

24/09/24

SRS Document

1. Hotel Management System

1.1 Purpose of this Document

This document outlines the software requirements for the Hotel Management System (HMS).

The purpose is to provide a clear understanding of the system's functionalities, user requirements, and constraints to ensure all stakeholders have a common understanding of what to be developed.

1.2 Scope of this Document

The HMS will facilitate the management of hotel operations, including reservations, check-in/out processes, billing, and reporting. The value to customers includes improved efficiency, enhanced customer service, and streamlined operations. Development is estimated to require 6 months with a budget of \$150,000.

Overview

The Hotel Management System will be a web-based application allowing hotel staff to manage bookings, customer information, room availability, and financial transactions. It will include a user-friendly interface for both staff and customers, ensuring a seamless experience.

2. General Description

- 2.1 User Objectives
 - Receptionists: Manage bookings, check-ins, and check-outs.
 - Management: generate reports and manage overall hotel operations.
 - Guests: View and book rooms online.

2.2 User characteristics

Staff: Basic computer literacy and familiarity with hotel operations.

Guests: Varying levels of technical skill.

2.3 Feature and Benefits

Online booking: Increase customer convenience.

Room management: Optimize room availability and pricing.

Reporting tools: Helps management make informed decisions.

2.4 Importance

The HIS is crucial for enhancing operational efficiency.

3. Functional Requirements

- User Authentication: users must log in.
- Room Booking: users can search for and book available rooms.
- Check-in/out process: streamlined process.
- Billing and Payment processing.
- Reporting: revenue reports etc.

4. Interface requirements

User interface: web-based UI accessible from various devices.

APIs: for integrating with 3rd party.

Database Interface: secure access to the hotel database.

5. Performance requirements

- The system should handle up to 100 concurrent users.
- Response time for room searches.
- Daily backups must occur without system downtime.

6. Design constraints

Must be developed using the latest version of a chosen web framework (e.g. React).

DB must be hosted on a cloud service provider.

7. Non-functional attributes

Security: Data encryption for sensitive information.

Availability: accessible on various devices.

Scalability: ability to handle increased user and data.

8. Preliminary Schedule and Budget

Timeline: 6 months

Budget: 4,00,000

Development: 1,00,000

Testing: 2,00,000

Development and Maintenance: 2,00,000

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Credit Card Processing

1. Project Description

The credit card processing system is designed to facilitate secure transaction between customers, it must allow users to perform payment, check transactions history and provide gateways.

2. Problem Statement

With the rise of e-commerce and online payments, there is a need for a secure and efficient system to process credit card payments and ensure fraud detection.

3. System Requirements

Functional requirements: user authentication, credit card validation, transaction history and reporting.

Non-functional requirements: high security, credit card data, minimum downtime, fast resource times, scalability.

~~5. Domain Requirements; Integration with fraud detection systems, support for different currencies, able to financial standards.~~

- 4. Design constraints
 - strong encryption protocols
 - limited choice of APIs
 - database constraints due to high transaction volume
 - limited choice of libraries for fraud detection
 - limited choice of protocols

5. Preliminary schedule and budget

5.1 Preliminary schedule

- requirement analysis : 2 weeks
 - system design : 1.5 weeks
 - development : 10 weeks
 - testing : 3 weeks
 - deployment : 1 week
- Total duration : 20 weeks

5.2 Preliminary Budget

- Development team : \$10K
 - Hardware : \$5K
 - Software license : \$10K
 - Miscellaneous costs : \$5K
- Total Budget : \$80K

S. J. M.

Library Management System (LMS)

1. Introduction

1.1 Purpose of this Document

This document outlines the requirements for developing a library Management System. The purpose is to provide a system that simplifies library operations, enhance user experience, and improves overall efficiency.

1.2 Scope of this Document

This document covers the design, development, and implementation of an LMS. It will track book inventory, manage user memberships, and allow for borrowing and returning of books. The system will be designed to minimize manual labor and reduce human errors.

1.3 Detailed General Description

The LMS will allow library staff and patrons. Users can search for books, reserve or borrow them, and check their account details. Librarians can manage inventory and track borrowing history. The system aims to improve the efficiency management while reducing errors.

1.4 Overview

The LMS will allow librarians to manage

book collections, handle user data, and track borrowing activities. It will include modules for search, reservation, issuing, and returning of books, along with late fee calculation.

2. Functional Requirements

- User authentication for members and staff.
- Book catalog management (add, remove, update books).
- Issue and return tracking with the calculation for overdue books.
- Search and reservation functionality for users.
- Generate reports on book inventory, borrowing history, and fines.

3. Interface Requirements

- Web-based interface for users and staff.
- Integration with external databases for catalog updates.
- Notifications for overdue books through email or SMS.

4. Performance Requirements

- response time should be under 2 seconds for common queries.
- System should handle up to 100 concurrent users.
- Database storage capacity for 1 million book records.

6. Design Constraint

- Must use SQL database for storage.
- Compatible with Linux, Windows
- Responsive UI for both desktop and mobile devices

7. Non-Functional Attributes

- High reliability with 99.9% uptime.
- Scalable to handle growing user base and stock inventory.
- Secure user authentication and data encryption.

8. Preliminary Budget and Schedule

£90,000

Development: 5 months

Testing: 1 month

Deployment: 1 month

Maintenance: 1 month

Handover: 1 month

Stock Maintenance System (SMS)

1. Introduction

1.1 Purpose of this Document

This document specifies the requirements for a stock maintenance system, aimed at automating the process of managing stock levels in a business.

1.2 Scope of this Document

The SMS will be designed to track inventory levels, manage orders, alert for restocking, minimize manual inventory tracking and ensure stock levels are optimal.

1.3 Overview

The system will automate stock tracking for warehouses or retail environments, ensuring that inventory levels are maintained. It will provide real-time stock update reports.

2. General Description

This system is targeted at inventory managers and warehouse staff. Users can check current stock levels, place orders for restocking, generate reports.

3. Functional requirements

- Stock tracking multiple items with real time updates
- Order alerts when stock level fall below predefined thresholds
- User management for inventory staff and administrators
- Report generation
- Integration with accounts and sales system

4. Interface requirements

- Web based interface for stock managers
- API integration with external sales platforms.
- Real-time notifications through email or system alerts.

5. Performance requirements

- System response should be within 1 second for stock queries
- Handle up to 50 concurrent users and 5,00,000 stock items.
- Daily processing of upto 10,000 transactions.

6. Design Constraints

- System must use MySQL or PostgreSQL Database
- Compatible with both cloud and on-premise servers
- Must provide a mobile version for easy access on the go

7. Non-functional attributes

- Must ensure data integrity and backup regularly.
- High availability with a minimum of 99.8% uptime
- Secure access control for different user roles.

8. Preliminary Schedule and Budget

System will be developed in 3 months with an approximate budget of ₹15,00,000/- covering development, integration and testing.

Development	6,00,000
Testing	4,00,000
Deployment	1,00,000
Maintenance	50,000
Miscellaneous	50,000

3 Passport automation system

1. Introduction

1.1 Purpose of this Document

This document outlines the design and requirements for a passport automation system aimed at simplifying and speeding up the passport application process.

