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LAB-1

SURYA Gold

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Hotel Management System (HMS) Software Requirements Specification (SRS)

- Goal → Develop a Software Interface for HMS.

1. > Introduction:

→ Purpose of this Document → To provide a comprehensive understanding of the requirements and functionalities of the Hotel Management System.

→ Scope of this Document → Describes the intended users, features and benefits of the HMS, along with the development cost and time estimator.

→ Overview → Gives a brief summary of the HMS, outlining its primary functions such as room booking, check-in/out and billing.

2. > General Description:

→ Objective → Make hotel operations smoother and make guests happier.

→ Users → Staff at the front desk, housekeeping and guests.

→ Features:

- Room Booking
- Check-in/out
- Inventory Management
- Billing

→ Importance → Makes guests happier, earns more money and uses resources better.

→ User Community :: Hotel staff and guests, each with different access levels.

3. → Functional Requirements:-

→ Room Booking:-

- Users can search for available rooms by type and occupancy.
- Users can pick rooms and book them providing necessary details.

→ Check-in/out:-

- Front desk staff can check-in guests, rooms and gives out keys.
- Guests can check-out, pay bills, and get invoices.

→ Inventory Management:-

- System updates room availability based on reservations and cleaning.
- Staff can track inventory like amenities & supplies.

→ Billing:-

- Generates invoices for rooms, services, and with payment systems for

4) Interface Requirements:-

→ Uses Interface:-

- Easy to use interfaces for staff and guests, available on web browsers or mobile apps.

→ Payment Integration:-

- Connects with payment gateways like paypal or stripe for safe online payments.

→ Communication:-

- Sends email notifications for booking confirmations, reminders and feedback requests.

5) Performance Requirements:-

→ Response Time:-

- The system should quickly respond to user requests, without delays.

→ Availability:-

- The system should be up and running all the time, except during planned maintenance.

→ Scalability:-

- It should handle busy times like holidays or events without slowing down.

6. > Design Constraints:-

→ Hardware / Software Limitations :-

- Needs to work with current hardware.
- Should support various platforms & OSs.

→ Regulatory Compliance:-

- Must follow data protection laws.
- Should meet industry standards like PCI-DSS for payments.

7. > Non-functional Attributes:-

→ Security:-

- Encrypts sensitive data like credit cards info.
- Uses role-based access to control access what.

→ Reliability:-

- Stays strong and reliable with to avoid downtime.

→ Usability:-

- Easy-to-use interface with clear tips.

8) Preliminary Schedule and Budget.

→ Schedule:-

- Estimated timeline for development, testing and deployment phases.

→ Budget:-

- Cost estimates for development resources, software licenses and infrastructure.

- HMS can range from \$20,000 to \$100,000. More advanced systems with extensive features and customization option can cost upwards \$100,000 to several hundred thousand dollars.

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Software Requirements Specification (SRS) for Credit Card Processing System

→ Goal:- Develop a software interface for Credit Card Processing System.

→ Problem Statement:-

Developing a secure and efficient Credit Card Processing System to facilitate seamless online transactions while ensuring compliance with industry standards and regulations.

① Introduction:-

• Purpose:- Outline CCPS development specifics.

• Scope:- Define objectives, customer value, cost timeline.

• Overview:- CCPS facilitates real-time authentication, settlement, customer management and integrates seamlessly with payment gateways.

② General Description:-

• Authorization:- Verify credit card validity, conduct real-time transactions.

• Settlement:- Capture funds, generate receipts and manage transactions.

Customer Management:- Register, update, manage customer accounts.

Integration:- Integrate with payment gateways, support various payment methods.

2) Functional Requirements:-

- Authorization, Settlement, Customer and integration

3) Interface Requirements:-

- User interface:- Intuitive Interface for merchants, secure login.

- System interface:- Integration with payment gateways via secure API's.

5) Performance Requirements:-

- Response time:- quick response for authorizing transactions, processing payments.

- Reliability:- reliable transaction processing, minimal downtime.

6) Design Constraints:-

- Security:- Compliance with PCI DSS, encryption of payment data.

- Compliance:- Adherence to GDPR and CCPA, regular compliance audits.

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⑦ Non-Functional Attributes:-

• Scalability:- Scale to accommodate growth in transaction volume, user base. →

• Portability:- Compatibility with various OS hardware platforms, cloud deployment options. →

⑧ Preliminary Schedule and Budget:-

• Estimated development time:-

9 months.

• Budget:-

\$100,000

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Software Requirements Specification (SRS) for Library Management System

→ Goal:- Develop a software Interface for Library Management System.

→ Problem Statement:-

Developing a Library Management System to automate and streamline library operations, enhancing efficiency for librarians and improving access for patrons.

① Introduction:-

- Clarifies the necessity of the SRS document as a guide for the development team and stakeholders.
- Outlines objectives and scope.

② Scope:-

- Describes the main objective and value of the CMS.
- Estimates development cost and time.

③ Overview:-

- Provides a summary of the CMS and its key functionalities.

④ General Description:-

- Broad overview of the system
- Objectives and user characteristics
- Feature and benefits.

