ĐẠI HỌC QUỐC GIA HÀ NỘI
KHOA QUỐC TẾ
VNU-INTERNATIONAL SCHOOL

2021

Banking Management System

PROGRAMMING 1 – PROJECT REPORT

ĐỖ DUY SƠN - 19071076

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INTRODUCTION

The Banking Management System is an application for a banker's tasks in a bank. In this project I tried to show the working of a banking account system and cover the basic functionality of a Banking Management System.

The Banking Management System undertaken as a project is based on relevant technologies. The main objective of this project is to develop software for Banking Management System. This project has been developed to carry out the processes easily and quickly, which is not possible with the manuals systems, which are overcome by this software. This project is developed using C language.

The features of this system are still very basic, mainly serving the needs of learning and simulating banking, I hope to be able to develop this system completely later in the future.

I. OVERVIEW

1.1. About the Banking Management System

This is a mini project coded in C. This project target customer account services in bank, so it's named *"Banking Management System".*

Here, you'll be able to create a brand new account, update information of an existing account, view and manage transactions, check the main points of an existing account, remove existing account and examine customers' list.

Overall, with this project, you'll be able to perform banking activities like in an exceedingly real bank. This project is a console application without graphics. It's compiled in *Code::Blocks IDE* with *Gcc compiler*.

The source code for this project is around 600 lines, there are still many shortcomings and limitations but this system is still quite smoothly with the main functions.

I came up with this idea very randomly. One day, I went to the bank because I just had some problems with my credit card. I had to wait a long time for the banker, she did a lot of works for a few customers before it was my turn. At that moment, I had a thought in my head: "what did she do, too long, so curious!".

So, I decide to do the Banking Management System to determine and see what do bankers do everyday.

1.2. Main Purpose

I hope this project can be applied to:

- Study and research in Bank colleges/ Academies.
- Simulate the banking works.
- For those who are interested and want to learn about banking works.

And in the future, I am looking forward to the project that can be build completely perfect to serve in the bank.

II. DESIGNING

2.1. Modules Overview

There are 3 libraries in used and those are:

- <stdio.h>
- <stdlib.h>
- <windows.h>

I thought to myself that as a banker, what are the steps involved in the working process? After a period of research, I also came to the conclusion that to simulate the working process of a banker, it based on 8 main functions include the following:

- main() - Login screen, the system secured with password
- menu(void) - Main menu
- newAccount() - Create new customer account
- edit() - Update information of existing account
- transact() - Transactions (deposit/withdraw)
- see() - Check the details of existing account
- erase() - Removing existing account
- viewList() - View customer's account list

And 4 sub-functions including:

- close() - Shutdown system
- fordelay() - Delay time for interface
- interest() – Interest formula for caculating the interest
- date() - Date format

