

30/9/2024

Lab-1

TEACHER'S choice

Date _____
Page _____

SRS on credit card processing and hotel management system

1 INTRODUCTION

1 Purpose: to design and develop a secure credit card processing system

2 scope: user (customer) credit card transaction, manage funds along with proper security

3 Definitions and overview

- (a) cardholder : persons who own card.
- (b) payment gateway : The System connection
- (c) Supplier : Who supplies commodities
- (d) Acquirer : Who acquires commodities

GENERAL Description :-

secure credit card processing with a secure gateway b/w card holder, supplier and acquirer. Handles real-time processing and settlements ensure proper secure transaction to merchant.

- functional requirements

→ user roles

cardholder: Initiates payments
merchants process payment
Admin manages the system

→ Authorization: validating card details
→ Processing: Real-time transaction processing
log and generate receipts

→ Settlements: Batch transaction daily for
Settlement and transfer

- Interface requirement

→ Merchant Dashboard (status, history)

→ Cardholder Interface (for online payment)
→ CVV

→ cardholder Name

→ Acc No

→ Bank

→ Expiry date

~~System requirement on payment system~~

- Performance requirement
 - Payment gateway (API and authorize transaction) within 2 secs
 - minimize failures
 - Peak load handling (200 Transaction per sec)
- NON functional Requirement
 - security : good security standards
 - availability : 24x2
 - scalability : Handle high payments
- Design constraint

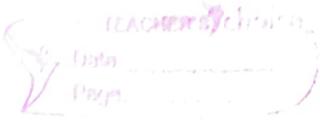
- AES for (Imp details)
- financial regulation (KYC) (AML)
- customer care
- Data protection
- Integration with other servers

Preliminary Schedule and budget

Analysis	1 month	30,000
Req gathering		
System design	1.5 month	40,000
Development	(1.5 months)	12,00,000
Integration with payment gateway	(1 month)	17,000
Testing	2 months	50,000
User testing	1 months	50,000
Deployment	1.5 months	60,000

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6/10/24



Hotel Management system

INTRODUCTION

Purpose: A proper and efficient hotel management system development

scope: Residents and non-residents.
Tourist and visitor can book
hotels available for with
specific Incharges.

overview:

- customer :- Basically guest
- AI-powered software. for best allocation of hotel
- hotel manager (Admin)
- Booking cost:-
- Reservation

General Description:-

HMS will automate hotel operations, include room booking, guest management, payment processing and housekeeping services.

The systems ensure real time and efficient use of hotel resources

- Functional Requirements
- guest } user roles
- hotel staff
- admil

→ Room reservation

- : Guest can make online and In person room reservations
- checkIN / OUT
- Billing and payments
- Housekeeping management
- cancellation policies

• Interface Requirement

- guest Interface
- staff Interface
- third party integration
- payment gateway

- Performance Req.

Response time - 62s for payment

gateway to book the room

Invoices → 3 secs

Throughput : 1000 reservation (concurrent)
- 1 sec.

- Design constraint :-

⇒ AES for important details

⇒ good algorithm for booking

⇒ customer care

⇒ Integration with other services

⇒ non-functional requirement

→ security : proper data encryption

→ Scalability : may increase user capacity

→ Reliability : Reliable with low error rate

→ Portability : run on different device

	month	estimated cost
Analyses and req gathering	1M	30,000
System design	1.5 M	50,000
Development	1.5 M	60,000
Integration with payment gateway	1M	20,000
Testing	2 M	30,000
User testing	1M	15,000
Deployment	3M	25,000

7/10/24



Library management system :

Purpose :

A proper and efficient library management system managing resources, including books, user and transaction like borrowing and returning book.

Scope of this document

The system covers book management, user data and tracking transaction like borrowing and returning books

Overview

→ proper management of resources performing transaction

General Description

User can search, borrow return books

~~The system serves managers staff and student~~

functional requirement

- a) → book searches (ISBN) and availability
- b) → tracking due dates and managing user profile
- c) → Issue books and duration
- d) → generates reports on book transaction

Interface requirement

- ⇒ user and library staff management system of Interface (multiuser)
- ⇒ messages to facilitate communication
- ⇒ easy books searches
- ⇒ clear instructions for borrowing/returning

Performance constraints

- handle multiple user and transaction simultaneously

- Minimal Response time for each result
- low error rate (Transaction)
- efficient memory use for smooth performance.

Design constraint

- Restricted to specific programming lang.
- Limited by available hardware and network infrastructure
- may require specific algo.

Non-functional Requirement

Security: user authentication and data protection

Reliability → ensure cont system availability

Scalability: Capable of expanding with lib size

Portability: Should run on multiple devices

Preliminary schedule and budget

Analysis Req gathering
system design

Developments

Integration with payment
gateway

Testing

User testing

Deployment

Months(M)	units
1M	30,000
2M	60,000
5M	1,20,000
1M	25,000
2M	25,000
2M	30,000
3M	50,000

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✓

Railway Reservation System:

1 Introduction

1.1 Purpose

- to manage railway and ticket booking efficiently, track train schedule and availability, reserve, cancel and modify tickets

1.2 Scope

- facilitate ticket book cancellation and modification.
- manage train schedule, seat availability and passenger data
- Handle multiple user ticket booking simultaneously
- Include development time and cost estimation

1.3 Overview

- A system automates the booking process, allowing passengers to reserve ticket for trains
- It tracks seat availability in real-time and adjust as bookings are made.

User can search for train, book seats or at booking counter.

System is designed for efficiency, scalability and ease of use by both passenger and railway staff.

2 General Description

Passenger can book or cancel ticket through web-based platform or at ticket counter. It manages user profile, booking history and train schedule details.

① It supports long distance, intercity and local routes.

② Functional requirements

User registrations and logins

Train search : Search train by date route class

Ticket booking and cancellation

PNR status check

Payment gateway : Secure online payment

4) Interface requirement

User Interface :- Web app, user friendly Interface
APIs: connected to railway databases for real time data

5) Performance Requirements

Response time: Booking should complete within few seconds

Capacity of more users

Scalability performance.

6) Design constraints :

Scalable Interface

use open source platform

7) Non fn requirements

Security : Data encryption, secure transaction

Reliability: 99.9% time

Scalability: should accept more user in peak time.

1) INTRODUCTION

1.1 purpose The document outlines the needs for an online Booking system. It implies booking process for users and administration.

1.2 Scope - functionalities user registration, booking management, payment processing and generating booking confirmation.

1.3 Overview: emphasizing system automation and user convenience to handle various type of booking

2) Functional Description

- 2. → System allows user to register, browse services book appointments or services make payments and view or cancel bookings
- User friendly technical expertise Run Interface
- System availability and Efficiency are good reducing manual booking process

3) Functional requirement

↳ user registration and login

→ viewing and selecting available services

→ booking services and managing booking details

→ processing payments through multiple methods

4) Interface Requirements

→ user interface is graphical interface for administrator to manage the system

→ good efficient payment gateway

→ API for integrating 3rd party services

5) Performance Requirements

handle large amt of concurrent user
booking must be processed within seconds
Memory usage and optimized response time

6) Design constraints

programming languages and framework

compatible and existing hardware

high security standards

7) Non functional Attributes

→ security : ensuring secure payment

→ portability : system can run on multiple platform

- Functional and available to all user.
- Should handle Increasing no of users and Booking

