LAB-01

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Software Requirement Specification

1. Hotel Management System

1. Introduction

1.1 Purpose

The purpose of this SRS is to clearly describe how the HMS should function. It defines customer needs, system requirements & expected outcomes so that developers can built the system correctly.

1.2 Document conventions

Requirements labeled as FR is functional and NFR is non functional, HMS is Hotel Management System.

1.3 Intended Audience & Reading Suggestions

- Developers - to understand requirements & design the system
- Project Managers - to track progress & ensure goals are met.
- Testers - to prepare test cases & verify system functions
- End Users - to know what features will be available

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3.2 External Interface Requirements.

- User interface - A web-based interface with a dashboard for different user roles.
- Hardware interface - Compatable with standard desktop / computers.
- Software interface - Integrate payment gateway.

3.3 System Features.

Automated email configurations for bookings & real-time room availability updates.

3.4 Non-Functional Requirements.

- Performance - Supports 100+ users at once
- Relaiability - Available 24/7 with minimal downtime
- Usability - Simple and user-friendly interface
- Security - Secure login, data protection, safe payments.
- Scalability - Expandable for more users/rooms in future.

4. Appendices

Glossary

Reservation - A confirmed booking

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2.6 User Documentation.
User manual and online help/FAQ's will be provided.

2.7 Assumptions & Dependencies.
Assumes a reliable power supply & network connectivity. The system depends on a third-party payment gateway for credit card processing.

3. Soft Specifi Requirements.
3.1 Functional Requirements.

- FR-1 : Customer can register, log in, & update profile.
- FR-2 : Customers can search, book & cancel rooms
- FR-3 : System displays room availability in real-time.
- FR-4 : Payment can be done online / offline
- FR-5 : Staff can manage reservations & generate reports.
- FR-6 : Admin can add/edit/delete rooms
- FR-7 : System sends booking confirmation & cancellation alerts.

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2.2 Product functions

- Book/Cancel rooms
- Check availability
- Customer registration
- Payment handling
- Reports for staff
- Admin controls.

2.3 User classes & Characteristics

- Customers - Book/cancel rooms online & check availability
- Staff - manage bookings
- Admins - Controls/manages user accounts, System settings & generate reports.

2.4 Operating Environment

The system will run on a web browser and need stable internet connection. It is compatable with major operating System.

2.5 Design & Implementation Constraints

Must follow hotel policies and use a secure database to protect guest data & secure online payments.

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II Credit card Processing

1. Introduction

1.1 Purpose

The CCPS securly processes credit card payments blw customers, merchants and banks. It ensures fast authorization, safe transactions and reliable records while protecting sensitive data. This SRS defines the system's key features & guides developers, testers & stakeholders

1.2 Document Conventions

CCPS - Credit Card Processing System
OTP - One time password.

1.3 Intented Audience

- Customers - credit card holders
- Bank employers - support staff
- Developers - system implementation
- Auditors - security & complaince check.

1.4 Project Scope

CCPS accepts and proces credit card payments online/offline, improves security with OTP & encryption, fraud detection alerts.

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2.5 Design implementation & Constraints
- Must follow PCI-DSS standards.
- Use SSL/TLS for secure transactions
- Limited to support bank APIs/payment gateway
- Transaction time < 3 sec.

2.6 User Documention
- User Manual for customers/merchants.
- Admin Guide
- Online Help/FAQs

2.7 Assumption & Dependencies.
Users have valid credit cards & required stable internet.

3. Specific Requirements.
3.1 Functional requirements
- Validate card details, authorize payments
- Generate receipts, handle refunds/chargebacks
- Provide history, repots & fraud monitoring

3.2 External Interface Requirements.
- Web-based interface for users/admins
- Works with bank APIs & databases
- Secure SSL/TLS communication.

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1.5 References.
RBI banking guidelines.
IEEE standard format.

2. Overall Description
2.1 Product Perspective
A self contained system integrated with bank servers and merchant platforms.

2.2 Product Functions
- Authorized transactions
- Validate card details
- Process payments.
- Generate transactions reports.

2.3 User classes
- Customers - use cards for payments
- Merchants - accept payments & view reports.
- Admins - manage system, monitor fraud, secur

2.4 Operating Environment
The system will run on secure web & database servers with support for LINUX/Windows OS.
It will require an active internet connection

3.3 System Features
- Fast, Secure payment processing
- Role-based access
- Notifications & fraud alerts.

3.4 Non-functional Requirements
- Performance
- Security
- Reliability

4. Appendics
Glossary
PCI-DSS – Payment Card Industry Data Security Standard.
SSL/TLS – Protocols for secure data transmission.

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11. Library Management System

> Problem statement
Design & develop a library management system to accomodate all the activities of library management system with little to no human intervention.

> SRS document
1. Introduction
1.1 Purpose
This document defines the requirements & functions of the library management Systems (LMS) to automate & streamline library operations for libraries & users.