2.2. Modules Description

Secured with password login

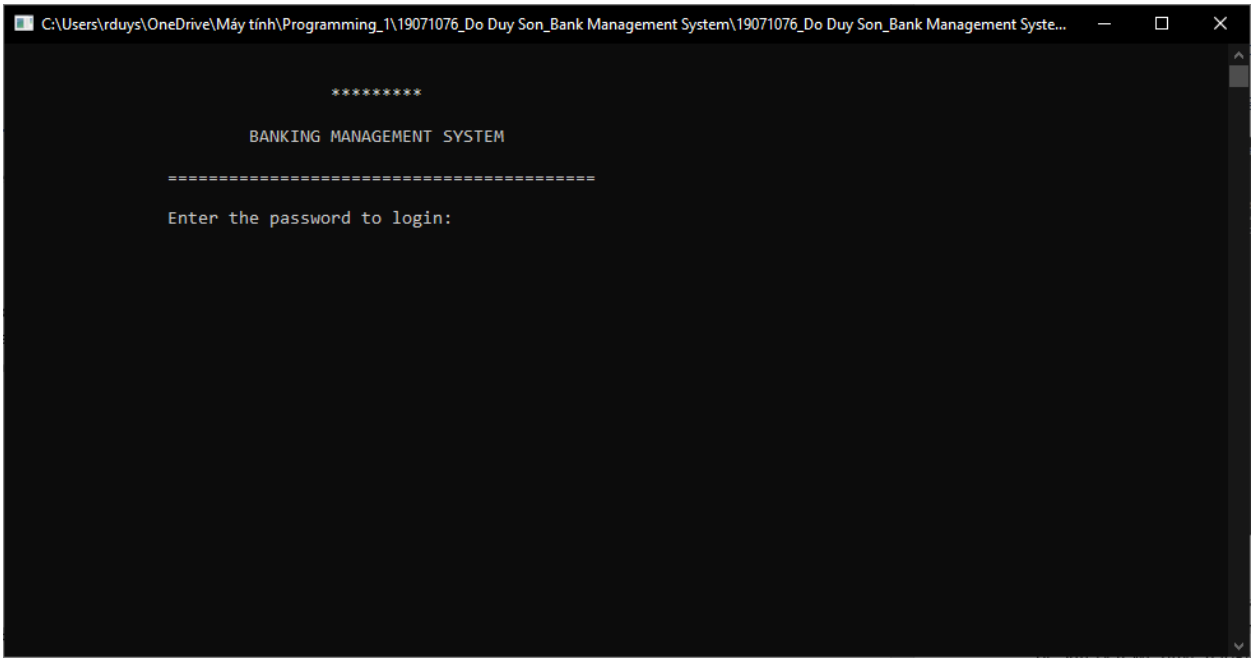


Figure 1 - Login screen

This is the secured login page - first screen of the system interface, you must enter a password to get access to the system. I chosen password as the main function because I thought it could be safety if we have a login screen before jump into the main system and I am pretty sure that real bank system had this feature.

Main menu interface

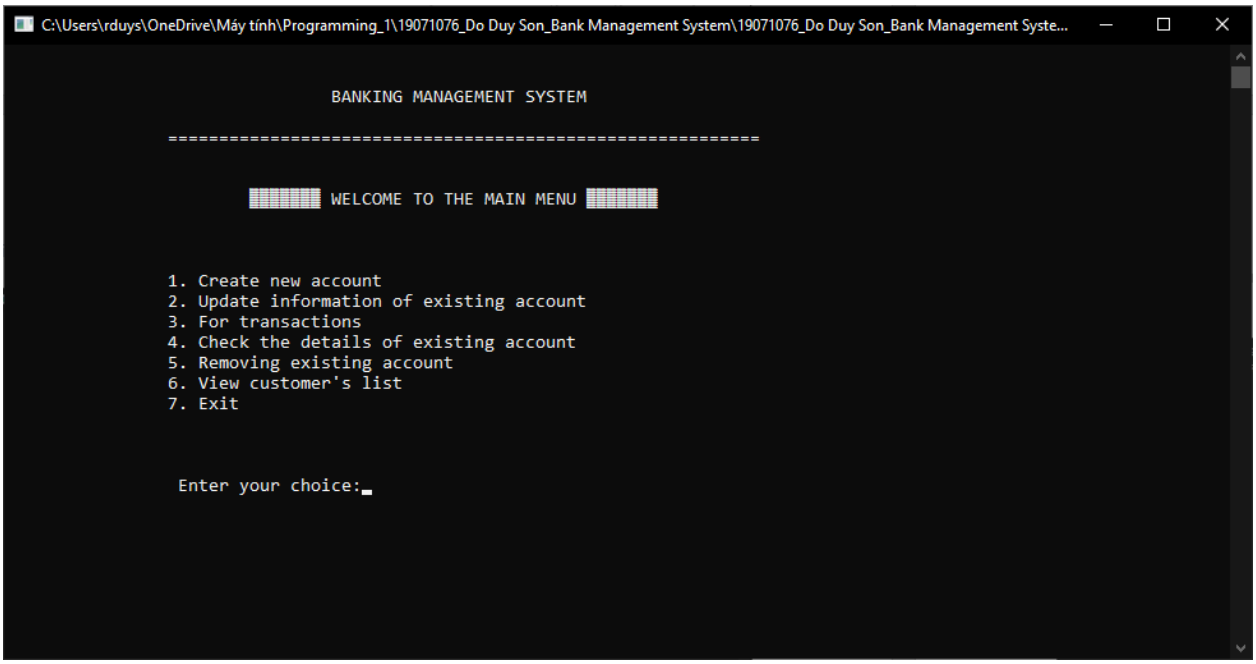


Figure 2 - Main menu interface

This is the main menu and there is 7 actions to choose. Enter the action choice number to make an interact.