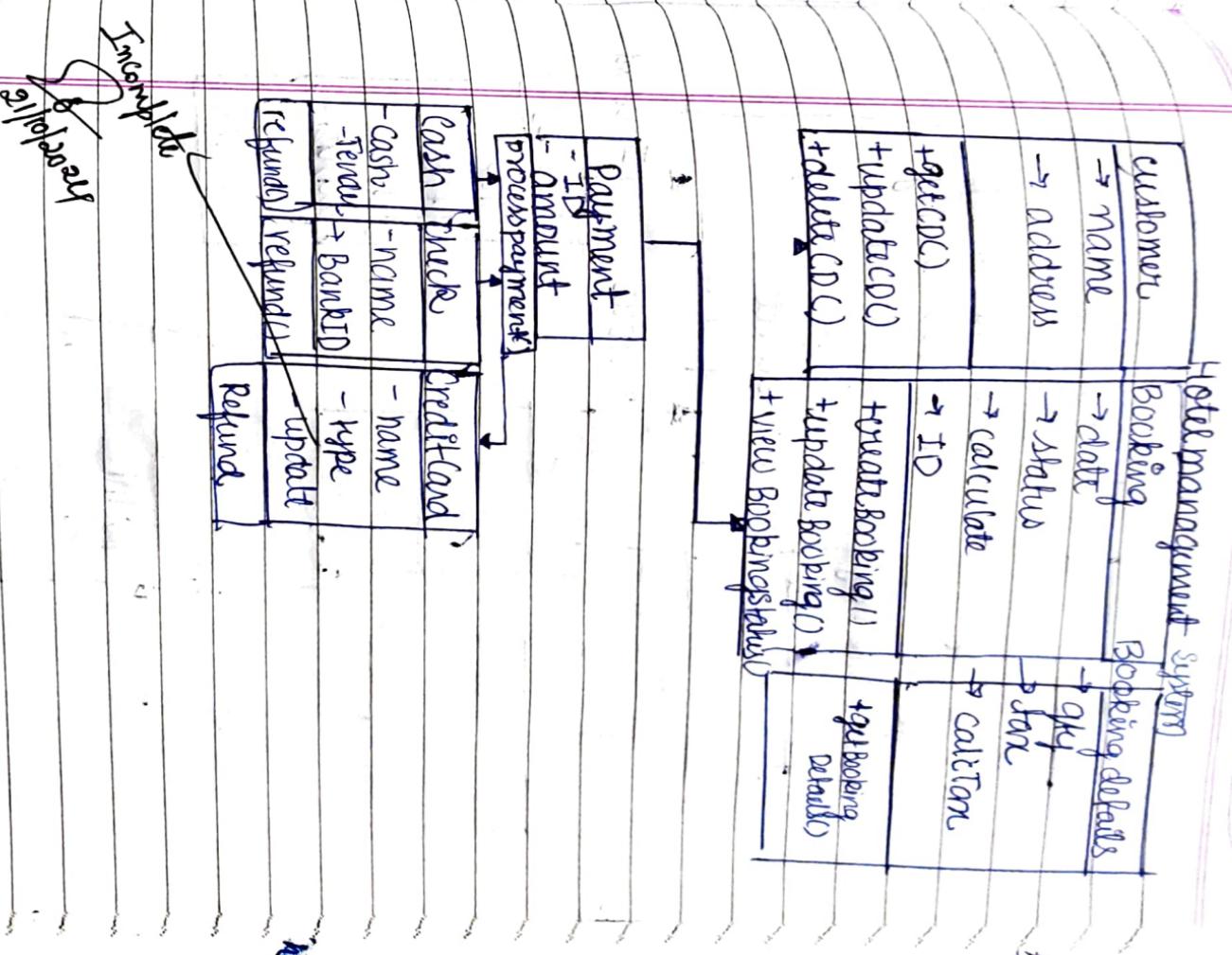
Preliminary schedule and Budget :

	M	units
Analysis gathering	1	30,000
System design	2	40,000
Developments	3	50,000
Integration with payment system	1	10,000
Testing	2	15,000
User training	2	25,000
Deployment	3	30,000

