

HOTEL MANAGEMENT SPECIFICATION

1. Introduction.

1.1. Purpose.

This document defines the requirements and specifications for hotel management system. It outlines objective, scope and deliverables for successful development and deployment.

1.2. Scope.

The HMS will streamline hotel operation such as reservations, check-in/out, room assignment, billing and reporting. It will reduce manual workload, ensure data accuracy and improve guest experience.

1.3. Overview.

It is a software solution for hotel staff and management. It supports reservation management, guest profile, inventory, billing and financial reporting. It will be accessible via web, desktop and mobile platforms.

2. General Description

The HMS will provide :

- Reservation and management.
- Room management.
- Guest management.
- Billing and Invoicing.

3. Functional Requirements

- Reservation : Online / front - desk booking.
- Room management : Assign room, track availability, monitor status.
- Guest management : Maintain profiles.
- Billing : Generate bills, support payment.

4. Interface Requirements.

- User Interface : Interactive, user - friendly.
- Integration : Payment gateway integration.

5. Performance Requirements

- Response Time : ≤ 2 seconds
- Scalability : Support 1000+ concurrent users.
- Data Integrity : Ensure consistent data across all systems.

6. Design constraints

- Hardware : Compatible with hotel hardware.
- Software : Use RDBMS (e.g. MySQL)

7. Non-functional requirements

- Security : Strong authentication.
- Reliability : Highly available.
- Scalability : Future-ready growth.
- Portability : Multi-platform.
- Usability : Clear navigation.
- Reusability : Modular code for maintenance.

8. Preliminary Schedule & Budget

- Timeline : 6 months
- Estimated Budget : \$ 1000000

CREDIT CARD PROCESSING SYSTEM

1. Introduction

1.1 Purpose:

This document defines the requirements and specification for the credit card processing system. It outlines objective, scope and deliverables for secure, reliable and efficient credit card transaction handling.

1.2 Scope:

The CCPS will enable businesses to accept and process credit card payments securely whether online, in-store or through mobile devices. It will handle authentication, transaction validation, settlement and reporting while ensuring compliance with security standards.

1.3 Overview

The system will provide real-time transaction processing, fraud detection, payment gateway integration.

2. General Description

The CCPS will provide integrated

- Transaction Processing : Authorization
- Merchant management : fees and limits
- Customer management : store limited.
- Reporting : General transaction logs, fraud detection reports.

3. Functional Requirements

- Transaction Handling : Accept payment, Refunds and Adjustment : support partial and full refunds.
- Fraud Detection : Detect suspicious activity.
- Merchant Dashboard : Provide analytics, daily report, account detail.

4. Interface Requirements

- User Interface : Secure, intuitive portal for merchants, customers.
- Integration : Payment gateway APIs, bank level.

5. Performance Requirements

- Response Time < 3 sec for authorization.
- Scalability: Support 5000+ concurrent transaction.
- Data Integrity: Ensure accurate, auditable transaction records.

6. Design Constraints

- Hardware: Standard POS system, server and card readers.
- Software: RDBMS
- Compliance: PCI DSS, GDPR.

7. Non-functional Requirements

- Security: End-to-end encryption.
- Reliability: High availability.
- Scalability: Ability to handle growth in merchants.
- Portability: Web, Mobile.
- Usability: Simple dashboard with clear work flows.
- Data Integrity: Strict logging, reconciliation.

7. Schedule And Budget

Timeline : 8 months.

Estimated budget : \$ 250000 (development
testing etc)

LIBRARY MANAGEMENT SYSTEM

1. Introduction

1.1. Purpose.

This document defines the requirement and specifications for library management system. It outlines objectives, scope and deliverables for managing library operations digitally.

1.2 Scope.

The LMS will automate cataloging, book issue / return, member management and fine calculation. It will improve efficiency, reduce manual errors and provides easy access to lib resources.

1.3 Overview.

The system will serve librarians, students and administration.

2. General Description

The LMS will provide:

- Catalog Management : Add, update.
- Member Management : Registered member.
- Circulation Management : Issue, renew.
- Fine management : Automatic fine calculation and deduction after late returns.
- Reports : Generate usage statistics.

3. Functional Requirements

- Search (of) Catalog : Search books by title, author, category.
- Issue / Return : Process book lending (return).
- Reservation : Allow users to reserve books.
- Member Accounts : Store personal details.

4. Interface Requirements

- User Interface : Simple, role-based dark mode.
- Integration : Barcode scanner.