Create new customer account

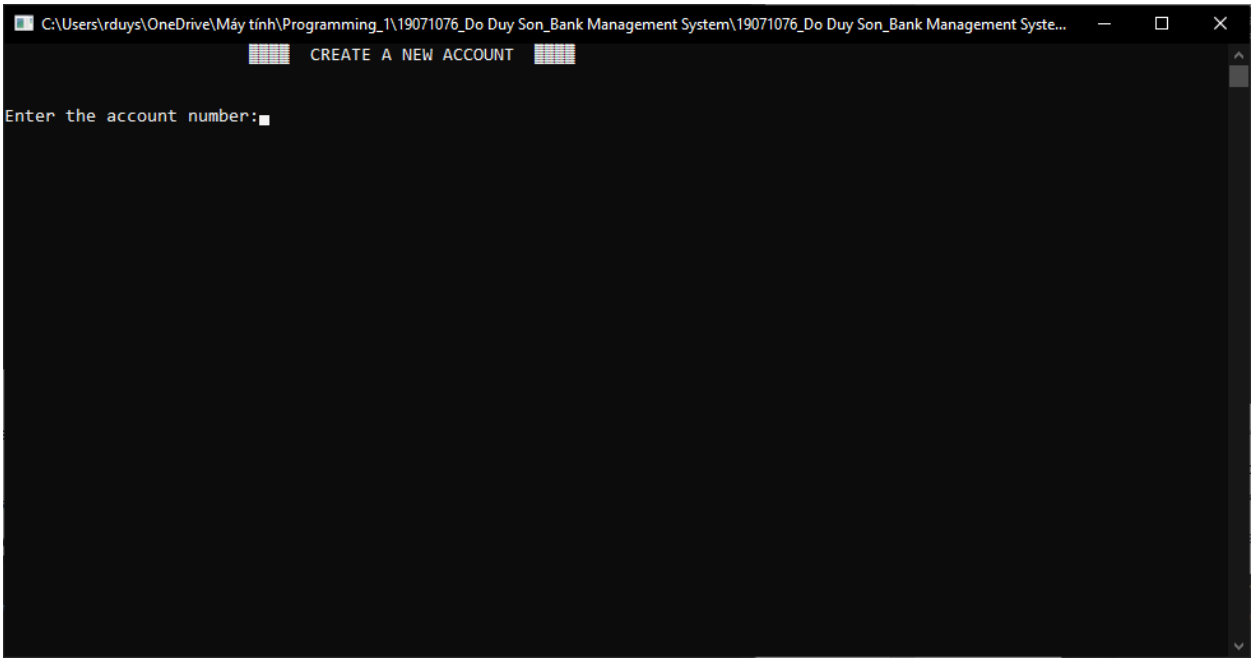


Figure 3 - Create new account

This is the create account page, I put account number part ahead because the system need to check the account number data first to ensure that the new account will not overlap with the old account.

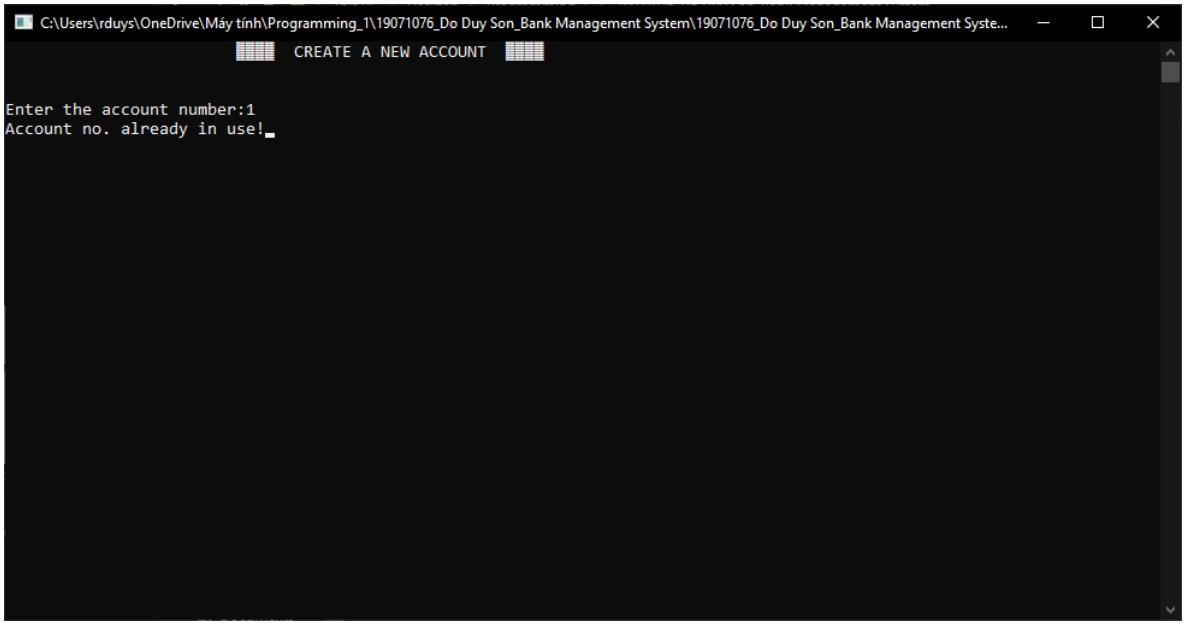


Figure 4 - New accounts can only be created if the account numbers are not duplicated and vice versa

This feature receives the customer profile details and the bank account details with the proof of the ownership of the bank account.