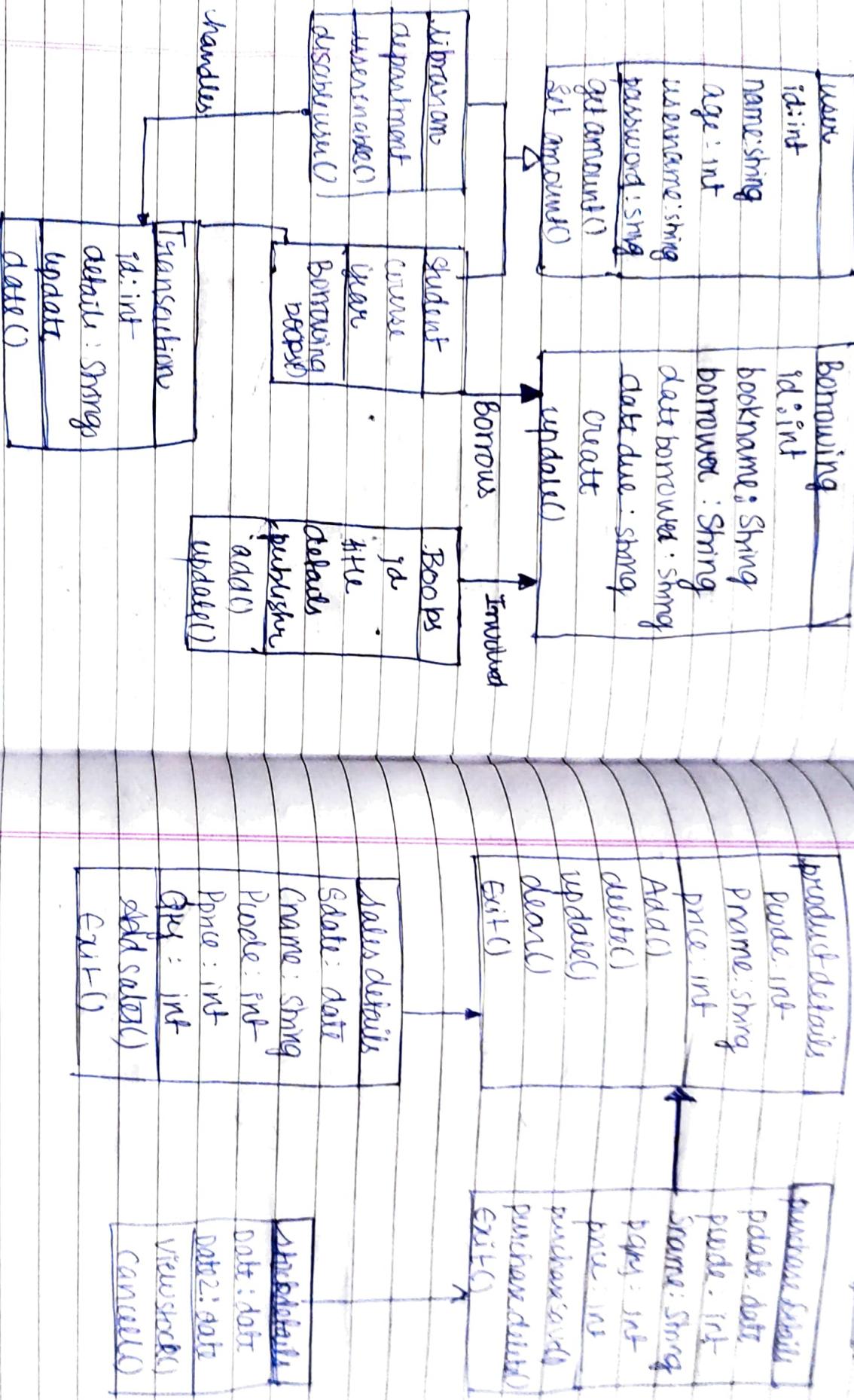
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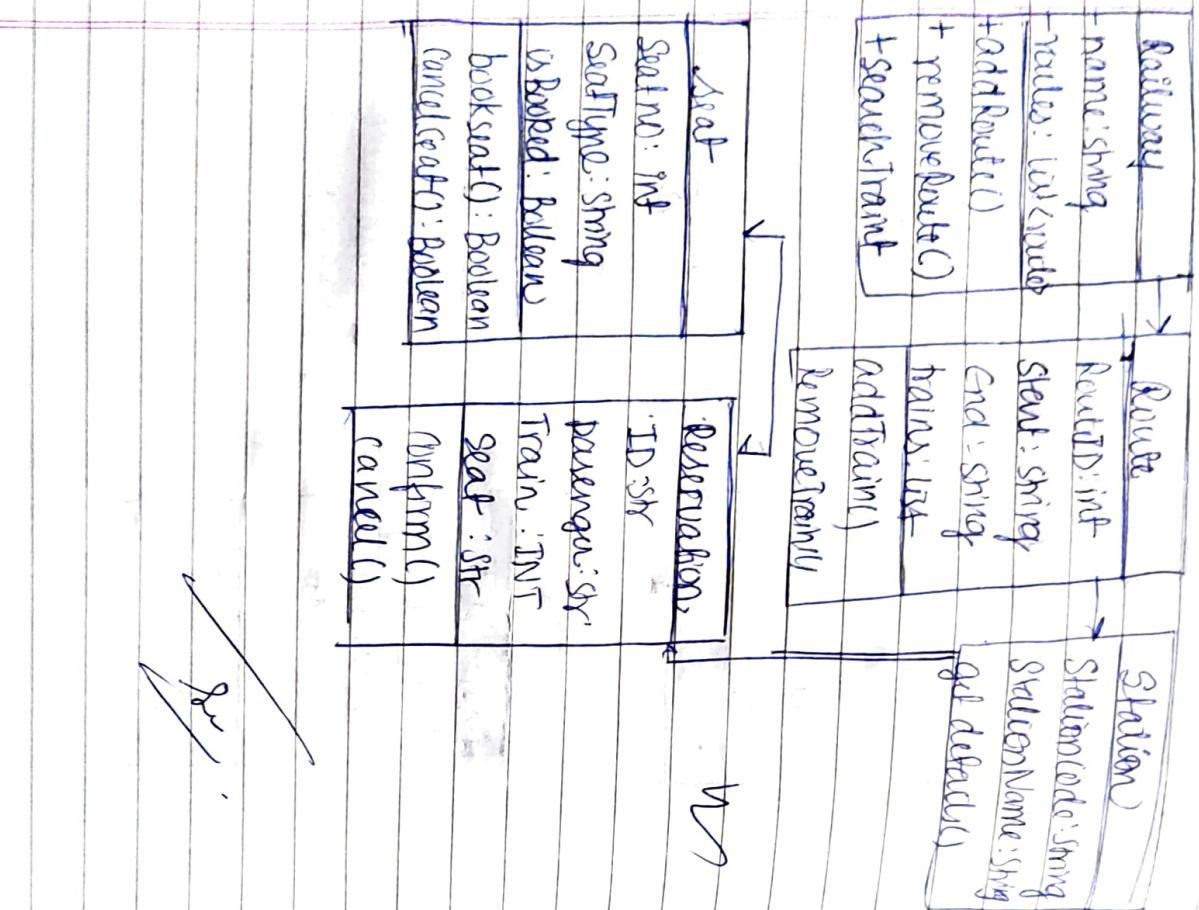
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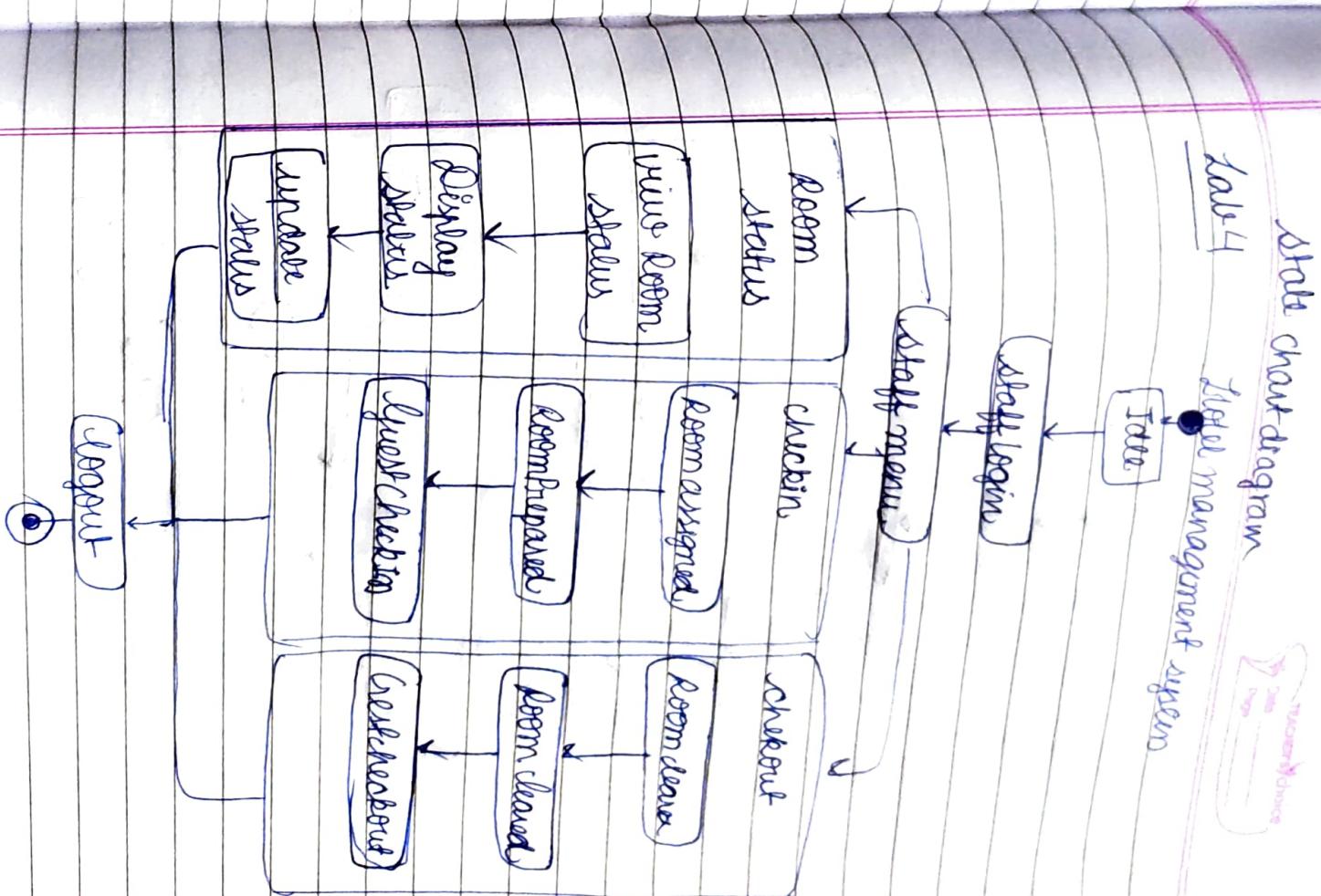
Library management System



