

Executive Summary

Now-a day's banking sector is modernizing and expanding its hand in different financial events every day.

Fifty years ago, the ATM revolutionized financial services, changing consumer expectations and spending habits by introducing people to the ease and speed of 24/7 self-service money management. No longer tied to bankers' hours, consumers had ready access to cash whenever and wherever there was an ATM.

ATMs are convenient, allowing consumers to perform quick, self-serve transactions from everyday banking like deposits and withdrawals. We also enhanced the ATM by giving facility to make bill payments like electricity bill, mobile phone bill and to transfer money to another account.

The services offered by our ATM machine is to create an account, deposit money, withdraw money, check the available balance and to make bill payments. It also has the option through which one can easily view the details of the account.

Code

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
void pin();
```

```
void all();
void trans();
void deposit();
void withdraw();
void bal();
void bills();
void detail();
void display();
void ew();
void ph();
void transfer();
int dpin;
```

```
struct customer
{
    int account_no;
    char name[80];
    float balance;
    int pin;
};
```

```
void main()
{
    int choice;
    all();
}
```

```
void all()
{
    int choice;
    printf("\nAccount details entry menu:\n");
    printf("1.Create\n");
    printf("2.Transactions\n");
    printf("3.Display all records\n");
    printf("4.Exit");
}
```

```

        printf("\nEnter your choice(1-4): ");
scanf("%d",&choice);
switch(choice)
{
    case 1:
        detail();
        break;

    case 2:
        pin();
        break;

    case 3:
        display();
        break;

    case 4:
        exit(1);
        break;

    default:
        printf("\nThat is an invalid option!!!\n\n");
}
}
void detail()
{
    struct customer c;
    FILE *f;
    f=fopen("bank","ab");

    printf("Enter your name:");
    scanf("%s",c.name);
    printf("Enter account_no : ");
    scanf("%d",&c.account_no);
    printf("Enter a pin number for your account");
    scanf("%d",&c.pin);
    printf("Confirm your pin number");
    scanf("%d",&dpin);
    c.balance = 0;

```

```

        fwrite(&c,sizeof(c),1,f);
        fclose(f);
        all();
    }

void display()
{
    struct customer c;
    FILE *f;
    f=fopen("bank","rb");
    while(fread(&c,sizeof(c),1,f)==1)
    {
        printf("Account No:%d\nName:%s\n",c.account_no,c.name);
    }
    fclose(f);
    all();
}

void pin()
{
    int i;
    struct customer c;
    FILE *f;
    f=fopen("bank","rb");
    printf("*****| WELCOME to SBI Bank!|*****\n\n\n");
    printf(".....\n\n");
    printf("\nPin Number Verification\n");
    printf("-----\n\n");

    printf("\n_____Enter your pin:_____ \n\n");
    scanf("%d",&dpin);
    while(fread(&c,sizeof(c),1,f)==1)
    {
        if(dpin==c.pin)
        {
            printf("Your pin is confirmed\n");
            trans();
        }
        else

```

```

        {
            printf("Invalid pin number\n");
            pin();
        }
    }
    fclose(f);
}

```

```

void trans()
{
    int menuOption;
    printf("Transactions\n");
    printf("-----\n");
    printf("1)Balance\n2)Deposit\n3) Withdraw\n\n
           4)Payment/transfers\n5) Exit\n\n");
    printf("-----\n");
    printf("Enter your option(1-4)\n");
    scanf("%d",&menuOption);
    do
    {
        switch(menuOption)
        {
            case 1:bal();
                break;

            case 2:deposit();
                break;

            case 3:withdraw();
                break;

            case 4:bills();
                break;

            case 5:all();
                break;

            default:

```

```

        printf("\nThat is an invalid option!!!\n\n");
    }
}while(1);

}

void bal()
{
    struct customer c;
    FILE *f;
    f=fopen("bank","rb");
    printf("\n_____Check
Balance_____ \n\n");
    while(fread(&c,sizeof(c),1,f)==1)
    {
        if(c.pin==dpin)
            printf("Your current balance is %f\n",c.balance);
    }
    fclose(f);
    trans();
}

void deposit()
{
    struct customer c;
    float amount;
    FILE *f;
    int number,dpin;
    f=fopen("bank","r+b");
    printf("\n_____Deposit_____ \n\n");

    while(fread(&c,sizeof(c),1,f)==1)
    {
        printf("Enter the account no\n");
        scanf("%d",&number);
        if(number==c.account_no)
        {
            printf("\n_____Enter your pin:_____ \n\n");
            scanf("%d",&dpin);

```

