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Develop a complete IEEE standard SRS document with several requirements

HOTEL MANAGEMENT SYSTEM

1. Introduction

a. Purpose - This document outlines the functional & non-functional requirements for hotel management system. It will serve as a guide for developers, testers & stakeholders to understand expected features & performance of the system. The goal is to automate hotel operations and improve customer service.

b. Document conventions:-
The document follows IEEE, all headings are bold & properly numbered for easy reference requirements are labeled as functional, non functional of external interface

c. Intended Audience & reading suggestions -
This SRS is intended for developers, testers, project managers, hotel administrator. Developers should focus on the requirements sections. Testers should refer to functional & interfaces while managers & clients may focus on scope & user roles

d. Project scope -
The HMS will manage hotel operations such as reservations, room availability, custom

Check-in/out, staff scheduling, billing & reporting.

e References
- IEEE 830 software requirements
- MySQL & Java swing documentation
- APIs for online payments & email notification

2. Overall Descriptions

a. Product perspective.
The HMS is a standalone application but may be extended to integrate with payment gateway & e-mail services. It is extended for both local & online access in a browser or client application.

b. Product review functions:-
Main function include room reservation, check-in/check-out, billing, etc. It also allows admin level control for staff management & room configration

c. User classes & characteristics
Administrator: full access to all modules & data reception: can manage bookings & billings housekeeping staff: can view & update room cleaning. Customer: can book rooms online through portal

d. Operation environment -
The system will run on windows or linux platforms. It uses mySQL

for the backend & you are web interface for frontend

e. Design and implementation constraints:-
The system should use only open-source technologies.
It must be scalable, secure & support integration with external services

f. User documentation:
User manuals, admin guides will be provided will include system navigation, Customer FAQ's & troubleshooting steps to help users interact with system easily.

g. Assumptions & dependencies.
Assume users have basic computer knowledge. Online features depend on internet availability & third parties APIs. The system also depends on correct setups of the hosting environment

3. Specific Requirements:-
a. Functional Requirements
- Users can book, modify & cancel reservation
- Receptionist manages check-ins & check-outs
- System generates & print bills
- Admin can add/edit room & view report
- email confirmation on sent after booking

b. Non-functional Requirements:-
- System should respond within 2 secs.
- 99.9% Uptime is expected
- Secure login & encrypt data storage
- Must support atleast 20 users at same time.

c. External Interface Req
- GUI for admins, staff & customers
- Gateway integration with payment
- Email server for sending notifications
- Optional barcode/RFID scanner support at reception.

d. Appendices
- Glossary of terms used in HMS
- Screenshots / mockups of interfaces
- Use Case, ER & DFD diagrams
- Sample test cases for feature

CREDIT CARD PROCESSING (SRS)

1. Introduction

a. Purpose -
This system security process credit card payment including validations, authorization & card checks & transaction recording. It ensures fast, realise, & complete payment handelling.

b. Document Conventions
Follows IEEE 830 format using clear section numbering & Labs label for functional, non-functional, external interface requirements.

c. Intended Audience & Reading suggestion for developers, testers, security analysis, & stakeholders Each should focus on relevant sections like requirements, security features & performances circuit.

d. Project Scope:-
The system handles online and offline credit card transaction, detects from, validates card details & provides transaction history to benefits & merchants.

e. References:-
- IEEE 830
- PCI DSS Guidelines
- VISA / Mastercard API Docs
- ISO smart card standards.

2. Overall description
a. Acts as middleman between Merchant, banks & Card networks, integrates with payment gateways & merchant platforms for secure transactions.

b. Product Functions:-
Performs card validation, payment approval, fraud detection, transaction logging & reporting. Admins can review logs & manage merchant profiles

c. User class:
- Merchant: Initiates and monitors orders
- Cardholder: Makes payment
- Admin: Manages users and logs
- Security team: Monitor fraud alerts

d. Operating Environment:
Runs on secure servers with HTTPS, support web/mobile/POS systems; & uses encrypted connections (SSL/TLS)

e. Constraints:
Can't store sensitive card data without compliance must integrate with API's, for banks and card network & ensure high performance.

f. User documentation:-
Include guide for merchants, admins, bank integration & training operations for monitoring & compliance

g Assumptions
Requires intent valid, card networks APIs, verified users, & third-party fraud & inspection system for smooth operation

3. Specific Requirements-

a. Functional Requirements
- Validate are details & approx/reject payments
- Record transactions & notify users
- Detect & block suspicious activity
- Provide summary reports

b. Non-functional requirements.
- Response time less than 2 sec for transaction
- 24/7 system availability with 99.9% uptime
- End to End encrypted on data transactions
- System must comply with PCI-DSS standard
- Scalable to handle peak load traffic

c. External interface requirement
- Integration with banking / payment gateway API's
- GUI dashboard for merchant & admin
- Supports POS systems, web & mobile interfaces.
- Communication is REST/API's & secure sockets

d Appendix

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- use & sequence diagram for transactions
- API request / response format examples
- Sample test cases & validation.