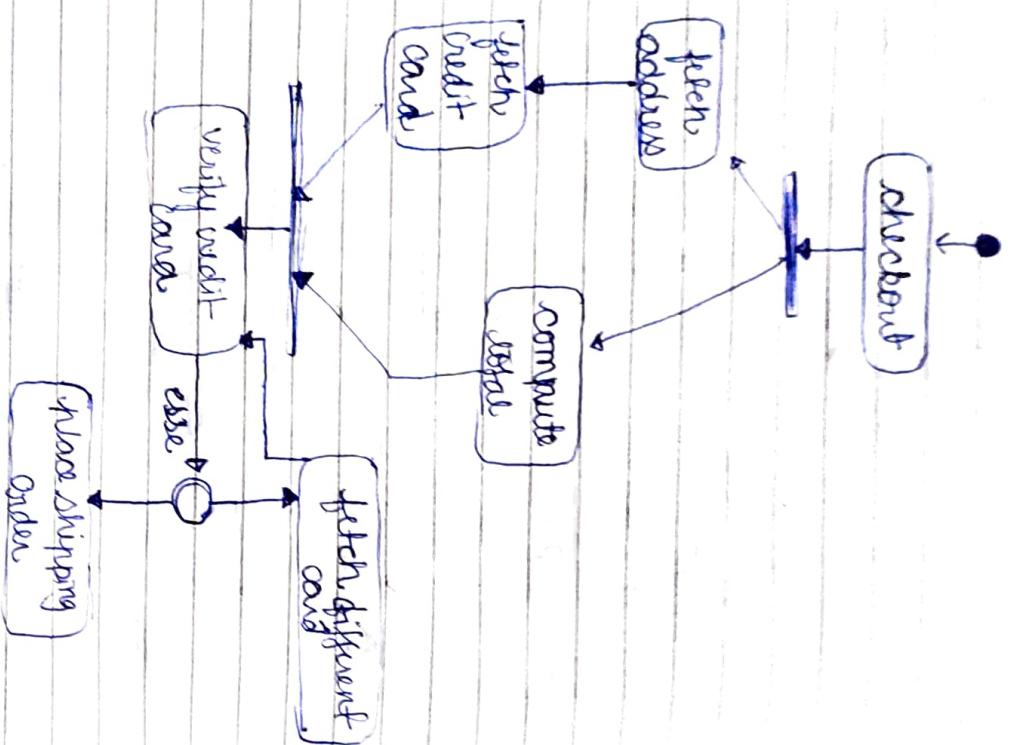
Railway reservation system



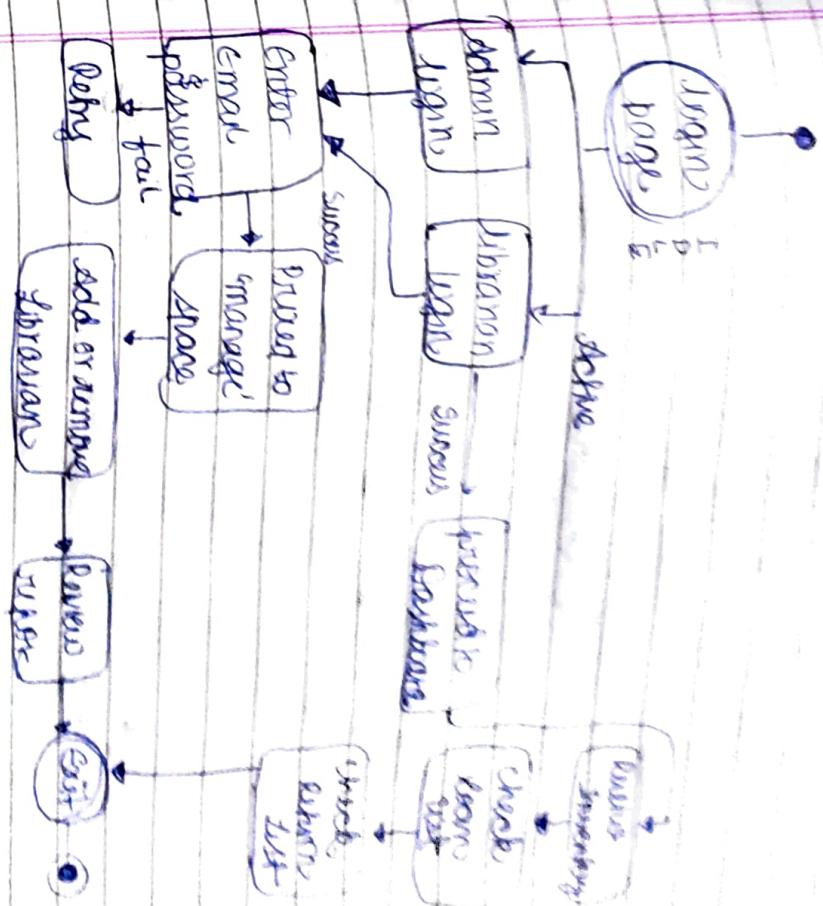
State chart diagram



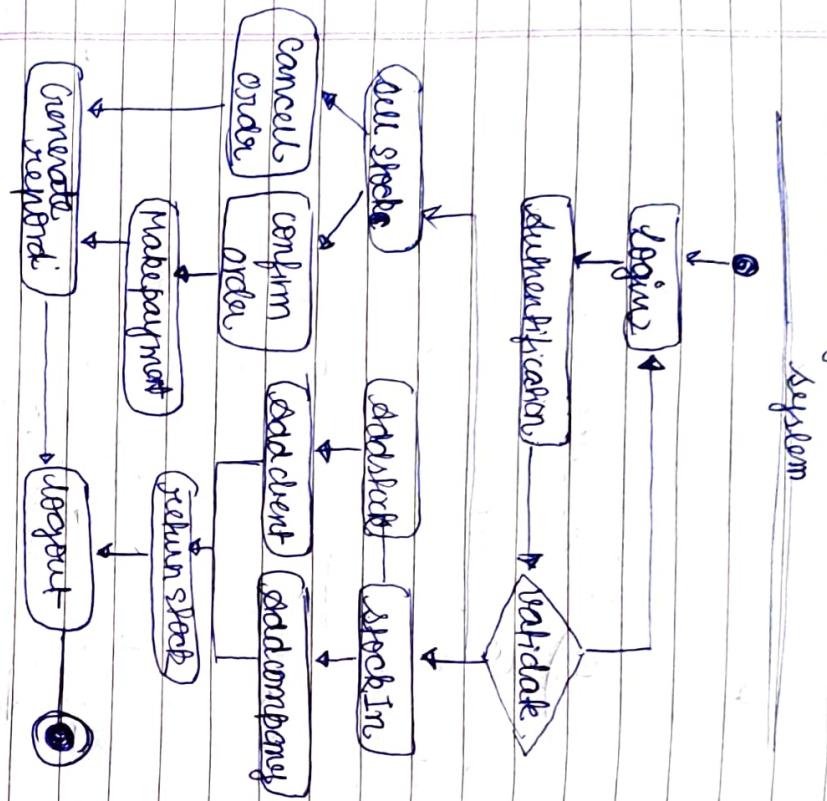
credit card processing system



library management system

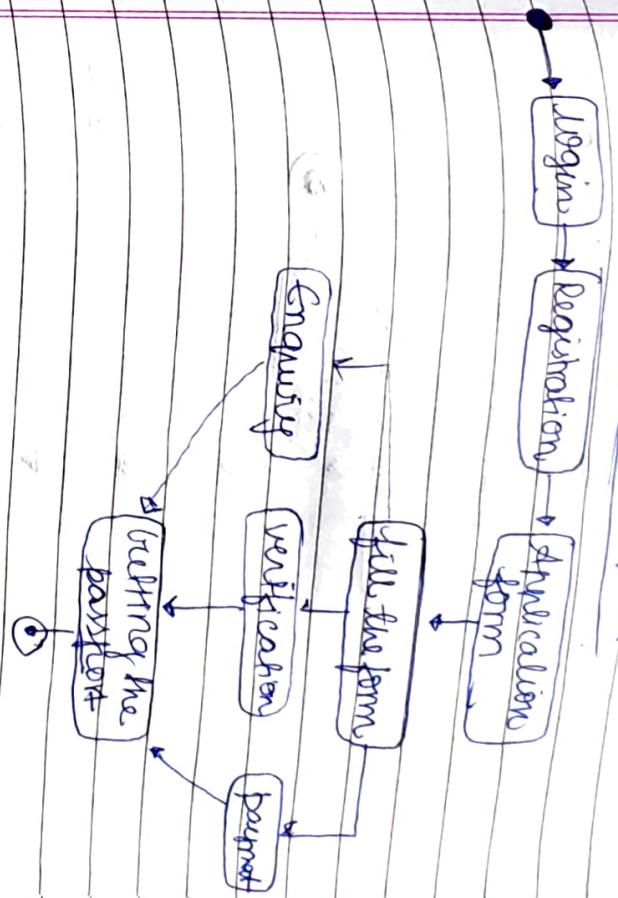


Stock management maintenance system



TEACHER'S choice
Date _____
Page _____

Passport Automation System



TEACHER'S choice
Date _____
Page _____

Online Shopping Order

Start

[Search train]

[check availability]

N ↗ [Logout] ⑥

(Book tick)

(Fill details)

(Submit details)

Y ↗

[make payment]

↑
[print ticket]

[order received]

[unprocessed orders]

