COMPUTERIZED SAVINGS ACCOUNT SYSTEM

By

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In the partial fulfilment of the requirement for the Post-Graduate Diploma in Computer Science in the Department of Mathematics/Statistics/Computer Science, School of Science and Science and Science Education, Federal University of Technology, Minna, Niger State.

Necessity, the mother of all inventions.

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DECLARATION

COMPUTERISED SAVINGS ACCOUNT SYSTEM

I do hereby declare that this project presented for the Post Graduate Diploma in Computer Science in the department of Mathematics/Statistics/Computer Science has not being presented either wholly or partially for another degree elsewhere.

Information derived from published or unpublished work of others has been acknowledged in the text.

Student

DEDICATION

This project is dedicated to God Almighty.

ACKNOWLEDGEMENTS

I thank God Almighty for his love, grace and blessings in my life.

I wish to express my sincere thanks to my supervisor, Mr. S. Reju, for his assistance during the execution of this project.

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ABSTRACT

The enthusiasm shown by organisations and individuals toward the proper utilisation of banks as the reliable and secure place to keep money and do some financial transactions has brought about the tremendous increase in the work load of banking activities.

Hence, the need to go into a programme that would enhance their productivity and efficiency.

This is achieved by the introduction of automatic systems.

Consequently, little time is spent in gaining the maximum accuracy as figures are mostly handled in banking operations.

This project "COMPUTERIZED SAVINGS ACCOUNT SYSTEM" is to develop and implement an automated system in a banking environment.

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CHAPTER ONE

INTRODUCTION

Computerization is the effective replacement of repetitive human interaction in an existing system by an automation process. And automation process refers to the implementation of Computer Technology in the achievement of a desired objective with minimal intervention of human operation.

A Computer is an electronic device that automatically performs calculations and sort files, edits, or otherwise processes information entered. The Computer can perform Data Processing operations accurately at high speed without human intervention.

There are three classes of Computers - analogue, digital and hybrid.

The analogue operate on Data representation by variables, physical quantities such as voltages, and measure continuously. Digital Computer works with numbers, words, symbols which it expressed as Digits and which it manipulates and count discretely. The Hybrid Computer combines the feature of the other two and utilises both analogue and discrete representation of data.

The Computer used by majority of people today, are the digitals. They are referred to as general purpose computers. The basic functions of the digital computer are input, storage, control, processing and output.

Software programs are designed to allow users to operate the computer system. These include system programs and application programs.

System programs, control computer operations (called operating system) and progress to aid

a computer whenever it encounters problems.

Application programs are series of instructions known as program which are instructions known as program which are executed by the computer to produce desired result for users.

HISTORY OF BANKING

1.1 COMMERCIAL BANK

A Bank is a business establishment that lends money, receives deposits, transfers funds and performs other financial services for customers. The major types of banking in the modern industrial world are commercial and Central Bank.

The principal functions of a commercial bank are to provide its customers with checking and interest-earning accounts and to give loans to both business firms and individuals. In addition, commercial bank invest in securities, services as depositories for federal tax revenues, rent out save deposit boxes, exchange foreign currencies sell travellers, cheques and issue credit cards.

Some commercial banks also operate trust departments, deal in government securities provide computer services and engage in other financial activities.

1.2. CENTRAL BANK

The Central Bank had a humble beginning when its started operations in July, 1959 with a public issue of its currency to replace the currency of the West African Currency Board (WACB).

The bank and the conservative character of its objectives at the beginning were born by the rather negative attitude of the British officials and academicians who had earlier advised on the establishment of the Central Bank. These were informed by the orthodox conception of a Central

Bank as a bank of issue and the theoretical misunderstanding of monetary management to mean the control of the money supply alone.

Today, the central bank has grown beyond the above notion rather its expanded through its numerous functions as stated below:

The basic responsibility of the Central Bank in a country is to create and supervise a monetary system that is relatively free of strains and stresses. To obtain this fundamental objective, the Central Bank attempts to manipulate the growth of the monetary and credit aggregates to ensure adequate economic growth and to sustain internal and external stability.

The operations of the Central Bank is grown beyond the imagination of its organisation, in performance of its functions, the Bank has expanded from:

- 1. A mere bank of issue to a banker's bank.
- 2. Bank to government
- 3. A reputable banking institution promoting economic growth, researches etc.
- 4. Date generation as well as the development and control of financial technology, expertise and institutions.

Thus, the development of the monetary institution and machinery for mobilising savings and investment could be a desirable policy and hence a need for the establishment of a central bank and its branches spread over the country.

Apart from the Central Bank being a banker's bank, it is an agency of the government and is a public service institution not necessarily operated for profit.

A central bank does not deal directly with the public but it performs essential services for the government and other banks.