Update information of existing account

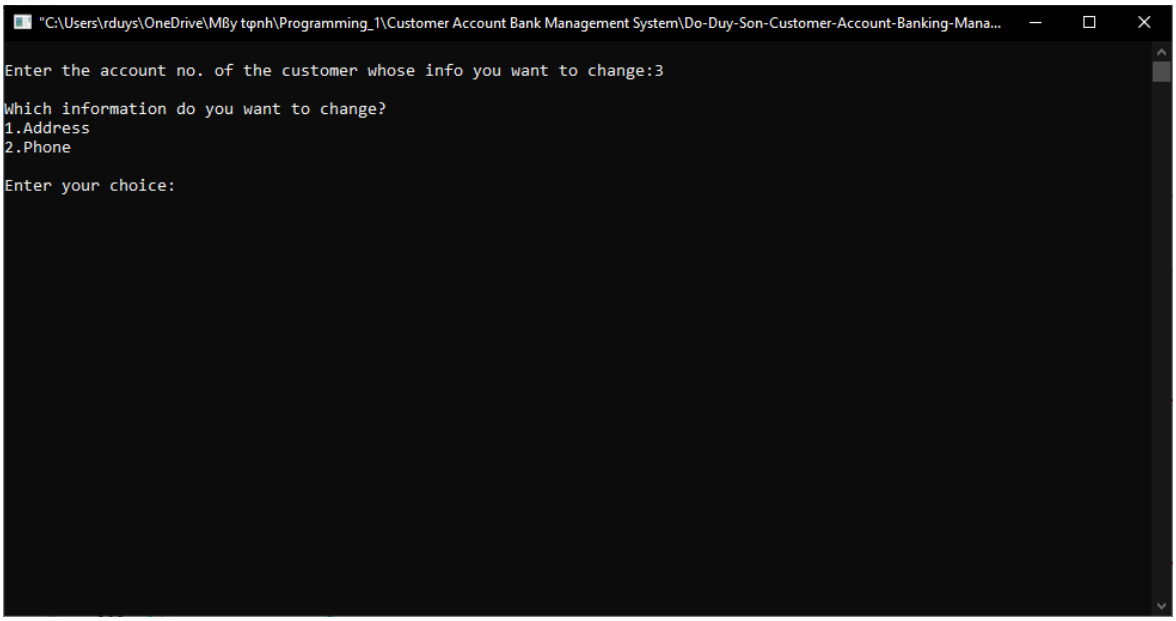


Figure 5 - Edit account information

This feature has been used for changing the address and phone number of a particular customer account.

Transactions

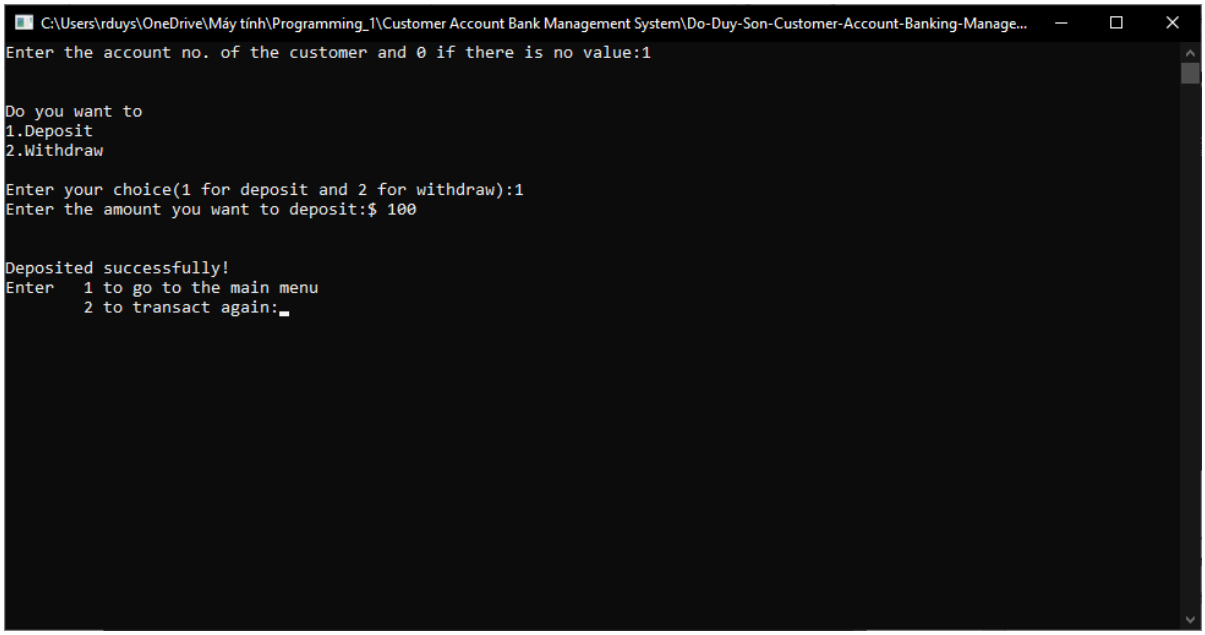


Figure 6 – Transaction

With this feature you can make withdrawals and deposits.