Repeated checked

checked steriled

cancel

cancel

despatch

cancel
terms &
condition

Yes

[fullfilled]

Railway reservation system

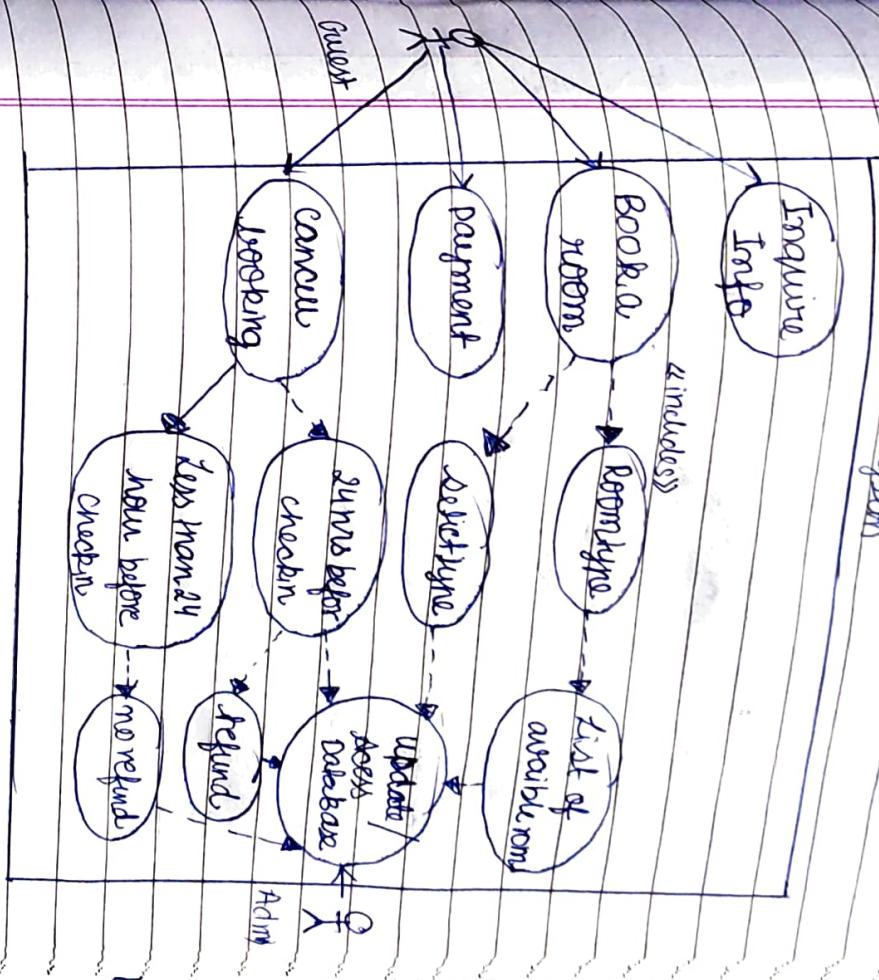
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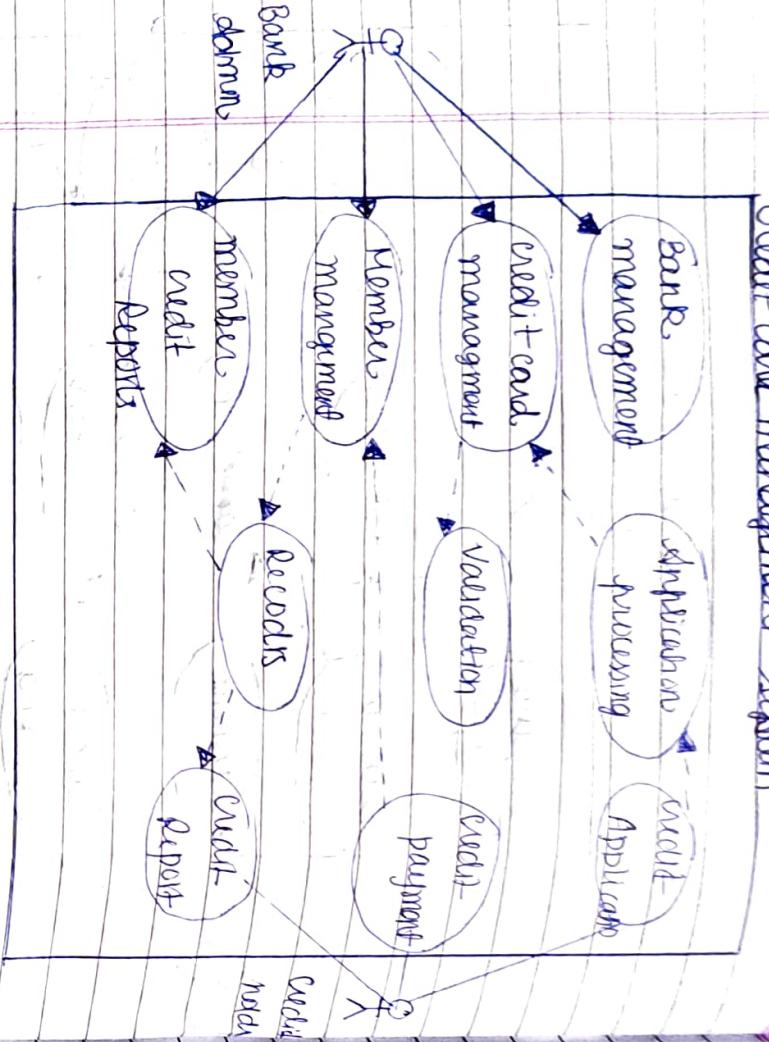
HOTEL management system

