stock levels in real-time.
- Recording purchase and sales transactions.
- Producing reports for stock usage, wastage and availability.
- Managing supplies.

The system reduces manual errors, prompts ~~wishes~~ ordering under-stocking.

### (5)

### Overview

The SMS will be used by store managers, staff and administrators. Managers can issue purchase requisitions and administer generate reports and analyze stock.

### (6)

General Description: The system will

a. des K-fap application that integrates inventory modules such as Stock Update, Transaction management and Reports. It will provide a dashboard for real-time monitoring of stock.

### (3) Frontend Requirements:

- Add, update stock items with details.
- Track stock in real-time with automatic updates or alerts.
- Generates alerts when stock goes below threshold.
- Records purchases and sales invoices.
- Maintains supplier database.
- Generates reports (daily, weekly, monthly) for inventory status.
- Support scanning for quick stock entry.

### (4) Interface Requirements:

- User Interface: Simple forms for booking, billing and decking-in. Dashboards for admins.
- Hardware Interface: Works on hotel, POS machines and servers.
- Software Interfaces: Integrates with payment gateways, email and sms services.

- Communication Interface: Secure connection for bank transfers and payments.

### (5) Performance Requirements

- The system should handle atleast 200 concurrent users.
- Banking confirmation should come within 5 seconds.
- Reports must be generated within 5 seconds.
- High availability: 99.9% uptime

### (6) Design Constraints

- Must comply with local law.
- Data base should follow ACID properties for consistency.
- Role-based access control for staff and admin.

### (7) Non-functional Requirements

\* Security: Encrypt sensitive data (Email info, passwords)

+ Reliability: Automatic backup every 24 hours.

+ Usability: Intuitive UI for non-technical bank staff.

- \* Scalability: Should support expansion to multiple branches.
- \* Maintainability: Easy to update system modules without downtime.

### (8) Preliminary Schedule and Budget

- \* Phase 1 (2 months): Requirement gathering and system design.
- \* Phase 2 (3 months): Development of booking, billing and check-in modules.
- \* Phase 3 (2 months): Integration with payment gateway and reporting.
- \* Phase 4 (1 month): Testing and deployment.

Estimated Budget: ₹ 12 - 15 Lakhs  
 (including development, testing, hardware and deployment)

## Pass Port

## Automation System

- 1) Purpose of the document is the purpose is to specify the requirements for a PAS. The system will ~~digitize~~ digitize and streamline the process of passport application, verification and issuance. It ensures transparency, reduces manual workload, improves processing speed and strengthens security.
- 2) Scope: The PAS will provide services for citizens, passport officials and departments. Citizens can apply online, schedule appointments, pay fees and track status. Officials will manage documents, conduct approvals and issue passports. Police will update verification status directly on the system.
- 3) Overview: The PAS integrates multiple stakeholders (citizens, police, passport officers) onto a single platform, ensuring faster processing, secure data handling and end-to-end automation of passport services.
- 4) General Description: The system will replace traditional paper-based operations with a web-based and mobile-friendly solution. It will include features such as online applications, appointment scheduling, digital verification, online fee payment and automatic status update.

## (5) functional requirements

- User registration and Application :- Officers can register with unique credentials.
- \* Submit passport application with personal and document details.
- Appointment Scheduling :-  
\* Select preferred dates and centers for passport verification.
- \* Recieve automated SMS/ email confirmations.
- Document and Police Verification:  
\* Passport officers check uploaded documents for validity.
- A \* Blame log into the system for provide background verification reports.
- Fee Payment :-  
\* Secure online payment gets away integration.  
\* Generate receipts for applicants.
- Status Tracking:-  
\* Red - HIR Status Updates (Application)  
Submitted → Verified → Dispatched
- \* Notifications for every status change.

### ④) Interface Requirements:

- User Interface: Staff uses for login, application submission and verification.
- Hardware Interface: Works on standard desktop systems or laptops.
- Software Interface: Integrates with payment gateway and document certification APIs.

### ⑤) Performance Requirements:

- The system should handle multiple users simultaneously.
- Response time for transactions should be within 3 seconds.
- must generate confirmation within 5 seconds.
- High availability of 99.5%.

### ⑥) Non-functional Requirements:

- Security: Data should be encrypted and protected with passwords.
- Reliability: Automatic Backup after every 24 hours.
- Usability: User interface must be easy for both staff and applicants.
- Maintainability: System modules must be

easy to update in current documents.

- Scalability: should support multiple branches.
- Pass port

a)

### Preliminary Schedule and Budget

- Phase 1 (2 months) : requirement gathering and system design.
- Phase 2 (3 months) : development of application and verification modules.
- Phase 3 (2 months) : Integration with payment gateway and reporting.
- Phase 4 (1 month) : Testing and deployment.

Estimated

Budget: ₹ 12-15 Lakhs.