```

        if(c.pin==dpin)
        {
            printf("Enter the amount to be deposited\n");
            scanf("%f",&amount);
c.balance+=amount;
            if(amount>c.balance)
            {
                printf("Not enough money to withdraw\n");
            }
            else
            {
                fseek(f,(-1)*sizeof(c),SEEK_CUR);
                fwrite(&c,sizeof(c),1,f);
                printf("Amount deposited successfully!\n");
                printf("Your current balance=%f\n",c.balance);
            }
        }
    }
    else
    {
        printf("The account no does not exist\n");
        deposit();
    }
}
fclose(f);
trans();
}

```

```

void withdraw()
{
    int dpin,number;
    struct customer c;
    float amount;
    FILE *f;
    f=fopen("bank","r+b");
    printf("\n_____Withdraw_____ \n\n");
    while(fread(&c,sizeof(c),1,f)==1)

```

```

{
    printf("Enter the account no\n");
    scanf("%d",&number);
    if(number==c.account_no)
    {
        printf("\n_____Enter your pin:_____ \n\n");
        scanf("%d",&dpin);
        if(c.pin==dpin)
        {
            printf("Enter the amount to be withdrawn\n");
            scanf("%f",&amount);
            c.balance-=amount;
            if(amount>c.balance)
            {
                printf("Not enough money to withdraw\n");
            }
            else
            {
                fseek(f,(-1)*sizeof(c),SEEK_CUR);
                fwrite(&c,sizeof(c),1,f);
                printf("Amount deposited successfully!\n");
                printf("Your current balance=%f\n",c.balance);
            }
        }
    }
    else
        printf("The account no does not exist\n");
}
fclose(f);
trans();
}

```

```

void bills()
{
    int dpin,no,option;
    float amount;
    printf("\n_____Pay bills_____ \n\n");
}

```



```
printf("1) Electricity bill\n\n2) Water bill\n\n3) Phone bill\n\n4)Online  
tranfer\n\n5) Exit\n\n");
```

```
printf("-----\n");
```

```
printf("Enter your option(1-4)\n");
```

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

```
do
```

```
{
```

```
switch(option)
```

```
{
```

```
case 1:ew();
```

```
break;
```

```
case 2:ew();
```

```
break;
```

```
case 3:ph();
```

```
break;
```

```
case 4:transfer();
```

```
break;
```

```
case 5:
```

```
trans();
```

```
break;
```

```
default:
```

```
printf("\nThat is an invalid option!!!\n\n");
```

```
}
```

```
}while(1);
```

```
}
```

```
void ew()
```

```
{
```

```
int dpin,number,no;
```

```
struct customer c;
```

```
float amount;
```

```

FILE *f;
f=fopen("bank","r+b");
printf("\n_____Electricity/Water Bill
Payment_____\\n\\n");
while(fread(&c,sizeof(c),1,f)==1)
{
    printf("Enter the account no\\n");
    scanf("%d",&number);
    if(number==c.account_no)
    {
        printf("\\n_____Enter your pin:_____\\n\\n");
        scanf("%d",&dpin);
        if(c.pin==dpin)
        {
            printf("Enter the consumer number\\n");
            scanf("%d",&no);
            printf("Enter the amount to be paid\\n");
            scanf("%f",&amount);
            c.balance-=amount;
            if(amount>c.balance)
            {
                printf("Not enough money to withdraw\\n");
            }
            else
            {
                fseek(f,(-1)*sizeof(c),SEEK_CUR);
                fwrite(&c,sizeof(c),1,f);
                printf("Bill paid sucessfully!\\n");
                printf("Your current balance=%f\\n",c.balance);
            }
        }
        else
        printf("The account no does not exist\\n");
    }
}
fclose(f);
trans();
}
}
void ph()

```

```

{
int dpin,number,no;
    struct customer c;
    float amo;
    FILE *f;
    f=fopen("bank","r+b");
    printf("\n_____Phone
payment_____ \n\n");
    while(fread(&c,sizeof(c),1,f)==1)
    {
        printf("Enter the account no\n");
        scanf("%d",&number);
        if(number==c.account_no)
        {
            printf("\n_____Enter your pin:_____ \n\n");
            scanf("%d",&dpin);
            if(c.pin==dpin)
            {
                printf("Enter the phone number\n");
                scanf("%d",&no);
                printf("Enter the amount to be paid\n");
                scanf("%f",&amo);
                c.balance-=amo;
                if(amo>c.balance)
                {
                    printf("Not enough money to withdraw\n");
                }
                else
                {
                    fseek(f,(-1)*sizeof(c),SEEK_CUR);
                    fwrite(&c,sizeof(c),1,f);
                    printf("Bill paid sucessfully!\n");
                    printf("Your current balance=%f\n",c.balance);

                }
            }
        }
        else
        printf("The account no does not exist\n");
    }
}

```

bill

