

Chapter 1 Introduction

1.1 Writing Purpose

For the aim of the class , in order to clear the user demand for ATM system, and give better details for ATM software's revising and improving on the basis of full understanding of ATM system software . And give some significance suggestions, to make the demand for software users and developers achieve a mutual understanding and satisfaction on both sides, and as a foundation for the optimization of the whole banking software system.

This report document further customize the details of software development, make software requirements clearly and carried on the concrete analysis, the organization's software development and testing, making it easy for users to coordinate work in parallel with the developers. After giving the bank ATM system projects a detailed investigation and study, we make a original system implementation report, to analyze the problem and its solution in demand which would happen to software development .

The development of this project is to provide a set of efficient and reliable terminal services platform for the bank. Provide convenience for depositors the login, deposits, withdrawals, query, print slip or other operation, especially in the case of ATM machine malfunction, it

provides the function of fault recovery.

Hope that through the writing of this report, the student can learn more about the actual case of programming and database applications, will learn the theory of knowledge applied to practical life, and consolidate learning to in the process of application of theoretical knowledge, deepen the understanding and mastering recognition, facilitate future better learning other knowledge, optimizing the self, improve self.

1.2 Background

Project name: Bank ATM System

Banking system is a institutions which closely related to life . Banks provide deposits, withdrawals, transfers and other business, the business is closely related to People's daily lives. People set up account in the bank or institution is usually called bank depositors. A depositor can open multiple accounts at the bank, can also save money to the account, it can also get cash from their accounts, or deposit from one account to another account. Depositors can also check your account at any time, and query before deposits and withdrawals by trading records, etc. Administrators can do cancellation to the depositors account, delete, query and other management, and also exchange rate, bank charges

such as parameter setting, and financial management and financial analysis.

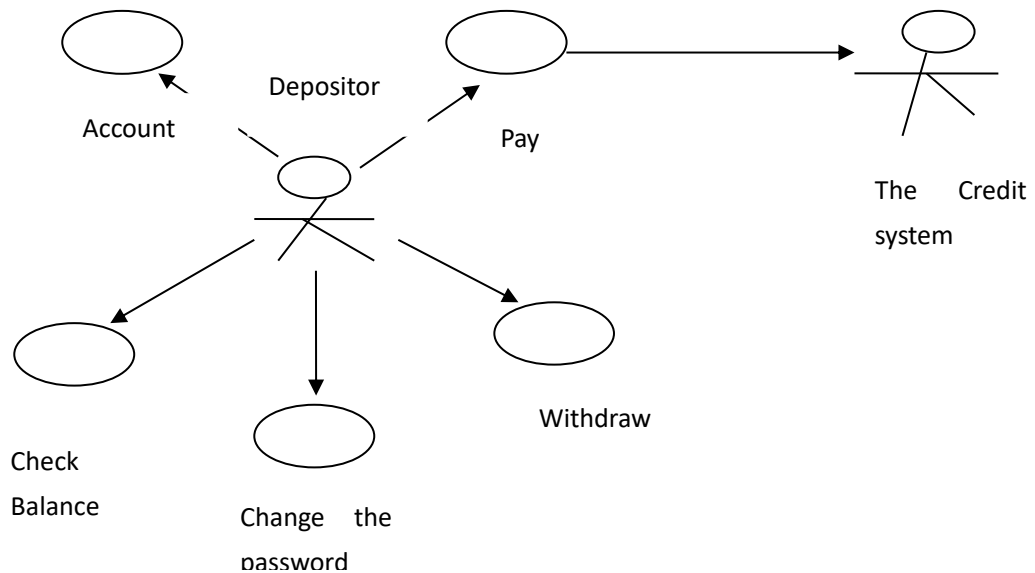


Figure 1.1 Banking system schematic diagram

However, with the increase of population of the banking business and customer , the bank's workload and work pressure have also been increased.To alleviate this problem, a kind of application in the development of computer and programming terminal services arises at the historic moment —— ATM system.

Chapter2 Demand Analysis Report

2.1 The functional requirements

ATM software respectively have login , deposits, withdrawals, query, transfer, change passwords, account details inquiry, exit and other function.

