

## **Module 6 Sequence and Activity Diagrams**

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#### **Activity Diagrams**

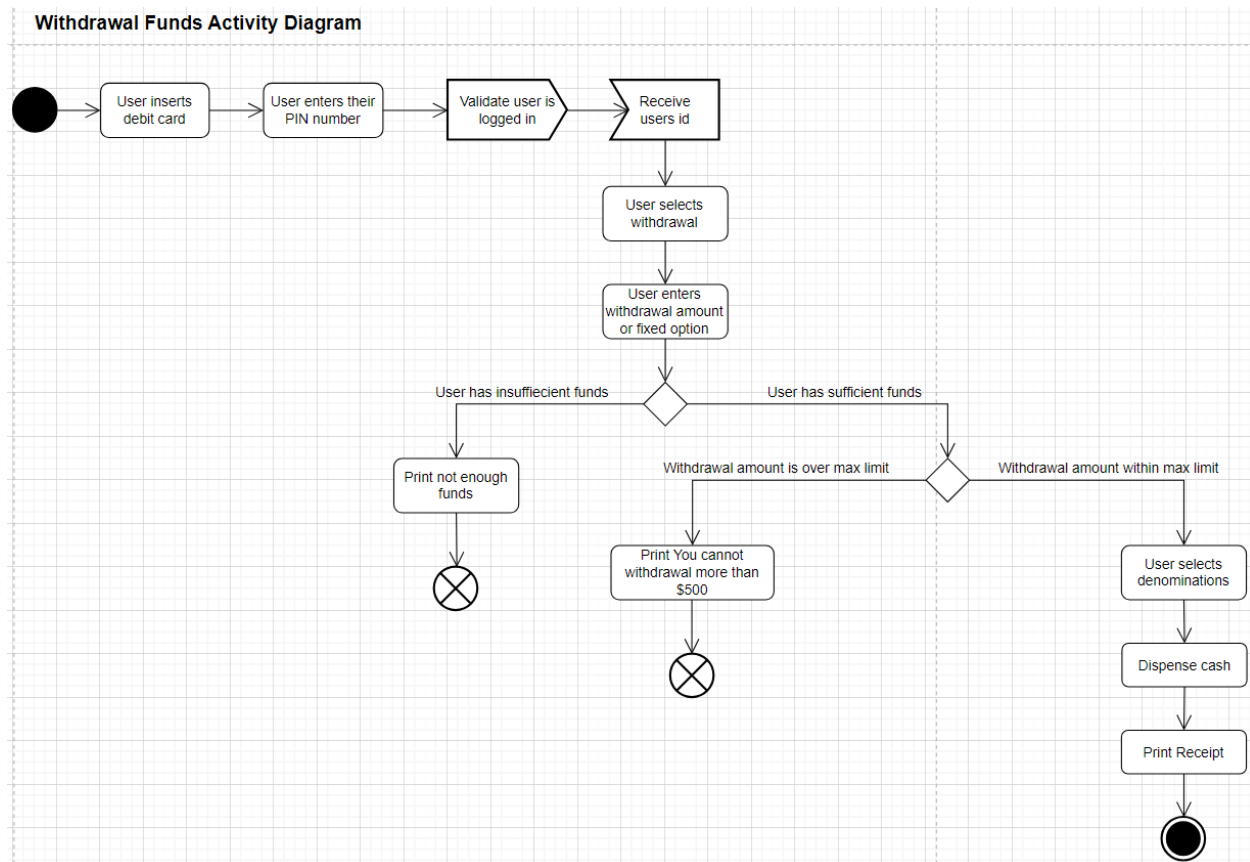
##### **Withdrawal Funds**

##### **States**

- Initial State: User begins the withdrawal funds process.
- Final State: 1. The user receives confirmation ID for the withdrawal transaction, cash is dispensed to the user in the denominations they chose, and the user has the option to select either “print” or “no receipt” for their transaction. 2. The withdrawal is denied because the withdrawal exceeds the daily limit. 3. The withdrawal is denied because there are insufficient funds.

