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**B23727**

**S23B13/017**

**PERSONAL BANKING SYSTEM**

The Personal Banking System allows customers to manage their accounts and perform banking activities such as deposits, withdrawals, and transfers securely. This project focuses on designing the system’s functional components using use case diagrams, sequence diagrams, and class diagrams to show how users interact with the system and how the system’s components work together.

**Functional Components.**

The system must fulfill the following functional requirements:

Authentication: Customers must be able to log in and log out.

Account Management: Customers should be able to view account balances, create accounts, and update personal information.

Transactions: Customers can perform deposits, withdrawals, and transfers.

Transaction History: Customers can view a history of their transactions.

Notifications: The system sends alerts for certain events (e.g., successful transactions).

**2.Use Case Diagram**

Purpose: Describes the interactions between actors (users or other systems) and the system. It shows what the system does from the user's perspective, focusing on functional requirements.

Actors:

Customer: Initiates banking operations (login, deposit, withdrawal, transfer).

Bank System: Manages accounts, validates transactions, and provides feedback to customers.

Key Use Cases:

Login: Customers log in to the system to access banking functions.

Manage Account: Customers can create, update, or delete their accounts.

Deposit Funds: Customers deposit money into an account.

Withdraw Funds: Customers withdraw money from their accounts.

Transfer Funds: Customers transfer funds between accounts.

View Transaction History: Customers view their transaction history.

Receive Notifications: Customers receive transaction-related notifications.

|  |  |  |
| --- | --- | --- |
| customer | Bank system | Validate transaction |
| Login/logout |
| Manage Account |
| Deposit Funds |
| Withdraw Funds |
| Transfer Funds |
| View Transaction History |

|  |
| --- |
| Generate reports |

**3. Sequence Diagrams**

Sequence diagrams describe how objects interact to complete a specific functionality or use case.

scenario 1:

Deposit Funds

The customer logs in

The Customer initiates a deposit.

The Bank System validates the customer’s account.

The Account class updates the account balance.

The Transaction class records the deposit transaction.

A confirmation is sent back to the Customer in form of a notification.

|  |  |  |  |
| --- | --- | --- | --- |
| customer | Bank system | account | Transaction |
| deposit |  |  |  |
|  | validates | Update balance |  |
|  |  | Record transaction |  |
| confirmation |  |  |  |

scenario 2: Transfer Funds

Customer selects the transfer option and enters the target account.

Bank System verifies both the source and target accounts.

Account class updates the balances for both accounts.

Transaction class logs the transaction for both accounts.

A transfer confirmation is sent back to the Customer.