

Software Requirements Specification (SRS) for Banking Management System

1. Introduction

1.1 Purpose

The purpose of this document is to define the software requirements for the Banking Management System. It describes the system's intended features, performance requirements, and constraints, serving as a guide for developers, testers, and stakeholders.

1.2 Scope

The Banking Management System is a web-based application designed to manage core banking operations such as customer accounts, transactions, loans, and reporting. The system streamlines banking processes, reduces manual effort, and ensures secure and efficient handling of financial data.

Core functions include account management, deposits and withdrawals, fund transfers, loan processing, and transaction history tracking. The system will be used by bank employees (tellers, managers, and administrators) and customers for online access.

1.3 Definitions and Acronyms

- **System:** The Banking Management System.
 - **User:** A customer, teller, or bank administrator using the system.
 - **Account:** A customer's bank account (savings, current, loan, etc.).
 - **Transaction:** A record of financial activity such as deposit, withdrawal, or transfer.
 - **KYC:** Know Your Customer (identity verification process).
 - **UI:** User Interface.
 - **API:** Application Programming Interface.
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2. Overall Description

2.1 Product Perspective

The system is a centralized, multi-user web application accessible via browser and mobile devices. It integrates with a secure relational database (e.g., MySQL or PostgreSQL) for data persistence. APIs may be used to connect with payment gateways and third-party financial services.

2.2 Product Functions

The system provides the following major functionalities:

- **Account Management:** Create, update, and manage customer accounts and KYC details.

- **Transaction Management:** Process deposits, withdrawals, fund transfers, and generate receipts.
- **Loan Management:** Handle loan applications, approvals, and repayment tracking.
- **Reporting:** Generate statements, summaries, and compliance reports.
- **Customer Self-Service:** Provide customers with access to their accounts, balances, and transaction history.
- **Security & Authentication:** Role-based access, password policies, and OTP verification.

2.3 User Characteristics

- **Customer:** Basic computer literacy, uses the system to check balances, transfer funds, and view statements.
- **Bank Teller:** Moderate technical knowledge, uses the system to manage daily banking transactions.
- **Administrator/Manager:** Advanced user, responsible for user access, system monitoring, and reporting.

2.4 Design and Implementation Constraints

- **Technology:** Must be implemented as a web application with responsive design.
 - **Security:** All data must be encrypted (AES, SSL/TLS).
 - **Database:** Must support ACID transactions to ensure financial data integrity.
 - **Performance:** Transactions must be processed within 2 seconds under normal load.
 - **Compliance:** Must comply with banking regulations (e.g., PCI DSS, RBI guidelines).
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3. Specific Requirements

3.1 Account Management Module

- **3.1.1 Create Account:** The system shall allow staff to create new accounts with KYC verification.
- **3.1.2 View Account Details:** The system shall display account details including name, type, balance, and status.
- **3.1.3 Update Account Information:** The user shall be able to modify account details such as address or phone number.
- **3.1.4 Close Account:** The system shall allow authorized users to close customer accounts.

3.2 Transaction Management Module

- **3.2.1 Deposit Money:** The system shall record deposits and update account balances.
- **3.2.2 Withdraw Money:** The system shall record withdrawals, ensuring sufficient balance exists.

- **3.2.3 Fund Transfer:** The system shall transfer money between accounts and log the transaction.
- **3.2.4 Transaction History:** The system shall maintain a complete log of all transactions.

3.3 Loan Management Module

- **3.3.1 Apply for Loan:** The system shall allow customers to apply for personal, home, or business loans.
- **3.3.2 Approve/Reject Loan:** Bank staff shall process loan applications and update loan status.
- **3.3.3 Loan Repayment Tracking:** The system shall track EMI payments and outstanding balances.