⑤ Functional Requirements:-

- Specific functions or capabilities required
- Prioritized list based on importance to system functionality.

⑥ Interface Requirements:-

- Communication methods with users, software & devices
- User interfaces (UI) and system interfaces

⑦ Performance Requirements:-

- System performance under different conditions
- Response time, scalability and reliability.

⑧ Design Constraints:-

- Limitations or restrictions for system design.
- Platform compatibility, hardware constraints or regulatory requirements

⑨ Non-functional Attributes:-

- Qualities essential for overall system

⑩ Preliminary Schedule and Budget:-

- Initial development plan.
- Phases, timeline and budget estimate.
- Budget estimate of \$100,000

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④ Software Requirements Specification (SRS) for

Passport Automation System

Goal: Develop an interface of PAS.

① Introduction:-

- Defines specifications and requirements for Passport Automation System.

② General Description:-

- Streamline processes.

③ Functional Requirements:-

- User Registration
- Application Submission
- Application Processing
- Payment processing
- Appointment scheduling
- Passport Issuance

④ Interface Requirements:-

- User interface
- System Interfaces.

⑤ Performance Requirements:-

- Response Time
- Scalability

⑥ Design Constraints:-

- Platform Compatibility.
- Integration.

⑦ Non-functional Attributes:-

- Security
- Reliability
- Usability

⑧ Preliminary Schedule and Budget:-

- 6 months
- \$60,000

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Software Requirements Specification (SRS) for Stock Maintenance System

⇒ Goal:- Develop a Software Interface for Stock maintenance system.

(1) Introduction:-

- Define requirements
- Define needs
- Guide development

(2) General Description:-

- Manage inventory
- Streamline processes
- Manage stock

(3) Functional Requirements:-

- Entry
- Tracking
- Movement
- Reporting
- Move
- Capture
- Alert

(4) Interface Requirements:-

- User

- System Connect
- Balcode
- External Systems
- System interfaces

⑤ Performance Requirements:

- Response
- Scalability
- Response
- Grows
- Minimize downtime

⑥ Design Constraints:

- Compatible
- Optimize
- Consider hardware
- Hardware

⑦ Non-functional Attributes:

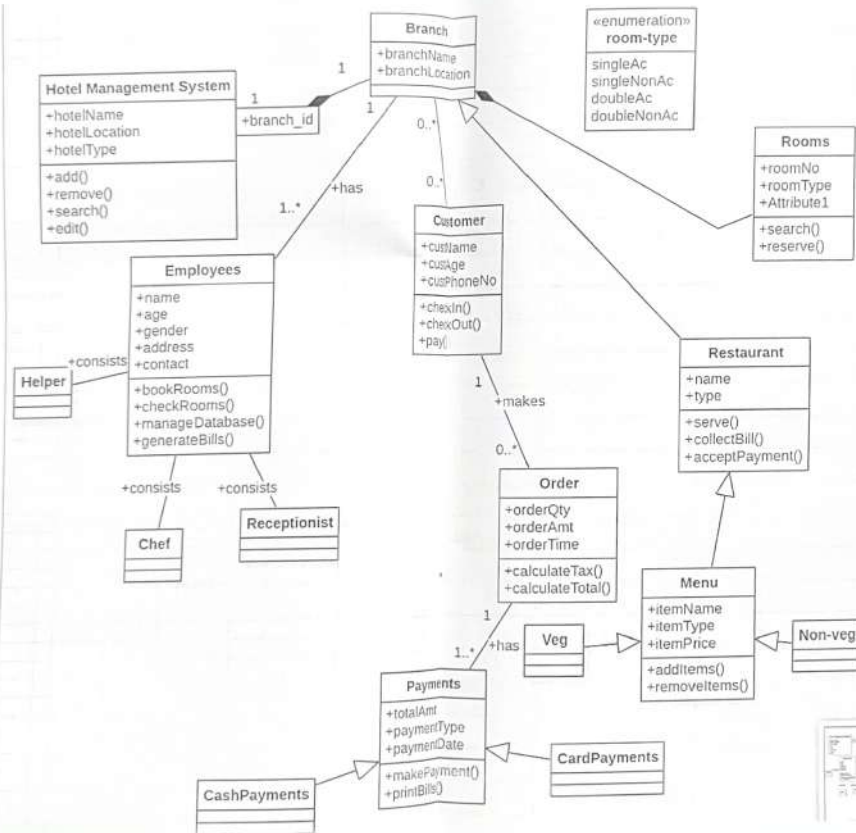
- Security
- Reliability
- Performance
- Secure
- Fast
- Usable
- Backup

