# Bank System Project

# Description

Create a system that mimics the behavior of an ATM, a Bank Server, and a Bank Database to create new accounts, check balances, withdraw or deposit funds, and keep track of transactions.

The interface will be based on command-prompt, but design the system in a way that it can be turned into a windows interface with the least number of changes as possible.

# Use cases

* Add new Client with a Checking and a Savings account
* Check balance in Checking and Savings accounts
* Withdraw cash from either Checking or Savings account
* Deposit cash from either Checking or Savings account

# Command Prompt Interactions for Use Cases

## Display Main Menu

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MAIN MENU

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\*\*Enter "Quit" during any input to exit\*\*

Enter option number:

1-Add New Client

2-Insert Card

*Input: <type option>*

### Outcome

* Display new input based on selection

## Option Add New Client

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ADD NEW CLIENT

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Enter First Name:

*Input: <First Name>*

Enter Last Name:

*Input: <Last Name>*

Enter 4-digit Numerical Pin Number

*Input: <pin number> (re-prompt pin number input if pin number is invalid*

### Outcome

* Create new record in client file with a sequential ClientNumber and sequential CardNumber
* Create 2 new records in account file for checking and savings accounts with sequential account numbers and 0 balance
* Return back to main menu

## Option Insert Card

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INSERT CARD

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Enter you Card Number:

*Input: <card number> (re-prompt if card number is not found)*

Enter your pin number:

*Input: <pin number> (re-prompt if pin number is not valid and also re-prompt if pin number is not found)*

### Outcome

* Display Client Menu

## Client Menu

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CLIENT MENU

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Enter you Option:

1-Check Balance

2-Withdraw from Checking

3-Withdraw from Savings

4-Deposit to Checking

5-Deposit to Savings

*Input: <type option>*

### Outcome

* Display new input based on selection

## Check Balance

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CHECK BALANCE

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Checking balance is <$$.$$>

Savings balance is <$$.$$>

### Outcome

* Display balances
* Go back to Client Menu

## Withdraw from Checking (same design for Savings)

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WITHDRAW FROM CHECKING

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Your current balance is <$$.$$>

Enter amount to withdraw:

*Input: <amount> (if higher than balance, give error message and re-prompt for amount*

### Outcome

* Subtract the money from the account
* Display new balance after withdrawal
* Go back to Client Menu

## Deposit to Checking (same design for Savings)

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DEPOSIT TO CHECKING

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Your current balance is <$$.$$>

Enter amount to deposit:

*Input: <amount>*

### Outcome

* Add the money to the account
* Display message with new balance
* Go back to Client Menu

# Main Architectural Design

Create virtual objects to mimic real world behavior

1. ATM Machine
2. Bank Server
3. Bank Database

## Bank Database

* Create one text file with client information called Client.txt
* Create one text file with account information called Account.txt
* Create one text file with account transaction information called Ledger.txt
* All files will be comma delimited

### Client file

* ClientNumber, FirstName, LastName, CardNumber, PinNumber

### Account File

* AccountNumber, ClientNumber, AccountType, AccountBalance

### Ledger File

* TransactionNumber, TransactionDate, AccountNumber, TransactionAmount

## Bank Server

Mimic a simple API that the ATM can use to interface with the Database

* Create New Account (adds a new client with both accounts automatically)
* Validate Credentials
* Get Accounts Balance
* Withdraw from specific account
* Deposit to specific account

## ATM Machine

Provides the interface for the user to interact with to perform transactions