LAB-5

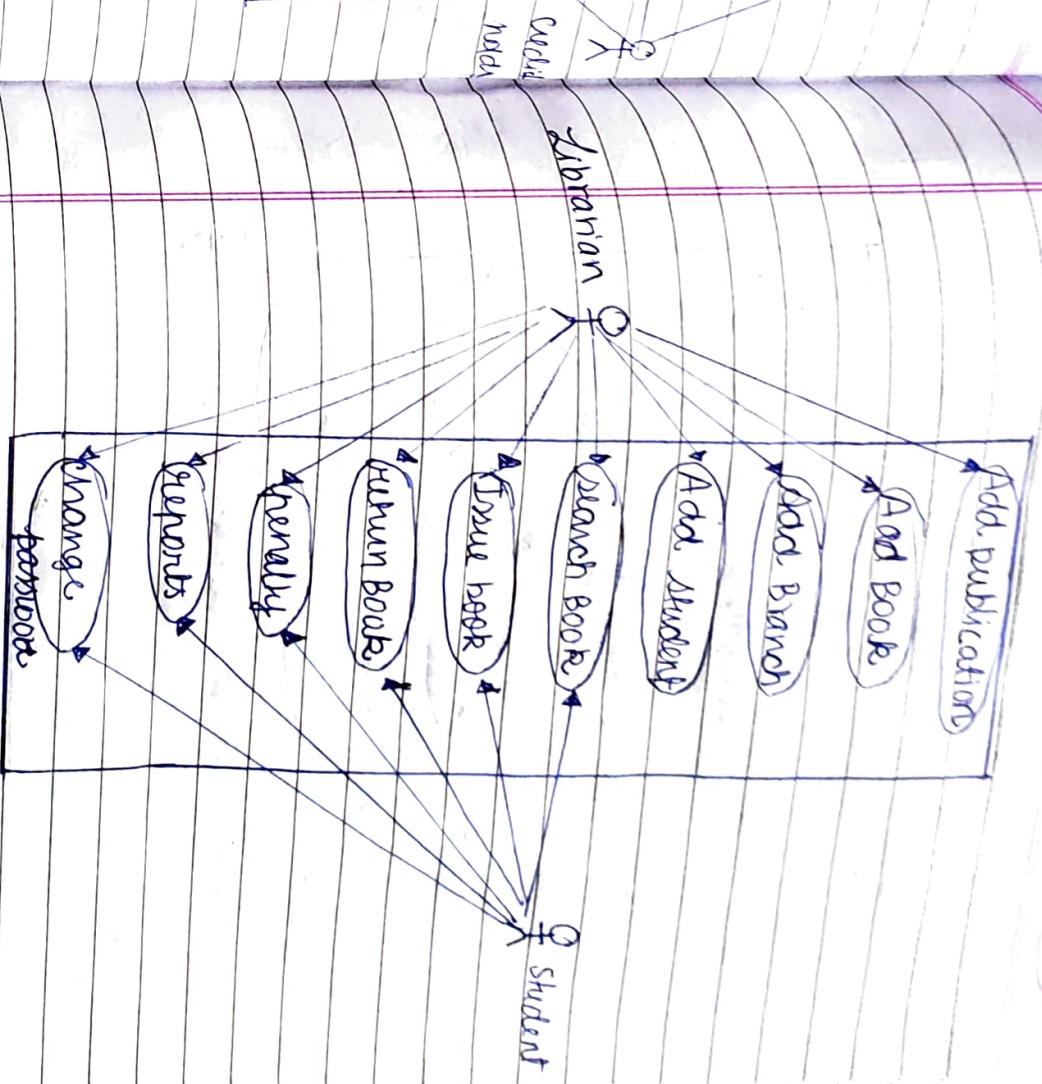
use case diagram of



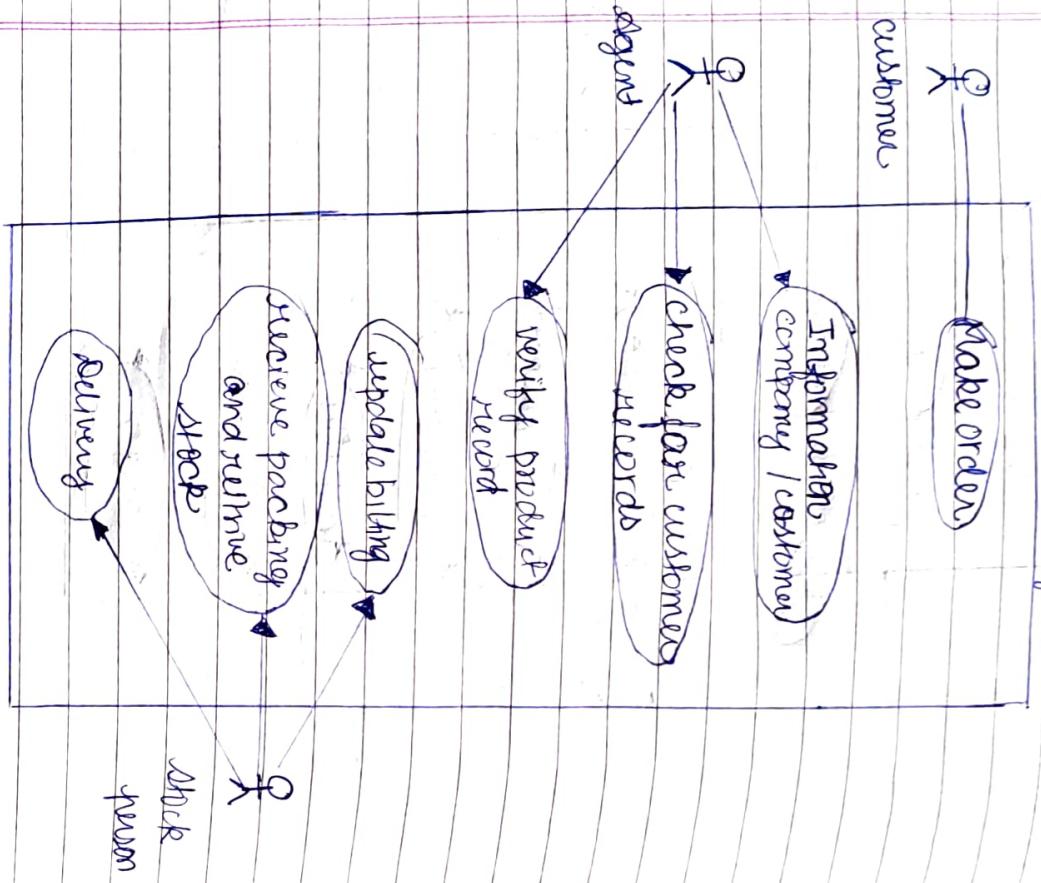
Credit card management system



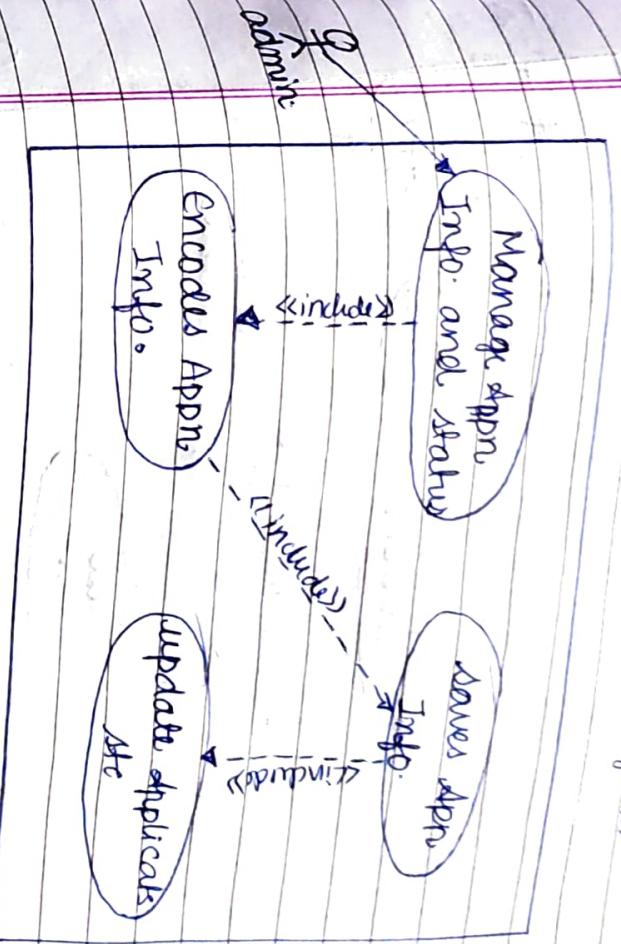
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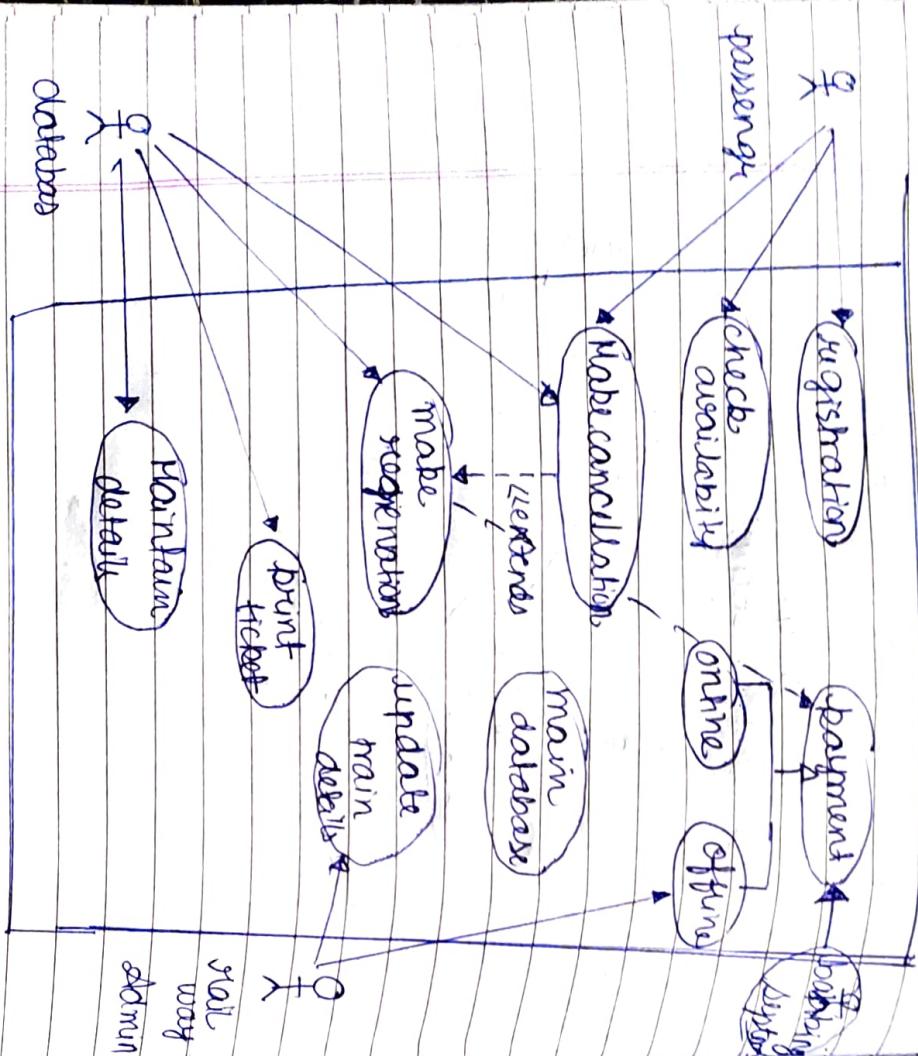
Stock maintenance system