⑧

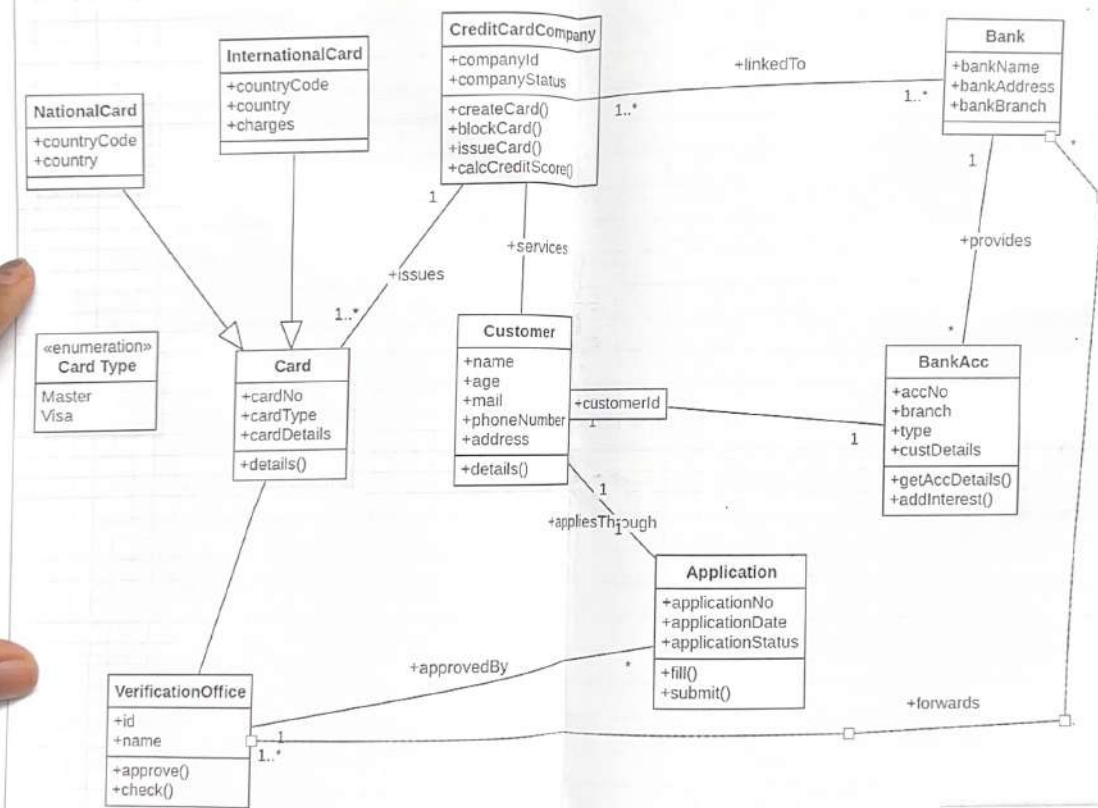
Preliminary Schedule and Budget:

- 4 months
- \$40K @ \$1,000,000
- Phases outlined

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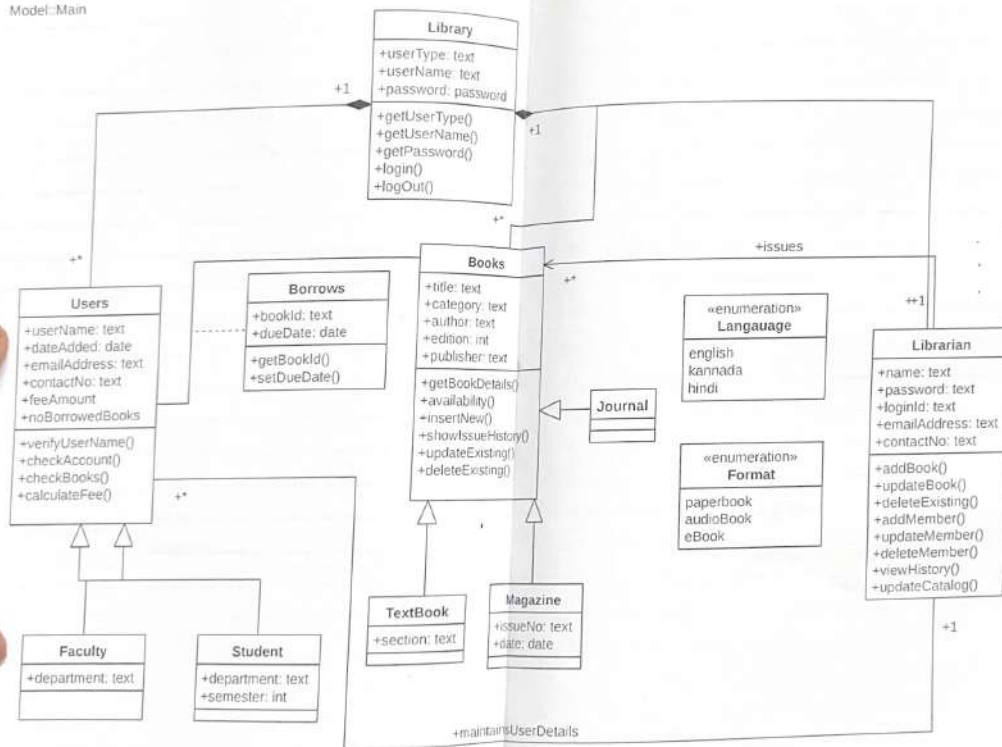
=> Class DiagramHotel Management System