##### **Actions**

The user begins by inserting their debit card into the ATM. The user enters their PIN number, and the system validates the user. The user selects withdrawal and either selects from the fixed options or enter a custom amount. The system approves/denies the withdrawal based on sufficient/insufficient funds, then the system approves/denies based on if the daily withdrawal limit has been exceeded or not. The user selects the denominations they prefer, and the cash is dispensed. The user chooses to print or refuse a receipt.



## Transfer Funds

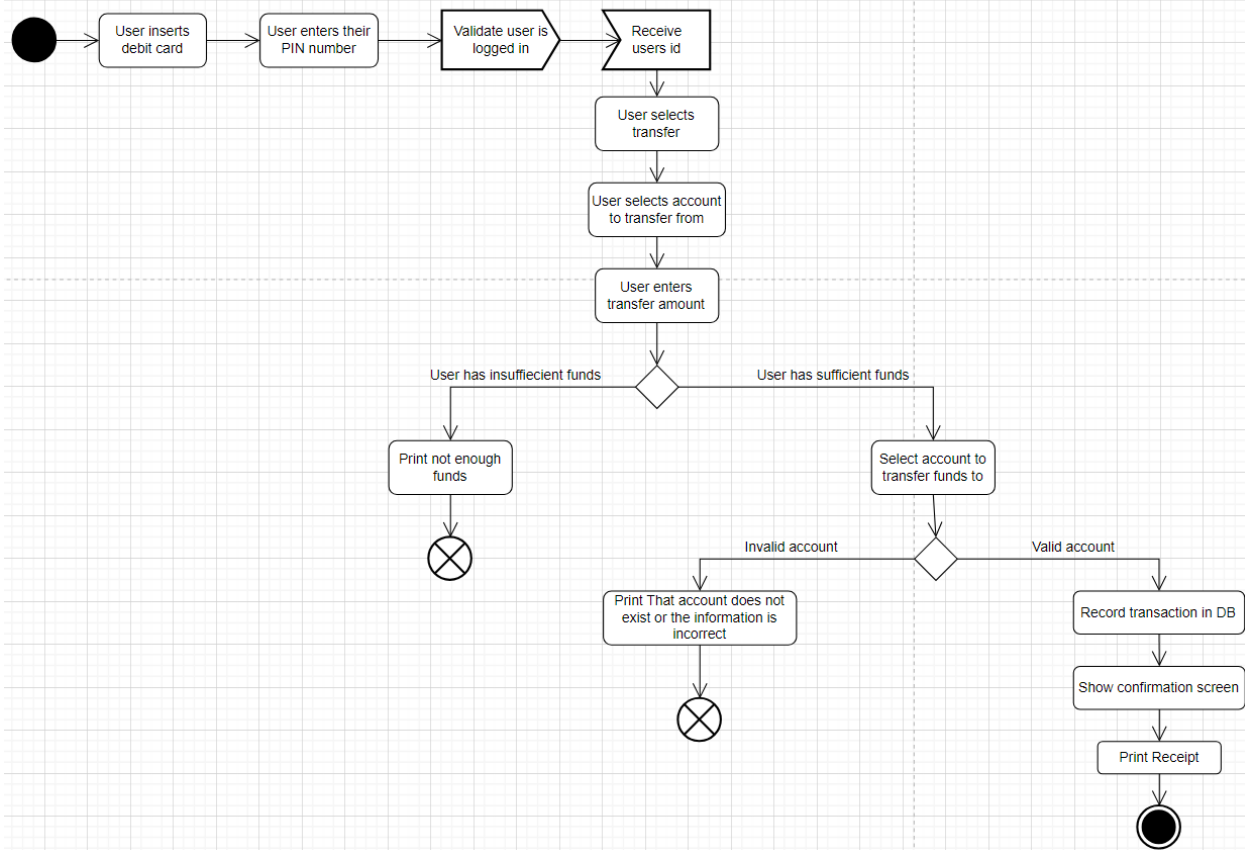
### States

- Initial State: User begins the transfer funds process.
- Final State: 1. The user receives a confirmation ID for the transfer transaction and the user has the option to select either “print” or “no receipt” for their transaction. 2. The transfer is denied because the account is not valid. 3. The transfer is denied because there are insufficient funds in the account.

