BANKING SYSTEM

Project guider

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Technical Stack:

- Programming language (Java).
- Database (MySQL).
- Tools and libraries (JDBC, MySQL Connector).

Aim:

The aim of this banking application is to provide a straightforward and efficient platform for users to manage their bank accounts and perform various financial transactions. It allows users to register and log in securely, create and manage bank accounts, and perform key banking operations such as depositing money, withdrawing money, transferring funds between accounts, and checking account balances.

Scope:

The scope of this banking application includes essential functionalities required for basic bank account management. Users can register and log in securely, create new bank accounts, and perform transactions such as deposits, withdrawals, fund transfers, and balance inquiries. The application is designed to handle multiple user accounts and ensures data integrity and security using MySQL for database management.

Features:

=> User Registration.

=> User Login.

=> Account Management (Create account, Debit, Credit, Transfer, Check balance).

Objectives:

- **User Registration and Authentication:** Provide a secure and straightforward way for users to register and log in to their accounts.
- **Account Management**: Enable users to create, manage, and delete bank accounts.
- **Transaction Handling:** Facilitate key banking transactions such as deposits, withdrawals, and fund transfers between accounts.
- **Balance Inquiry:** Allow users to check the current balance of their accounts easily.

- **Data Integrity and Security:** Ensure the security and integrity of user data and transactions using robust database management practices.
- **User-Friendly Interface:** Offer an intuitive command-line interface for easy interaction with the application.
- **Scalability:** Design the application with the potential for future enhancements, such as GUI implementation, mobile app integration, and additional banking services like loan management and transaction history.

Architecture:

=> The architecture of this banking application follows a client-server model, where the client side is a command-line interface (CLI) that users interact with, and the server side is the backend logic implemented in Java, interfacing with a MySQL database.

=> The main components include the BankingApp class, which manages the application's flow, and three core classes: User, Accounts, and AccountManager.

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=> The MySQL database stores user credentials and account details, ensuring data integrity and security. This modular design facilitates easy maintenance and potential future expansions, such as adding a graphical user interface (GUI) or mobile app integration.

=> The User class handles registration and login, the Accounts class manages account operations, and the AccountManager class handles financial transactions like deposits, withdrawals, transfers, and balance inquiries.

Conclusion:

- This banking application offers a secure and efficient way for users to manage their bank accounts and conduct financial transactions. It features a command-line interface for user interaction, with backend logic handled by Java and data stored in a MySQL database.
- Key functionalities include user registration, login, account creation, and various transaction operations such as deposits, withdrawals, transfers, and balance inquiries. The application’s modular architecture ensures easy maintenance and scalability, allowing for potential future upgrades like a graphical user interface or mobile app integration.

THANK YOU!