Check the details of existing account

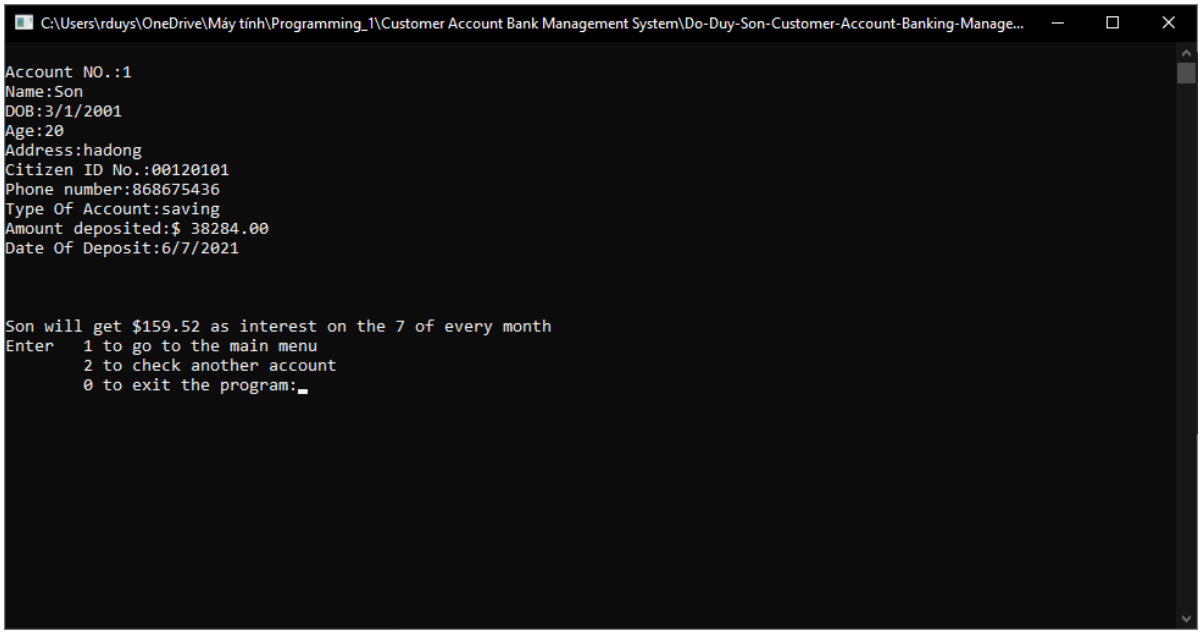


Figure 7 - Account detail

This feature shows account number, name, date of birth, citizenship number, age, address, phone number, type of account, amount deposited and date of deposit. It also shows the amount of interest for a specific account type.