### Actions

The user begins by inserting their debit card into the ATM. The user enters their PIN number, and the system validates the user. The user selects transfer and the account they wish to transfer from. The user enters the amount to transfer. The system approves/denies the transfer depending on if the account has sufficient/insufficient funds. The user selects the account to transfer to and the system determines if the account is valid/invalid. The system records the transaction. The user chooses to print or refuse a receipt.

**Transfer Funds Activity Diagram**



## Deposit Funds

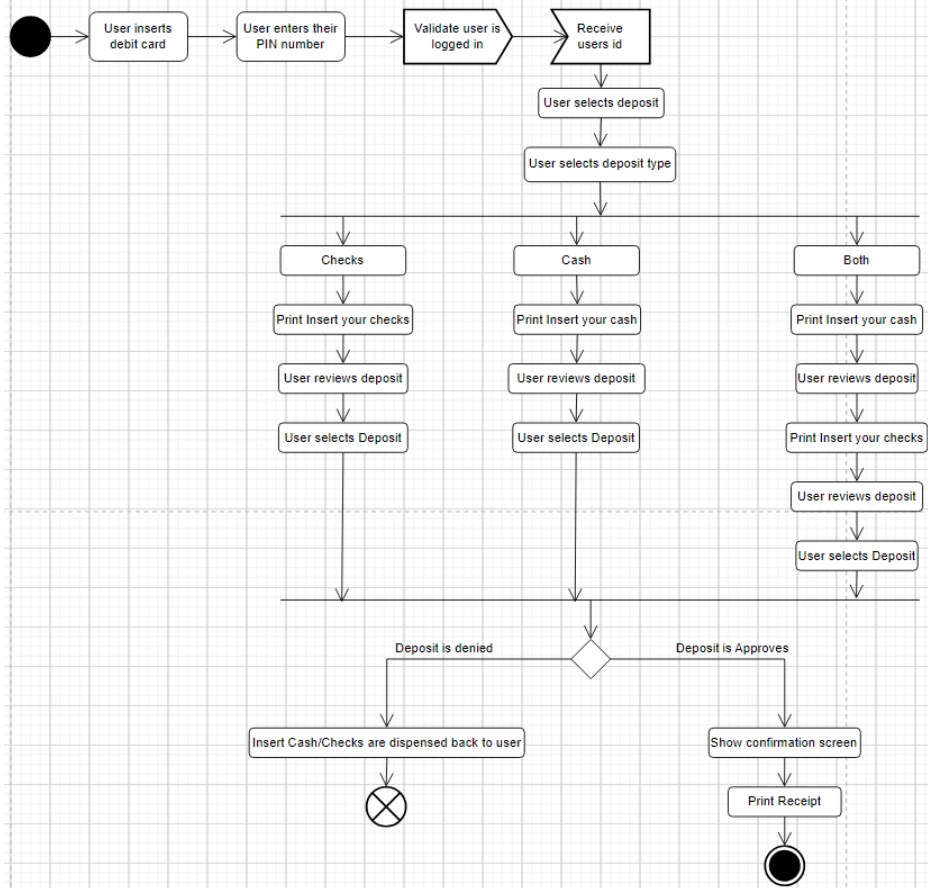
### State

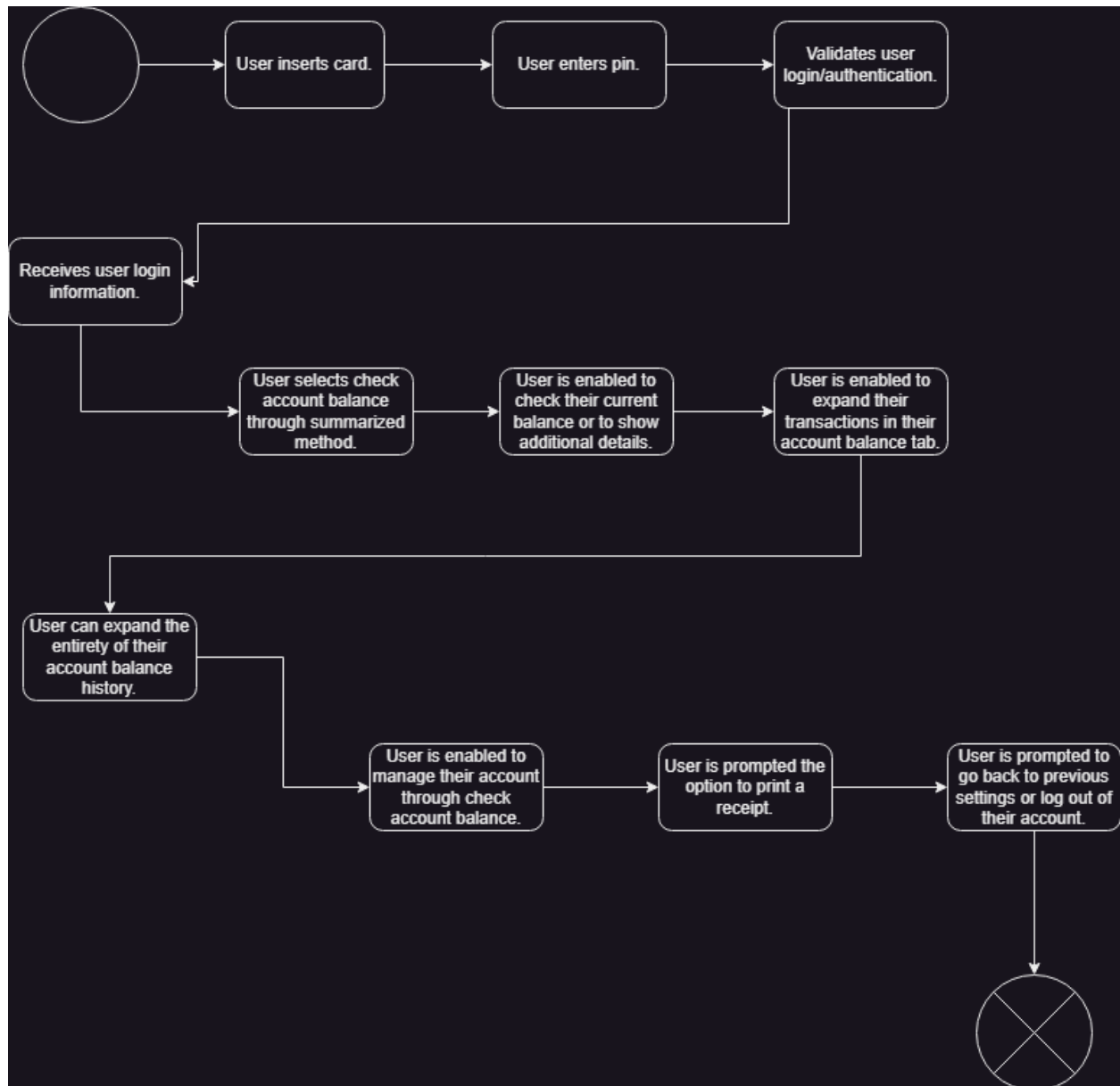
- Initial State: User begins the deposit funds process.
- Final State: 1. The user receives a confirmation ID for the deposit they made, and the user has the option to select either “print” or “no receipt” for their transaction. 2. The deposit is denied.

### Actions

The user begins by inserting their debit card into the ATM. The user enters their PIN number, and the system validates the user. The user selects deposit and the options of cash, checks, or both. The user inserts cash/checks into the ATM. If the user is inserting both, cash will be first and checks will be done after all cash is deposited. The user selects deposit once all cash/checks have been inserted and the account to deposit into. The system approves/denies the deposit. The system records the transaction. The user chooses to print or refuse a receipt.

Deposit Funds Activity Diagram





Check Account Balance.

Actor: User

Objects: ATM, Bank, and Exit Panel

- Initial State: The user begins with inserting their debit card to obtain their checking account balance.
- Final State: The user receives the requested information regarding their checking account and is offered additional account management details.

