→ Hotel Management System
→ Credit Card Processing
→ Library Management System
→ Stock Maintainence System
→ Passport Automation System

Steps :- 1) Develop Problem Statement

2) Develop a IEEE Standard SRS document with several requirements

SRS :- 1) Introduction - Purpose

  - Scope

  - Overview

2) General Description

3) Functional Requirement

4) Interface Requirement

5) Performance Requirement

6) Design Constraints

7) Non-Functional Attributes

8) Preliminary Schedule and Budget

1) Hotel Management System:-

1) Problem Statement:- In the hospitality industry, efficient management of hotel operations is crucial for enhancing customer satisfaction, optimizing resource utilization, and improving overall service delivery. Many hotels still rely on manual or partially automated systems for booking management, customer check-in/check-out, billing, house keeping coordination, and inventory control

→ To develop into effective, ~~strong~~ good customer experience

SRS:- and to maintain Hotel operations with excellent services.

1) Introduction:-

i) Purpose:- The purpose of this document is to define the requirements for the Hotel Management System. It outlines the functionalities, constraints and Interactions.

ii) Scope:- It automates and streamlines the core operations of hotel business.

iii) Overview:- Product Perspectives, User classes and characteristics, Operating environment.

2) General Description:
It is a standalone web-based system that interfaces with a backend database and a optional third-party payment gateways with email and SMS notification services. It has three main modules:-

i) Guest Interface
ii) Staff Dashboard
iii) Admin Panel

3) Functional Requirements:-

i) Room Management: Add/update/Delete room details, availability status.

ii) Booking Management: Create, modify and cancel bookings.

iii) Check-in/Check-out: Record guest arrival/departure, update room status.

iv) Billing and payment: To carry out the billing process and to initialise the payment to be done.

v) Reporting:- To generate the revenue, the total occupied and guests coming

Interface Requirement:

→ Non-functional Requirements:-

- **Performance:-** The system can support up to many users without degrading

- **Security:** The system can enforce login and role-based access control

- **Reliability:** The system has uptime of 99.9% monthly and daily automated database backups are required.

- **Maintainability:** The system follows modular design for easy updates and Documentation must be provided for APIs.

→ Interface requirements:-

- **User Interfaces:-** It has login page, dashboard, Room booking, Invoice viewer and management for all users

- **Hardware Interface:** It has barcode scanner for check-in and POS system for on site billing

- **Software Interfaces:-** MySQL database, Payment Gateway APIs, Email/SMS Notification services.

→ Design Constraints:-
Use open source database which supports responsive design for mobile devices.

Data is stored in encrypted format in which the system follows GDPR compliance for customer data

→ Preliminary Schedule and Budget:-

① Schedule

Phase	Duration (Weeks)
Requirement Analysis	2
System Design	3
Development - Backend	5
Development - Frontend	4
Integration & Testing	3
Deployment & Training	2
Maintenance & Support	ongoing

② Budget Estimate

Cost Item	Estimated Cost (USD)
Project Manager	$5000
Business Analyst	$2000
Backend Developer	$12,000

Frontend Developer	$10,000
UI/UX Designer	$3,000
~~QA~~	
Total Budget : $32,000	

⭐ Credit Card Processing :

Problem Statement : to ~~make~~ develop effective, secure, real-time credit card processing.

→ Purpose :- To define the detailed software requirements and system specifications for the credit card Management system, guiding development and ensuring stakeholder alignment

→ Scope :- Covers credit card account creation, transaction processing, billing, payments, fraud detection, reporting and integration with banking systems.

→ Overview :- The system manages credit card lifecycle including issuance, transaction monitoring, payment processing

→ General Description :-

3 Handles customer account management, transaction authorization, billing cycles, payment processing, fraud detection alerts and compliance reporting.

) Supports multiple user roles: Admins, customer service, and customers.

→ **Functional Requirements:**

:) Credit card application processing and approval workflows

:) Real time processing and transaction.

:) Billing Statement generation and delivery

:) Fraud detection and alert system.

:) Payment processing and account balance updates.

→ **Interface Requirements:-**

:) Web based UI accessible on desktops and mobile devices

:) Secure communication via HTTPS

:) Hardware support for card readers if needed

→ **Performance requirements:-**

:) Transactions should run smoothly, response time should be few seconds.

:) Should handle multiple transactions

→ **Non-functional Requirements**

:) Security, Scalability, Reliability, maintainability, Compliance, usability

→ **Preliminary Schedule and Budget:**

Phase	Duration	Cost (USD)
Analysis	4 weeks	6000
Testing	12 weeks	52000
Implementation	8 weeks	10000
Maintainance		15000

Estimated time : 60-70 weeks, cost : 480000

→ Stock Maintenance System :-

→ Problem Statement : To develop a system that efficiently manages, monitors and updates stock levels in real-time to prevent overstocking and stockouts in retail or warehouse environment

→ Introduction :

i) **Purpose :-** This system will manage the inventory, track stock levels, handle stocks so and generate reports for the retail

ii) This system is used by retail business to maintain and manage their inventory. This system supports both manual and automated stock adjustments.

