

Software Requirements Specification (SRS)

I. Hotel management system.

1) Introduction.

- 1.1 Purpose of the document :- To define the requirements and functionalities for a Hotel Management System (HMS) for automating check-in, check-out, billing and hotel operations.
- 1.2 Scope of the document :- The system will handle guest reservations, room allocation, staff management, billing and reporting.
- 1.3 Overview :- This system will be a web-based application accessible to hotel staff & guests (like booking). It will integrate modules like reservation, housekeeping & billing.

2. General Description :- The system will allow guests to make reservations online, hotel staff to manage rooms and services, & administrators to monitor operations. It will be designed to support multiple room types, seasonal pricing and special offers.

3. Functional Requirements.

- (i) User login & authentication (admin, staff, guest).
- (ii) Room booking and cancellation.
- (iii) Check-in & check-out management.
- (iv) Billing and payment gateway integration.
- (v) Housekeeping management.

(vii) Reports generation (occupancy, revenue, guest history)

4) Interface Requirements:

- (i) User Interface :- responsive web interface, simple dashboard for staff and admin.
- (ii) Hardware Interface :- server hosting, internet connected devices (PCs, tablets).
- (iii) Software Interface :- integration with payment gateways, email/SMS notification services.

5.1 Performance Requirements:

- (i) The system should handle at least 500 simultaneous users.
- (ii) Booking confirmation within 2 seconds.
- (iii) 99.5% uptime availability.

6. Design Constraints:

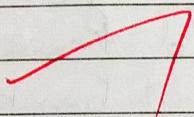
- (i) Must comply with data privacy laws (e.g. GDPR).
- (ii) Compatible with major browsers.
- (iii) Secure handling of financial transactions.

7. Non-functional Requirements:

- (i) Security - Encrypted user data and secure payment.
- (ii) Usability - Intuitive UI for staff and guests.
- (iii) Reliability :- Regular backups and disaster recovery.
- (iv) Scalability:- should support multi branch hotels.

8) Preliminary schedule and Budget

- (i) Development : 3 - 4 months
- (ii) Testing :- 1 month
- (iii) Estimated Budget : \$ 15000 - \$ 20,000 depending on features.



2. Credit Card Processing.

1. Introduction

1.1 Purpose of the document :- To define the requirements for a Credit Card Processing system that securely manages credit card fraud detection by merchants, users & banks.

1.2 Scope of the document :- The system will handle authorization, authentication, settlement, refunds and transaction history.

1.3 Overview :- This system will be an online payment processing platform with fraud detection exception and multi-bank integration.

2. General Description :- The system will enable merchants to accept credit card payments, verify them in real-time and process settlements to their bank accounts. It will include fraud prevention measures and transaction history for users.

3. Functional Requirements :-

- (i) User and merchant authentication.
- (ii) Credit card validation (number, expiry, CVC).
- (iii) Transaction authorization and settlement.
- (iv) Refund and chargeback processing.
- (v) Fraud detection history and reporting.

4) Performance Requirements :-

- (i) Process transaction within 2-3 seconds
- (ii) Support atleast 10,000 transaction per minute
- (iii) 99.9% uptime.

5. Interface Requirements :-

- (i) User Interface :- Secure web portal for merchants and admin panel for system updates.
- (ii) Hardware Interface :- Servers with secure network connection (PCI DSS compliance).
- (iii) Software Interface :- Integration with banking, API's, payment gateways, and encryption libraries.

6. Design Constraints

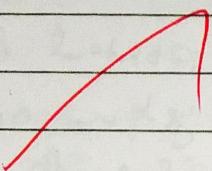
- (i) Must comply with PCI DSS, GDPR and other financial regulations.
- (ii) Data encryption using SSL/TLS.
- (iii) Multi-factor authentication for administration.

7. Non-functional Requirements :-

- (i) Security :- Strong encryption, tokenization & fraud detection algorithms.
- (ii) Reliability :- 24/7 availability with failover mechanisms.
- (iii) Scalability :- Should handle peak load during sales and festive seasons.

8) Preliminary Schedule and Budget:

- (i) Development :- 5 - 6 months
- (ii) Testing & Certification :- 2 months
- (iii) Estimated Budget :- \$ 50,000 - \$ 80,000 depending on compliance requirements.



3. Library Management System.

1. Introduction :

1. 1 Purpose of the document :- To define the requirement of a library management system that automates the process of book management, member registration, borrowing, returning & fines.
1. 2. Scope of the document :- The system will handle catalog management, user accounts, book reservations, overdue tracking & report generation.
1. 3. Overview :- A web based or desktop-based system accessible by librarian, staff and members to streamline library operation.

2. General description

The system will allow librarians to add / update / delete books, manage ~~new~~ members, process borrow / return transaction, and generate reports. Members can browse & search catalog, reserve books, and track their borrowing history.