5. Performance Requirements

Response Time \leq 2 seconds for searches and transactions.

Scalability : Support 500+ concurrent users.

Data Integrity : Ensure accurate records of books and members.

6 Design Constraints

Hardware : Standard PCs.

Software : RDBMS (e.g. MySQL).

7. Non-Functional Requirements

- Security : Role-based access.
- Reliability : High availability.
- Scalability : Support expansion to large libraries.
- Portability : Web and mobile accessibility.
- Usability : User-friendly search and navigation.
- Compatibility : Major browsers and standard library devices.

8. Schedule & Budget

Timeline : 5 months (planning, development, testing, deployment).

Estimated Budget : \$ 80,000 (development, integration).

STOCK MAINTAINANCE SYSTEM

1. Introduction

1.1. Purpose

This document defines the requirements and specifications for the library stock management system. It outlines objectives, scope, and deliverables for managing library operations digitally.

1.2 Scope

The SMS will automate cataloging, book issue/return, member management and fine calculation. It will improve efficiency, reduce manual errors, and provide easy access to library resources.

1.3 Overview

The system will serve librarians, students and administrators. It will support catalog search, reservation, lending / return tracking and report generation.

2. General Description

The SMS will provide:

- Catalog management: Add, update, classify books.
- Member management: Register members, track borrowing history.
- Circulation management: Issue, renew, and return books with due-dates.
- Fine management: Automate fine calculation.
- Reports: Generate using statistics and inventory reports.

3. Functional Requirements

Search by catalog:

Stock Entry: Add / update stock item details, price, quantity.

Transaction records: Record purchase, sales.

Alerts: Notify admin on slow-stock / expiry

Report: Provide daily / weekly reports.

User Roles: Differentiate access.

4. Interface Requirement

User Interface : Intuitive dashboards for admins and staff.

Integration : Barcode scanners, POS systems.

5. Performance Requirements

- Response Time \leq 2 seconds.
- Scalability : Handle 10000+ stock.
- Data Integrity : Ensure accurate real-time synchronization of records.

6. Design Constraints

- Hardware : Standard PC's, barcode scanner etc.
- Software : RDBMS (e.g. MySQL).

7. Non-Functional Requirements

- Security : Role-based access with audit logs.
- Reliability : High uptime with data backup and recovery.
- Scalability : Expandable for large warehouse.
- Portability : Web and mobile access.
- Compatibility : Works with browsers and POS hardware.

8. Schedule & Budget

- Timeline : 6 months.
- Estimated budget : \$ 120000

PASSPORT AUTOMATION SYSTEM

1. Introduction.

1.1 Purpose

This document defines the requirements and specification for PAS. It outlines objective, scope and deliverables to streamline passport application and issuance.

1.2 Scope

The PAS will automate passport application verification, approval and delivery tracking. It will reduce manual paperwork, enable faster processing and provide transparency for application and authorities.

1.3 Overview.

The system will allow citizens to apply online, schedule appointments, upload documents and track application status. Officials will verify, approve/reject applications and generate passports.

2. General Description.

The PAS will provide:

- Application management: Online submission of forms and documents.
- Appointment Scheduling: Book / reschedule passport verification slot.
- Verification & approval.
- Fee payment: Online secure payment.
- Status Tracking: Real-time updates for applicants.

3. Functional Requirements.

- User Registration: Citizens create account.
- Application submission: Upload details & documents.
- Fee payment: Support credit / debit cards, net banking etc.
- Verification: Police / authority document check.
- Approval / Issuance: Approve / reject and generate passport ID.
- Notifications: Email / sms update.

4. Interface Requirements.

- User Interface: Simple dashboard for applicants, officials.
- Integration: Payment gateways, national ID databases.

5. Performance Requirements.

- Response Time: < 3 seconds for search & status checks.
- Scalability: Handle 50,000+ concurrent applications.
- Data Integrity: Maintain secure, accurate applicant records.

6. Design Constraints.

- Hardware: standard govt servers, biometric devices.
- Software: RDBms (eg. Oracle / MySQL).
- Compliance: Must follow govt IT

7. Non-Functional Requirements.

- Security: Strong authentication.
- Reliability: High uptime with backup / recovery.
- Scalability: Expandable for national-level usage.
- Portability: Web and mobile platform support.
- Usability: User-friendly interface.
- Reusability: Modular design for new services.
- Compatibility: Works with browsers, biometric devices.
- Data Integrity: Prevent duplication.

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