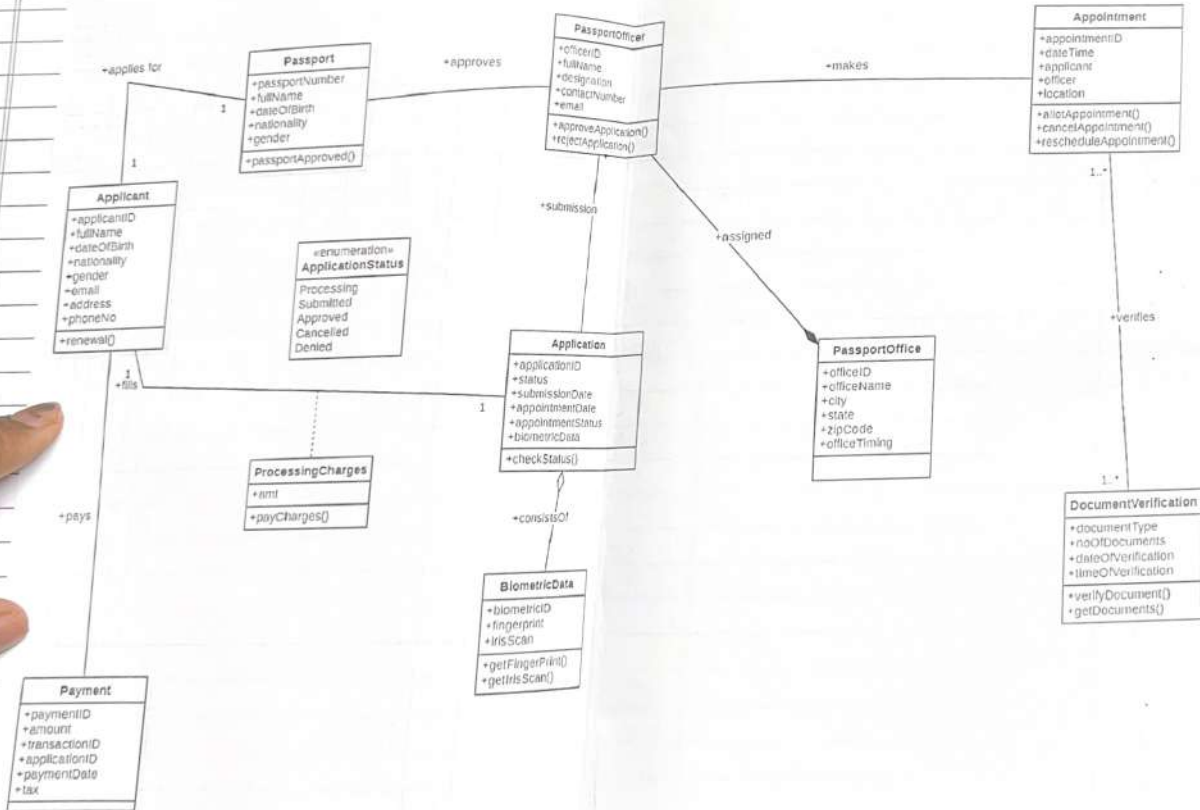
⇒ Class Diagram for Credit Card Processing System



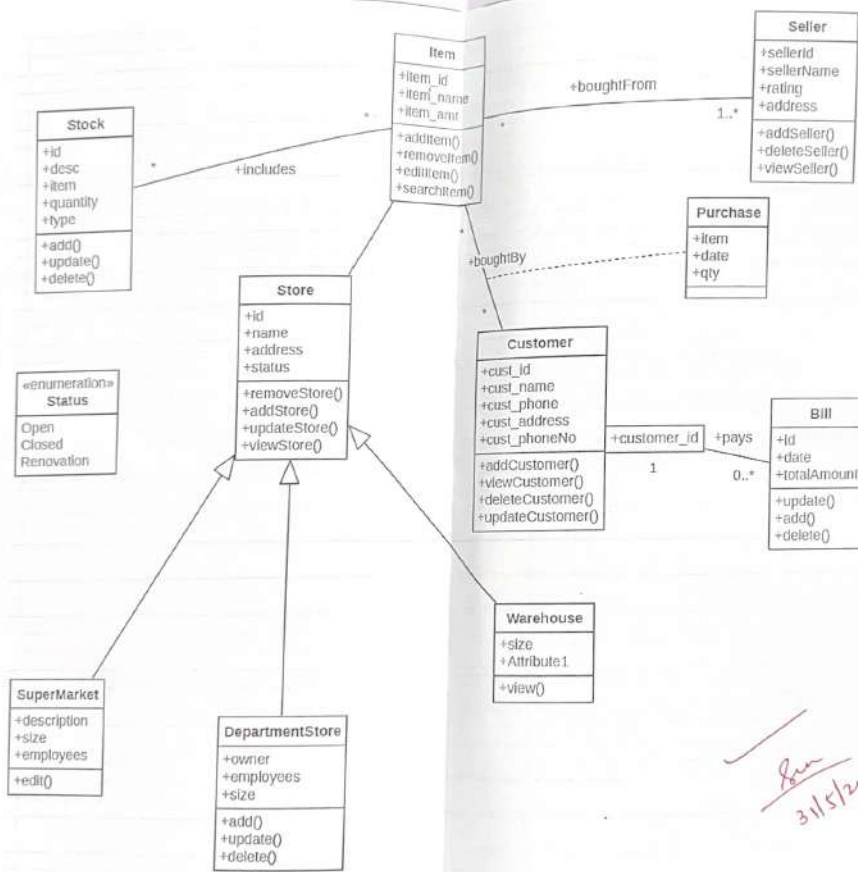
=) Class Diagram for Library Management System