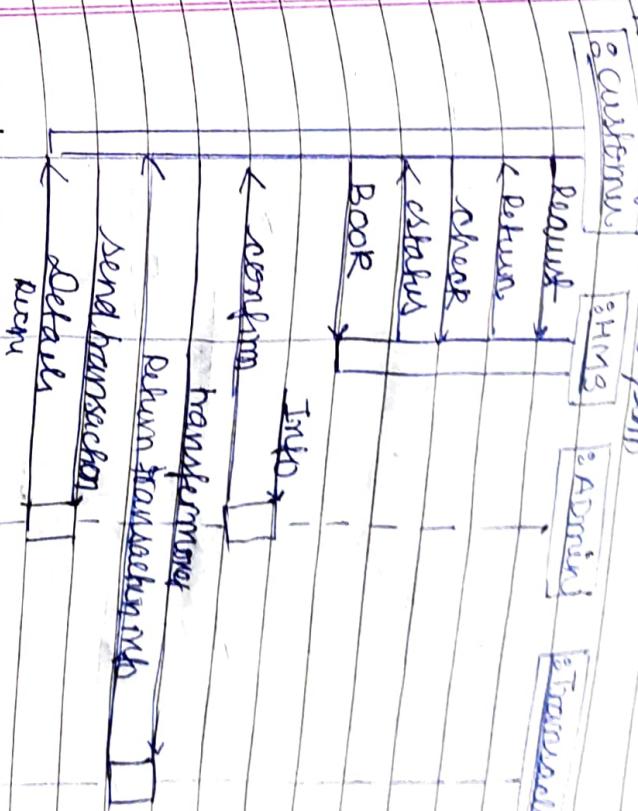
Passport automation system



Railway reservation system



Sequence diagram

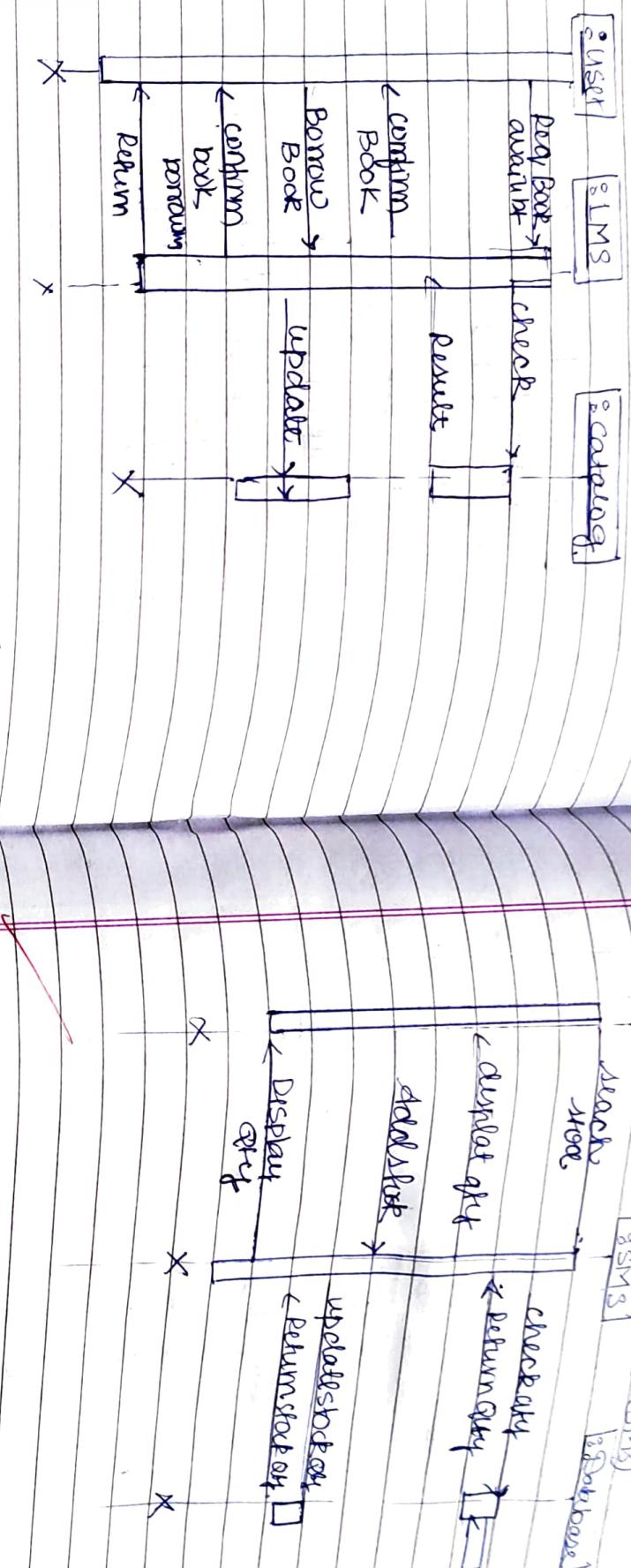


Library management system (LMS)