1.2 Scope
LMS will manage book cataloging, user registration book issuance, return, searching & administrative tasks in a PC-based LAN environment with web access

1.3 Overview
This document summarizes the overall workflow & features.

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6. Design Constraints
> Must operate on windows OS with common web browsers
> Use MS SQL server as database backend
> Ensure data integrity & security of user information.

7. Non-Functional Attributes
> Usability - Intuitive UI for librarians & user.
> Reliability
> Scalability
> Security

8. Preliminary Schedule & Budget
> Req analysis & System design (2 weeks), core development like user & book management modules (3 weeks), implementation of issue / return & search functions (2 weeks), Testing & development prep (1 week) launch & support (1 week)

> 3 months estimated time
> Estimated Budget: 20 lakhs (Including development & deployment)

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Stock Maintenance System

> Problem statement

Design & develop a stock maintenance system to accomodate all the activities of stock maintenance system with little to no human intervention.

> SRS document

1. Introduction

1.1 Purpose

This document outlines the requirements & specification for the stock maintenance system to automate & streamline stock / inventory management.

1.2 Scope

The system manages stock details automatically including stock entry, Update Tracking, sales & reporting to improve accuracy & efficiency

1.3 Overview

This document provides a summary of features & workflow to ensure effective stock

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2. General Description

The LMS provide an efficient way to manage books and users. It allows libraries to add, update and delete book records, manage user accounts, handle book borrowing / returns & generate reports, Users can search the catalog & manage their accounts.

3. Functional Requirements

> Manage user accounts (add, modify, delete)
> Manage book inventory (add, modify, delete)
> Search for books by title, author / keyword.
> Issues & return books
> Track book availability & generate notifications
> Generate reports for book usage & overdue return

4. Interface Requirements

> User friendly web interface accesible via LAN
> Admin interface for librarians with full access
> Database backend with MS SQL server.

. Performance Requirements

> System available 24/7 within the LAN environment
> Fast response time for search & data retrieval
> Support simultaneous multiple users.

control & timely notifications.

2. General Description
The stock maintenance system enables users to track stock maintenance, manage requirements & maintain accurate inventions. It reduces manual errors & provides decision support through real-time dash boards & notifications.

3. Functional Requirements
> Records stock inflows & outflows
> Track stock availability & update automatically
> Notification valerts for low stock status
> Request & approval system for stock issuance
> Generate repots & analystics on stock levels & usage

4. Interface Requirements
> User-friendly web interface for stocks clerks & managers
> API for integration with existing business software
> Role based access control to secure sensitive funations.

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5. Performance Requirements
> Real-time update of stock information
> Support multiple concurrent users without performance degradation.
> Fast retrieval of stock data & reports.

6) Design Constraints
> Compatibility with standard browsers & OS
> Use of relational database
> Compliance with organizational security protocols

7) Non-Functional Requirements
> Usability
> Reliability
> Scalability
> Security.

8) Preliminary Schedule & budget
> Weeks 1-2 - Requirements analysis & System design
> 3-5 → Core development of stock tracking & management modules
> 6-7 → Implementation of notifications & approval workflows
> 8 → System testing

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9 → User acceptance testing & deployment preparation.

10 → Deployment & post-launch support

Estimated Budget - ₹ 15 lakhs approx, covering development, testing & deployment.

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Passport Automation System

Problem Statement

Design & develop a passport automation System to accomodate all the activities of passport automation System with little to no human intervention.

SRS document.

1. Introduction

1.1 Purpose

This document details the requirements & specification for the passport automation System aimed at accelerating & automating the passport issuance proces.

1.2 Scope

The System provides an online platform for passport applicants to fill forms, submit documents, & track application status. It facilitates communication b/w applicants, passport authorities & police verification departments

1.3 Overview

The System reduces manual processing ti improves data accuracy & enhances

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Security for passport issuance.

2) General Description
The passport automation system automates passport application registration, verification & approval process. It enables secure online submission & enables authorities to verify applicant details efficiency.

3) Functional Requirements
> Online application form submission with document upload.
> Application tracking & status updates.
> Administrative interface per processing & approximately
> Policy verification, data exchange & status reporting
> Notifications to applicants regarding document verification & passport dispatch.

4. Interface Requirements
> Web based user interface accessible to applicants & officials
> Secure backened database for storing applicant data

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> Interfaces with external systems such as police & regional authorities for verification.

5) Performance Requirements
> High availability with minimal downtime.
> Fast processing of applications verifications & status updates.
> Support for large volume of concurrent users.

6) Design constraints
> Compliance with national security & data privacy regulations.
> Use of encryption protocols to secure sensitive data.
> Compatible with standard web browsers.

7) Non-Functional Requirements.
> Usability
> Reliability
> Scalability
> Security

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8) Preliminary Schedule & Budget

> Week 1-2 → Requirements gathering & System design

> 3-5 → Development of application Submission & tracking modules

> 6-7 → Development of verification interface & administrative dashboards.

> 8 → Testing & bug fixing

> 9 → User acceptance testing & deployment preparation

> 10 → Deployment & ongoing support

Estimated Budget : 40 lakhs approx, including development, security compliance & deployment