Model: Main



→ Class Diagram for Passport Automation System

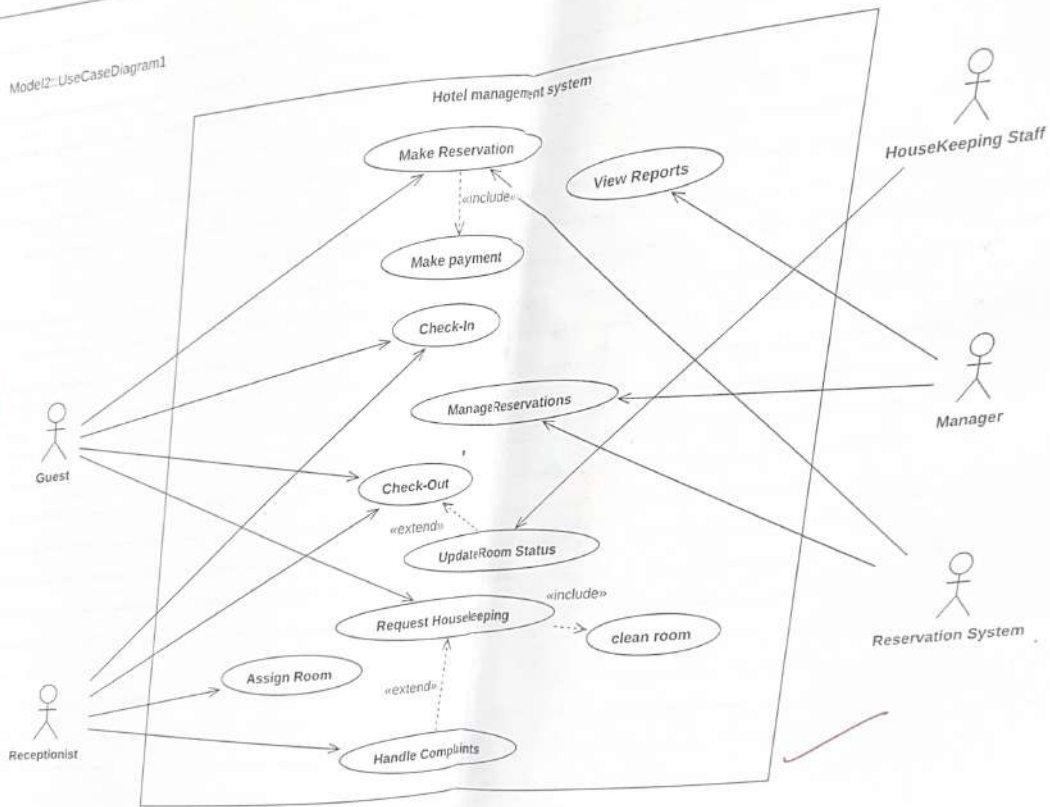
=> Class Diagram for Library Management System



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⇒ Use Case Diagram :-
Hotel Management System

