

APPLICATION PROBLEMS TO BE CONSIDERED:-

- 1) Hotel management system.
- 2) Credit card processing.
- 3) Library management system.
- 4) Stock maintenance system.
- 5) Passport Automation system.

Steps:-

- 1) Develop a problem statement.
- 2) Develop a complete IEEE standard (SRS document) with several requirements.

SRS software requirement specification. 1) Introduction

- Purpose of document
- Scope of document
- Overview.

- 2) General description.
- 3) Functional requirements.
- 4) Interface requirements.
- 5) Performance requirements.
- 6) Design constraints.
- 7) Non-functional attributes.
- 8) Preliminary schedule & budget.

HOTEL MANAGEMENT SYSTEM

11/8/25

2)

1) Introduction :-

The Hotel Management System is a tool for booking the rooms of hotel through online mode by customers.

3)

2) Purpose :-

The SRS of HMS provides detailed description of requirements of HMS. Customers use SRS as a test to see if project team is constructing the system to their expectations. If not then customers will specify their needs so that the team can change the SRS according to needs of customers.

3) Scope :-

The HMS is basically designed to book rooms by customers through online & that will automate many operation in HM. There are 3 end users :- customers, receptionist, hotel manager. Customers check for room availability, select rooms & pay for rooms. Receptionist can modify the booking details & Manager looks after the financial report & updates room informations.

Basically the goal is to simplify the process of bigger physical files for doing above process by this type of automation.

4) Overview :-

Consists of Assumption & constraints. There are many requirements which has functional & non-functional requirements, Interface requirements

18/25

2) General description:-

Replaces manual processes with automated processes. It makes the hotel work easier, faster while giving guests a better experience.

3) Functional requirements

This is basically what system should do or what it does. In HMS, there are many things done when booking takes by end users.

- 1) User login/signup.
- 2) Room/customer management.
- 3) Billing/payment.
- 4) Staffs management/services.
- 5) Notification/alerts.

4) Interface requirement:-

This is basically explains how HMS will connect + interact with users.

- 1) User interface:- for login, Booking rooms, check in, check out buttons.
- 2) Hardware interface:- Barcode/scanners/printers.
- 3) Software interface:- System should connect with payment gateways like UPI & also online booking app on mobiles.

5) Performance requirement:-

This tells about how system is performing & what are constraints included.

- 1) Speed:- System should load page in 2-3 sec.
- 2) Simultaneous use:- System should allow many users to use it simultaneously.
- 3) Booking:- Room booking or cancellation.
- 4) Database Handling

6) Design constraints.
This means the rules & limits that developers should follow in building a system.

- 1) system must work on windows / Linux.
- 2) should use MySQL database
- 3) Print bills with thermal printer
- 4) keeping customers data with secure passwords.

7) Non-functional attributes.
This describes how well the system works.

- | | | |
|----------------|----------------|----------------------|
| 1) Performance | 3) Usability | 5) Maintainability |
| 2) Reliability | 4) Scalability | 6) Availability etc. |

8) Preliminary schedule & budget.

Means a rough plan of time. how much time does it take to build the system.

Budget is roughly estimating how much amount that might be required to build HMS

LIBRARY MANAGEMENT SYSTEM:-

INTRODUCTION:-

Purpose: The purpose of LMS is to automate the traditional library operations including book cataloging, user management, & circulation. The system will minimize manual work, reduce human errors & improve efficiency in managing library resources.

Scope:

The system will allow:-

- Admin to add, edit.
- Members to search & borrow books.
- Tracking of borrowed & overdue books.
- Simple reports for issued & returned books.

Overview:

The system has 2 types: Admin & members. Admin manages the library, while members use it to find & borrow books.

1) General description:-

- Users: Librarians, students, & faculty
- The system will be web-based & use a database to store records.
- It reduces paperwork & saves time.

2) Functional requirements:-

- 1) Login for admin & members
- 2) Add, edit & delete books.
- 3) Add & manage members.
- 4) Borrow & return books with due dates.
- 5) Search for books by title, author or subject
- 6) Generate simple reports of issued & overdue books.

4) Interface Requirements:

- User Interface: simple, menu-driven web interface
- Hardware:- Computer/mobile with internet access
- Software:- Runs on any browser with database support.

5) Performance Requirements-

- Should handle at least 50 users at the same time.
- Search results should display within 2-3 seconds.

6) Design Constraints

- Works only with internet connection
- Users must have valid login credentials.

7) Non-Functional Attributes.

- Easy to use, minimal training required.
- Secure login for all users
- Reliable & quick access to records.

8) Preliminary schedule & Budget:-

9 weeks & Budget: 1,75,000

CREDIT CARD PROCESSING SYSTEM:-

29/12/21

Introduction:

Purpose: The purpose of credit card processing system is to provide a secure & efficient way of authorizing, authenticating, & settling credit card transactions b/w customers, merchants & banks. It ensures that payments are processed quickly & safely.