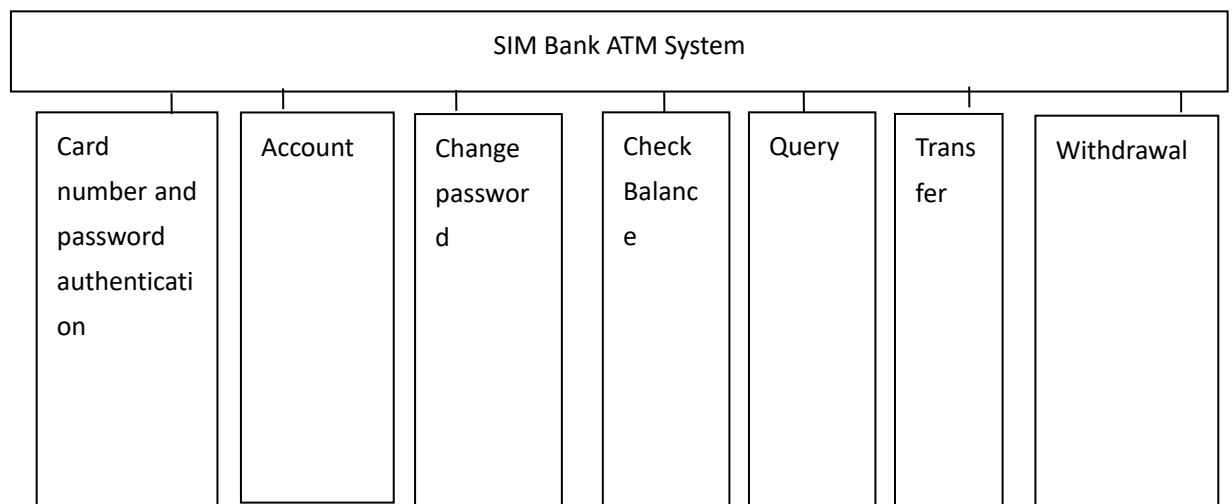


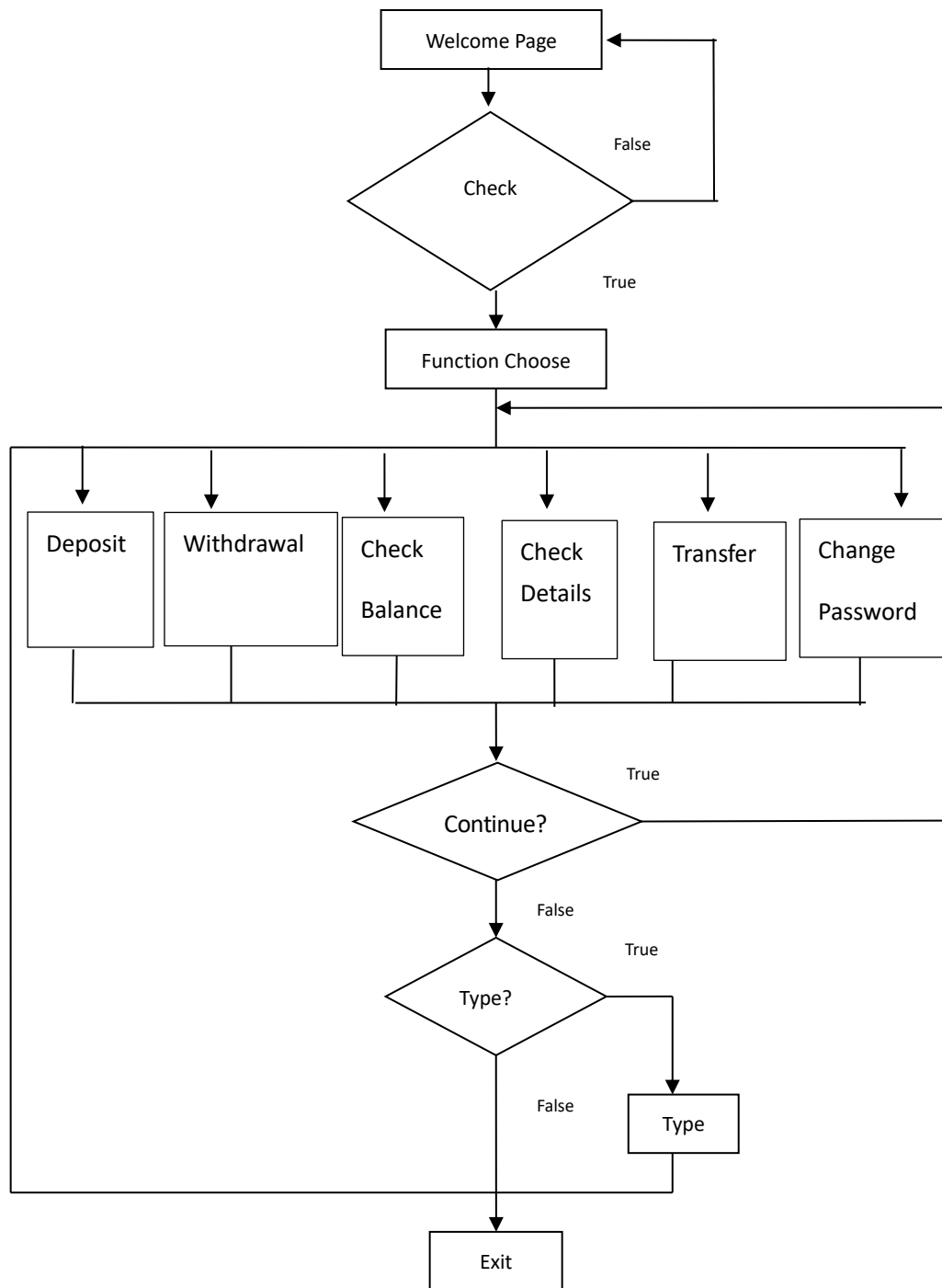
Figure 2.1 The basic ATM function

We often design each functional in different module, different modules have different features and functions, finally to complete the respective function. Each module of the data are stored in a database, and to form a whole. Data calls and connection have to complete the program. ATM terminals through user input nine card number and six corresponding password, after verification, accurate after can undertake all kinds of interaction with the system, such as: query, deposits, withdrawals, transfers and detailed query, print, slip, etc.; System according to the corresponding terminal server user input processing customer requirements, perform the corresponding operation, for customer service. To be on the safe side, ATM system requirements must maintain a certain period of time of transaction records, the system shall be automatically collect all kinds of every trading day with the server

data reconciliation. At the same time, the communication failure or other trading results under the condition of uncertainty, the ATM will automatically initiate trading and to ensure the integrity of the accounting.

Because ATM service system can be briefly as a deal in two directions, the user and the bank system, so the analytical ATM need to achieve the basic functions, want to consider, from two aspects: one is the user's interests, the second is the interests of the bank management system.

ATM users' basic flow is as follows:



2.1.1 The user needs

We can design several modules for the user in the process firstly: withdrawals, deposits, query, transfer accounts and password modification.

1. Withdrawal

As long as the account identified by the ATM system, you can deposit directly by enter a password. The user account set up to 9, password is set to 6. Account passwords match exactly rear can into the interface. Click action buttons can withdraw into the interface, withdrawal out according to the required amount can choose 100 yuan, 200 yuan, 300 yuan and other established amount, can also be customized but now must be 100 integer times. The ATM can only provide value for money 100 yuan integer times, with the development of the information we have reason to be improved in the field, and even the