

~~Set 23/09/2024:~~

## Q. SRS document for Hotel Management system:-

### → ① Introduction:

#### 1.1. Purpose:

This document outlines the requirements for a hotel management system (HMS) which serves the purpose of guiding the developers.

#### 1.2 Scope of this document:

This document covers all and overall functionality of a HMS, and it emphasizes its goals and the values it offers users such as streamlined operations. It also includes estimates for development costs and timelines.

#### 1.3 Overview:

The HMS is designed to automate and streamline hotel operations, including reservations, check-ins, billing and customer relationship management, with the aim of improving efficiency and customer satisfaction.

### ② General Description:-

The HMS will assist hotel staff and guests, featuring key user roles such as front desk personnel, managers and guests. Key functionalities include room booking, billing, reporting, and inventory management.

### ③ Functional Requirements:

- User Registration/ Login: Secure account creation and login forms.
- Room - Reservation: Search and book rooms based on availability.
- Check-in / Check-out: Automated guest check-in and check-out processes.
- Billing system: Invoice generation is based on utilized services.

- Reportings: Generate reports on occupancy, revenue, and customer feedback.

#### ④ Interface Requirements:

- User Interface: A web-based interface accessible to guests and staff.
- API Integration: Interfaces for external payment systems, location services and other third-party services.
- Data Exchange: To interchange data between the system modules.

✓ • Room & Table Reservation: Provides a user friendly room & table reservation interface that shows availability & pricing of rooms & time slots for table booking.

#### ⑤ Performance Requirements:

- Response Time: System responses should occur within 1 second for most of operations.
- Data Handling: Efficient management of up to 100000 records.

#### ⑥ Design constraints:

- Technology: Used specified frameworks (React, Node.js)
- Database: Use relational database (MySQL).

#### ⑦ Non-functional Attributes:

- Security: Protect user data with encryption.
- Scalability: Support for future system expansion.
- Reliability: Guarantee of 99.99% uptime.
- Usability: Intuitive user interface for ease of use.
- Efficiency: Ensure optimized resource utilization, reducing latency and minimizing memory usage while processing large datasets or concurrent users.

#### ⑧ Preliminary Schedule & Budget:

- Estimated duration: Six months for development & testing.
- Projected cost: £1000000 which covers development, testing and deployment.

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Q. SRS document for credit card processing system

① Introduction:

1.1 Purpose of this document: This document specifies the requirements for credit card processing (CCPS) aimed at processing, authorizing and settling credit card transactions efficiently and securely.

1.2 Scope of this document:

The system will manage transactions between customers, merchants, and banks including payment authorization, transaction processing, fraud detection & reporting.

1.3 Overview:

CCPS will streamline credit card payments and ensure secure transactions while providing real-time processing and data reporting.

② General Description:

The system will serve merchants and cardholders by offering secure and fast credit card processing. It will support multiple card types and banking regulations.

③ Functional Requirements:

- Transaction authorization
- Payment processing and settlement
- Fraud detection and prevention
- Reporting and transaction history

④ Interface Requirements:

The system will communicate with external banking networks and user interfaces via secure API's and standard data exchange formats.

### ⑤ Performance Requirements :-

New Transaction  
The constraints

The system must process transactions within 1 second and handle peak loads with low latency and high accuracy.

### ⑥ Design constraints:

The system must process transactions within seconds and handle peak loads with low latency and high accuracy.

### ⑦ Non-Functional Attributes:

- Security: High-level encryption for data protection.
- Reliability: 99.99% uptime.
- Scalability: Ability to handle high transaction volumes.
- Portability: Support for multiple platforms.

### ⑧ Preliminary Schedule & Budget:

- Estimated duration: Six months for development & testing.
- Estimated cost: £1000000 for development, testing & deployment.

✓ ✓

Date: 30/09/2024:-

**Q.** SRS document for Library Management System (LMS):

**① Introduction:**

**1.1 Purpose of this document:**

This document outlines the requirement for LMS, serving as a guide for developers to ensure alignment, performance and overall objective.

**1.2 Scope of this document:**

The LMS will facilitate efficient management of library operations, including book borrowing, returns, cataloging and user management. Development cost is ₹ 1500000 with a timeline of 6 months for project completion.

**1.3 Overview:**

The LMS is designed to streamline library processes, ensuring easy track of library resources and efficient member management.

**② General Description:**

The LMS will help streamline the management of book inventory, member information and the issuance and returns of books. Users will be able to search for books, check their availability, and manage borrowing. Administrator will have full access to manage members and books, including adding new books, removing when necessary.

**③ Functional Requirements:**

**3.1 Book Management:**

- Add new books, delete books, track book availability.

**3.2 Member Management:**

- Register a new member, delete an existing member and assign a unique membership id to each member.

### 3.3 Issue and Return Books:

- Librarians can issue book, members can return books.  
The system calculates overdue fines automatically.

### 3.4 Search functionality:

- Users can search for books by title, author, ISBN or genre.

## (4) Interface Requirements:

### 4.1 Software Interfaces:

- The LMS will communicate with an internal database to store all information related to books, members and transactions.

### 4.2 User Interfaces:

- Login Screen: Fields for username & password to authenticate users.
- Book Search Interface: A search bar for searching books by title, author or ISBN.
- Issue/Return Interface: Dropdown lists for selecting books and members when issuing or returning books.
- Member Registration Interface: Form for entering member details.

## (5) Performance Requirements:

- The system should be able to handle upto 10,000 users
- The response time for a search query should not exceed 3 seconds.
- The system should be able to manage up to 1,000,000 books records without performance degradation.
- Fine calculation for overdue books should occur in real time.