1.2 Scope of this Document

The PAS will automate passport application processing, verification, and status tracking. The system will reduce paperwork, improve the speed of processing, and provide users with real-time status updates.

1.3 Overview

The system will allow users to apply for passports online, track their application status, and schedule appointments for verification. Officials will be able to verify applications, update statuses, approve or reject applications.

2 General Description

~~The system is intended for both passport applicants and government officials. Applicants can submit their documents, pay fees, track application status. Government officials will verify documents, conduct background checks,~~

and approve applications. The system ensures transparency and reduces processing time.

2 Functional requirement

- User registration and login for passport applicants
- Document submission and fee payment for passport application
- Status tracking and appointment scheduling
- Application verification and approval
- Automatic email/SMS notifications for application status.

3 Interface requirements

- Web-based interface for users and government officials
- Secure communication with government databases for background checks
- Integration with payment gateway for fee submission

5 Performance requirements

- System should process up to 100,000 applications per month
- Must handle up to 200 concurrent users during peak times
- Status update within 1 second after change is made.

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6 Design constraints

- must comply with government security standards
- system should run on a government approved cloud platform.
- Use of Java and SQL for backend and database management.

7. Non-functional attributes

- High level of security for sensitive personal data
- System must be portable and adaptable to different regions
- Scalability to handle increasing numbers of applications

8. Preliminary Schedule and Budget

The project will take approximately 6 months to complete, with an estimated budget of £ 1,60,00,000.

Development 80,00,000

Testing 60,00,000

Deployment 10,00,000

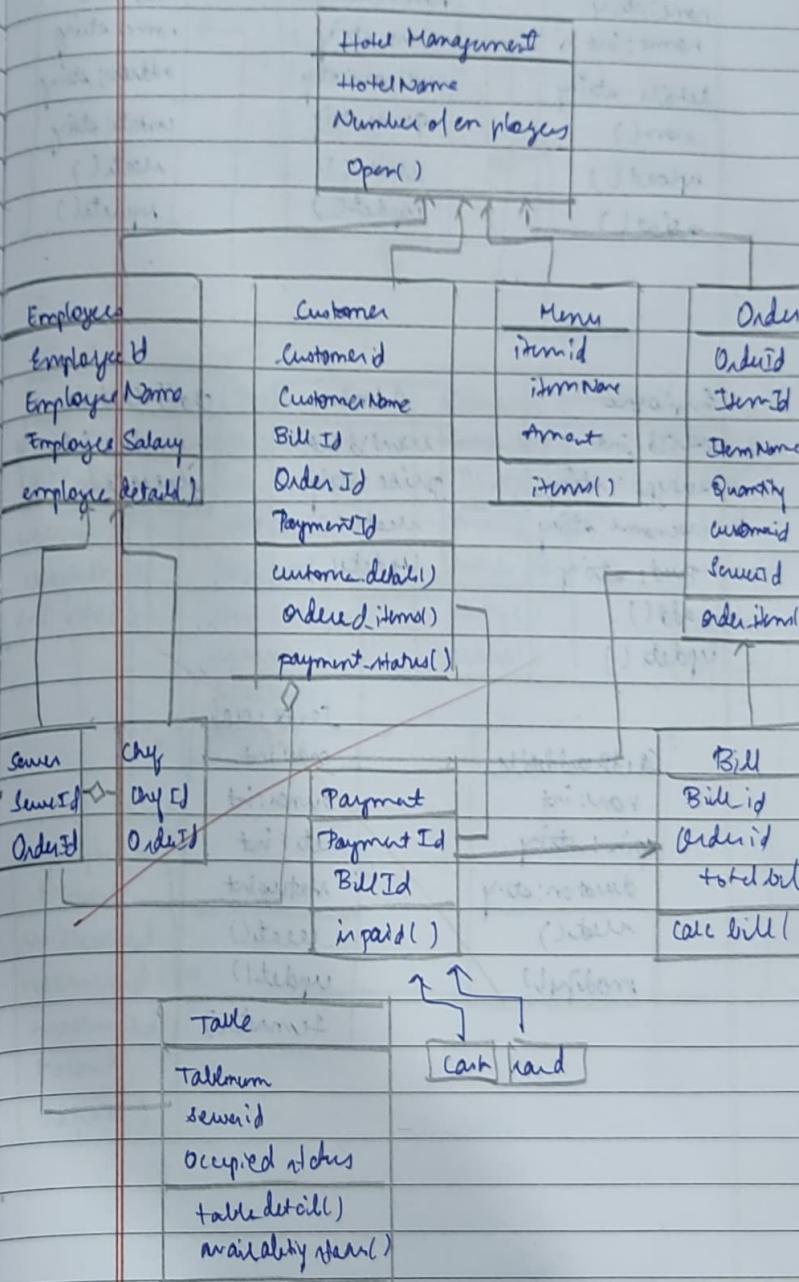
Miscellaneous 50,000

Maintenance 50,000

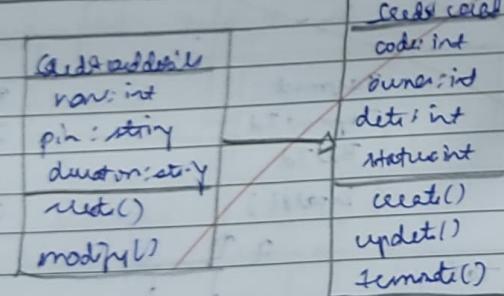
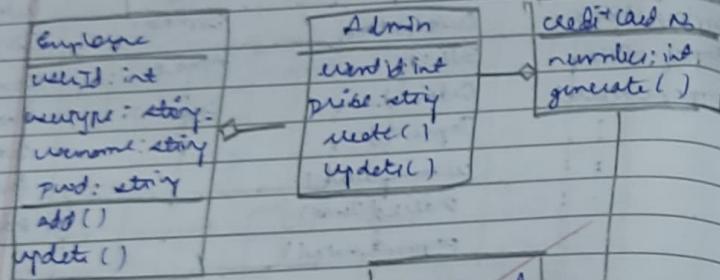
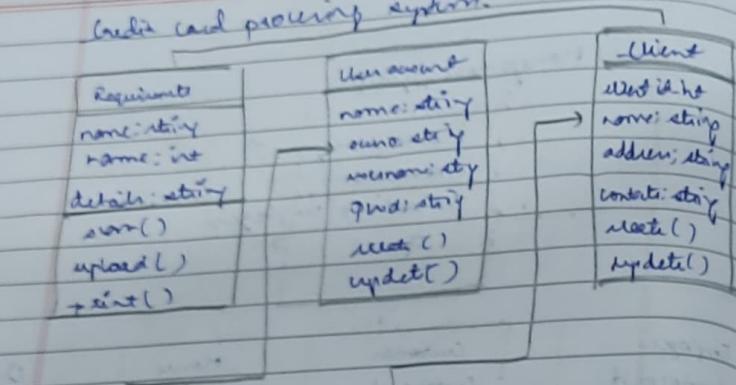
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Class Diagrams