1.3 BANKING OPERATIONS AND AUTOMATION

In the 17th century, individuals, merchants government informally - but frequently loaned money to one another. Credit was extended to merchants to buy inventories which when sold provided funds to repay the loans. Loans in form of currency-notes were issued by the lending banks because deposit (checking accounts) had not yet become an acceptable medium of exchange.

This form of exchange later grew in perspectives and a stable achievement in the establishment of banks that automation come into existence in the banking system.

Automation in banks started in the United States of America in 1955 with the banking system evolving around commercial, savings, investment, mortgage types of banking made use of the routine clerical tasks of collecting and processing financial information called Book-Keeping.

The use of machines and computers have become a better means of easing the repetitive nature of manual clerical task in book-keeping. Manual system is tedious, tiring demanding for use, it is also ineffective and inefficient, slow in service and lacks proper discipline to integrity and security of information process.

The adoption of computers in establishments as well as for personal use was hindered by cost of conversation and operation, computer illiteracy inspite of its outright usefulness.

However, since the advent of automation, there are steps taken in the implementation of electronic devices into business and banking most especially Book-Keeping system - pencil and paper, Accounting with key-driven machines, punched card accounting, large centralised data processing system, decentralised or distributed processing system, are among the numerous steps taken in the adoption of electronic devices.

1.4. BANKS AND SERVICES

A bank is an organisation which deals with the exchanging and depositing of funds from others, makes loans and extend credits and transfers funds by written order of depositors. Though no

CHAPTER TWO

PROJECT FEASIBILITY REPORT

PROJECT TITLE:

COMPUTERIZED SAVINGS ACCOUNT SYSTEM

PROBLEM DEFINITION:

INEFFICIENCY OF THE MANUAL SYSTEM IN BANKS.

PROJECT OBJECTIVES:

To implement a faster system of Date collection and Processing for customer services

To establish an efficient and flexible computerized system which will be controlled, monitored
and fully enhanced by the installation of a Local Area Network (LAN).

To design a cost effective system which will be effectively utilized.

SCOPE OF STUDY:

Feasibility study

System analysis

System Design

System Development

System Implementation and Evaluation

DEPARTMENT INVOLVED:

Savings Account.

Personnel involved:

System Analyst and Programmer

MISS ROSLYN B. UNUEROH of Mathematics/Statistics/Computer Science Department,

distinction is made among categories in discussing banking services, a particular activity or services is restricted to a particular type of institution. The facilities of banks are available to both individuals and businesses, whether they are depositors, borrowers or general services customers.

There are different types of services rendered to customers, they include:

- Services to Depositors: Individuals and businesses alike may maintain either demand deposits
 or time deposits.
- 2. Demand Deposits: Funds are deposited in commercial banks against which depositors may write checks or drafts checks are orders from the depositors to pay specified sum to a designated recipient or bearer. Checking account offers depositors safety for their funds as well as convenient transfer of deposits to pay for purchase or to satisfy debts.
- 3. Time Deposits:- This include savings deposits, saving accounts, share accounts and certificates of deposit. In this case, Banks pay interest on money kept in time deposits. Pass books solely for the owner of a saving accounts is issued enabling the owner know amount in the account as well as to withdraw money.
- 4. Loan Services: Banks lend money to their customers to finance their businesses. They lend large amount of money to individuals for the purchase or building of property and in returns, the banks hold a mortgage, or claim on such loan pending when the said money is repaid. Interest is paid on the borrowed money. However, the level of savings is high and the demand for loan is weak, the interest charged on loan declines.
- 5. General Services: The following services are rendered by banks include, rentage of safe deposit vaults, sales of traveller's checks or foreign exchange, provision of credit cards, consultation services for business or investments, preparation of payroll handling accounting preparation and collection of bills for local business as well as verification of credit and request.

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Bank Computer Supervisor: MR. AMOS, Central Bank of Nigeria, Minna.

Method of Research: Interviewed Observation

2.1. DESCRIPTION OF CURRENT SYSTEM

This project is based on banking operation involving manual system of processing customer services. Customer services refer to here is the running of savings account system in banks. The services rendered in savings include:

- (a) Opening of a new account
- (b) Depositing of cash (credit)
- (c) Withdrawal of cash (debit)
- (d) Accounting System which include calculation of interest liquidation.
- (e) Verification and Identification of Customers
- (f) Transfer of funds.

These services are being done with the employment of manpower in most banks and this clearly has its short-comings in its manually established services. There are disadvantages associated with the manually system of operation as investigation has shown.

- Slow services to customers as a result of the sluggish form of accounting system.
- It is tedious, tiring and uninteresting method of accessing information in the set-up.
- Inaccuracy in accounting system due to miscalculation and mishandling of figures
- Lack of precision in the rounding and approximation of figures.
- The manual operation is more prone of fraud
- Non cost effectiveness of manual system as a result of labour employed in attending to customers.