```

    }
    fclose(f);
    trans();
}

```

```

void transfer()
{
    int dpin,number,no;
    struct customer c;
    float amount;
    FILE *f;
    f=fopen("bank","r+b");
    printf("\n_____Transfer Amount_____\\n\\n");
    while(fread(&c,sizeof(c),1,f)==1)
    {
        printf("Enter the account no\\n");
        scanf("%d",&number);
        if(number==c.account_no)
        {
            printf("\n_____Enter your pin:_____\\n\\n");
            scanf("%d",&dpin);
            if(c.pin==dpin)
            {
                printf("Enter the account number to which you want to transfer
amount\\n");
                scanf("%d",&no);
                printf("Enter the amount to be transfered\\n");
                scanf("%f",&amount);
                c.balance-=amount;
                if(amount>c.balance)
                {
                    printf("Not enough money to withdraw\\n");
                }
                else
                {
                    fseek(f,(-1)*sizeof(c),SEEK_CUR);
                    fwrite(&c,sizeof(c),1,f);
                    printf("Transfer sucessfull!\\n");
                }
            }
        }
    }
}

```

```
        printf("Your current balance=%f\n",c.balance);  
    }  
}  
else  
    printf("The account no does not exist\n");  
}  
fclose(f);  
trans();  
}
```

Sample Input and Output

Screens

```
test@mca45: ~/Desktop
test@mca45:~$ cd Desktop
test@mca45:~/Desktop$ gcc all.c
test@mca45:~/Desktop$ ./a.out

Account details entry menu:
1.Create
2.Transactions
3.Display all records
4.Exit
Enter your choice(1-4): 1
Enter your name:ABCD
Enter account_no : 11
Enter a pin number for your account1
Confirm your pin number1

Account details entry menu:
1.Create
2.Transactions
3.Display all records
4.Exit
Enter your choice(1-4): 3
Account No:11
Name:ABCD
```

```
test@mca45: ~/Desktop
Account No:11
Name:ABCD
Account details entry menu:
1.Create
2.Transactions
3.Display all records
4.Exit
Enter your choice(1-4): 2
*****| WELCOME to SBI Bank!|*****

.....

Pin Number Verification
-----

_____Enter your pin:_____

1
Your pin is confirmed
Transactions
```

```
test@mca45: ~/Desktop
-----
1) Balance
2) Deposit
3) Withdraw
4)Payment/transfers
5) Exit
-----
Enter your option(1-4)
2
_____Deposit_____

Enter the account no
11
_____Enter your pin:_____

1
Enter the amount to be deposited
```

test@mca45: ~/Desktop

-----Deposit-----

Enter the account no

11

-----Enter your pin:-----

1

Enter the amount to be deposited

2000

Amount deposited successfully!

Your current balance=2000.000000

Transactions

1) Balance

2) Deposit

3) Withdraw

4) Payment/transfers

5) Exit

test@mca45: ~/Desktop

Enter your option(1-4)

3

-----Withdraw-----

Enter the account no

11

-----Enter your pin:-----

1

Enter the amount to be withdrawn

500

Amount deposited successfully!

Your current balance=1500.000000

Transactions

1) Balance

2) Deposit

3) Withdraw


```
test@mca45: ~/Desktop
-----
1) Balance
2) Deposit
3) Withdraw
4)Payment/transfers
5) Exit
-----
Enter your option(1-4)
4
-----
_____Pay bills_____
1) Electricity bill
2) Water bill
3) Phone bill
4)Online tranfer
```

```
test@mca45: ~/Desktop
_____Pay bills_____
1) Electricity bill
2) Water bill
3) Phone bill
4)Online tranfer
5) Exit
-----
Enter your option(1-4)
1
-----
_____Electricity /Water Bill Payment_____
Enter the account no
11
_____Enter your pin:_____
1
```

```
test@mca45: ~/Desktop
-----Enter your pin:-----
1
Enter the consumer number
123456783
Enter the amount to be paid
500
Bill paid sucessfully!
Your current balance=1000.000000
Transactions
-----
1) Balance
2) Deposit
3) Withdraw
4)Payment/transfers
5) Exit
-----
Enter your option(1-4)
5
```

```
test@mca45: ~/Desktop
Your current balance=1000.000000
Transactions
-----
1) Balance
2) Deposit
3) Withdraw
4)Payment/transfers
5) Exit
-----
Enter your option(1-4)
5

Account details entry menu:
1.Create
2.Transactions
3.Display all records
4.Exit
Enter your choice(1-4): 4
test@mca45:~/Desktop$
```

Conclusion and Future Enhancements

We hereby create a program based on the working of an ATM Machine. In this project we have included the options in the current scenario as well as enhanced the capability by allowing the person to make bill payments and transfer money to another account.

In the future, the performance can be increased in the terms of speed and memory. A speaking voice alarms can also be implemented in the future to indicate unauthorized person accessing the ATM. The system can be made to communicate with modems and mobile phones.

Though ATM industry is growing rapidly, there are many challenges related to security issues of the software. Few banks have introduced biometric ATMs in rural India, which are quite secure and easy to use by a common man.

Bibliography

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