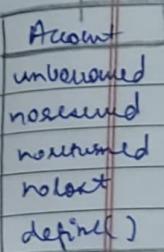
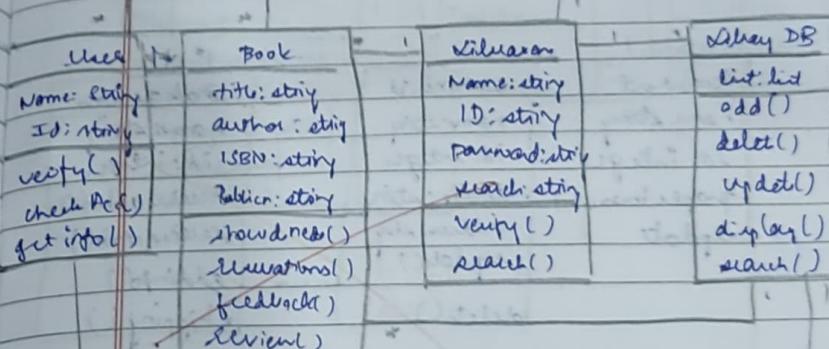
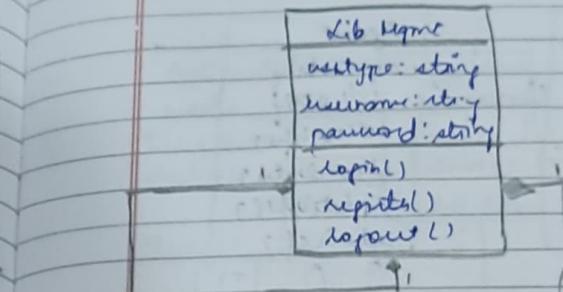
Hotel Management Systems



Credit card processing system.



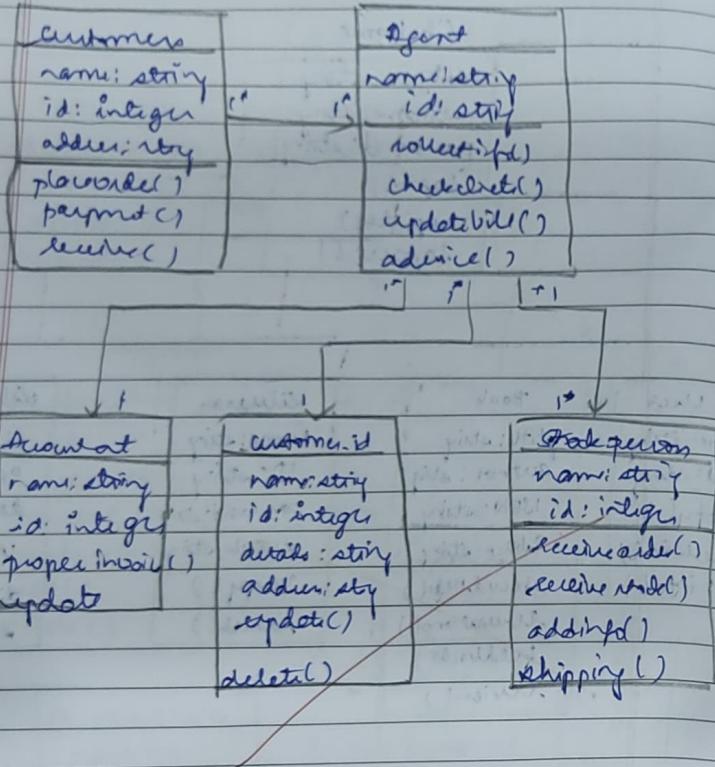
Library management system.



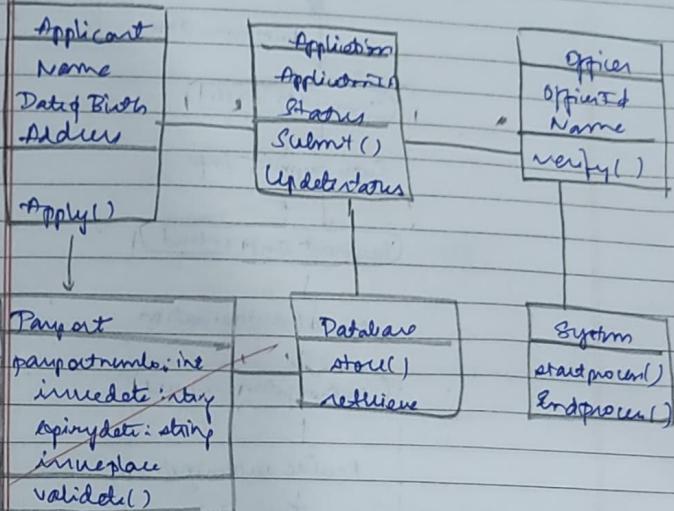
Library DB

- list: list
- add()
- delete()
- update()
- display()
- search()