Erase accounts

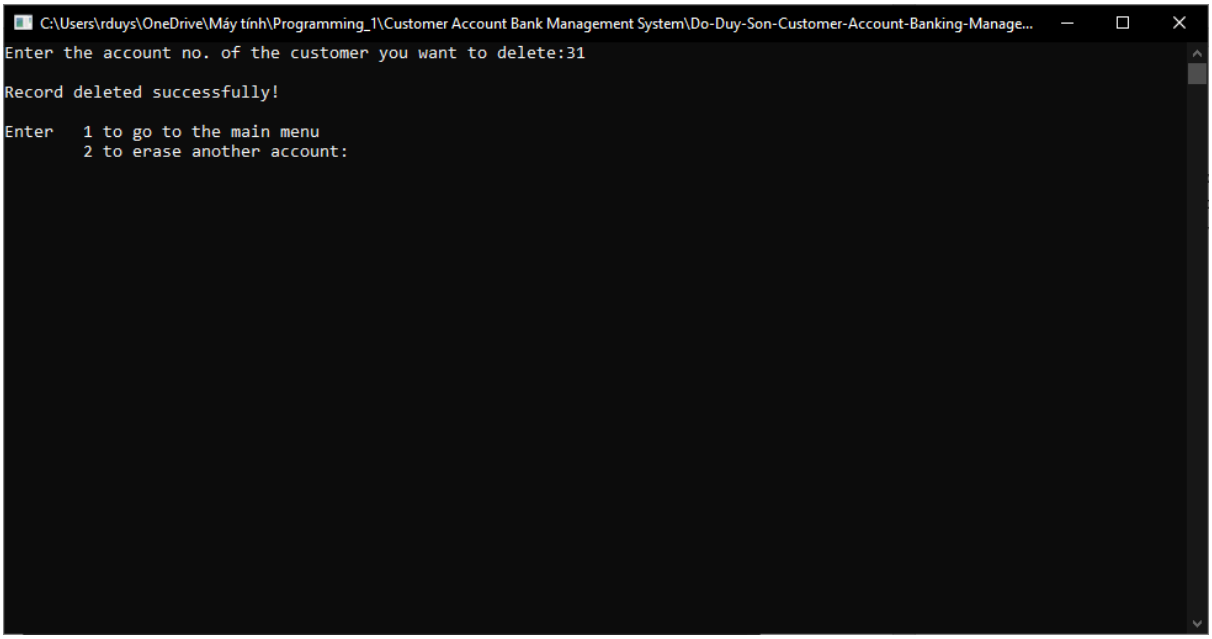
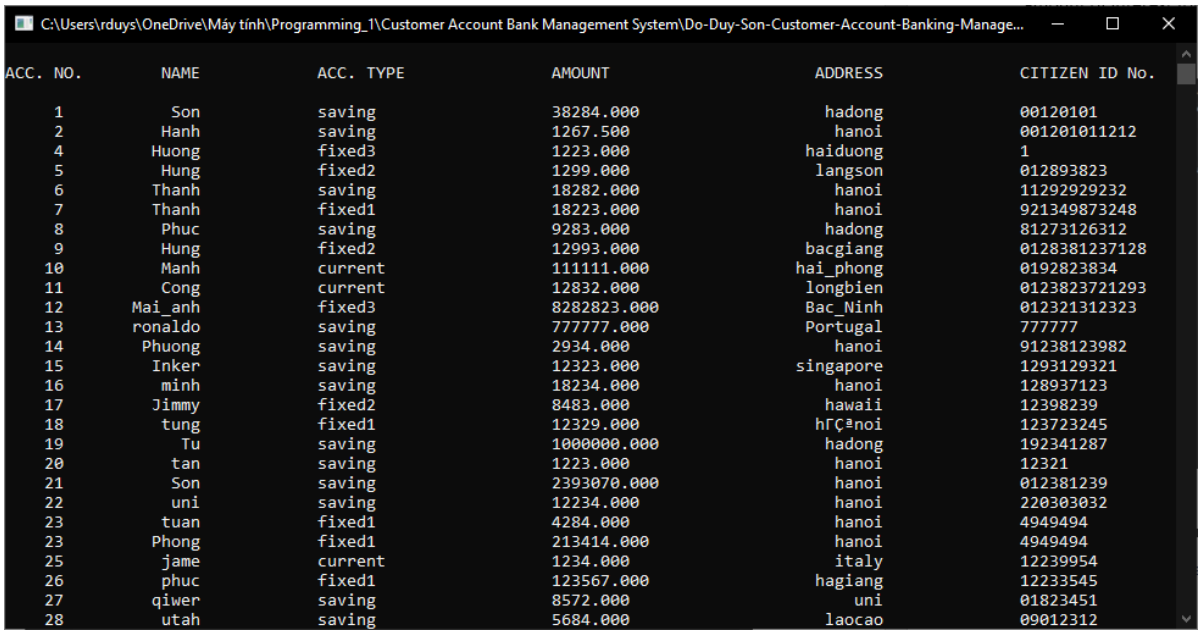


Figure 8 - Delete account

This feature for deleting customer account.

Customer's account list



ACC. NO.	NAME	ACC. TYPE	AMOUNT	ADDRESS	CITIZEN ID No.
1	Son	saving	38284.000	hadong	00120101
2	Hanh	saving	1267.500	hanoi	001201011212
4	Huong	fixed3	1223.000	haiduong	1
5	Hung	fixed2	1299.000	langson	012893823
6	Thanh	saving	18282.000	hanoi	11292929232
7	Thanh	fixed1	18223.000	hanoi	921349873248
8	Phuc	saving	9283.000	hadong	81273126312
9	Hung	fixed2	12993.000	bacgiang	0128381237128
10	Manh	current	111111.000	hai_phong	0192823834
11	Cong	current	12832.000	longbien	0123823721293
12	Mai_anh	fixed3	8282823.000	Bac_Ninh	012321312323
13	ronaldo	saving	777777.000	Portugal	777777
14	Phuong	saving	2934.000	hanoi	91238123982
15	Inker	saving	12323.000	singapore	1293129321
16	minh	saving	18234.000	hanoi	128937123
17	Jimmy	fixed2	8483.000	hawaii	12398239
18	tung	fixed1	12329.000	hГ‡ªnoi	123723245
19	Tu	saving	1000000.000	hadong	192341287
20	tan	saving	1223.000	hanoi	12321
21	Son	saving	2393070.000	hanoi	012381239
22	uni	saving	12234.000	hanoi	220303032
23	tuan	fixed1	4284.000	hanoi	4949494
23	Phong	fixed1	213414.000	hanoi	4949494
25	jame	current	1234.000	italy	12239954
26	phuc	fixed1	123567.000	hagiang	12233545
27	qiwer	saving	8572.000	uni	01823451
28	utah	saving	5684.000	laocao	09012312