ordinary common people, sometimes \$10 and \$20 bill or want to quick and easy to get. So the future of ATM withdrawals should be allowed to have more denomination banknotes. Sometimes users will incurred a bank account is lost and stolen, this will lead to loss of user value. So to be on the safe side, for the daily total household withdrawals can be made appropriate restrictions, each time a withdrawal amount is limited to 2000 yuan, up from ATM up 10000 yuan per family daily,

residual payments need must be together with the relevant documents to the counter. As users sometimes need a login for more than one operation, so that after the execution of the withdraw operation can undertake other interface choice, can choose to continue trading again, enter the main interface, again to choose other transaction type to receive services. For example, after go to check balances, as long as the choice to continue trading, can return to the main interface, you can then select query according to the query steps to complete the corresponding operations.

2. Deposit

After password checked you will get in deposit authentication interface, begin to deposit, to make the RMB in the ATM machine, press the keys, for sure, and then wait for machine recognition verifying bills and amount. Finally remove the unrecognized money, choose to determine or continue to add. Then end of operation. If you want to continue to other transactions, can choose to continue to trade, and then enter the main interface for related operation. After deposit, which can display the amount or other information, is currently in the process of deposit can only identify the face value of RMB 100, the face value of the future expectations can also identify more money.

3. Query

Most of the bank's ATM can provide users with the query service at present which basically has balance inquiries, including RMB and Hong Kong dollars, the dollar value, etc. And only when users want to know more detail account to the counter to play bills, this gives the counter system brought considerable effort and staff. If an ATM can display the function of the user's account details, print account details and provide services, will be further meet user requirements, improve the practicability of ATM, at the same time reduce the workload for banking business personnel.