Stock Maintenance System



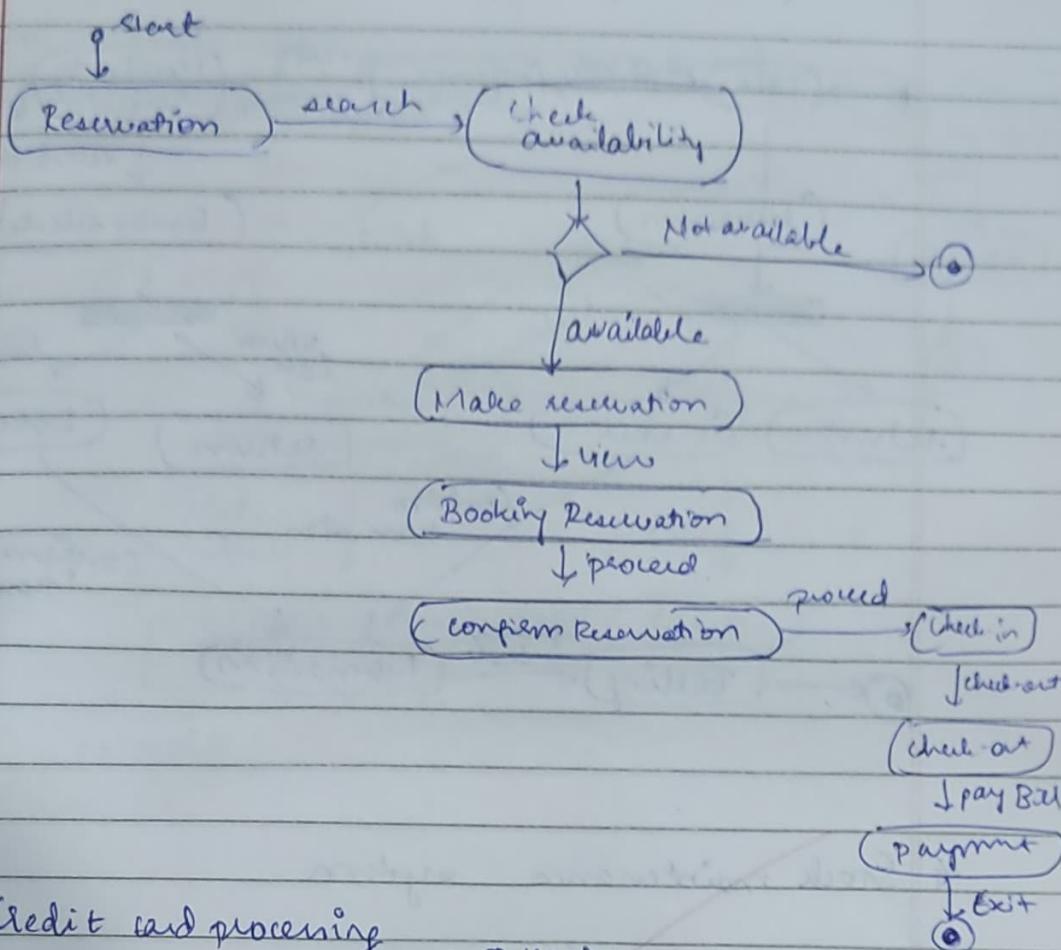
Pampad Management system



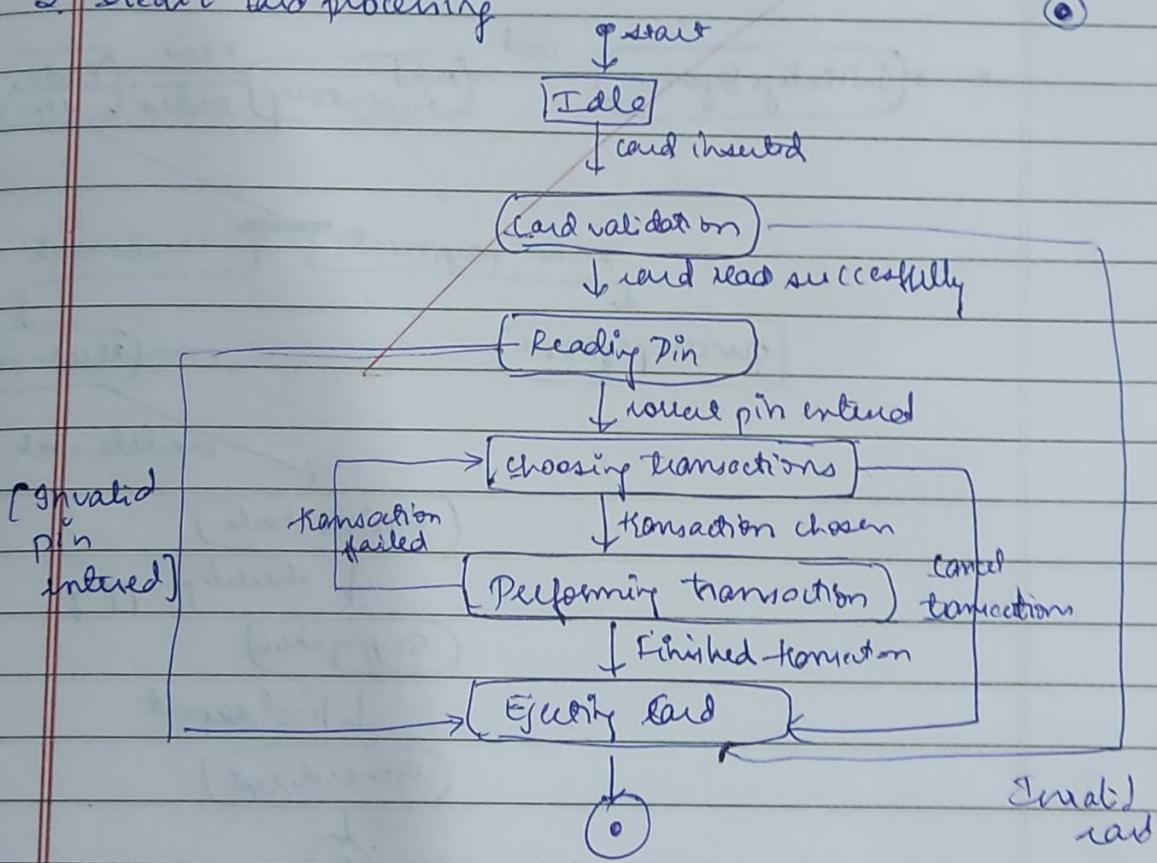
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State Diagrams