Stock Maintenance System

1. Introduction

Purpose: To manage & track stock digitally with real time updates

Convention:- "Shall used for requirements
Audience: Manager, Developers, Testers, Staff
Scope: Automates stock tracking, report and alerts
References: IEEE std 830, Inventory guidelines

2. Overall Description:-

Perspective: standalone future integration with POS/ERP
Product functions: Add/Update/delete items, stock alerts, reports, search/filter, role based access.

Users: Admin (full control), staff (update, view), viewers (view only)

Environment: Windows/Linux, MySQL/SQL DB with desktop

Documentation: User manual, online help

Assumptions:- Users are computer-literate, data is entered correctly

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3. Specific requirements:-

1. Functional requirements
System manages stock by adding, updating, deleting items, showing real time availability, low-stock items, showing restock alerts, reports & keeping on logs with role based access.

2. Non-functional requirements
It ensures fast response less than 2 sec, scalibility upto 100 users, security with authentication/encryption user, friendly, design, high uptime (99.5%) & easy maintenance

3. External interface requirements:
System provides a GUI with dashboard connects to database like MySQL works on standard or hardware, Communicates via LAN & support future POS/ERP integration

4. Appendices:
Glossary stock, Report, threshold

future enhancement, Mobile app, Barcode scan, Auto supplier ordering

Passport Automation System

1. Introduction:
Purpose: The system automates passport application, verification & reissuance online to reduce delays & manual work.

Document Convention: All requirements use the keyword shall, categories as functional, non functional & interface.

Intended Audience & reading suggestions: Applicants, government officials developers, testers & managers each should focus on their relevant sections.

Project scope: The system enables online application, payments, tracking, verification and final passport delivery in a secure manner

Reference: IEEE std 830, official govt. e-Governance policies & existing passport guidelines

2. Overall description

Product Perspective:- A web-based solution replacing manual process designed for integration with govt databases.

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Product functions:- users apply online, upload document, pay fees schedule appointments, track status & officials issue passports.

User class and characteristics. applicants submit requests, verifies checks & approve documents and admins controls the system.

Operating environment - Works on windows / linux servers with My SQL / Java & accessible via common web browsers

Design & ~~impl~~ Implementation constraints: Must follow your data protection, security standard & handle big user traffic

User documentation: provides user manual online help & FAQ for applicants & officials

3. Specific Requirements:

1. Functional requirements:- Applicants can register, apply, upload pay & track applications, while officials verify, update & issue passports.

2. Non-Functional requirements:- System shall be fast (<2 secs response), secure, reliable, scalable & use 24/7

3. External interface requirements:
Provides browser-based GUI, connects to database, integrates with payments / verification

systems over internet / LAN

4. Appendices.

Glossary:- Applicant, citizen, user, verifier, Consulate office, status, current step of passport process

Future enhancement:- Integration with mobile app, biometric verification & AI based fraud detection.

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LIBRARY MANAGEMENT SYSTEM

1. Introduction

1. Purpose:- System operates library operations including book, issue, return cataloging by member management to save time & reduce errors

2. Document conventions:- All the requirements use the keyword shall, categories and FK, NFR, IR

3. Intend Audience & Reading suggestions.- libraries, students, faculty, developers, testers and project managers should focus.

4. Project scope- the system makes book records, member accounts, transaction & queries reports while, ensuring easy search & access.

5. References: IEEE std 830 library action- standards & guidelines.

2. Overall description:-

1. Product Prespective: A standalone or web-based sol replacing manual registers, with options for future integration with digital libraries

2. Product functions: Allows Adding / removing books issuing / returning, managing members, generating reports & providing search functionality.