Figure 9 - Accounts list (navigate below)

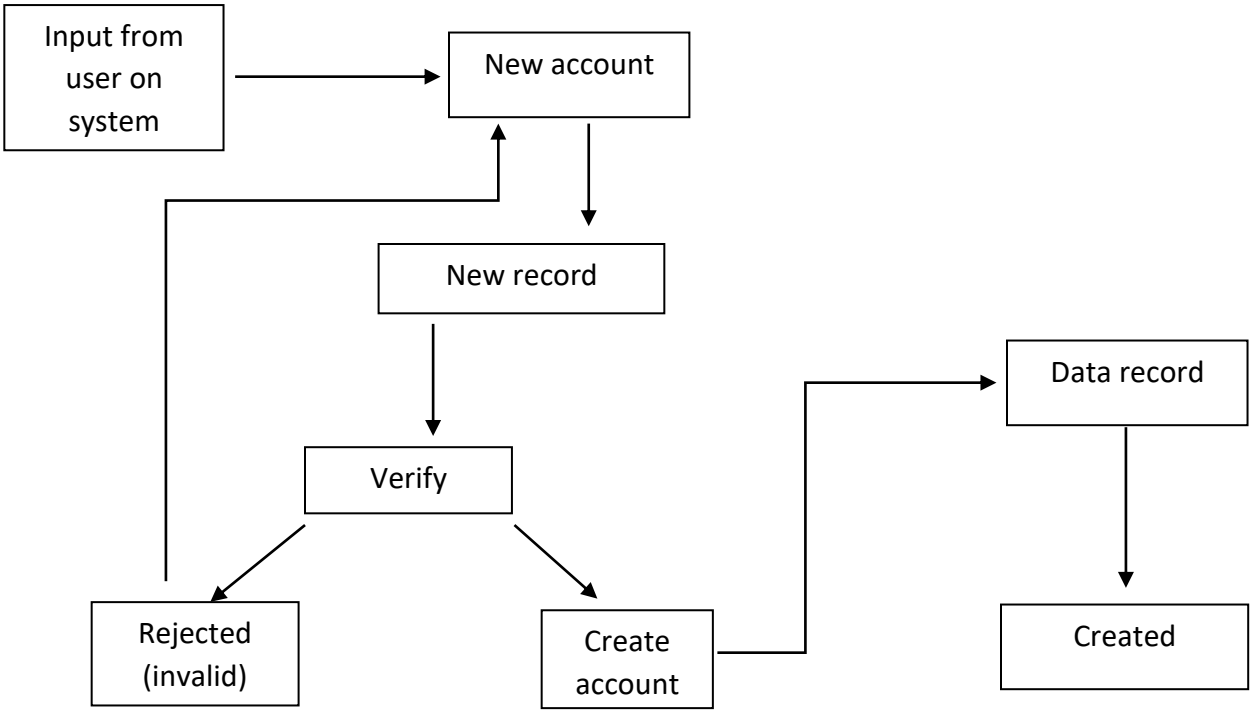
This list is a quick view of customer's information such as account number, hostname, account type, amount of credit, address and citizen identiy number.