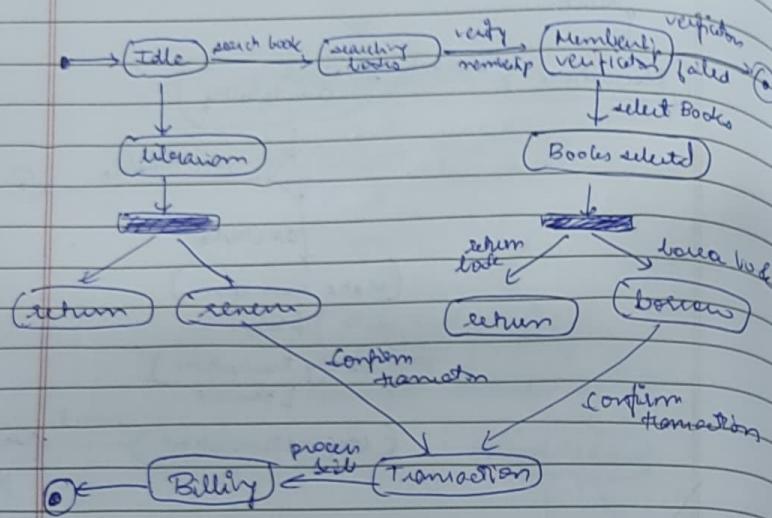
1. Hotel Management System



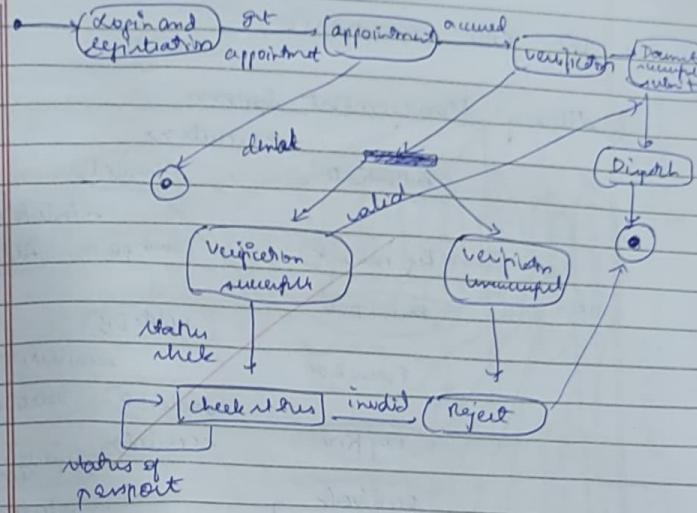
2. Credit card processing



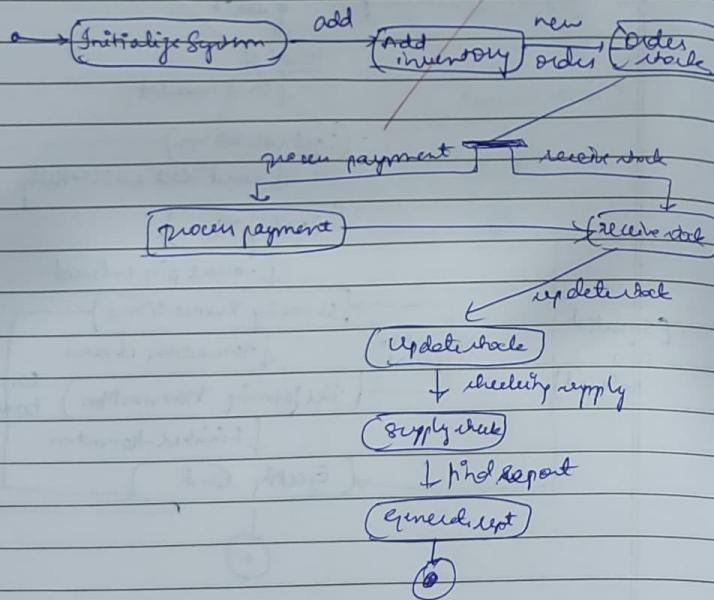
3. Library Management System



4. Panpart automation System



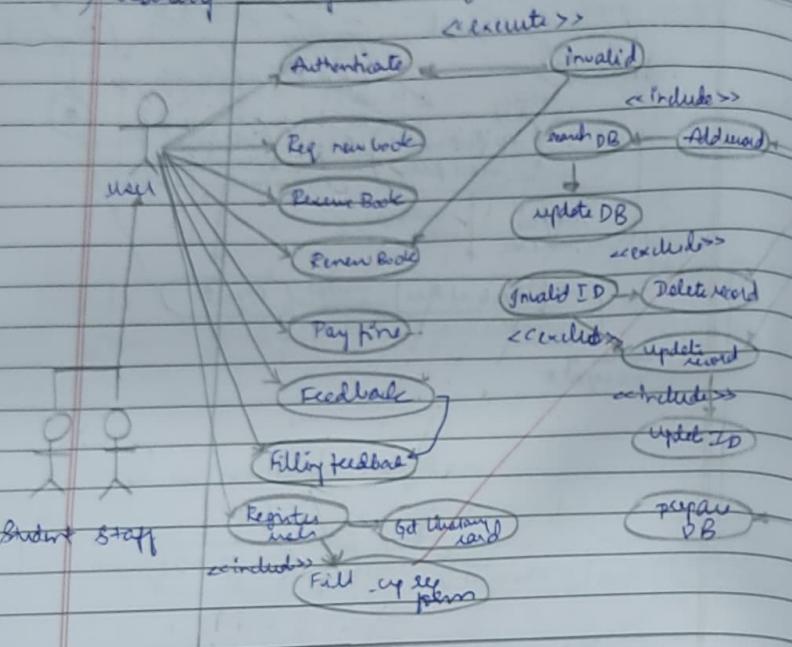
4. Stock maintenance system



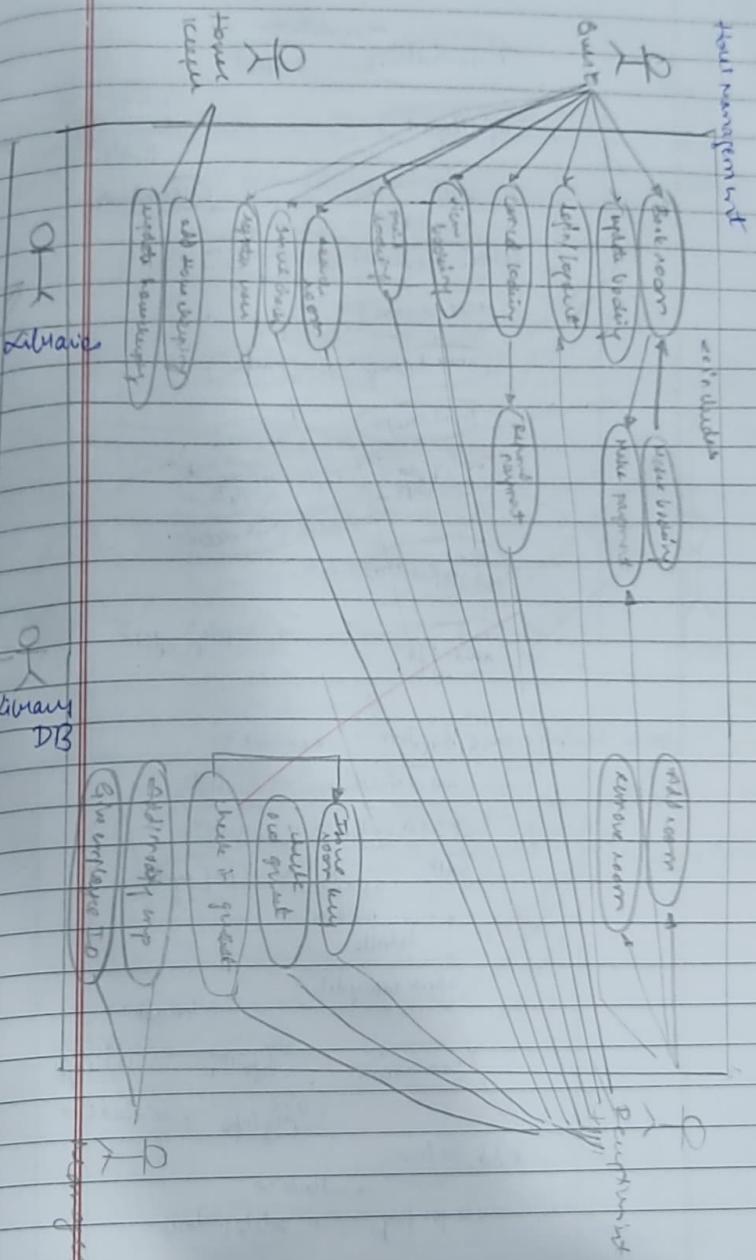
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1 USE CASE DIAGRAMS