3. User classes & characteristics
Libraries ~~as~~ manager books & members faculty & student borrow books & admin oversees the system

4. Operating environment:- Works on windows / linux with MySQL & accessible via browser

5. Design & implementation:- Constraints must ensure data consistency, prevent multiple issue of the same copy

6. User documentaries:- Includes manual for staff, FAQ's for students & training guides.

7. Assumptions & dependices:- Classes have valid library access, system depend on stable database

8. Specific requirements:-

Functional Requirements:-
System shall allows book issues, return, manage due dates & finals maintain member accounts & generate reports.

2. Non-functional requirements:- It shall provide response within the 2 secs, security maintain 99.5%, uptime & offer a user friendly interface.

3. External interface requirements - provides a GUI with search & emails & menus, connects to relational database & communicates over LAN / Internet if online

4. Appendicies
Library: number = student / faculty,
Librarian = staff, transaction = issue / retu

Future enhancement - Barcode / QR suppor
, e-book access, mobile app, auto fine-pay
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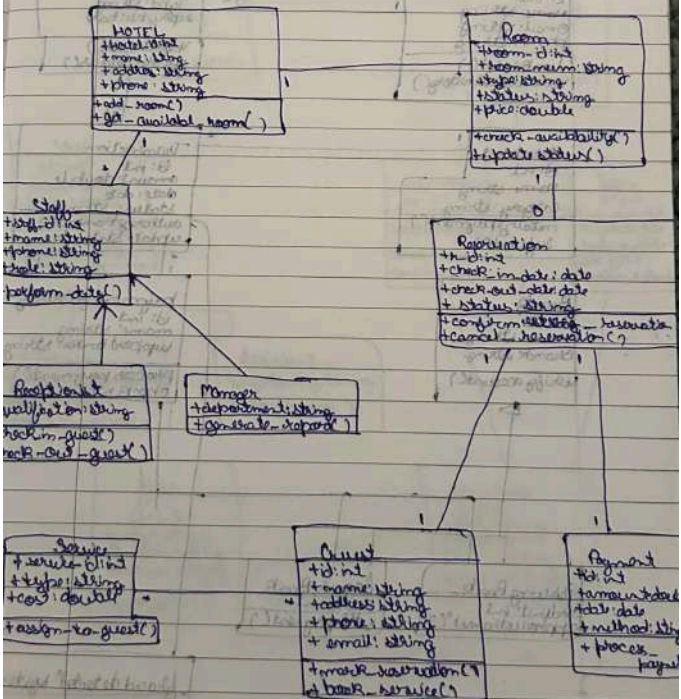
Class Diagram

I HOTEL MANAGEMENT SYSTEM



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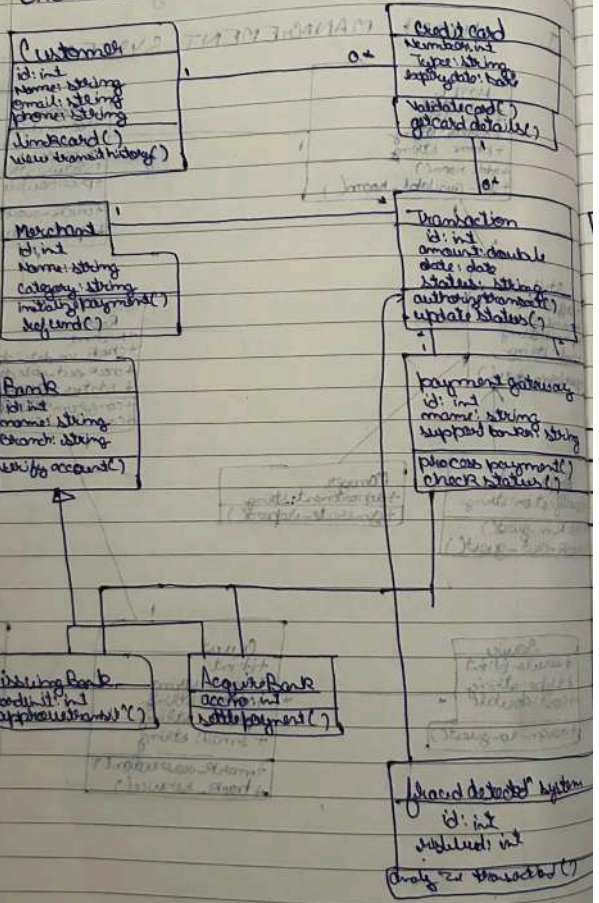

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LIBRARY MANAGEMENT SYSTEM