3.4 Reporting Module

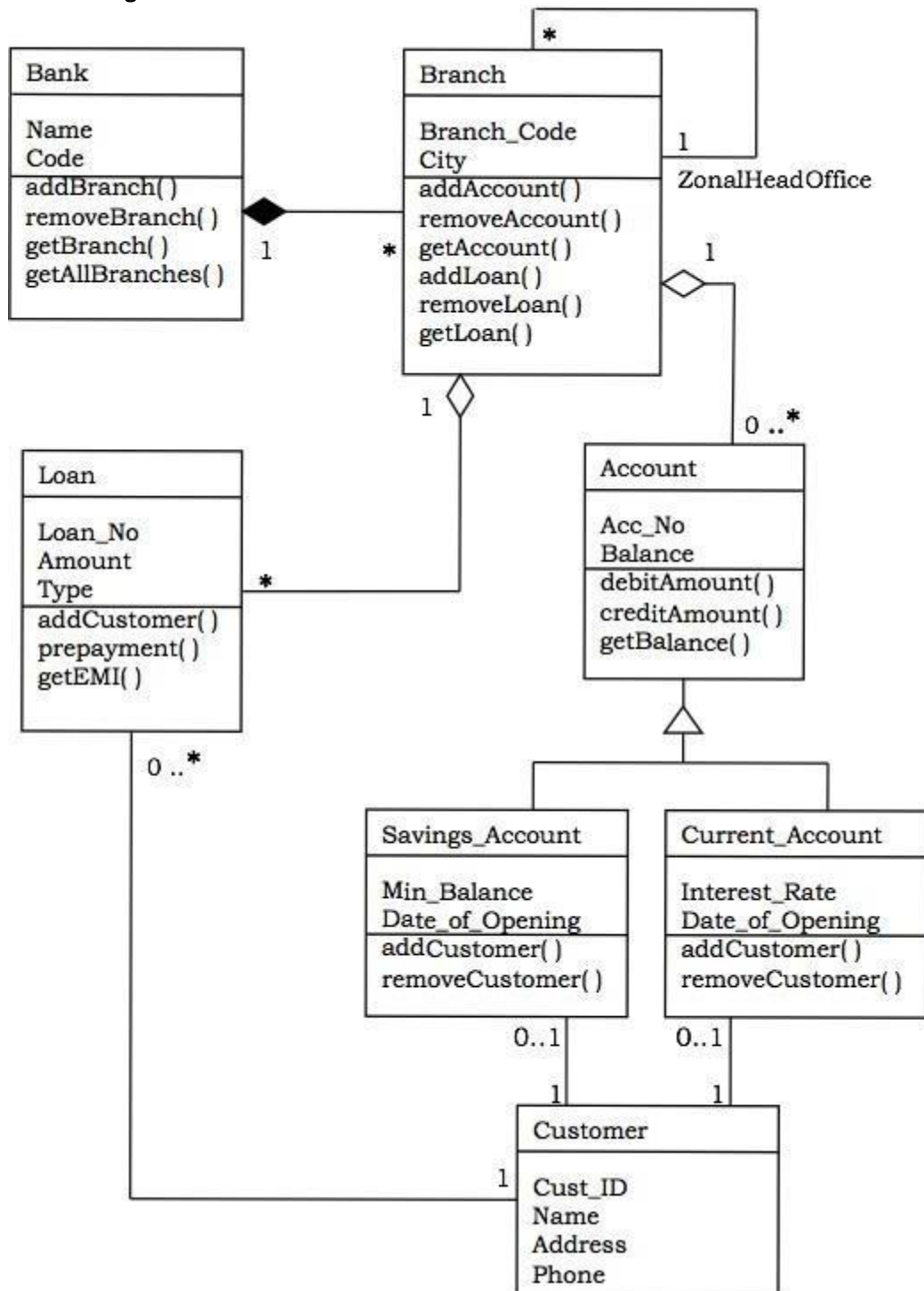
- **3.4.1 Account Statements:** Customers shall download monthly or custom account statements.
- **3.4.2 Compliance Reports:** Administrators shall generate reports for audits and regulatory purposes.
- **3.4.3 Transaction Summaries:** The system shall provide daily, weekly, and monthly transaction summaries.