### ⑥ Design constraints:

- The system must be implemented using a relational database such as MySQL.
- The interface should be built using web technologies to ensure cross-platform compatibility (e.g. HTML, CSS, JS).
- The system must support scalability for future upgrades and extensions.
- The user interface must be accessible and responsive across different screen sizes.

### ⑦ Non-functional Attributes:

- Security: The system must ensure that only authorized users can access sensitive features.
- Reliability: The system should operate with minimal downtime and have an uptime of 99.99%.
- Scalability: The system must handle and increase in users, books, and transactions without a loss in performance.
- Portability: The system should run on various OS.
- Maintainability: The codebase must be modular and well-documented to allow for future maintenance & upgrades.

### ⑧ Preliminary Schedule and Budget:

- Development Time: The project will take approximately 6 months from the initial design phase to the final deployment.
- Estimated cost: The total cost for development, including hardware and software, is estimated at ₹ 5000000. This includes cost of design, development, testing and deployment.

## Q. SRS document for Stock Maintenance System (SMS):-

### ① Introduction:

1.1 Purpose: This document describes the requirements for the Stock Maintenance System (SMS), a software solution for tracking inventory, managing orders, and monitoring stock levels in warehouse or retail outlets.

1.2 Scope: The SMS will automate inventory management, including stock entry/updates, order tracking, and low-stock alerts. It will improve efficiency and reduce manual errors, catering to businesses of all sizes.

1.3 Overview: The system will enable users to manage stock efficiently through features like real-time stock updates, supplier management, order tracking & report generation.

### ② General Description:

The SMS is designed to provide real-time information on stock levels, orders and suppliers. It allows users to manage stock efficiently by providing a user-friendly interface to input, update and monitor stock data. Users can also generate reports to analyze stock trends and make informed decisions on ordering more products or managing supplier relations.

### ③ Functional Requirements:

#### 3.1 Stock Management:

- Add and update stock with product details.
- Track stock availability and generate low stock alerts.

## 3.2 Order & supplier Management

- Place, track and manage orders.
  - Manage supplier information and track delivery performance.

### 3.3 Report Generation:

- Generate reports on stock usage, levels and supplier efficiency.

## ④ Interface Requirements:

## 4.1 Use Interfaces:

- Login: Authentication for users.
  - Stock Management: Manage stock details and availability
  - Order and Supplier Management: Track orders & manage suppliers.

### ⑤ Performance Requirements:

- The system should handle upto 10,000 trans actions.
  - cow stock alerts and updates must occur in real time.

## ⑥ Design constraints:

- The system will use a relational database and be compatible with mobile devices.
  - Secure communication protocols (e.g. HTTPS) will ensure data protection.

## ⑦ Non-functional Attributes:

- Security: Access control for unauthorized users.
  - Scalability: Supports increased stock levels and users.
  - Reliability: 99.9% uptime and fast response time for transactions.

8. Preliminary Schedule & Budget:

- Development Time: estimated at 6 months.
  - Budget: 6000000 option for design, development & deployment.

Q. SRS document for Passport Automation System (PAS) :-

① Introduction:

1.1 Purpose: The purpose of this document is to outline the requirements for the PAS. The system will automate the process of passport application, verification and issuance, reducing manual intervention and streamlining the workflow for both applicants and officials.

1.2 Scope: The PAS will manage the complete passport application lifecycle, from submission and verification to issuance and renewal. It will also provide real-time status updates, track application progress, and integrate with various government databases for validation purposes.

1.3 Overview: PAS will allow users to submit applications online, verify details, upload required documents, and track the status of their application. Government officials will have tools for verifying information, managing the approval process & issuing passports.

② General Description:

PAS is a web-based system that automates the traditional, paper-based passport process. It interacts with national identification, address verification and immigration database to streamline data validation. The system is designed to replace the manual handling of passport applications with an automated, user-friendly interface.

### (3) Functional Requirements:

#### 3.1 Application Management:

- Applicants can create accounts, fill out passport applications, and upload documents.
- Officials can review, approve or reject applications based on provided information.

#### 3.2 Document Verification:

- The system will validate uploaded documents against national databases.
- Officials will manually check flagged documents that require further investigation.

#### 3.3 Passport issuance:

- After approval, the system generates a passport for printing, and applicants are notified of the issuance.
- The system will also handle passport renewals and cancellations.

#### 3.4 Status Tracking and Notifications:

- Applicants can check the status of their application in real-time.
- Email/SMS notification will be sent at key stages.

### (4) Interface Requirements:

- Applicant portal: Enables applicants to register, fill out applications, upload documents and track status.

- Official Portal: Enables government officials to review applications, perform verifications and approve/reject requests.

- Admin Portal: Provides system administrators with the ability to manage user roles, monitor system performance and generate reports.

## (g) Performance Requirements:

- The system should support upto 100000 simultaneous applications.
  - Real-time tracking and notification features must update within 5 seconds.
  - The system should move within 1 business day after application approval.

## ⑥. Design Constraints:

- The system must be integrated with national databases for identity verification and criminal background checks.
  - Secure communication protocols (HTTP) & encryption of sensitive data (e.g. passport details) are mandatory.

#### ④ Non-functional Attributes:

- Security: The system must ensure data confidentiality and restrict access to authorized users.
  - Scalability: PAs should accommodate future growth, including an increase in users and applications.
  - Reliability: The system must have 99.9% uptime and handle large-scale user access without performance issues.

## ⑧. Preliminary Schedule & Budget:

- Development time: Estimated development time is 8 months
  - Estimated Budget: The project is estimated to cost 1500000<sup>00</sup> covering design, development, testing, deployment.