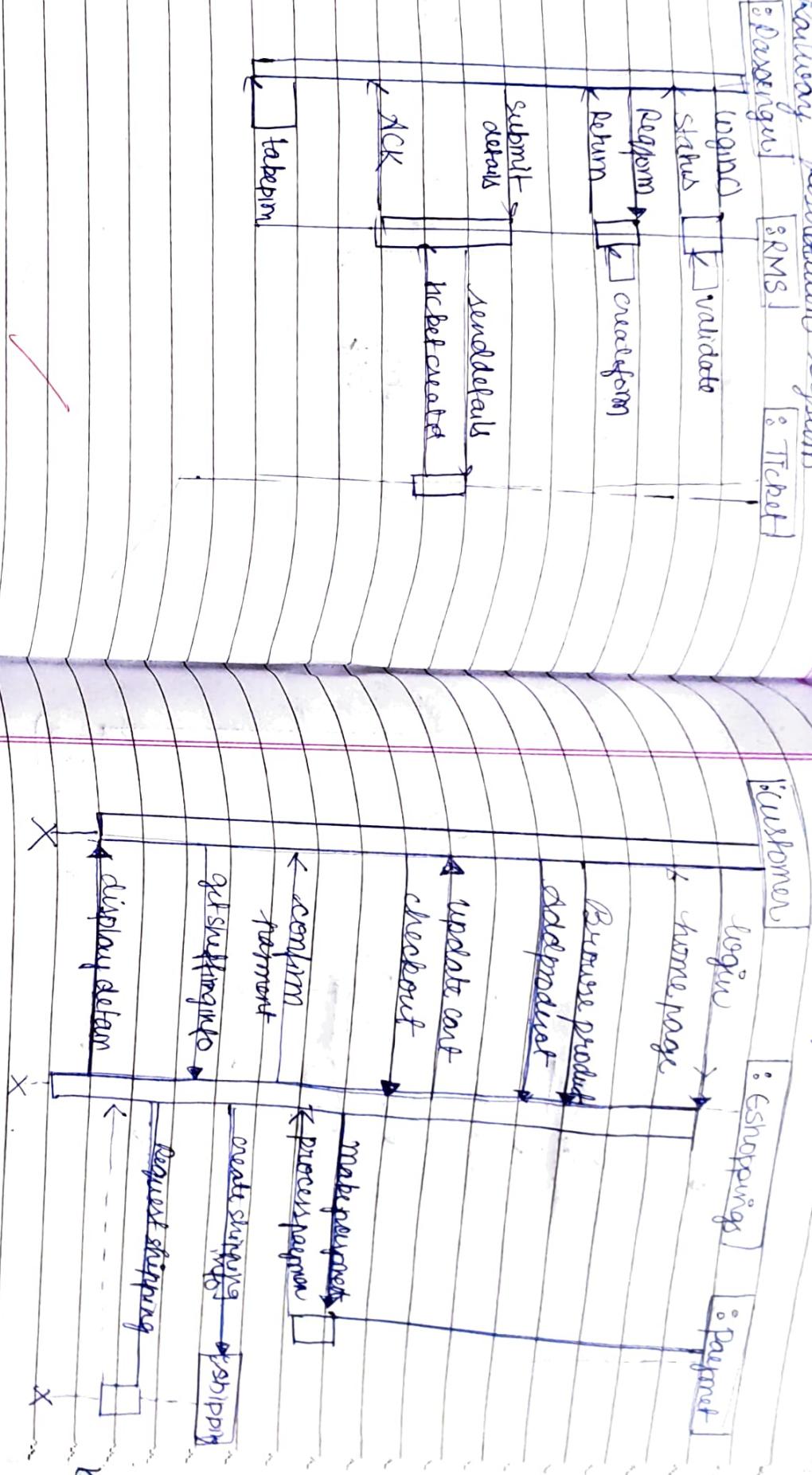
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Stock Maintenance System (SMS)

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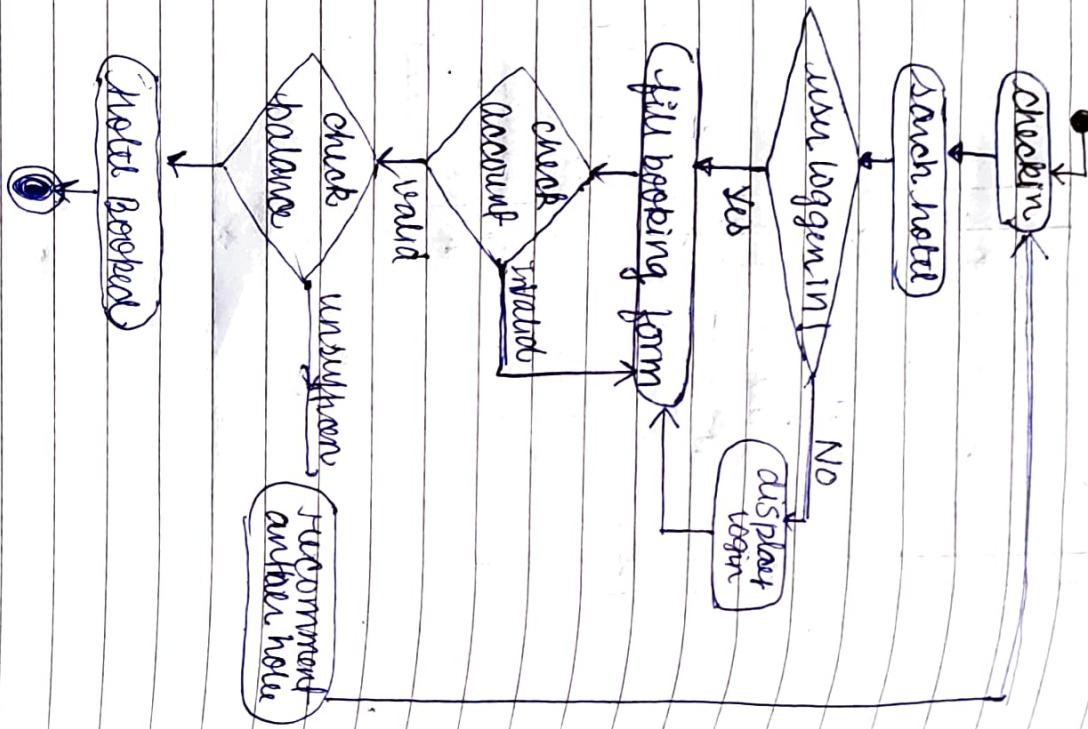
5) Online Shopping System



Task - 6

Activity diagram

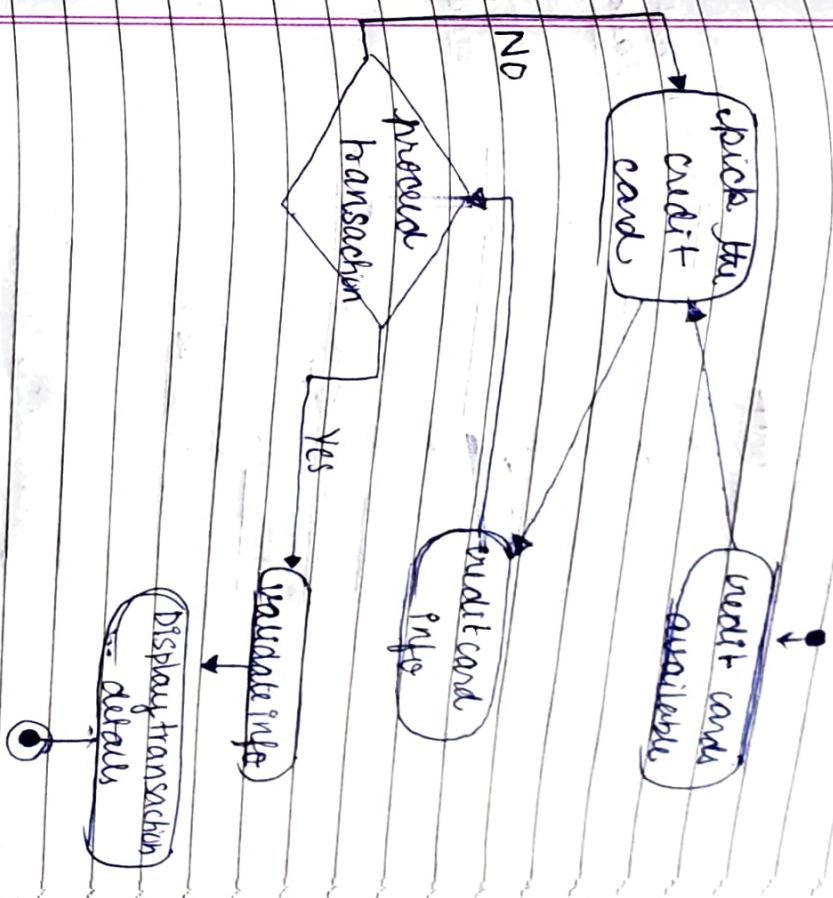
1) Hotel management system



-TEACHER'S choice
Date _____
Page _____

2) Credit card processing system

credit card
applicant
credit card processing
system



-TEACHER'S choice
Date _____
Page _____

Library Management System

(3)

Project automation system

(4)

Inquiring about books
Check availability of book

Update status
Status

Not Available
Book not available
Available
Available member

Priority
as per laws

Priority
as per laws
members
borrower

Check up of book issued

Book not issued
Issued
Issue books

Update book status

⑤

Stock Maintenance System (Adding Stock)

(enter the product id.)

Error message
already done
Enter the product details
check me
product ID.

enter line
product name
amt
the place
Enter me
Enter me

✓
20/2/2024