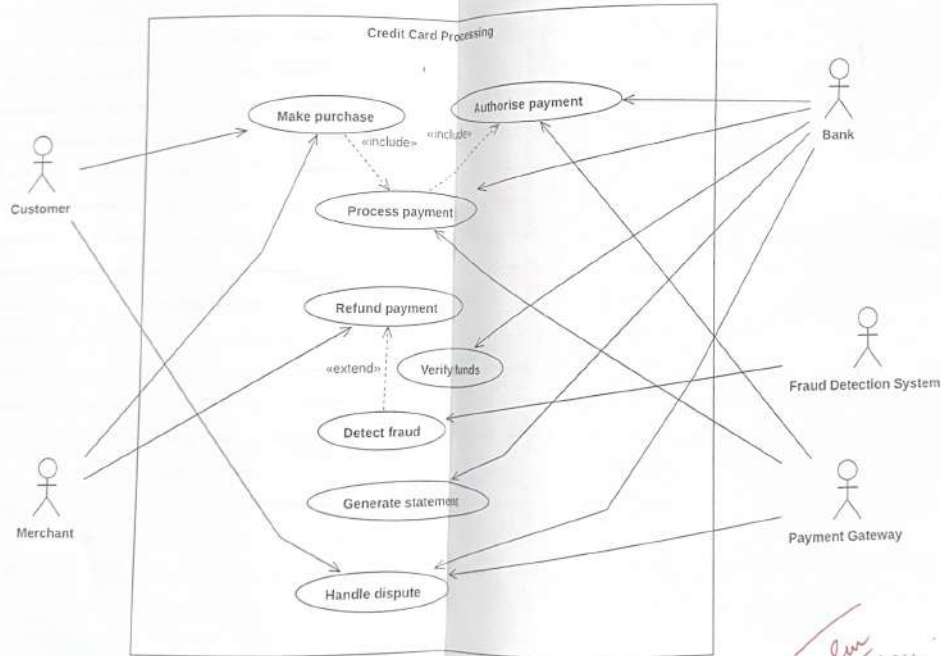
Model2: UseCaseDiagram1



→ Use Case Diagram

Credit Card Processing System

Model1: UseCaseDiagram1

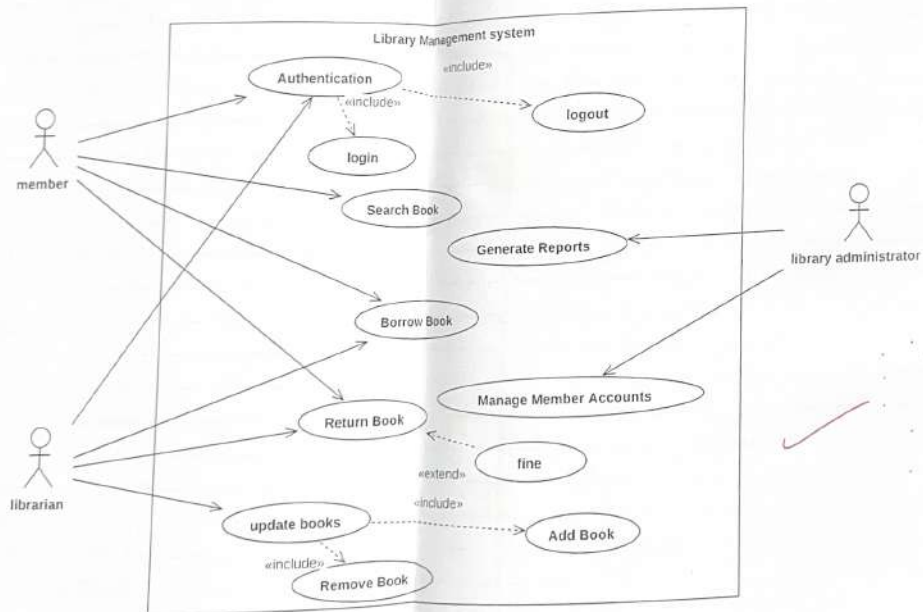


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→ Use Case Diagram:-

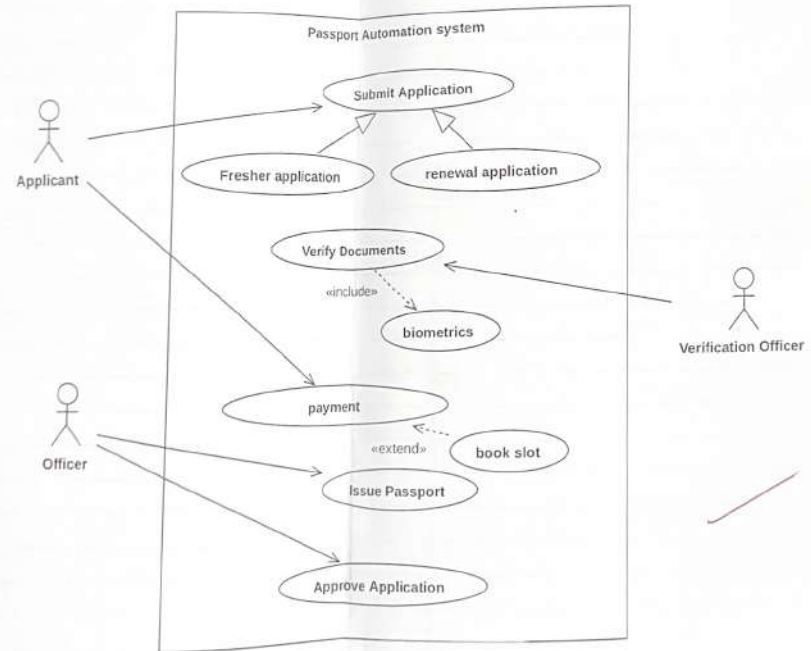
Library Management System

Model1: UseCaseDiagram1