→ ~~General~~ 3) The document provides a list of software requirements for the stock Maintenance system. The document includes both functional and non-functional requirements.

→ **General Description :-** It will be a standalone application or may be integrated with an existing system to provide a experience for maintaining stocks.

i) **Admin :** Full access to all features, including managing users and system configurations.

ii) **Warehouse Staff :** Limited access to stock maintenance features

iii) **Managers :** Access to stock levels

→ Functional Requirements :

i) **User Authentication and Roles :-** login, logout

ii) **Stock Item Management :-** Add, update, delete.

iii) **Stock level tracking :-** Track real time stock, update stocks

iv) **Low stock alerts :-** Set minimum stocks, Notify user when stock falls.

v) **Backup and Recovery :-** Manual and automatic data backups.

vi) **Audit logging :-** Log all changes to stock actions

→ Non-functional Requirements :-

i) **Performance :-** Can handle up to 10,000 items and 100 users without lag.

ii) **Reliability :** Ensures 99% uptime

iii) **Security :** Data encryption i.e like passwords

iv) **Usability :-** User-friendly Interface.

> Maintainability :- Structure for easy updates, clear
documents for developers and users.

→ Interface Requirements :-

:) User Interface :- Clears dashboard showing stock, alerts
and quick actions.

:) Hardware Interface :- Supports barcode scanners

:) Software Interface :- Integration API's or accounting systems.

→ Design Constraints :-

:) The system has a compatible with standard web browers
:) It has a relational database for data storage.
:) The system operates on Windows, linux or any cloud server
:) All data communication must be secure HTTPS protocol

→ Preliminary Schedule :-

Phase	Duration
Requirement Analysis	2 weeks
Design	3 weeks
Development	6 weeks
Testing	3 weeks

Deployment   1 weeks

~~Budget~~

→ Preliminary Budget

Item	Cost (USD)
Requirement Analysis	3000
System Design	4000
Development	15000
Testing	5000
Deployment	2000
Training	1500

Total Budget :- $30500

→ Library Management :-

) Problem statement:
To maintain and manage library more efficiently and in a more ordered way.

→ Introduction :-
i) This covers the automation of all major library operations, including book cataloging, member management and to specify the requirements for a library management

ii) Overview :- Library management system is a software application designed to replace a manual (or) outdated library.

→ General Description:-
The library Management System will be used by librarian for administration tasks and by library members for browsing and searching the catalog. It will be web-based application, ensuring easy for all users without the need for special software

→ Functional Requirement:
○ Allows librarian to add, modify, remove books and other media from database.
○ Each item shall have details like title, ISRM, genre and location.
○ Maintain a record of each members, update their information and manage membership.
○ Maintain a record of each members borrowing history.

→ Interface Requirement:
i) User Interface :
○ A simple, clean, initiative web interface for both library management.
○ Design shall be responsive to work on both desktop and mobile web browser.

ii) Integration Interface:
○ Integration with USB for bluetooth barcode scanner for quick check in, check-out.
○ Optional integration with an email service to send overdue notices and reservation confirmation.

→ Non-functional Attributes:-

Security, Reliability, Usability, Compactability, maintainability, Scalability.

→ Preliminary Schedule and Budget:-

Phase	Duration	Cost (USD)
Analysis	3 weeks	8000
Implementation	7 weeks	10,000
Testing deployment	10 weeks	52000
Maintainance	12 weeks	15000

Estimated time : 35 weeks, Costs : $ 80,000.

→ Passport Automation System:-

*) Problem Statement: To automate the dispatch of passports to all applicants effectively and efficiently.

→ Introduction:- This is an interface between the applicant and the authority responsible for the issue of passport

i) Purpose: The complete process is done manually which is inefficient and time consuming So, it is to be automated.

ii) Scope: The system reduces the time consumption and also reduces human errors to improve efficiency.

→ General Description: The passport automation System acts as interface between the applicant and administrator. This system tries to make the interface as simple as possible.

→ Functional Requirements:-

i) System shall provide information about different types of passport guide.

i) The system shall authenticate users to ensure only valid users.

i) This can also provide multiple payments methods and confirmations.

- System also allows different departments to verify documents.
- Also allow users to check the current status of their passport application

→ **Interface Requirements:**

⊕ Hardware:

    Processor: intel core i3 or above

    RAM : 4 GB minimum

    Storage: 500 GB SSD/HDD.

⊕ Software:

- OS: windows / linux / MAC
- Database storage, like MySQL, etc,.
- Some Encryption tools, role based authentication.

→ **Non functional Requirement:**

- Security, Usability, Reliability, Managability, Scalability, Compactability.

→ **Preliminary Schedule and Budget:**

Phase	Time (weeks)	Cost (USD)
Analysis	1 wee	1000
Architecture	3	2000
Building and testing	7	30000
Deployment	3	40000
Maintainance	12	70000

So, the total estimated time is 30 weeks and 1,50,000 $ is the average estimated cost.