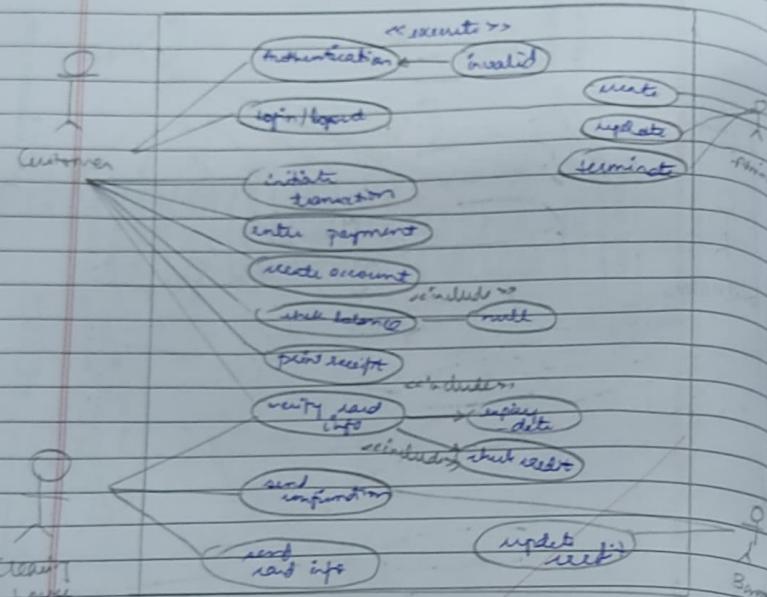
3) Library Management System



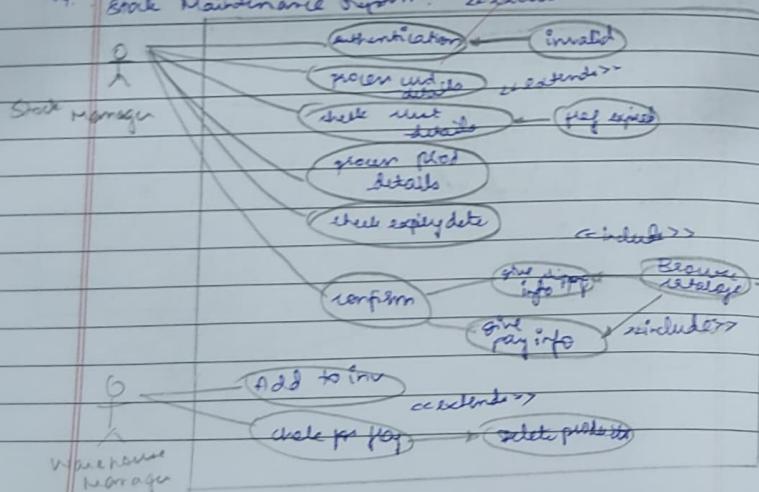
i) Hotel Management System



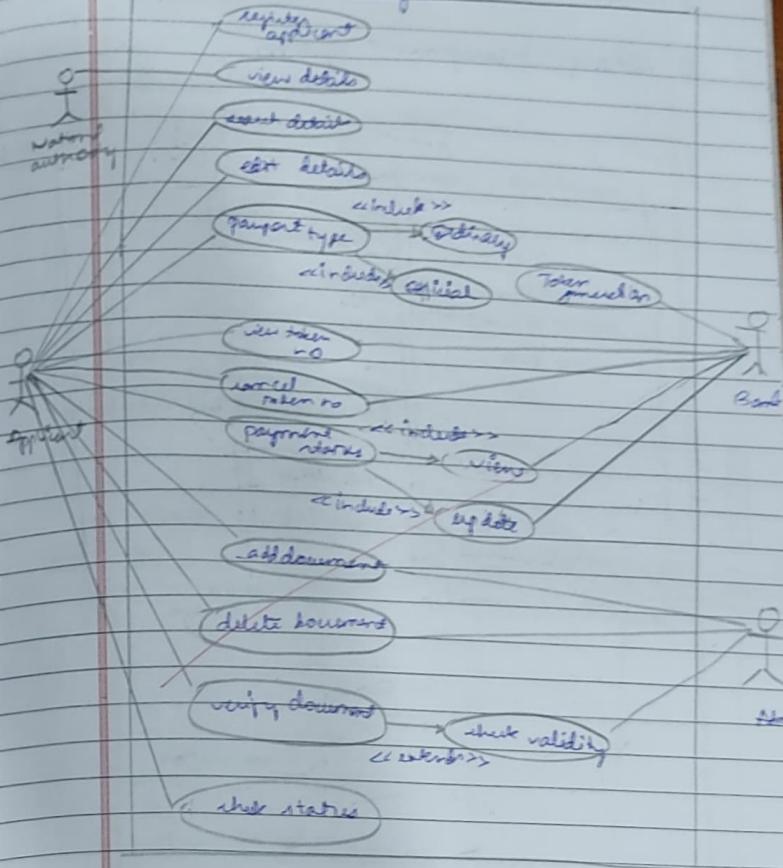
2 Credit Card Processing Systems



24. Book Maintenance System: ~~exams~~

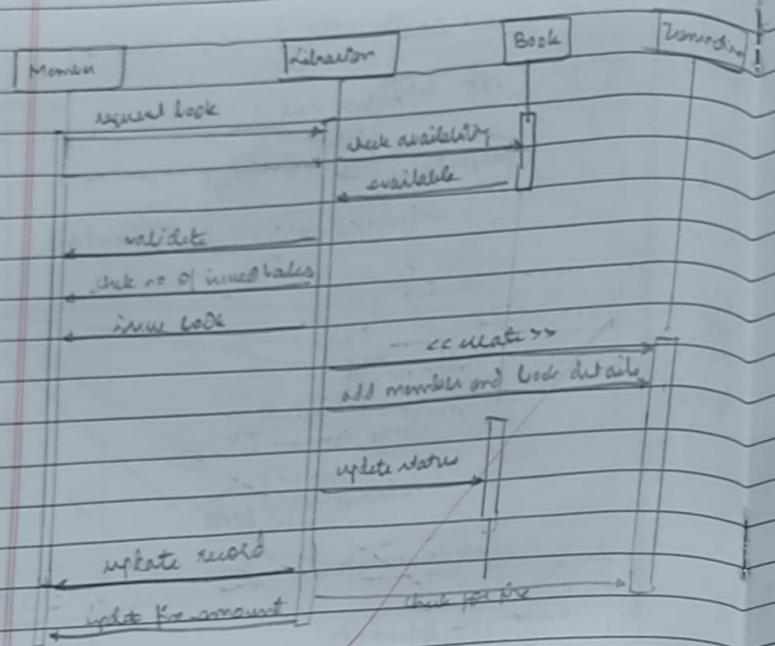


5. Airport Automation System

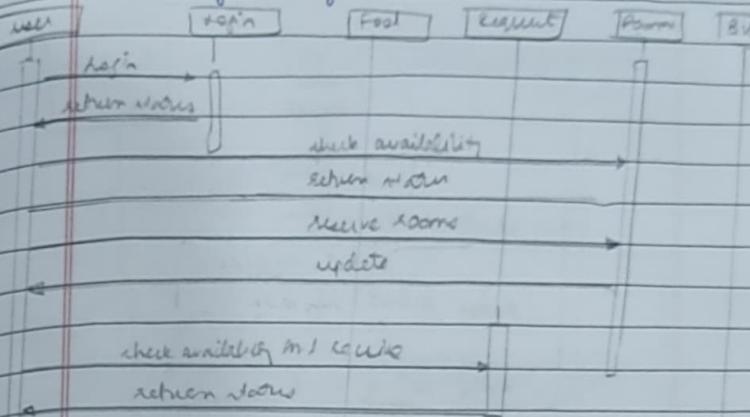


2 Sequence Diagram

