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SRS Document(a) HOTEL MANAGEMENT SYSTEM(i) INTRODUCTION:(ii) Purpose of the document:-

The aim of this document is to present the software requirements of the Hotel Management System (HMS). It documents the features, functionalities, and limitations of the system to facilitate effective communication between the stakeholders, developers, and testers. The HMS will automate hotel operations like reservations, billing, check-in/check-out, housekeeping, and reporting.

(iii) Scope of the Document

The Hotel management system is mainly to offer

- A centralized system for managing hotel operations
- Online and offline booking facilities
- Room availability and housekeeping management
- Automated billing and invoice generation
- User and staff role management
- Reporting and analytics for decision making

The system will advantage administrators, staff, and customers by minimizing manual effort, maximizing accuracy, and enhancing overall efficiency.

(iv) Overview

The HMS will have interrelated modules:

- Reservation module
- Front Desk module
- Billing module
- Admin module
- Reports module

The system shall be developed as a web/desktop application with secure login and role-based access.

2) GENERAL DESCRIPTION:

The system will be web-based with optional deployment as desktop application.

- It will store data in a relational database
- It will support payment gateways for secure transaction.
- Users are administrators, receptionists, housekeeping staff, and customers.
- It will operate in real-time with 24/7 availability.

3) FUNCTIONAL REQUIREMENTS:

1. Reservation Management

- Customers can search for available rooms.
- Customers can book or cancel reservations.
- Staff can update booking details.

2. Front Desk Operations

- Check-in and check-out functionality.
- Room allocation based on availability.

3. Billing and Payment

- Automated invoice generation.
- Payment via card, or online gateways.
- Refund and discount handling.

4. Housekeeping Management

- Update room cleaning status.
- Notify reception about room cleanliness.

5. Administration

- Add, update, or remove staff accounts.
- Design role-based access levels.

6. Reporting

- Occupancy reports.
- Revenue and expense reports.
- Staff performance approach.

4) INTERFACE REQUIREMENTS:-

1. User Interface (UI):
 - Intuitive, responsive design.
 - Accessible via browser and desktop client.
2. Hardware Interface
 - Runs on hotel's existing hardware (PCs, tablets).
 - Compatible with printers for receipts/invoices.
3. Software Interface
 - Integration with third-party payment gateways.
 - Database server for second stage.
4. Communication Interface
 - Secure communication via HTTPS.
 - Email/SMS notifications for booking confirmation.

5) PERFORMANCE REQUIREMENTS:-

- System should handle at least 500 concurrent users.
- Responsive time for any transaction should be < 3 seconds.
- Database must support thousands of records without slowdown.
- System uptime should be atleast 99.5% annually.

6) DESIGN CONSTRAINTS

- Must comply with data privacy laws.
- Compatible with modern web browsers.
- Limited to hotel's available IT infrastructure.
- Multi-language support for international guests.

7) NON-FUNCTIONAL REQUIREMENTS

- Security
- Reliability
- Scalability
- Usability
- Robustness

3) PRELIMINARY SCHEDULE AND BUDGET

Total duration of ~19 weeks (4-5 months) with a budget of \$35,000 to start.

(b) CREDIT CARD PROCESSING SYSTEM

1) INTRODUCTION:

(i) Purpose of this document:-

To outline the requirements and specification for the development of a credit card processing system. It provides an understanding of the project's objectives, scope and deliverables.

(ii) Scope of this document:

The system will manage secure transactions between customers, merchants, and banks. It will include payment authorization, transaction settlement, fraud detection, and reporting features.

(iii) Overview:

The credit card processing system ensures smooth and secure credit card transactions, supporting multiple currencies, payment gateways, and integration with merchant systems.

2) GENERAL DESCRIPTION:

The system will serve customers, merchants, and financial by processing payments efficiently and securely. It will also provide fraud monitoring, dispute resolution, and transaction history management.

3) Functional Requirements

(i) Transaction authorization

- validate card details with issuing bank
- support real time / approval / rejection.

(ii) Settlement and clearing

- Transfer funds between merchant and bank.
- Generate settlement report.

(iii) Fraud Detection :-

- Monitor suspicious transaction using AI/ML
- alert users and block high risk activities

(iv) Reporting :-

- Provide daily, weekly and monthly transaction reports
- allows merchants to download transaction history.

4) Interface Requirements

(i) User Interface

- Intuitive dashboard for merchant and admin
- Accessible via web and application

(ii) Integration interface

- Integration with multiple payment gateways
- APIs for bank and third-party financial institutions

5) PERFORMANCE REQUIREMENTS

- Response time < 3 seconds per transaction
- Handle 5000 transactions (at least) per second.
- Ensure 99.99% uptime.