2.3. System design

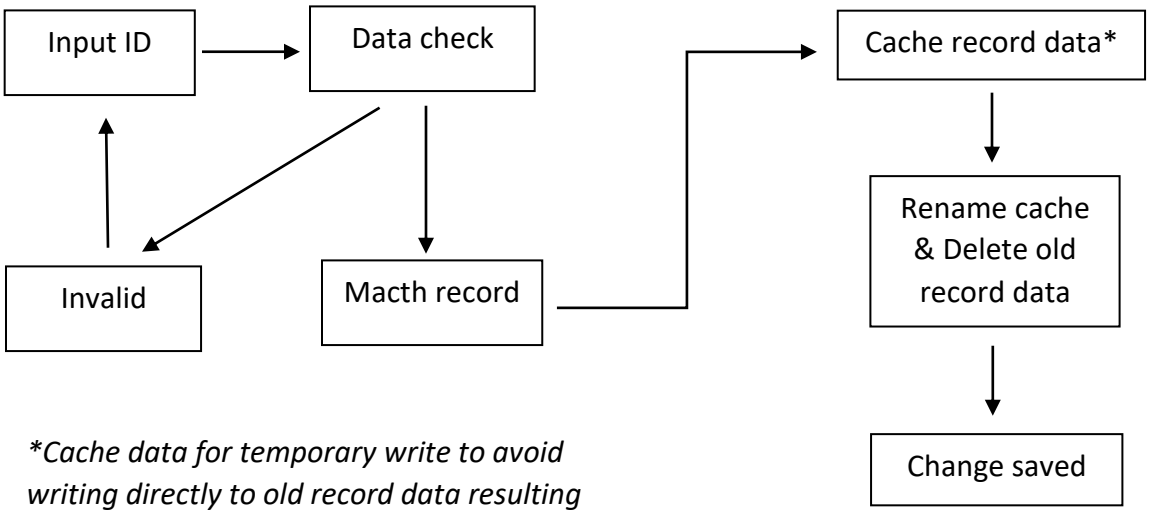
Design is a creative process. Good design is the key to an effective system. The term "design" is defined as "the process of applying various techniques and principles to define a process or system in sufficient detail to allow its physical realization." It can be defined as a process of application of various technologies and principles, with the purpose of defining a device, a process or a system in sufficient detail to allow its physical realization. Software design is at the technical core of the software engineering process and can be applied no matter which development paradigm is used. System design and development of the architectural details necessary to build a system or product. Like any system approach, the software has also gone through the optimal design phase, tuned for all levels of efficiency, performance, and precision.

Flowcharts of algorithms

Data flow for creating new account:

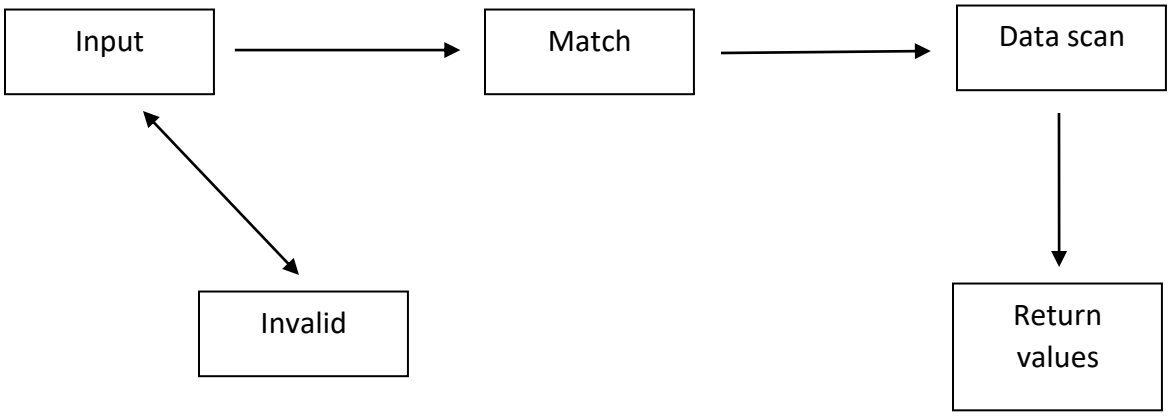


Data flow for editing, removing account and transactions:



**Cache data for temporary write to avoid writing directly to old record data resulting in data loss*

Data flow for check existing account & accounts list:



III. DISCUSTION

3.1. Limitations

This project just stops at the basic features, has not yet covered the entire working process of a banker. Some other cool features are missing like loans and bonds, the UX/UI I haven't finished yet due to time limit. Hopefully in the near future I can finalize this project and be able to export a full version with a more intuitive console.

About the future look, this project is still not good at data storage. Currently, storing data is being backed up very basically through records in a txt file. This will lead to many problems, followed by two main problems: the security is not high, the access and management of data is difficult. For a bank-specific application, information security and huge customer data management is very important. So it can be said that the database is the biggest weakness of this system.

Realizing the problem, I figured the solution to this problem was to apply database management systems to this system like MySQL, that will be the development direction of this system in the future.

IV. CONCLUSION

Through this project, I have learned and discovered a lot about the C language. Operating them to produce an intuitive product makes me feel very excited. This project was really a worthwhile experience and helped me practice more about this programming language.

With the vision that this system can be applied to real banks or a cloud data management system, it can be said that Banking Management System is the first step for a long way ahead. I hope this project of mine will go further in the future to be able to serve more audiences.