

# **ATM BANKING PROJECT REPORT**

## **Description**

A banking terminal that accepts deposits and disburses cash is known as an ATM (Automatic Teller Machine). ATM are activated by inserting cash (in the case of ATM depositing) or a debit/credit card with a magnetic stripe containing the user's account number and PIN (for cash withdrawals).

ATM Banking system project is based on a concept of managing an account personally. From this system, the user can check total balance, Deposit Amount and Withdraw Amounts easily as it is not time-consuming.

## **Requirements**

The interface provided to the user should be a very user-friendly one and it should provide an optional interactive help for each of the service listed. The interface provided is a menu driven one and the following screens will be provided :-

1. A login screen is provided in the beginning for entering the required username/pin no. and account number.
2. An unsuccessful login leads to a reattempt (maximum three) screen for again entering the same information. The successful login leads to a screen displaying a list of supported languages from which a user can select anyone.
3. After the login, a screen with a number of options is then shown to the user. It contains all the options along with their brief description to enable the user to understand their functioning and select the proper option.
4. A screen will be provided for user to check his account balance.

5. A screen will be provided that displays the location of all other ATMs of same bank elsewhere in the city.
6. A screen will be provided for the user to perform various transactions in user account.

## High Level Requirements

1. The transaction management software used to manage the transaction and keep track of resources shall be BMS version 2.0.
2. The card management software used to verify pin no and login shall be CMS version 3.0.
3. The system will employ dial-up POS with the central server for low cost communication.
4. The communication protocol used shall be TCP/IP.
5. Protocol used for data transfer shall be File Transfer Protocol (FTP).

## Low Level Requirements

1. The card reader shall be a magnetic stripe reader
2. The card reader shall have Smart card option.
3. There shall be a 40-column dot matrix receipt printer.
4. There shall be a 40-column dot matrix statement printer.

## SWOT ANALYSIS

### Strength

1. Quick and prompt service is possible with less human errors.
2. It is beneficial for travelers and it is working 24\*7.

## Weakness

1. Limitation of withdrawal of money.
2. Personal touch of customers-employee relation is missing.

## Opportunities

1. The withdrawal of rupees is faster than bank, no need of standing long lines.
2. Withdraw cash at any time or in urgent without the help of bank.

## Threats

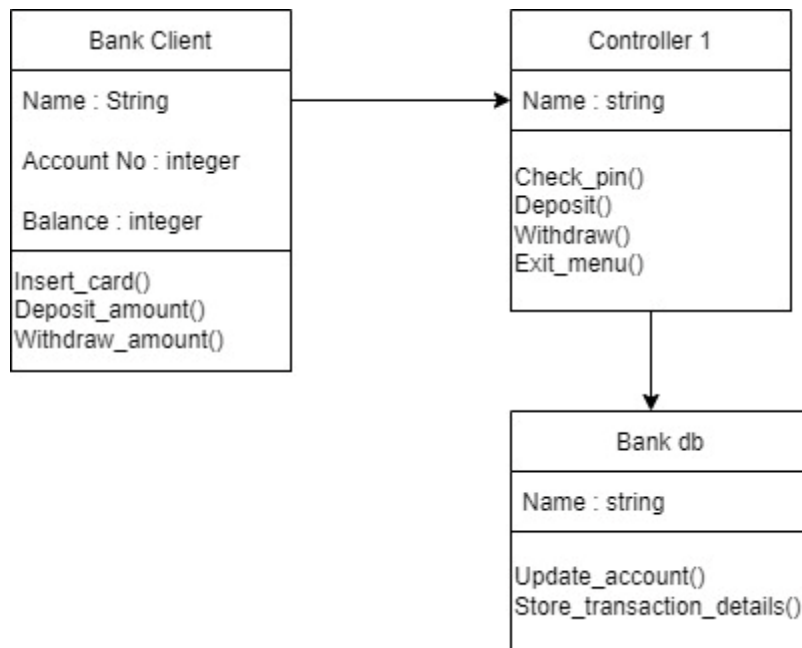
1. Due to leakage of PIN, fraud can take place easily.
2. If ATM card is lost, no withdrawal of rupees. There is possibility of misusing and hack the ATM card.