3. Functional Requirements :-

- (i) User authentication (admin, librarian, member).
- (ii) Add, update, delete and search books.
- (iii) Issue and return books.
- (iv) Fine calculation for overdue books.

(v) Reservation system for unavailable books.

4. Interface Requirements :-

- (i) Web Interface :- Intuitive dashboard for librarians, simple catalog view for members.
- (ii) Hardware Interface :- Computer or tablet in the library, internet connectivity (if online).
- (iii) Software Interface :- Integration with barcode scanner, email / SMS notification service.

5. Performance requirements

- (i) Should support 200-500 simultaneous users.
- (ii) Book search results within 2 seconds.
- (iii) Data backup at least once per day.

6. Design constraints,

- (i) Must comply with institutional privacy policy.
- (ii) Should work on windows, linux or web platform.
- (iii) Data storage should be relational database (e.g. MySQL / PostgreSQL).

7) Non-functional Requirements:

- (i) Security :- Passwords protected using strong, encrypted member data.
- (ii) Usability :- Easy to use for staff with minimal training.
- (iii) Reliability :- Daily backups and recovery system.
- (iv) Scalability :- Should support large book collections (50,000 + books).

8) Preliminary schedule and Budget

- (i) Development : 2 - 3 months
- (ii) Testing : 1 month
- (iii) Estimated Budget : \$8000 - \$15000.



4. Stock maintenance system.

1. Introduction.

1.1 Purpose of the document :- To define the requirements for a stock maintenance system that automates inventory tracking, stock updates, supplier management and reorder notifications.

1.2 Scope of the document :- The system will manage stock levels, incoming and outgoing inventory, purchase orders, and supplier information. It will help business maintain optimal stock levels and avoid shortages or overstocking.

1.3 Overview:- A centralized web or desktop-based application for store manager, warehouse staff, and admin's to efficiently manage inventory operations.

2). General description:- The system will allow users to add, update or delete stock items, records sales / purchases, generate alerts for low stock, & track supplier details.

3) Functional Requirements.

- (i) User authentication (Admin, staff).
- (ii) Add / update / delete stock items.

- iii) Track stock in / out movement.
- (iv) Low-stock alerts and reorder suggestions.
- (v) supplier and purchase order negotiat.

4. Interface Requirements

- (i) User interface :- Dashboard with inventory overview, search filters & exports section.
- (ii) Hardware Interface :- Computer, barcode Scanner, or RFID device for quick stock entry.
- (iii) Software Interface :- Integration with accounting software, email / SMS alert system.

5. Performance Requirements

- (i) Should handle atleast 1,000 - 5000 stock items.
- (ii) Update stock entries in under 2 seconds.
- (iii) Ensure 99.9% data accuracy & integrity.

6. Design Constraints :-

- (i) must comply with business audit & compliance policies.
- (ii) should support multi-location calculations
- (iii) use secure relational database (eg. MySQL / PostgreSQL SQL)

7). Non-functional Requirements.

- (i) Security :- Role-based access, date encryption for financial records.
- (ii) Reliability :- automated daily backups & restore option.
- (iii) Usability :- minimal training required for staff.

8). Preliminary Schedule & Budget

- (i) Development :- 3 - 4 months
- (ii) Testing :- 1 month
- (iii) Estimated budget :- \$ 10,000 - \$ 18,000



5. Passport Automation System.

(i) Introduction

- 1.1 Purpose of the document :- To define the requirements for the passport automation system that streamlines passport application, renewal, verification & delivery.
- 1.2 Scope of the document :- The system will handle user registration, application submission, document verification, payment.
- 1.3 Overview :- A secure data web-based platform accessible by applicants, passport officials and administrators to reduce manual workload & processing time.

2. General Description :- The system will enable applicants to apply online, upload necessary documents, make payments and book appointments, officials will verify documents.

3. Functional Requirements.

- (i) User registration and authentication.
- (ii) Online passport application & renewal.
- (iii) Document upload and verification.
- (iv) Appointment scheduling and management.
- (v) Payment gateway integration.

4. Interface Requirements :-

- (i) User interface :- Secure portal for applicant dashboard for officials.
- (ii) Hardware interface :- servers, biometric devices for verification, scanner.
- (iii) Software interface :- Integration with national ED databases, email (SMS notifications, payment systems).

5. Performance Requirements :-

- (i) Should process atleast 5,000 documents per day.
- (ii) Status update within 2 seconds after verification.
- (iii) 99.9% uptime for 24/7 availability.

6.1 Design constraints :

- (i) Must comply with government data privacy and security policies.
- (ii) Integration with police verification system.

7. Non functional attributes:

- (i) Security
 - use strong encryption for personal data.
- (ii) Reliability ensures high system availability with backup mechanisms.

(ii). Scalability → expand system to handle growing application demand.

8. Preliminary schedule & budget:

The development of the passport automation system is estimated to take 9 months with a budget of \$ 300,000.

This includes analysis, development, testing and deployment.