6) DESIGN CONSTRAINTS:

- Must comply with PCI-DSS standards.
- Use strong encryption (AES, SSL/TLS)
- Database: MySQL

7) NON FUNCTIONAL REQUIREMENT :-

- Security
- Reliability
- Scalability
- Portability
- Usability
- Robustness.

8) PRELIMINARY SCHEDULE AND BUDGET

Estimate a month with a budget of 250,000, including development, testing, security audits and deployment.

9) LIBRARY MANAGEMENT SYSTEM

1) INTRODUCTION :-

(i) Purpose of this document

To define the requirements for a LMS that automates book cataloging, borrowing, returning and fine collection.

(ii) Scope of this document

Manage library operation for students, staff and administrators, providing efficient search, borrowing and reporting features.

(iii) Overview

Will handle book inventory, user records, issue/return operations, overdue tracking and digital catalog management.

2) GENERAL DESCRIPTION :-

The library management system will handle book inventory, user records, issue/return operations, overdue tracking and fine calculation for overdue books.

3) FUNCTIONAL REQUIREMENT :-

(i) Catalog Management

- Add, update and remove books records
- Maintain, digital and physical book records

(ii) Borrowing & returning:

- Track issued / returned books.

- Calculate fine for overdue return.

METHOD OF TRANSMISSION: (b)

void return (c)

- Return book circulation rule is no longer valid.

(iii) User Management:

- Maintain student and faculty profiles.

- Allow login using unique credentials.

(iv) Reporting:

- Generate daily reports on transactions.

- Provide book availability status.

4) FUNCTIONAL REQUIREMENTS:

- User-friendly dashboards for libraries and students.

- Mobile and web access.

5) PERFORMANCE REQUIREMENTS:

- Response Time < 2 seconds.

- Support atleast 100 concurrent users.

6) DESIGN CONSTRAINTS:

- Database: MySQL / PostgreSQL

- Integration with barcode scanner.

7) NON-FUNCTIONAL ATTRIBUTES:

- Security

- Scalability

- Nonces

- Durability.

8) BUDGET:

5 months with \$25,000 budget.

4) STOCK MAINTENANCE SYSTEM

i) Introduction

(i) Purpose of this Document
to define requirements for a stock maintenance that manages inventory tracking, stock updates, and supplier information.

ii) Scope of this Document

The system will automate stock entry, records management, sales tracking and reporting for warehouse and retail business.

iii) Overview:-

It will monitor product availability, alert low stock and generate sales/inventory reports.

2) General description:-

The system will serve managers, employees, and suppliers by maintaining real-time inventory records and order history.

3) Functional Requirements

i) Inventory Tracking

- Add/update stock details
- Track stock in/out history

ii) Supplier Management

- Maintain supplier records
- Auto-generate purchase order when stock is low.

iii) Reporting

- Generating daily/weekly sales reports.
- Provide stock consumption patterns.

4 Interface requirement

- Simple dashboard for stock managers
- Integration with POS systems

5 Performance requirements

- Real time stock updates
- Support atleast 10,000 stock items.

6 Design constraints

- Relational DB for stock tracking, (Inventory management)
- Integration with barcode / RFID scanners

7 Non-functional requirements

- Security
- Reliability
- Scalability
- Usability

8 Preliminary budget and schedule

6 months estimated with a budget of \$120,000

5 PASSPORT AUTOMATION SYSTEM

1. Introduction

(i) Purpose of this document

To outline the requirements for a passport automation system that simplifies passport application, verification, and issuance.

(ii) Scope of the document

The system will handle online application submission, document verification, biometric scheduling, and status tracking.

(iii) Overview

It will connect applicants, government staff, and verification authorities in a secure, digital environment.

2. General Description

The system can let applicants apply online, upload documents, pay fees, and book appointments. Officials can review applicants' medical interviews and issue passports.

3 Functional Requirements

(i) Application Submission

- Online passport application form
- Upload required document securely.

(ii) Verification Process

- Document and police verification
- Automated status updates.

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3.3 Payment and scheduling

3.4 Reporting

4 Interface requirements

- user friendly portal & applications
- secure backend API's

5 Performance Requirements

- response time < 2 seconds
- support at least 500 users concurrently.

6 Design constraints

- must comply with government IT security policies
- database : selected RDBMS Oracle (MySQL)

7 Non Function Attributes

- security
- reliability
- scalability
- portability

8 Preliminary schedule and budget

2 months estimate with a budget of \$500,000.

~~2020/08/20~~