# Architecture

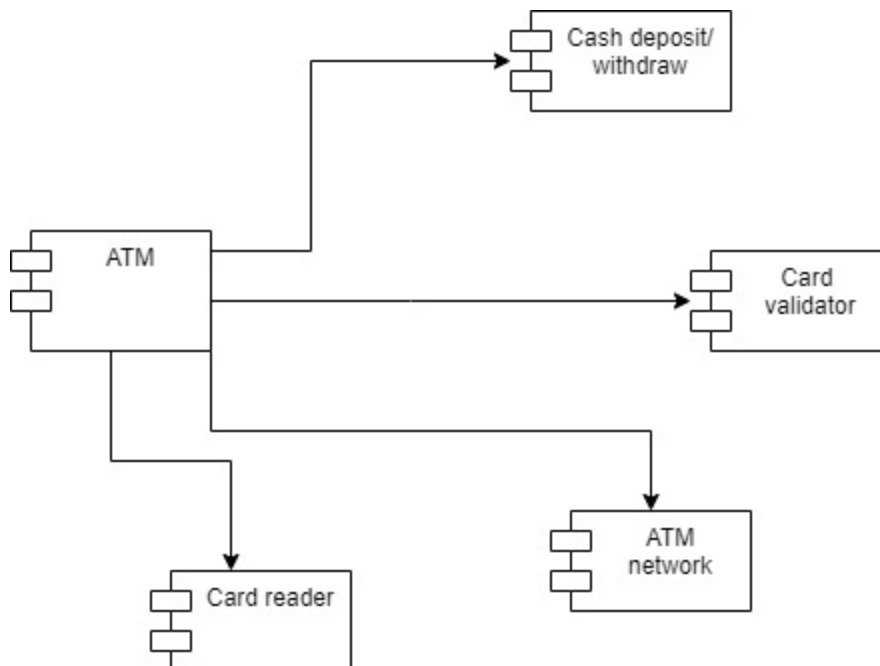
Architecture is a diagrammatic representation which shows how the operations and functions works in the program.