Actions:

The user begins by inserting their debit card and is prompted for their PIN. The system initiates validation of the user's information and proceeds to the main menu where the user inputs to check their checking account balance information. The system displays the information and offers users additional account management tools and resources.

## **Sequence Diagrams**

### **Deposit Funds**

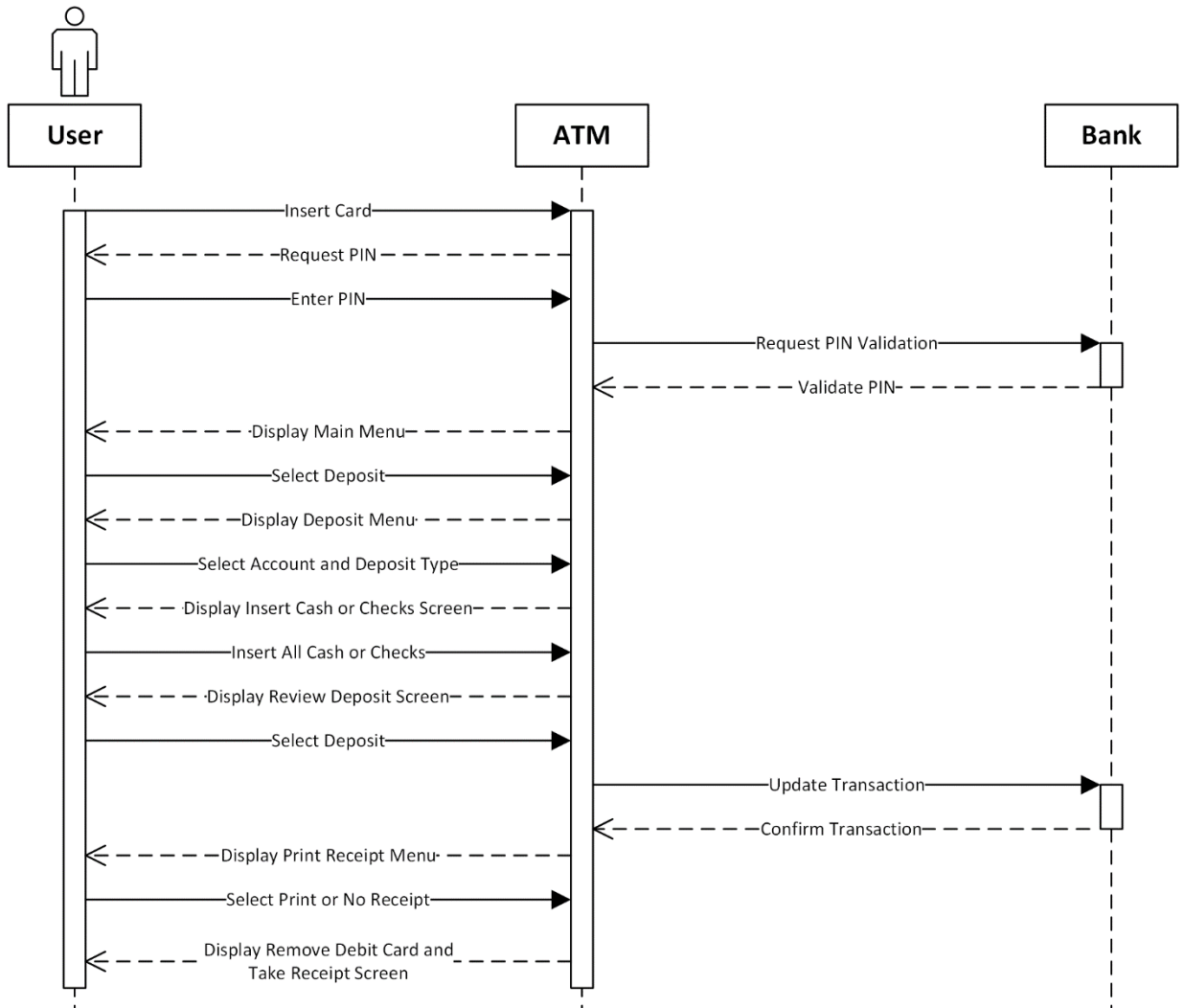
Actor: User

Objects: ATM, Bank

1. Customer inserts debit card, PIN number, account to deposit into, and all other information.
2. ATM receives debit card, PIN verification, and all cash/checks.
3. If deposit is approved, the customer receives a confirmation ID for the transaction and the option to print a receipt.