4. Transfer

The realization of the transfer. Transfer can be divide into industry transfer and inter-bank transfer .If transfer between the two Banks because the name of the bank and cannot be achieved, at least should implement different account transfer the same bank, only asks the user to input the correct your account password, and to transfer the other account (had better have two input compared to confirm), and need a confirmation allows users to have the opportunity to transfer accuracy. But most of the bank's ATM can still provide an inter-bank

transfer service, just need to submit corresponding fees. The necessary business fee, the system best able to popup hint window prompts the user fees amount, after waiting for the user to confirm, then continue to execute next service.

5. Change the password

Password modified natural need user to be able to enter the correct password, then enter the new password twice, compare the system, the comparison results correctly, the user to confirm success; Confirm successful, ATM should be automatically identify and automatically exit the original login, at the same time jump out prompt window prompt the user with the modified new password to log in, enter a new password to try the correctness and effectiveness of the new password. The rationality of this requirement the design of the database updates.

2.1.2 The perspective of bank management system

Secondly we to analyze from the Angle of bank workers. In addition to the user permissions, bank ATM system administrator should also have the following rights: the user account password's force change, query the user's account according to user's information, query the user's transaction information, for violations of the user account to account closed and open, etc.

1. Force change of the user password

The force changes of account password which is in even don't under the premise of the user account password can modify the password and, of course, the premise is to provide effective evidence to prove that the user account belongs all belong to himself. This is mainly aimed at the user forget his account password, and then can provide reasonable evidence to prove that the account belongs to himself.

2. Account Information

According to user's information on the account information to the appropriate management services, mainly for forgetting his account, but can provide detailed information of the user, convenient to the back or correct your account information. Both of these features is to report the loss of processing, to avoid some users because of the forgotten username or password and cause unnecessary trouble.

3. Trading information

In view of the withdrawals and transfers information, the administrator should be able to observe the date of the deal, the specific point of time, amount, transfer out of the account and transferred to the account. This function can be convenient administrator real-time know how much money it left, ATM machine system is easy to update the ATM deposits, and prevent cash intermittent inconvenience to users.

4. Illegal user account closed and restart

Banks offer a variety of services, but cannot accurately know his integrity services by the users. Therefore in the banking system when providing services at the same time, also should have corresponding data evidence and operation permissions. If discover some users of illegal behaviors can forcibly close the account and for legal and reasonable explanation of evidence, and open the account at the end of things to

deal with heavy.

ATM design reasonable should start from two aspects of the use and management, considering the function of user convenient use and operation of the bank swift, we also want to simple thinking in the process of bank manager in the management of ATM.

2.2 Operation requirements

Design is the foundation, of course, but the ATM can run normally, put into use is the ultimate goal of the whole project design and the important link. ATM machine in the running process including the output, the user needs input system, system internal data processing, etc. Inserts the input from the user account password to the service, as shown in figure 1.1

2.3 Input requirements

1. Users must use ATM legitimately, with no disruptive behavior. And can provides complete correct operation according to the input device and interface of ATM.
2. The contents of the user input from the input equipment is convenient,

with purpose.

2.4 Output requirements

1.Ask for ATM machine can quickly respond to the functional requirement of the depositors.

2.Ask for ATM machine display interface is clear and concise, and provide a variety of languages, making it easy for users to make decision and input operations.

3.Ask for ATM can print out the customer need fast and accurate .

2.5 Other requirements

1. Availability

This case system is on the basis of the detailed planning which can be implemented through the corresponding programming and put into use In the process of actual use, it has simple and convenient operation, high efficiency, and can achieve the desired effect, users and the dual banking system.

2.Security

Security is higher, because the software running in the database is virtually certain, so the parameter change is not easy to be wrong, damage.And damage will not affect the source program, one thousand

parameters to ensure the safety of the user data.ATM machines give an accurate and real-time monitoring and control system running and is accompanied by the alarm system.

3. Maintainability

Due to the use of database programming, the system structure is determined by basic program.A large number of parameters and the content of the text stored in the database.Modifications to the system only need to update the database when the corresponding contents, namely, update the database as long as the changes in database and don't need to modify the system structure, this system maintenance upgrade extremely is all convenient.

4. Compatibility

Suitable for Windows 95, Windows 98, Windows xp, Windows sp2 and above the operating system、 database: SQL SERVER 2000