## **1. Structural Diagram**

### **1.1 Class Diagram**

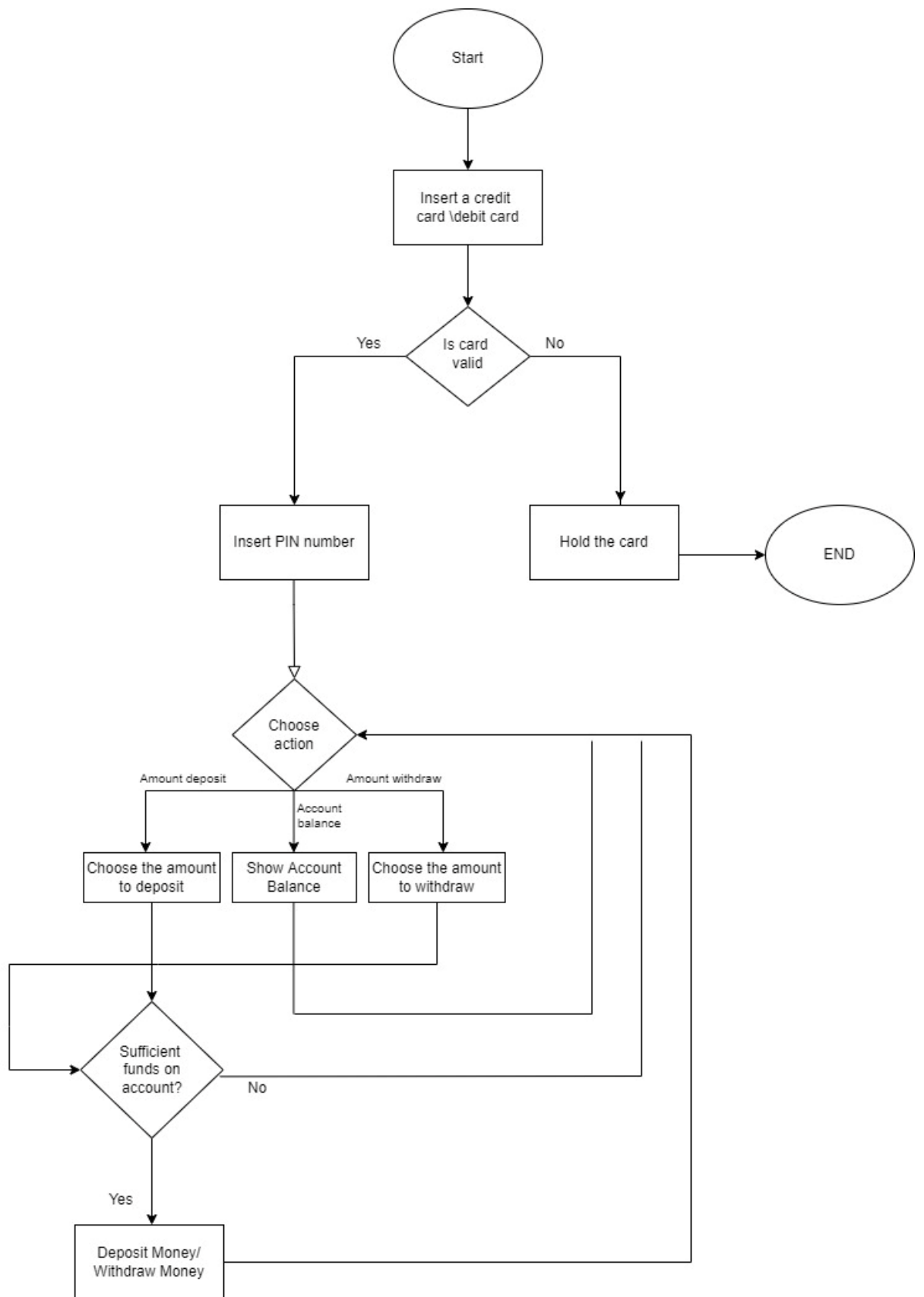


## 1.2 Component Diagram



## 2. Behavior Diagram

### 2.1 Flow chart



## **Implementation**

The implementation includes the main code and its functional codes. These functional files show how every function of the code works. It includes the functions such as check balance, money deposit, money withdraw.

## **Test Plan and Output**

Test plan and output includes the High Level and Low Level of the program for implementation and the code to run.

## 1. High Level Test Plan

TEST ID	DESCRIPTION	EXP I/P	EXP O/P	ACTUAL O/P	TESTING INPUT
H01	Verify the PIN details	Valid	Correct Output	Correct output as expected	Manual
H02	Verify the cash deposit functionality	Valid	Correct Output	Correct Output	Manual
H03	Verify the cash withdraw functionality	Valid	Correct Output	Correct Output	Manual
H04	Verify the error message for an incorrect PIN	For invalid input	Terminated	Terminated	Manual

## 2. Low Level Test Plan

TEST ID	FUNCTION	I/P	O/P	ACTUAL O/P	TEST TYPE
L 01	Check Balance	float checkbalance(balance)	float balance	float balance	Unit testing
L 02	Amount deposit	float moneydeposit(balance)	float balance	float balance	Unit testing
L 03	Amount Withdraw	float moneywithdraw(balance)	float balance	float balance	Unit testing
L 04	Menu exit	menuexit()	Main menu	Main menu	Unit testing
L 05	Error message	Error message()	Invalid number	Invalid number	Unit testing



# Main Code

```
#include <stdio.h>
#include <stdlib.h>
#include <stdbool.h>
#include <math.h>
#include <string.h>

void login();
void mainMenu();
void checkBalance(float balance);
float moneyDeposit(float balance);
float moneyWithdraw(float balance);
void menuExit();
void errorMessage();

int main() {
    int option;
    float balance = 15000.00;
    int choose;
    char pin;
    bool again = true;

    while (again) {
        mainMenu();
        printf("Enter you PIN number: ");
```

```
scanf("%c", &pin);
```

```
if(strlen(pin) != 4) {
```

```
    printf("Entered wrong PIN number");
```

```
}
```

```
}
```

```
printf("Your Selection:\t");
```

```
scanf("%d", &option);
```

```
switch (option) {
```

```
    case 1:
```

```
        checkBalance(balance);
```

```
        break;
```

```
    case 2:
```

```
        balance = moneyDeposit(balance);
```

```
        break;
```

```
    case 3:
```

```
        balance = moneyWithdraw(balance);
```

```
        break;
```

```
    case 4:
```

```
        menuExit();
```

```
        return 0;
```

```
default:
```

```
        errorMessage();
        break;
    }
    printf("Would you like to do another transaction:\n");
    printf("1 -> Yes\n");
    printf("2 -> No\n");
    scanf("%d", &choose);

    system("CLS");

    if (choose == 2) {
        again = false;
        menuExit();
    }

}

return 0;
}

void mainMenu() {
    printf("Welcome to ATM\n\n");
    printf("Please choose one of the options below\n\n");
    printf("1 -> Check Balance\n");
```

```

    printf("2 -> Deposit\n");
    printf("3 -> Withdraw\n");
    printf("4 -> Exit\n\n");

}

void checkBalance(float balance) {
    printf("You Choose to See your Balance\n");
    printf("\n\nYour Available Balance is:  %.2f\n\n", balance);

}

float moneyDeposit(float balance) {
    float deposit;
    printf("You choose to Deposit a money\n");
    printf("Your Balance is: %.2f\n\n", balance);
    printf("Enter your amount to Deposit\n");
    scanf("%f", &deposit);

    balance += deposit;

    printf("\nYour New Balance is:  %.2f\n\n", balance);
    return balance;

}

float moneyWithdraw(float balance) {
    float withdraw;