Scope:

The system will allow merchants to accept payments through credit cards, Verify cardholder details & transaction validity. Communicate with banks & card networks for approval. Handle clearing & settlement of funds, Provide transaction history & reporting for both merchants & banks.

Overview:

The system involves Cardholder, Merchant, Payment Gateway, Card network, Acquiring Bank, & Issuing Bank. It will support in-store (POS) & online payments with features like authorization, secure settlement.

2) General Description:-

- Users: Customers, Merchants, Bank staff.
- Environment: Secure web-based & POS environment.
- Dependencies: stable internet connection, card networks, & secure encryption.
- Assumptions: Every user has a valid card issued by an authorized bank.

3) Functional Requirement:

1) User Authentication:

Validate cardholder credentials.

2) Transaction Authorization:

3) Clearing & Settlement:

4) Transaction History:

5) Error & Fraud Handling:-

4) Interface Requirements

- User Interface:-
POS terminal for in-store payments
- Hardware Interface:-
 - POS machine, card reader
 - Secure servers at banks & processors

• Software Interface:-

- Database for transaction records
- Secure API's for communication with card networks.

5) Performance:-

- Transactions should be processed within 2-5 seconds
- System should handle thousands of concurrent transactions.
- Must available 24/7 with 99.9% uptime.

6) Design Constraints:-

- Must comply with PCI DSS.
- Transactions must use encryption.
- Must support multiple card networks.

7) Non-Functional Attributes.

Security
Reliability
Scalability
Usability

8) Preliminary schedule & ~~time~~ budget
16 weeks & 7,00,000

19/8/25

STOCK MAINTENANCE SYSTEM:-

Introduction:

1.1 Purpose:

The purpose of the Stock Maintenance system (SMS) is to track & manage stock items in a business or warehouse. It will help reduce manual work, prevent stock shortages or overstocking, & provide accurate reports for decision-making.

1.2 Scope:

The system will:-

- Allow admin to add, update.
- Track stock levels
- Generate alerts for low stock.
- Provide sales & purchase records.
- Generate reports for inventory status.

Overview:

The system will be used by Admin & staff. Admin can manage stock records, while staff can update stock usage & check availability. The system ensures that stock is always up to date.

9) General Description:

- Users:- Admin, staff, customers.
- Environment: web-based or desktop-based
- Dependencies: requires internet
- Assumptions: Each stock item is uniquely identified.

3) Functional Requirements

- 1) User Authentication
- 2) Stock management
- 2) Stock Monitoring
- 4) Reporting
- 5) Search & Filter

4) Interface Requirements

• User Interface

• Hardware Interface:-

- Computer/mobile with internet access
- Barcode scanner support

• Software Interface:-

- Backend
- Database
- Frontend

5) Performance Requirements

- Should support multiple users updating stock at the same time.
- Must process stock updates instantly.
- Should handle at least 10,000 stock items in the database.

6) Design Constraints

- works only with valid login credentials
- Must comply with company's IT security policy

7) Non-functional Attributes

- Security
- Usability
- Reliability
- Maintainability

8) Preliminary schedule & Budget:-
10 weeks & 3,00,000

PASSPORT AUTOMATION SYSTEM:-

19/1/20

Introduction:

1.1. Purpose:

The purpose of Passport Automation system is to simplify & automate the process of applying for, renewing, & managing passports. It reduces manual paperwork, minimizes errors, & provides applicants with an easy way to track their applications status online.

1.2 Scope:

The system will:

- Allow users to apply for a new passport or renewal online.
- Provide forms for entering personal details
- Schedule appointments for document verification & interviews.
- Enable admin to verify applications.
- Allow applicants to track their application status.

1.3 Overview:-

The system has two main users:-

- Applicant:- Submits passport applications, uploads documents, books.
- Admin/Passport officer:- verifies applications, approves/rejects, & issues passports.

2) General Description:

- 1) Users: Applicants, Passport officers
- Environment: web-based application with secure database.
- Dependencies: Requires internet connection & government ID databases for verification.

Assumptions: Applicants must provide valid personal information & supporting documents.

3) Functional Requirements:

- 1) User Authentication
- 2) Application management
- 3) Appointment scheduling
- 4) Application verification
- 5) Status Tracking
- 6) Reports.

4) Interface Requirements:

• User Interface:-

- Applicant dashboard
- Admin dashboard

• Hardware Interface

- Computers or mobile devices with internet access

• Software Interface:-

Database for storing

5) Performance Requirements:-

- System must handle thousands of application daily.
- Response time for form submissions & status updates should be under 2 seconds.

6) Design Constraints.

- must comply with government data privacy & security laws.
- must use encryption for sensitive data.
- Accessible only through valid login credentials.

7) Non-Functional Attributes.

- Security :- strong encryption for document & personal data.
- Usability :- simple forms & navigation for applicants.
- Reliability - Scalability - Maintainability.

8) Preliminary schedule & budget :-
16 weeks & 10,50,000.

12/05/09