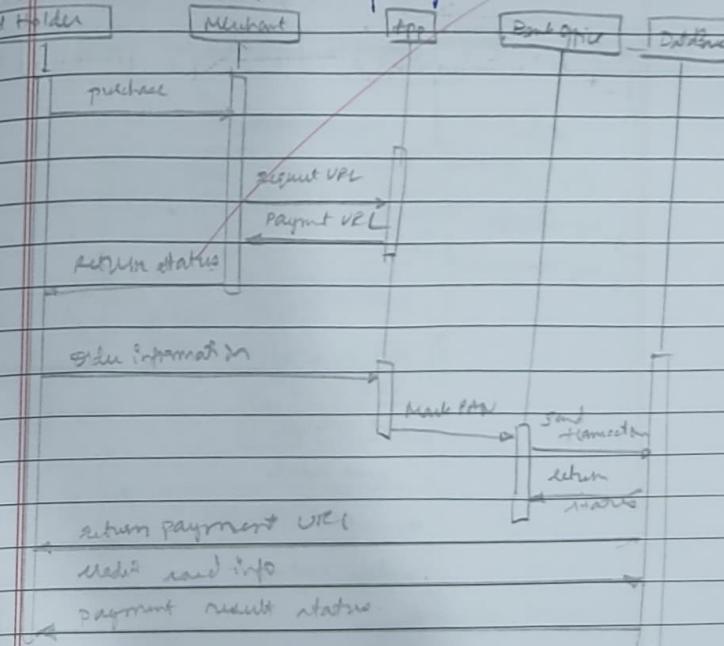
i) Library Management System



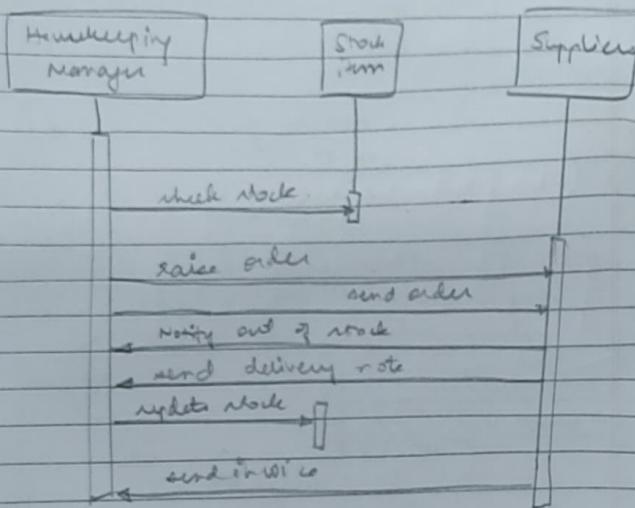
ii) Hotel Management System



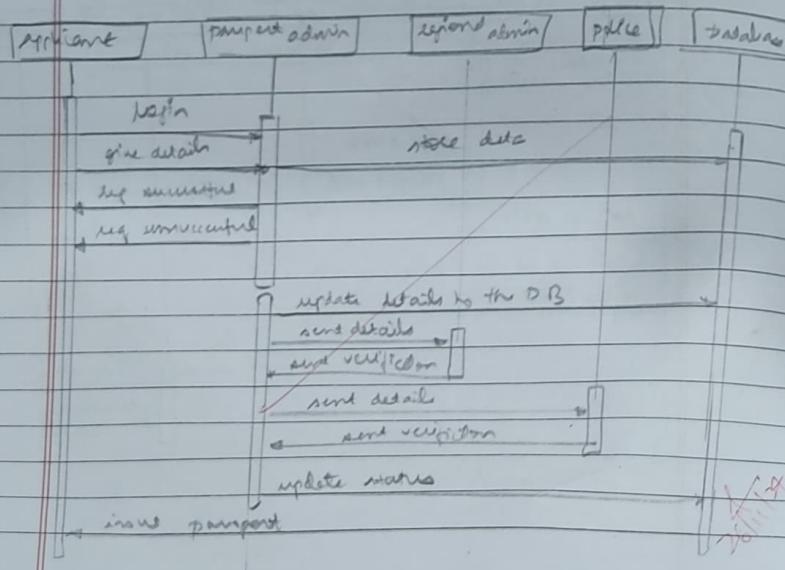
iii) Credit card processing system



v) Stock Maintenance System

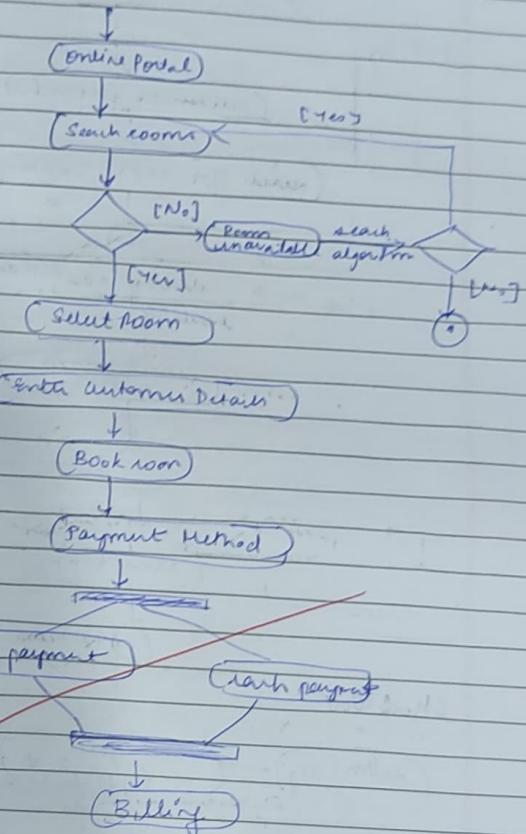


3) transport automation systems



Activity Diagrams for:

i) Hotel Management System.