4. If deposit is denied, the ATM dispenses back all the cash/checks to the user and an error message or the option to try again.

### Deposit Funds

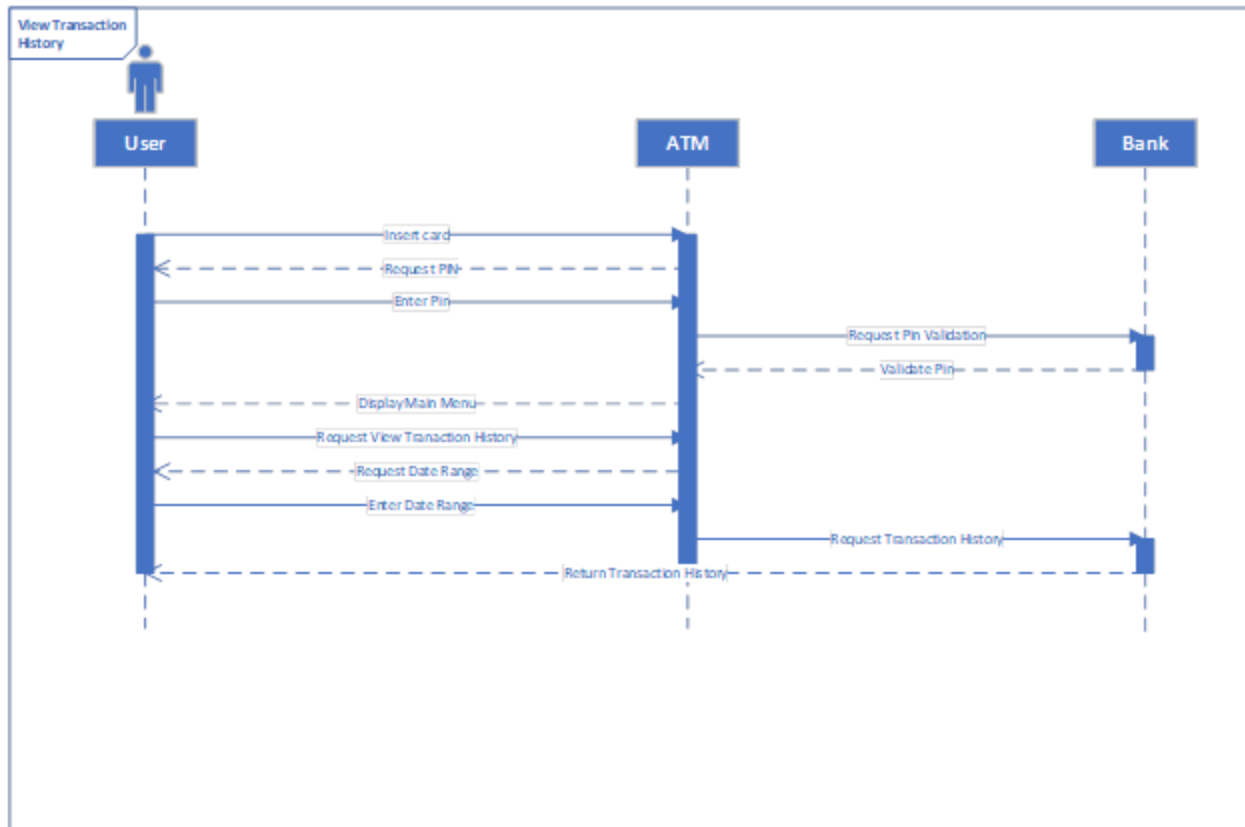


### View Transaction History

Actor: User

Objects: ATM, Bank

1. User inserts their card
2. The ATM requests their PIN
3. Users enters their PIN
4. The ATM requests that the Bank validate the entered PIN
5. The Bank Validates the PIN
6. The ATM logs the user in and displays the main menu
7. User selects Request View Transaction History
8. The ATM requests a date range
9. User provides a date range
10. ATM requests transaction history from the bank
11. Bank returns the transaction history



