**Hotel Management System**

**1. Introduction**

**1.1 Purpose of this Document**  
This document specifies requirements for the Hotel Management System (HMS). The purpose is to automate booking, check-in/check-out, billing, and staff allocation.

**1.2 Scope of this Document**  
The HMS will reduce manual errors, improve customer service, and optimize hotel operations by offering centralized control over reservations, billing, and staff scheduling.

**1.3 Overview**  
The system will manage reservations, guest services, billing, reporting, and staff coordination.

**2. General Description**

* Objective: Automate hotel operations
* Users: Customers, Staff, Administrators
* Features: Online booking, billing, check-in/out, reports
* Benefits: Time saving, improved accuracy, customer satisfaction

**3. Functional Requirements**

* Customer registration & login
* Room booking & cancellation
* Check-in/check-out processing
* Billing & payment
* Staff & housekeeping management
* Report generation

**4. Interface Requirements**

* Web & mobile app UI
* Database interface for storage
* Payment gateway integration

**5. Performance Requirements**

* System must support 500 concurrent users
* Response time <3 seconds per request

**6. Design Constraints**

* Works on Windows/Linux servers
* Must integrate with payment systems

**7. Non-Functional Attributes**

* Security: Data encryption
* Reliability: 99.5% uptime
* Usability: Mobile-friendly interface
* Scalability: Multi-branch support

**8. Preliminary Schedule and Budget**

* Development time: 6–8 months
* Estimated cost: Moderate (depends on scale and integrations)

**1) Hotel Management System**

Hotels often rely on manual or outdated methods to manage reservations, check-ins, billing, and staff coordination. This leads to inefficiency, double bookings, customer dissatisfaction, and financial mismanagement. A **Hotel Management System (HMS)** is needed to automate room booking, customer management, billing, staff allocation, and reporting in order to improve customer satisfaction, reduce human errors, and streamline hotel operations.

**2) Credit Card Management System**

**1. Introduction**

**1.1 Purpose of this Document**  
Defines requirements for Credit Card Management System (CCMS) to automate issuance, transactions, billing, and fraud detection.

**1.2 Scope of this Document**  
The system ensures secure, fast, and efficient credit card management for banks and customers.

**1.3 Overview**  
Includes card application, transaction processing, fraud monitoring, billing, and reporting.

**2. General Description**

* Objective: Automate credit card lifecycle
* Users: Customers, Bank Staff, Admins
* Features: Transactions, billing, fraud detection
* Benefits: Improved security, customer trust, efficiency

**3. Functional Requirements**

* User registration & login
* Credit card application & approval
* Transaction authorization & OTP support
* Billing & statement generation
* Fraud detection & alerts
* Card blocking & replacement

**4. Interface Requirements**

* Bank server integration
* Mobile & web app interface
* Payment network APIs (Visa/MasterCard)

**5. Performance Requirements**

* Process transactions <3 sec
* 10,000+ concurrent users

**6. Design Constraints**

* Must follow PCI-DSS standards
* Multi-layer security

**7. Non-Functional Attributes**

* Security: End-to-end encryption
* Availability: 24/7
* Reliability: 99.9% transaction success

**8. Preliminary Schedule and Budget**

* Development time: 10–12 months
* Estimated cost: High (due to compliance & integrations)

**2) Credit Card Management System**

Banks and financial institutions face challenges in managing credit card issuance, transactions, fraud detection, billing, and customer services. Manual monitoring increases risks of fraud, delays in billing, and poor customer support. A **Credit Card Management System (CCMS)** is required to automate credit card applications, secure transactions, billing, fraud monitoring, and reporting, thereby ensuring security, efficiency, and reliability in financial operations.