3.5 Security Module

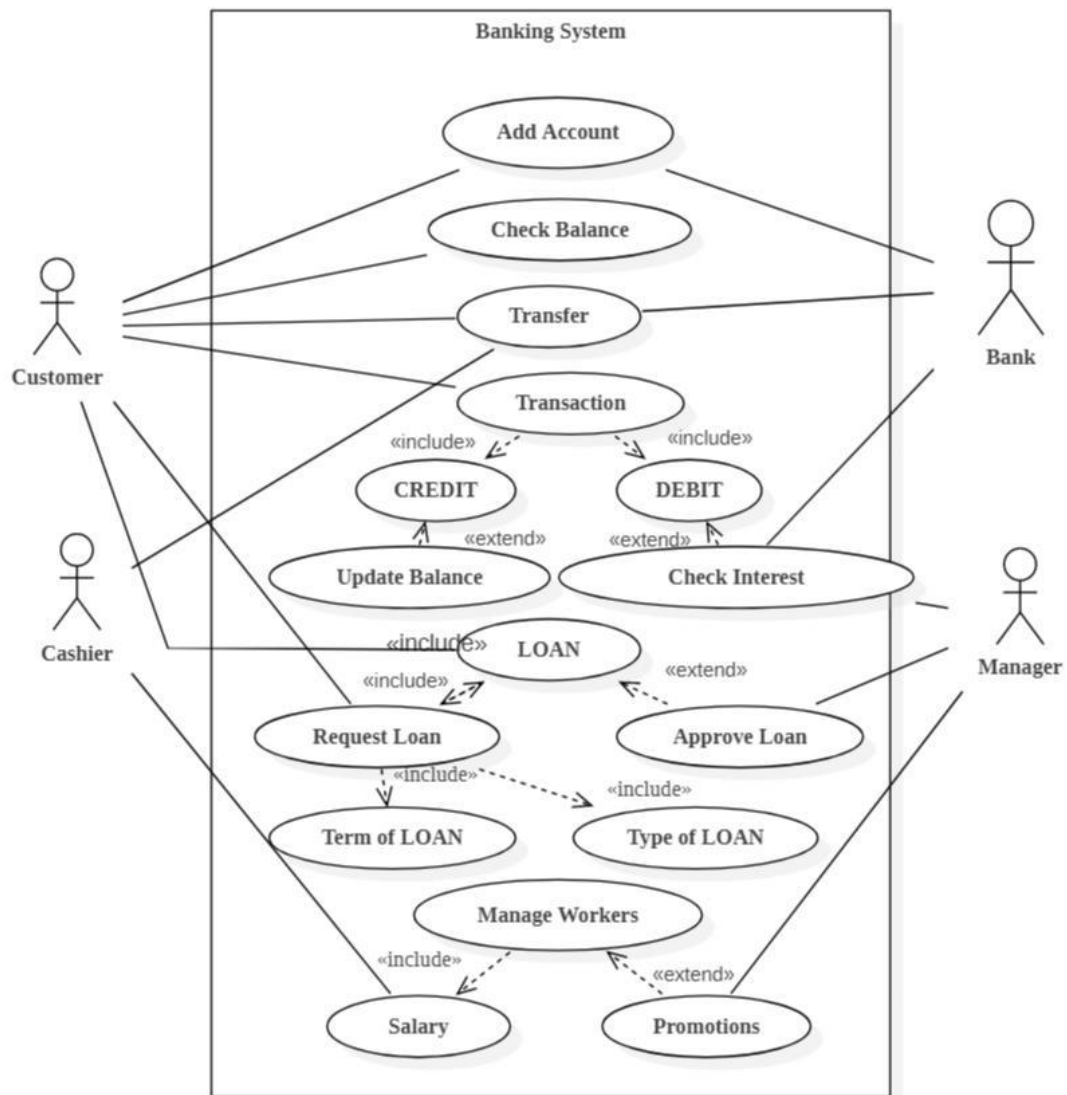
- **3.5.1 Authentication:** The system shall require login with username, password, and optional OTP.
- **3.5.2 Authorization:** Access shall be role-based (customer, teller, admin).
- **3.5.3 Encryption:** Sensitive data shall be stored and transmitted using encryption standards.
- **3.5.4 Audit Trails:** All activities shall be logged for security and compliance.

