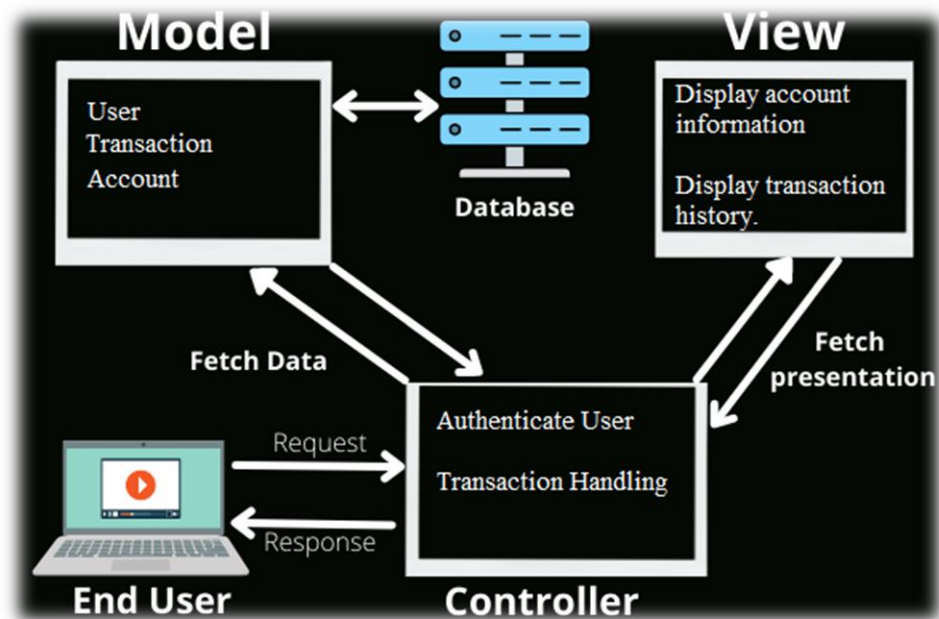


Practice Assignment 3

Problem 1. (100%) MVC design pattern

*Scenario: Your task is to implement an Online Banking System. Overall, the system aims to provide user-friendly, and efficient online banking experience for its users, allowing them to **manage their accounts** and **perform financial transactions** with ease.*



1. Design system model (30%)

User	Account	Transaction
Represents a bank user	Represents a bank account associated with a user	Represents transactions detail
username password	String accountNumber double balance User owner AccountType accountType	TransType description double amount

*AccountType enum defines different types of accounts: SAVINGS, CHECKING, LOAN;

* TransType enum defines different types of transaction: DEPOSIT, WITHDRAWAL;

- Create User, Account, and Transaction as described above. (10%)

- b. Prepare a list of registered Account their corresponding User (reserved for controller). You can use an in-memory collection (like an ArrayList) or connect to a database (like SQLite) for persistence. **(20%)**

2. Create View (30%)

Handles user authentication and displays information,

- a. Implement “**authenticateUser**”, which prints out their account’s info if they successfully signed in. **(10%)**
- b. Implement “**printTransaction**” to prints out the type of transaction, the amount of transaction and User’s account information. **(10%)**
- c. Implement “**printAccountDetails**” method to print out Account information. **(10%)**

3. Create Controller (40%)

- a. Implement “**authenticateUser**” method to authenticate user (Based on the list of registered accounts). **(10%)**
- b. Implement “**deposit**” method to add a sum of money in account. This transaction is free for all accounts but “LOAN” which will be deny of request. **(10%)**
- c. Implement “**withdraw**” method to subtract an amount from account. This transaction is free for “CHECKING” account type, the rest will be denied of service. **(10%)**
- d. Implement “**transacitionLog**” method to request viewing transaction history. **(10%)**

~The end~

Your project/ solution should be submitted to Moodle before the deadline.