⇒ Use Case Diagram:-
Passport Automation System

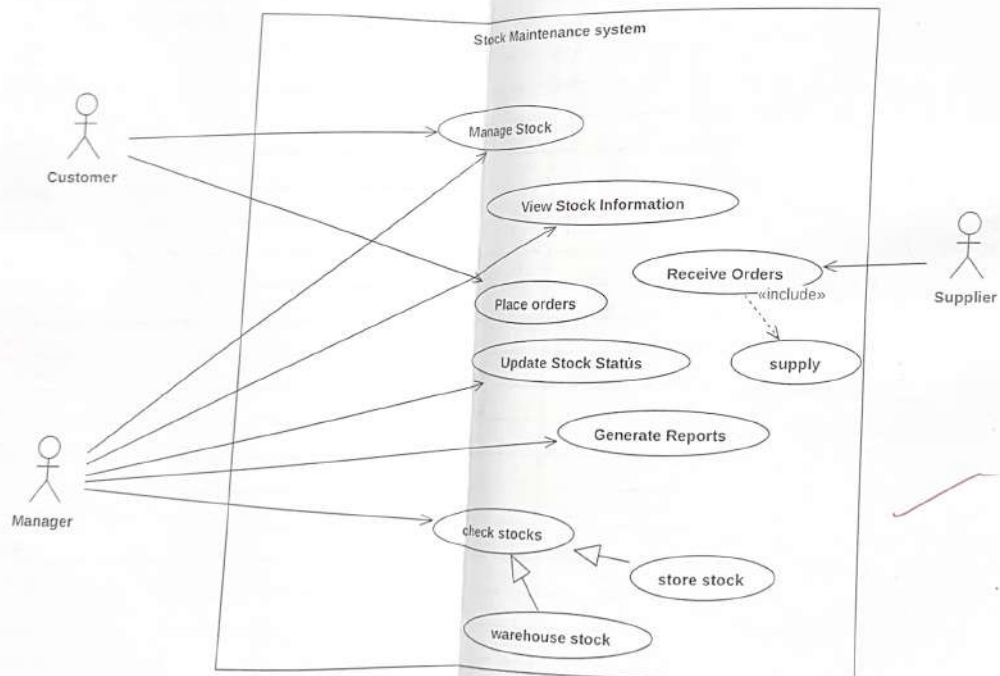
Model1:-UseCaseDiagram1



=> Use Case Diagram:-

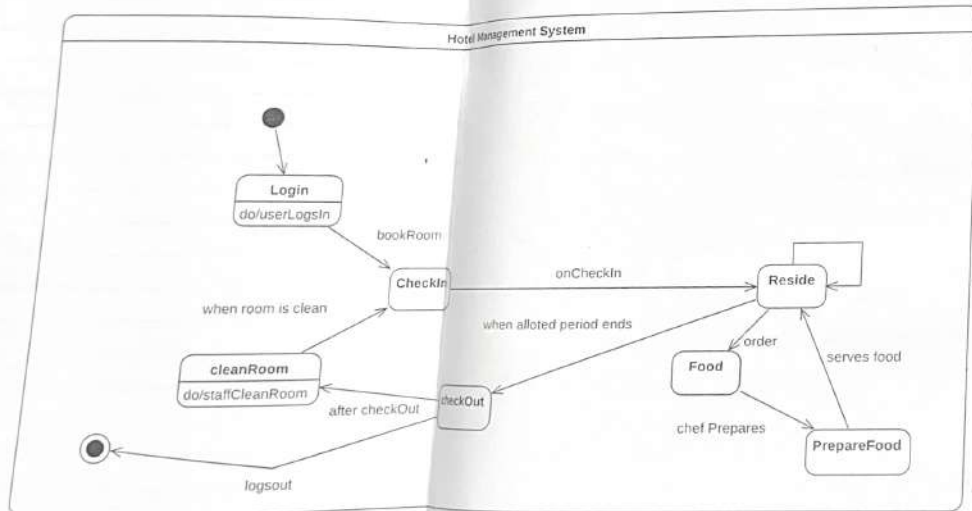
Stock Maintenance System

Model1: UseCaseDiagram1

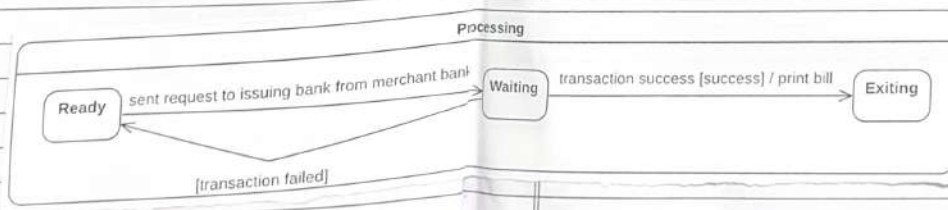
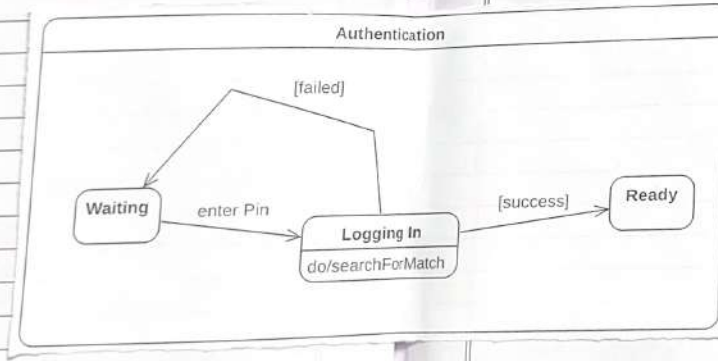
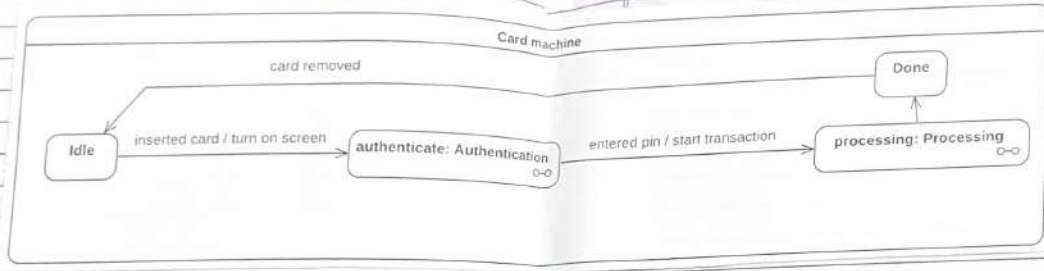