```

```
bool back = true;

printf("You choose to Withdraw a money\n");
printf("Your Balance is: %.2f\n\n", balance);

while (back) {
printf("Enter your amount to withdraw:\n");
scanf("%f", &withdraw);

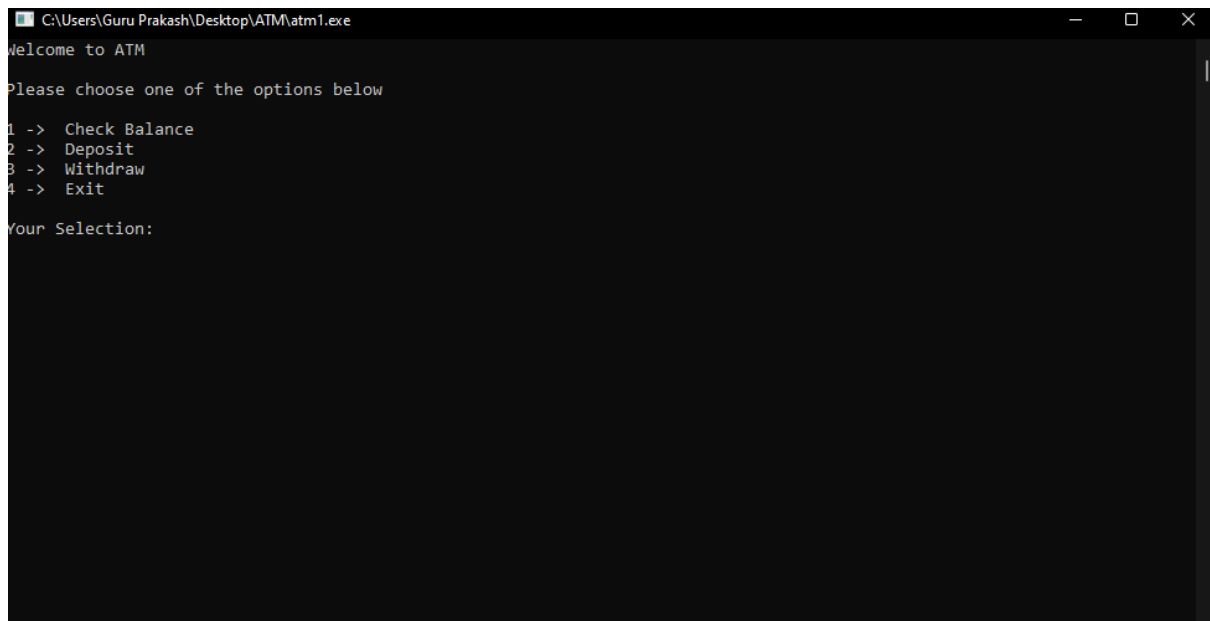
if (withdraw < balance) {
    back = false;
    balance -= withdraw;
    printf("\nYour withdrawing money is: %.2f\n", withdraw);
    printf("Your New Balance is: %.2f\n\n", balance);
}
else {
    printf("You don't have enough money in your account\n");
    printf("Please contact to your Bank Customer Services\n");
    printf("Your Balance is: %.2f\n\n", balance);
}
}

return balance;
}

void menuExit() {
```

```
printf("Take your receipt!!!\n");  
printf("Thank you for using ATM Banking Machine!!\n");  
}  
  
void errorMessage() {;  
    printf("You selected invalid number\n");  
}
```

## Output



```
C:\Users\Guru Prakash\Desktop\ATM\atm1.exe  
Welcome to ATM  
Please choose one of the options below  
1 -> Check Balance  
2 -> Deposit  
3 -> Withdraw  
4 -> Exit  
Your Selection:
```

```
C:\Users\Guru Prakash\Desktop\ATM\atm1.exe
Welcome to ATM

Please choose one of the options below

1 -> Check Balance
2 -> Deposit
3 -> Withdraw
4 -> Exit

Your Selection: 1
You Choose to See your Balance

Your Available Balance is: 15000.00

Would you like to do another transaction:
1 -> Yes
2 -> No
```

```
C:\Users\Guru Prakash\Desktop\ATM\atm1.exe
Welcome to ATM

Please choose one of the options below

1 -> Check Balance
2 -> Deposit
3 -> Withdraw
4 -> Exit

Your Selection: 2
You choose to Deposit a money
Your Balance is: 15000.00

Enter your amount to Deposit
2000

Your New Balance is: 17000.00

Would you like to do another transaction:
1 -> Yes
2 -> No
```

## Reference

For diagram - <https://app.diagrams.net/>