4. System Diagrams

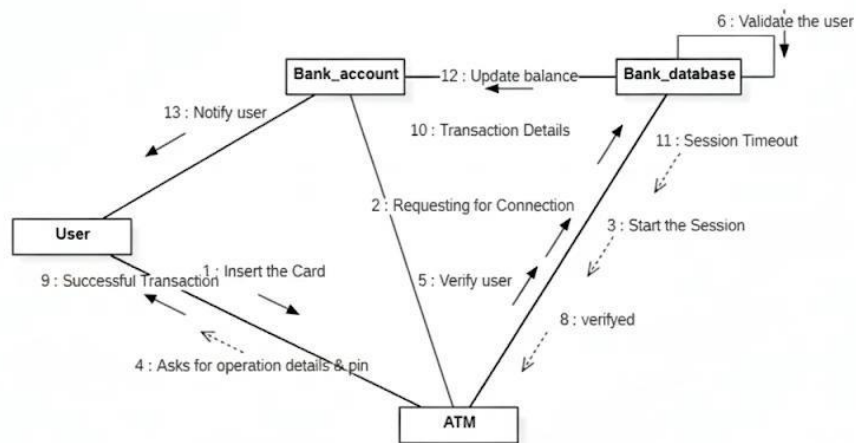
4.1 class Diagram



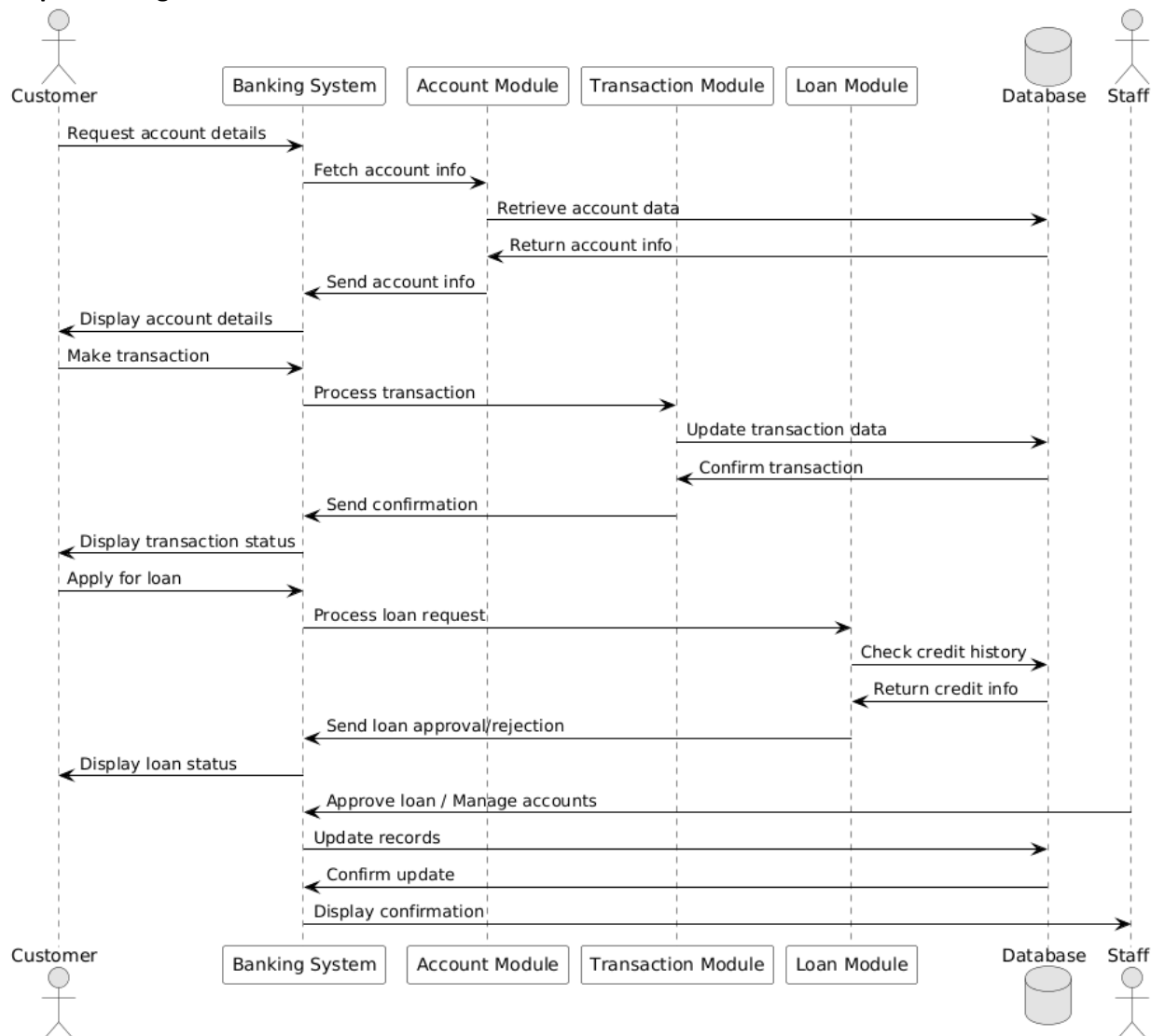
4.2 UseCase Diagram

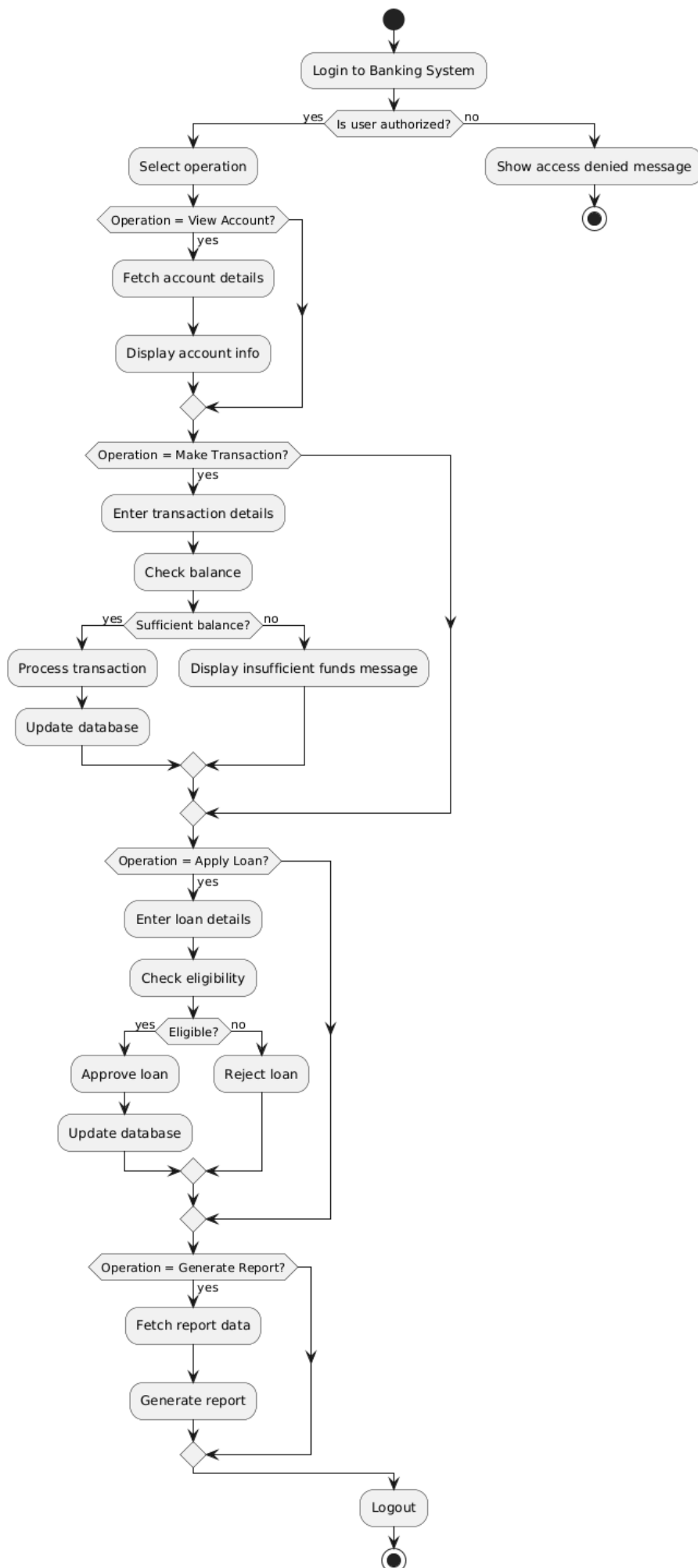


4.3.1 Collaboration Diagram

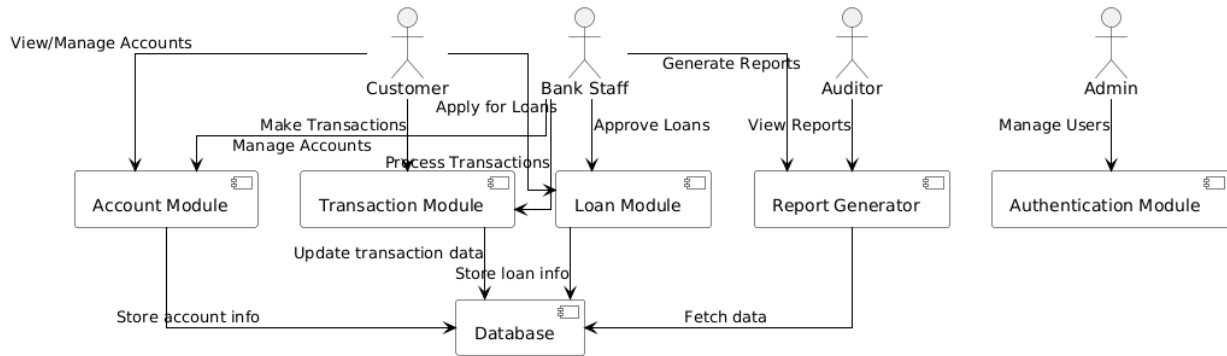


4.3.2 Sequence Diagram





4.4 Component/Deployment diagram



Conclusion

The Banking Management System provides a reliable, secure, and efficient solution for managing various banking operations, including customer account management, transactions, and record maintenance. By automating key processes, the system minimizes human error, enhances data accuracy, and improves overall customer service. The outlined requirements in this SRS serve as a foundation for development, ensuring that the system meets both functional and non-functional expectations. Once implemented, it will streamline banking workflows, support decision-making, and provide scalability for future enhancements, ultimately contributing to better operational efficiency and customer satisfaction.