**3) Library Management System**

**1. Introduction**

**1.1 Purpose**  
Defines requirements for Library Management System (LMS) to automate book lending and cataloging.

**1.2 Scope**  
Improves efficiency by digitizing library processes.

**1.3 Overview**  
System manages books, users, borrowing, fines, and reports.

**2. General Description**

* Objective: Digitalize library operations
* Users: Students, Librarians, Admins
* Features: Search, borrow, return, fines, reports
* Benefits: Time saving, better service

**3. Functional Requirements**

* Register library members
* Maintain digital catalog
* Borrow & return tracking
* Fine calculation
* Reports

**4. Interface Requirements**

* Barcode/RFID scanner support
* Online catalog access

**5. Performance Requirements**

* Catalog search <2 sec

**6. Design Constraints**

* Multi-branch library support

**7. Non-Functional Attributes**

* Security: User authentication
* Reliability: Data backup support
* Usability: Simple UI

**8. Preliminary Schedule and Budget**

* Development: 4–6 months
* Cost: Low to medium

**3) Library Management System**

Traditional library operations such as cataloging, lending, returns, and fine calculation are often handled manually. This results in inefficiency, errors in record-keeping, difficulty in tracking borrowed items, and delays in providing services to users. A **Library Management System (LMS)** is required to digitize cataloging, automate borrowing/returning, calculate fines, and generate reports to make library services faster, more accurate, and user-friendly.

**4) Stock Management System**

**1. Introduction**

**1.1 Purpose**  
Defines requirements for Stock Management System (SMS).

**1.2 Scope**  
Automates inventory tracking, supplier management, and reporting.

**1.3 Overview**  
Tracks products, sales, suppliers, and generates reports.

**2. General Description**

* Objective: Manage stock effectively
* Users: Store staff, Admins
* Features: Stock tracking, supplier management, alerts
* Benefits: Prevents stockouts/overstocking

**3. Functional Requirements**

* Product database
* Stock-in & stock-out
* Low stock alerts
* Supplier records
* Sales & purchase reports

**4. Interface Requirements**

* POS system integration
* Supplier database APIs

**5. Performance Requirements**

* Handle 100k+ product records

**6. Design Constraints**

* Works across multiple warehouses

**7. Non-Functional Attributes**

* Security: Role-based access
* Reliability: Real-time sync

**8. Preliminary Schedule and Budget**

* Development: 6 months
* Cost: Medium

**4) Stock Management System**

Retailers and wholesalers struggle with inventory tracking, preventing stockouts/overstocking, managing suppliers, and generating sales reports when using manual or outdated systems. This causes financial losses and operational inefficiencies. A **Stock Management System (SMS)** is needed to automate product inventory, supplier management, purchase/sales tracking, and reporting to ensure optimized stock control, cost efficiency, and smooth business operations.

**5) Passport Automation System**

**1. Introduction**

**1.1 Purpose**  
Defines requirements for Passport Automation System (PAS).

**1.2 Scope**  
Digitizes passport applications, verification, and issuance.

**1.3 Overview**  
Enables online application, document submission, verification, and passport delivery.

**2. General Description**

* Objective: Automate passport processing
* Users: Citizens, Govt Staff
* Features: Online applications, status tracking, verification
* Benefits: Faster, transparent, efficient

**3. Functional Requirements**

* Online application & registration
* Document upload & verification
* Appointment scheduling
* Police verification interface
* Passport issuance & tracking

**4. Interface Requirements**

* National ID & police database integration
* Web portal & mobile app

**5. Performance Requirements**

* Handle 50k+ applications/day

**6. Design Constraints**

* Government security compliance

**7. Non-Functional Attributes**

* Security: End-to-end encryption
* Availability: 24/7
* Scalability: Nationwide usage

**8. Preliminary Schedule and Budget**

* Development: 12 months
* Cost: High (government-level system)

**5) Passport Automation System**

The traditional process of applying, verifying, and issuing passports involves excessive paperwork, long queues, human errors, and delays. Citizens often face difficulties in tracking their application status and completing verification procedures. A **Passport Automation System (PAS)** is required to digitize passport applications, enable online submission of documents, integrate with government/police databases for verification, schedule biometric appointments, and automate passport issuance and tracking, thus improving efficiency, transparency, and user convenience.