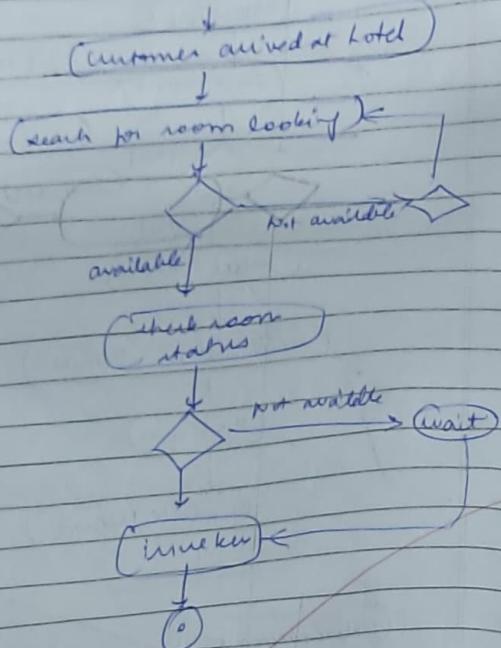


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Unit 3

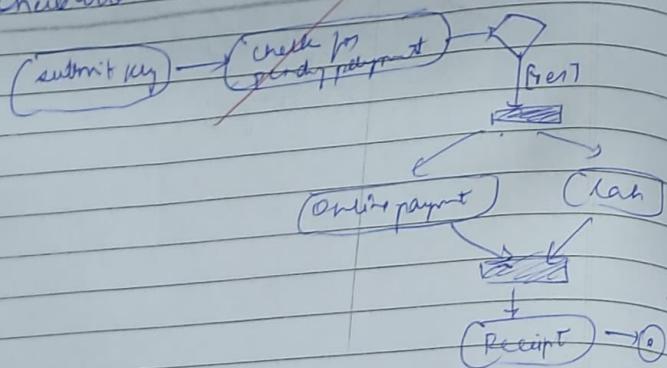
a) Activity Diagram

i) Hotel Management

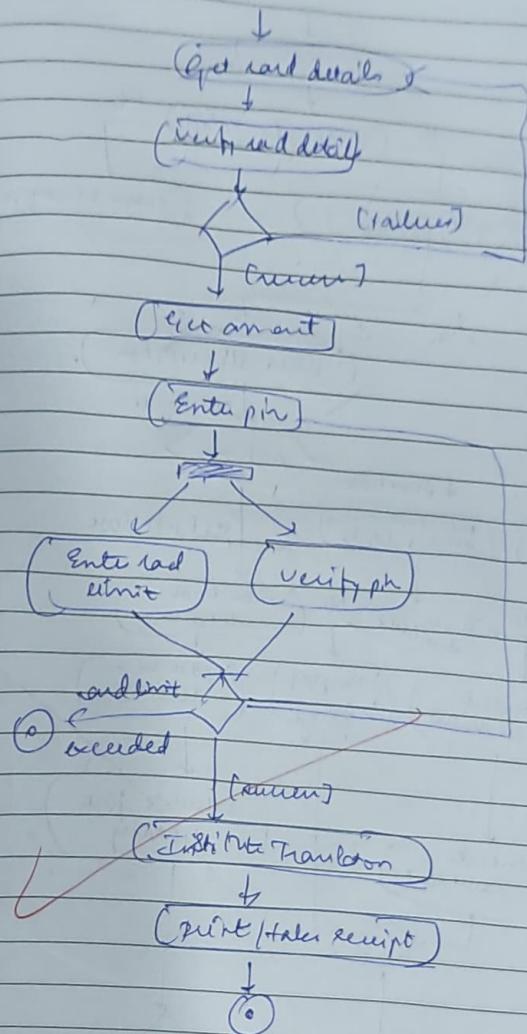
CheckIn



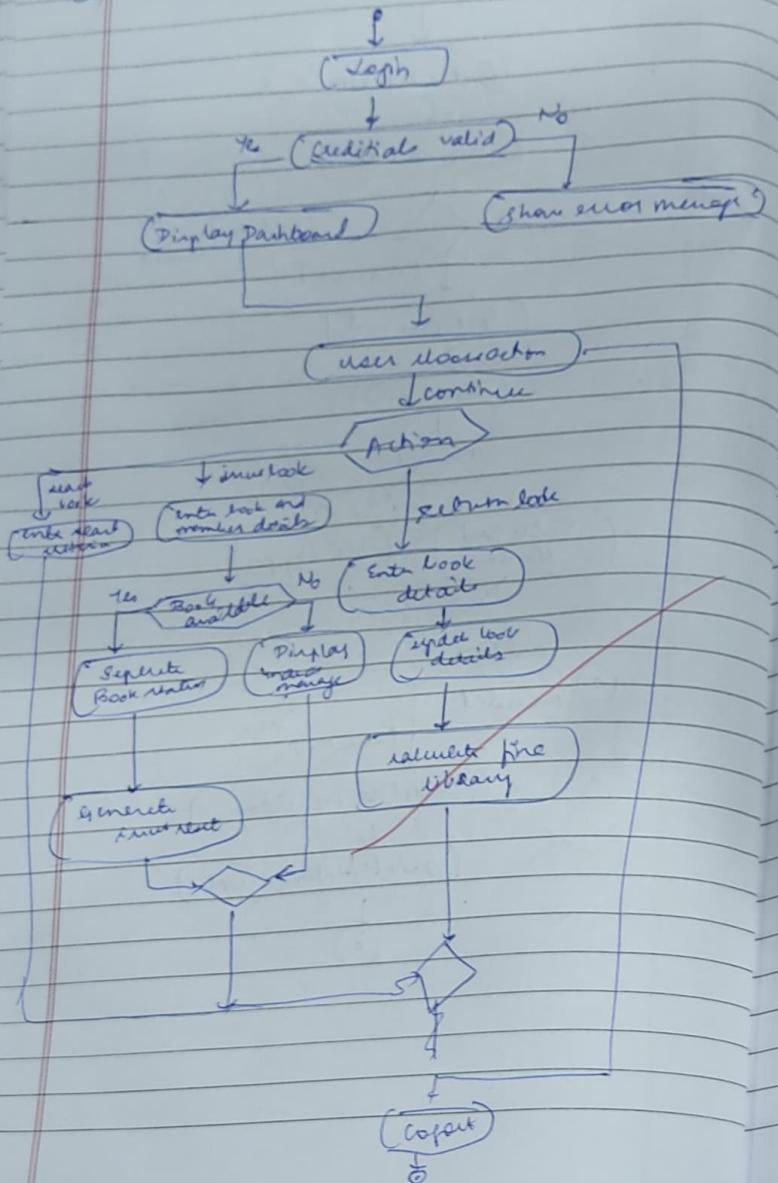
CheckOut



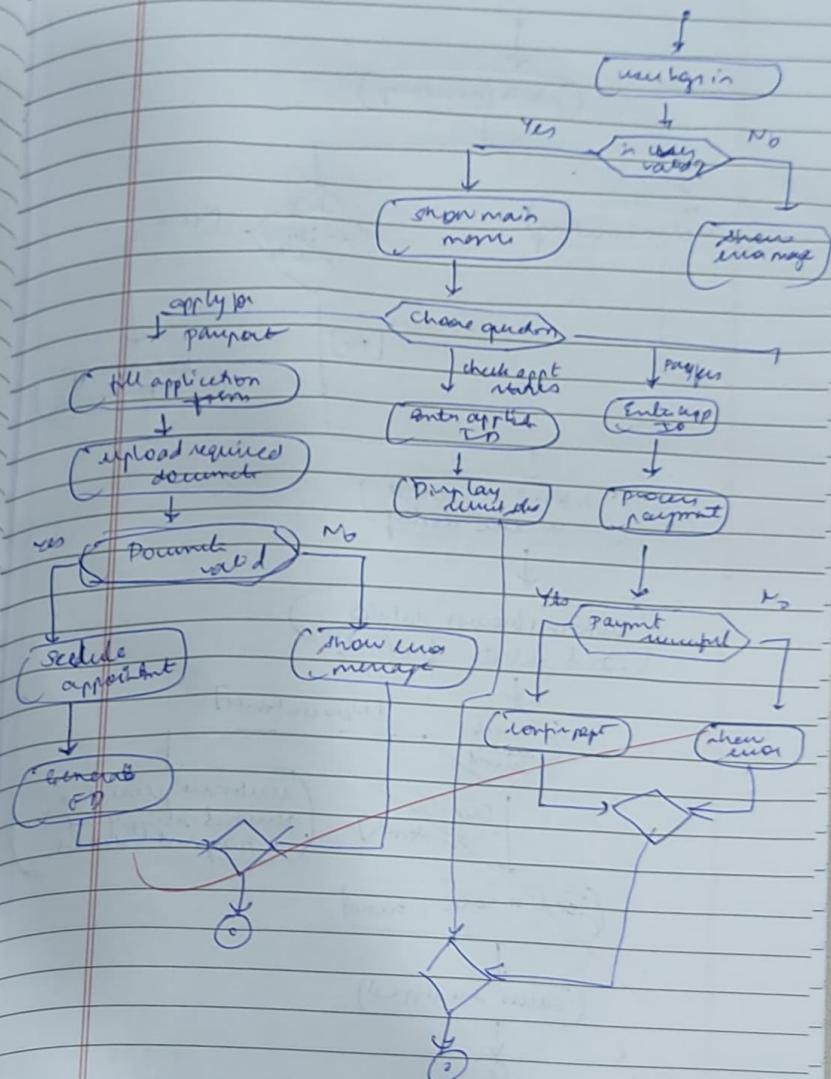
2.) Credit card processing:



3) Library Management



4) Passport automation System



5) Stock maintenance system