⇒ State Diagram:-
Hotel Management System

StateMachine1--StatechartDiagram1

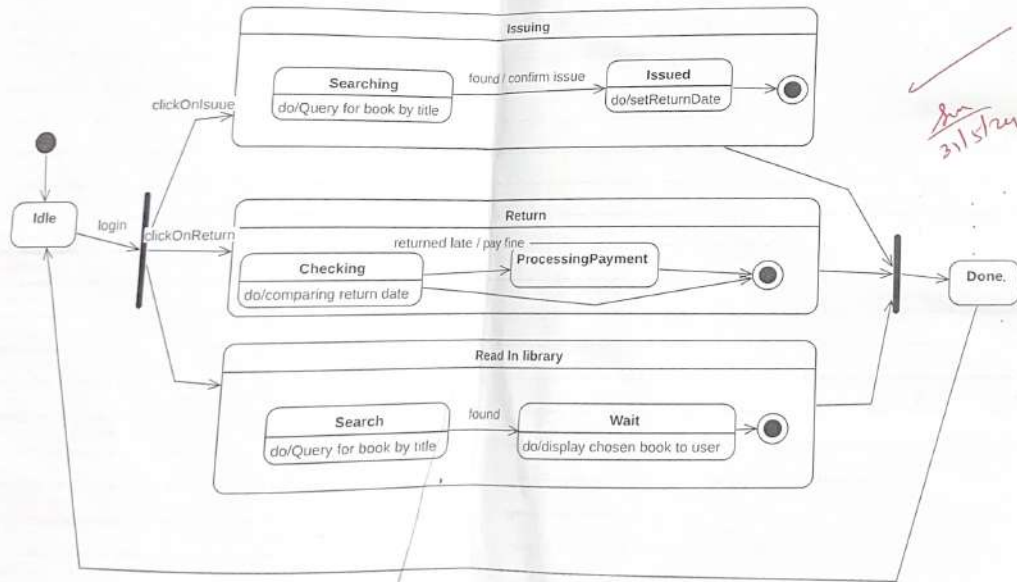


⇒ State Diagram Credit Card System

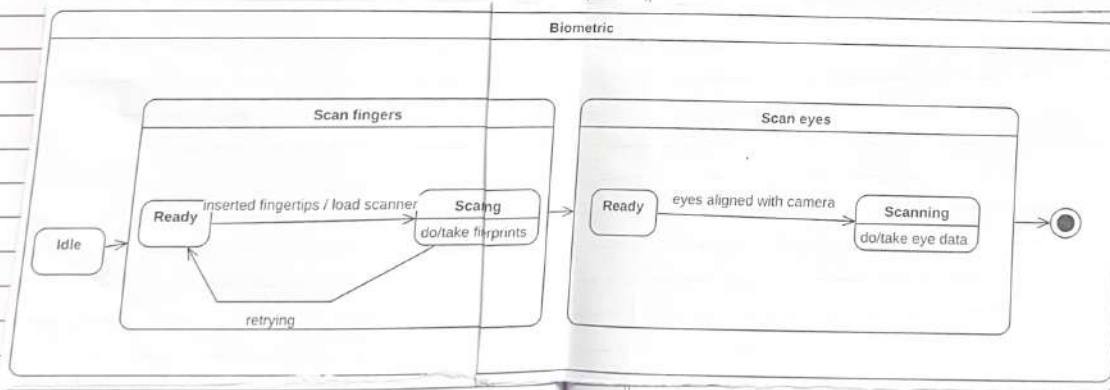
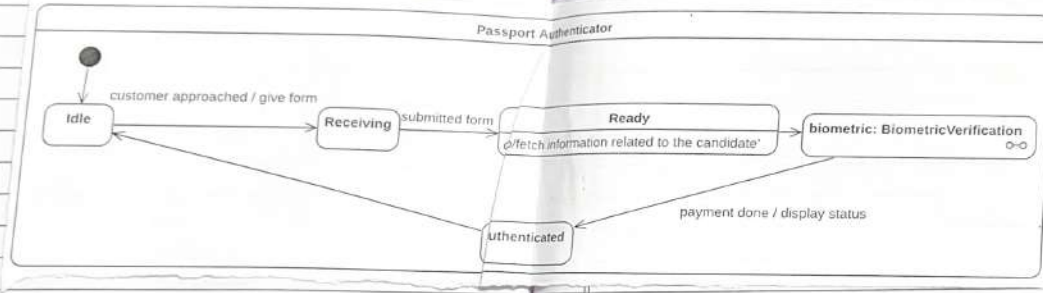


⇒ State Diagram Library Management System

StateMachine1::StatechartDiagram1



→ State Diagram Passport Automatic System

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