WEEK - 0

1) Credit Card Processing
~~Hotel Management~~ System [Design & Develop]

Problem Statement :- A credit card processing system is required to securely handle customer transactions, authorize payments, detect fraud, manage billing. System should ensure accuracy, reliability and compliance with financial regulations.

1. Introduction

1.1 Purpose : To define functional and non-functional requirements of system. Explains objectives, benefits to users and financial institution.

1.2 Scope : Describes overall working of system including authentication, transaction management, fraud detection. Outlines benefits to customers, development cost and expected timeline.

1.3 Overview : Allows users to make secure credit card transactions, while merchants and banks process, validate and record payments.

2. General Description

System enables secure processing of transactions. Involve customers, merchants, banks, payment gateway. Features include transaction authorization, fraud detection, customer support.

3. Functional Requirement

Validate card details and authenticate user

Authorize transactions

Process payments securely

Generate transaction receipts

Allow refunds

4. Interface Requirements :

Customers to enter card details

Interface for transaction status and report

Payment gateway via secure APIs

5. Non function Attributes :

Security : End to end encryption for transactions

Reliability : High system uptime

Scalability : Able to handle increasing transaction load

Portability : Works across platforms

Reusability : Components can be reused for payment modules

Data integrity : Transactions must not be lost

6. Appendices

Banking and RBI compliance notes

7. Index

Keywords : Credit card, payment, Authorization.

2) Hotel Management System.

Problem Statement :- To design & **Develop the** system that automates hotel operations such as reservation, billing, house keeping improving customer experience

1. Introduction

1.1 Purpose : Defines functional and non-functional requirements for HMS, explaining objectives and benefits to staff and customers.

1.2 Scope : Covers reservations, guest management, billing housekeeping

1.3 Overview : Supports guest booking, billing and managerial reports.

2. General Description

Involves receptionists, managers, housekeeping, and cust with features such as booking, billing, housekeeping and reporting.

3. Functional Requirements

Manage reservations

Check in / check out automation

Bill generation

Housekeeping module

generate reports.

4. Interface Requirements

Receptionist interface for booking and check-u

Update room status

Dashboard for report

Secure payment gateway

5. Non functional attributes.

  Security: Encrypted guest and payment data
  Reliability: 99.9% Uptime
  Scalability: Support multiple hotels/branches
  Usability: Simple UI for staff.

6. Appendices

  Hotel terms, GST invoice samples.

7. Index

  Keywords: Hotel, Booking, Billing.

) Library Management System

Problem Statement: To design and develop System that automates
  cataloging, book issuance, member managemt
  ensuring efficient tracking of library resources

1. Introduction.

  1.1 Purpose: To define requirements for LMS
      ensuring efficient library options.

  1.2 Scope: Covers cataloging, book issue/return,
      membership management

  1.3 Overview: Automates library workflow and
      maintains accurate records.

2. General Description

Involves librarians, students and faculty for functions like cataloging, book lending, returns, fines and reports.

3. Functional requirements

Add / search books in catalog
Member registration and management
Issue / return books with due dates
Auto fine calculation
Reports on usage.

4. Interface requirements:

Librarian portal for cataloging and issuing
Member portal for availability
Database for records.

5. Non functional attributes

Reliable : System should be available with no dou
User friendly : Should have clean, simple, intuitive u
Accurate data : All data entered should undergo
validation to ensure accuracy

6. Appendices

Library rules and codes.

7. Index

Keyword : Library, Catalog, Issue, Fines.

4) **Stock Maintanance System.**

Problem statement : To disign *and develop* a system that maintains accurate stock records, monitors inventory levels, generate alerts and provides ~~support~~ report for decision making.

1. Introduction.

1.1 Purpose - to maintain stock and inventory
1.2 Scope - track items, generate alerts, reports.
1.3 Overview - track stock in warehouses and ensures proper records.

2. General Description

Users are warehouse staff and managers.
Function - stock monitoring, alerts and reporting.

3. Functional Requirements.

Add/update/delete stock items.
Track incoming/outgoing stock.
Generate alerts for shortage.

4. Interface Requirements :

Staff interface for stock entry
Manager dashboard for reports
Database Integration.

5. Non-functional requirements :

Reliability : Accurate inventory counts
Security : Access control for edits.
Scalability : Expandable to multiple warehouses

6. Appendices

    Stock codes and category list.

7. Index

    Keyword : Stock, Inventory, Warehouse.

5) Passport Authentication System

Problem Statement - To design and develop system that automate passport application, verification enabling faster approvals and improved transparency.

1. Introduction

    1.1 Purpose : Defines passport service automation requirements.

    1.2 Scope : Covers application, verification, Status tracking and issuance.

    1.3 Overview : Simplifies passport process for citizens and officials.

2. General Description

    Involves applicants, government officials and verification authorities. Functions: apply, verify approve, issue.

Functional Requirements

    Online passport application Submission

    Document Verification

    Status tracking

    Passport Issuance

4. Interface Requirements :
       Citizen portal for application
       Officer portal for verification
       Database integration with Aadhar/ID.

5. Non functional Requirements :
       Security : Strong encryption.
       Reliability : High availability
       Transparency : Can track status.

6. Appendices
       Passport rules, ID verification guidelines.

7. Index
       Keywords : Passport, Verification, Application.