**Functional Requirements**

The functional requirements contain two aspects:the functional requirements of ATM and the functional requirements of the administrator.

According to the user's different identity, it is divided into two modules, each module contains different functions:

Depositors module: deposit function, withdrawal function, modify password function, transfer function, query balance function, query flow function.

Administrator module: management and maintenance functions, provide cash function, statistics and print report function, frozen account function, processing swallow card function.

1. the functional requirements of Depositor Module

**Functional requirement 1**

● Description：

The standby animation is displayed when the ATM terminal is unattended.

● Input：

NO input.

● Processing：

ATM displays the home screen.

● Output：

Displaying the home screen.

**Functional requirement 2：**

● Description：

ATM accepts card and test whether it can be traded.

● Input：

ATM accepts the card that users enter.

● Processing：

Check if it is a valid cash card.It will be valid if

1. It is not expired.

2. The information on the card can be read.

● Output：

Display error message and return cash card if it isn’t valid ,otherwise continue.

**Functional requirement 3：**

● Description：

Check whether the password is right.

● Input：

Depositor enters the right format of the password.

● Processing：

Check whether the password entered matches the current amount.

● Output：

Display error message to tell the depositor password is wrong and enter again.

**Functional requirement 4：**

● Description：

The password entered was consecutive wrong over three times, ATM swallows card

● Input：

The user enters the wrong password for the forth time.

● Processing：

Checking whether the password is wrong.

● Output：

Swallowing the cash card if password is wrong,and displaying”Your card is swallowed for you enter the wrong password over three times!Please contact customer service:\*\*\*\*\*\*”.

**Functional requirement 5：**

● Description：

The card authorization is completed, ATM turns into the main transaction page.

● Input：

Depositor enters the right password.

● Processing：

Verifying password.

● Output：

Display the main transaction page.

**Functional requirement 6：**

● Description：

Cash in the ATM is less than the withdrawal amount,tell the depositor this message without displaying the withdrawal option and it is optional to exit from this transaction.

● Input：

No input.

● Processing：

Checking the amount of cash in ATM.

● Output：

Back to the main transaction page.

**Functional requirement 7：**

● Description：

If something wrong with the ATM receipt printer ,the system should prompt the depositor who is depositing or transferring,and it is optional to exit from this transaction.

● Input：

NO input.

● Processing：

Check the ATM receipt printer whether work properly.

● Output：

Telling depositor if errors occur and enabling they to continue or just back to the main transaction page.

**Functional requirement 8：**

● Description：

The deposit amount accepted by ATM is not accepted by depositor.

● Input：

The authorization is completed,the depositors input the amount they want to deposit and put cash into ATM machine.

● Processing：

Checking cash quantity and prompting the depositors to check,and depositor input”False”.

● Output：

Returning cash and back to the main page.

**Functional requirement 9：**

● Description：

ATM deposit

● Input：

The deposit amount checked by ATM and depositor input”True”.

.● Processing：

Recording the amount in this account.

● Output：

Printing the deposit ticket and showing"trading success", then return to the main transaction page.

**Functional requirement 10：**

● Description：

Withdrawal amount is lager than the balance.

● Input：

Entering withdrawal amount.

● Processing：

Checking whether withdrawal amount large than balance.

● Output：

If the balance less than withdrawal amount,prompting depositors and back to the main transaction page.

**Functional requirement 11：**

● Description：

The amount of withdrawal exceeds the maximum amount of withdrawals on one day

● Input：

The depositor enter the withdrawal amount.

● Processing：

Checking the sum of withdrawal amount today whether larger than the maximum amount of withdrawals on one day.

● Output：

If it is beyond the limitation ,prompting the depositors,enabling they to enter again or back to the last step.

**Functional requirement 12：**

● Description：

Withdrawal.

● Input：

Withdrawal amount is valid.

● Processing：

Recording the withdrawal amount.

● Output：

Paying out.

**Functional requirement 13：**

● Description：

Withdrawal transaction is completed , printing the withdrawal ticket.

● Input：

Depositors choose to print the ticket or not.

● Processing：

Printing ticket if depositors choose “Yes”,otherwise just back to the main transaction page.

● Output：

NO output.

**Functional requirement 14：**

● Description：

Changing password.

● Input：

Depositors enter new password.

● Processing：

Checking whether the password entered twice are the same with each other.

● Output：

If passwords are identical,resetting the new password and shows success,

otherwise back out of password modification.

**Functional requirement 15：**

● Description：

Transfer.

● Input：

Transfer account,transfer amount.

● Processing：

Judging whether the account entered twice is consistent and whether the transfer amount is large than account balance.

● Output：

Showing transfer success or otherwise quiz this transfer.

1. the functional requirements of Administrator Module

**Functional requirement 16：**

● Description：

Checking whether the password is right.

● Input：

Administrator enter correct password.

● Processing：

Checking whether password matches with this account.

● Output：

If inconformity telling administrator this error message and asking to enter again.

**Functional requirement 17：**

● Description：

Freezing accounts.

● Input：

Enter the account to freeze.

● Processing：

Set this account to be frozen.

● Output：

Showing freezing account successfully,and this account is banned to withdrawal.

**Functional requirement 18：**

● Description：

Thawing account.

● Input：

Enter the account to be thawed.

● Processing：

Set the frozen account to be a normal one.

● Output：

Showing thawing account is successful.

**Functional requirement 19：**

● Description：

Reporting account.

● Input：

Enter the account to be reported.

● Processing：

Set this account to be a reported one.

● Output：

Showing reporting successfully and this account is banned to do anything.

**Functional requirement 20：**

● Description：

Relieving the reported account.

● Input：

Enter the reported account to be relieved.

● Processing：

Set this account to be a normal one.

● Output：

Showing relieving successfully.

**Functional requirement 21：**

● Description：

Add a new account.

● Input：

Account to be added ,the corresponding password is provided by depositor.

● Processing：

Add this account to be a normal one.

● Output：

Showing adding successfully.

**Functional requirement 22：**

● Description：

Cancel an account.

● Input：

Account to be canceled

● Processing：

Deleting this account while keep the relevant transaction information.

● Output：

Showing deleting successfully.