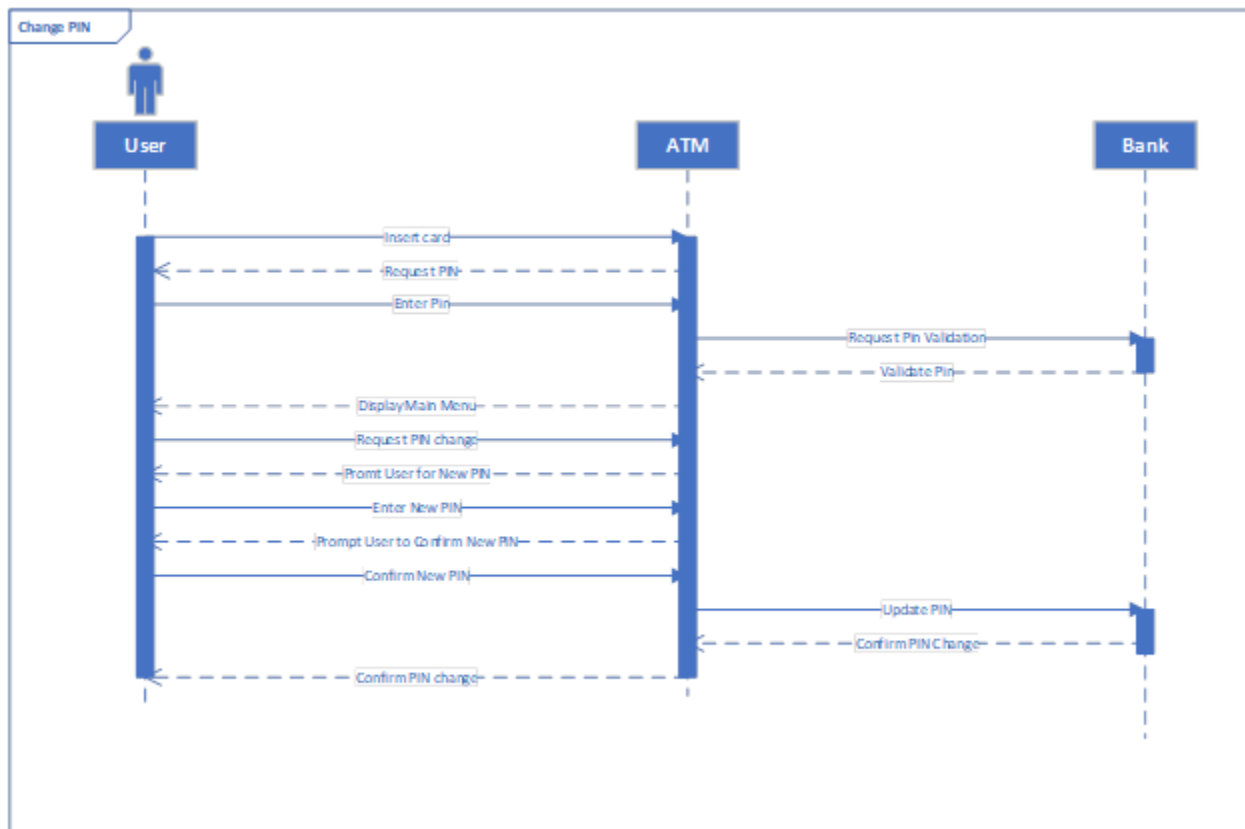
**Change PIN**

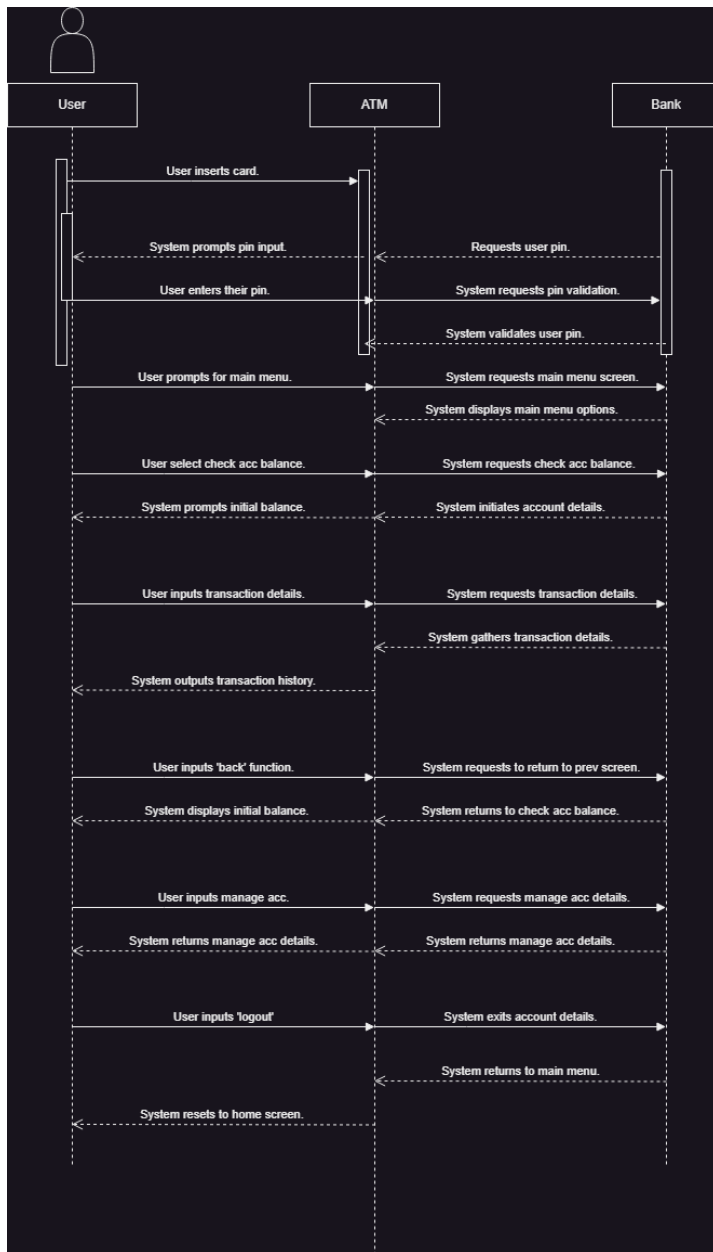


Actor: User

Objects: ATM, Bank

1. User inserts their card
2. The ATM requests their PIN
3. Users enters their PIN
4. The ATM requests that the Bank validate the entered PIN
5. The Bank Validates the PIN
6. The ATM logs the user in and displays the main menu
7. User selects Request PIN change
8. ATM asks for a new PIN
9. User provides a new PIN
10. ATM asks for user to confirm new PIN
11. User confirms new PIN
12. ATM updates new PIN with the Bank
13. Bank confirms the change of PIN





## Check Account Balance Sequence Diagram.

Check Account Balance.

Actor: User

Objects: ATM, Bank, and Exit Panel

Steps of check account balance interaction:

- 1: The customer inserts the card into the ATM.
- 2: The system requests verification of the user's pin to access their account information.
- 3: The system verifies the user's information.

- 4: The system proceeds to the main menu screen.
- 5: The user prompts arise of the check account balance details.
- 6: The system loads the initial account balance screen.
- 7: The user inputs transaction details of their account.
- 8: The system loads the entirety of transactions completed onto this account.
- 9: The user inputs the back function.
- 10: The system returns to the previous screen.
- 11: The user inputs manage account details.
- 12: The system loads the user's account details that can be managed.
- 13: The user inputs the back function.
- 14: The system returns to the previous screen.
- 15: The user inputs the logout function.
- 16: The system logs out the user.