- More time is spent in getting accurate data and therefore paving room for payment of overtime to staffers.
 - Manual labour gives room for inefficiency and ineffectiveness in the execution of the job.
 - Misfiling and mishandling of Customers ledgers due to any paper work.

2.2. DESCRIPTION OF HARDWARE AND SOFTWARE FOR THE PROPOSED SYSTEM.

The proposed customers' services system for banks is a computerised process which involves a database management application system to run on a Local Area Network, using Micro Computers.

Local Area Network is the connection of computer systems and devices in the same geographical area. Typical, local area networks are wired into buildings. In some cases, telephone outlets and electrical outlets, building wired with local area networks also include information and date outlets.

These outlets literally can be placed in every room of the corporate office or Bank building. Then computer terminals, computer systems, copying machines, world processing machines or systems and more can simply be plugged into the date information systems outlets. These outlets are connected into a unified network. The network can either be in a ring shape or hierarchical.

The proposed LAN system will be a client-services network. That is stand alone personal computers (workstations) physically attached to a more powerful microcomputer which serves as a centralised date processing system, through cables. This powerful microcomputer, called network file server, regulate and controls the activity of the network. The network file server does this with the help of the network operating system. The network system administrator is employed to monitor and control the day to day running of the LAN.

2.3. CRITERIA FOR PROPOSED LAN

The sharing of expensive peripherals such as expensive printers, high capacity disk drive, speciality devices and communication devices as well as application programs by users of the proposed system, will help in reducing cost effective and promote efficient services that would cater for future expansion.

Users of this system would be linked together and improved communication among members of staff thereby increasing the overall efficiency of the workers. Also, data processing maintenance services such as backup services and software installation services are shared.

The proposed LAN would also provide maximum security. The network file server ensures that users without proper access levels of data information are not allowed to access certain files.

2.4. PROPOSED APPLICATION SOFTWARE

The proposed system would be a complete DATABASE System. A date base is a software that co-ordinates the use of data bases. It is a collection of stored date which is organised in such a way that it satisfies all the organisational requirements. With a DBMs, application programs access the Database management system and this locates the desired piece of data. These data files are arranged such that they are independent of any particular hardware or application program. With this, data redundancy is minimised. Access to the files is not directly by the application, but the DBMS.

The essence of a DBMS is to provide an environment that is both convenient and efficient to use in retrieving information from a stored database.

2.5. ADVANTAGES OF DATABASE SYSTEM

With database, there is increase in the speed of access over the old file structure.

Data are a centralised controlled and maintained as a whole.

Dbase eliminates data redundancy Data integrity can be maintained Data independence is

achieved.

2.6. OBJECTIVES OF A DATABASE SYSTEM

The main objective of the database system for the proposed system is that it enables the user validate, sort, search and print records from database, as well as providing facilities for performing calculations and maintaining a dictionary.

Moreso, it permits the integration of existing files, improved accuracy and efficiency, protection of data from unauthorized users, enforced standardization and minimization of storage cost.

2.7. CHOICE OF DATABASE SYSTEM

There are three major approaches to database design, heretical, network and relational model.

Relational model is chosen for the design of the proposed system, because of its flexibility, user friendliness and degree of data security it exhibits over the other database models. Relational DBMS is conceptually simple and understandable by information system professionals and many end users it can evolve.

The database will be designed on the basis of what are referred to as relations which are twodimensional tables of data consisting of columns and rows. A relation is also known as an entity or record. The columns, which must be uniquely identified by a field name, are generally known as data elements or attributes as well as fields.

Relational model describes a relation by listing its column.

2.8 PROGRAMMING SOFTWARE

The programming language chosen to write the application software is DBase III.

2.9 FUNCTION OF PROPOSED APPLICATION SOFTWARE

The proposed software creates simple database applications, such as keeping names and addresses or inventory records. It can also be used to create complex applications such as general ledger, account receivable, account payable, payroll etc. It protects data from access by unauthorised users.

Database adds files, edits entries and recalling deleted entries.

Generates report to screen or printer.

It possess mathematical functions and it has the ability of maintaining a new system function.

These functions are applicable to banking operations in the following areas.

- Opening and Closing of Accounts.
- Updating of Customers records.
- Accurate mathematical operation in accounting system
- Processing and printing of customer statement, daily transaction and general report.
- Security and integrity of information processing in banking operations is ensured.

2.10 CRITERIA FOR THE PROPOSED APPLICATION SOFTWARE

The proposed software for savings accounting system for banks is designed to manage and maintain the banks database resources.

This application software is also made in form that would allow such banks to cope with future demands in terms of computer machines, more storage facilities changes in system and

incorporation of new system function due to data processing - no loss of information will be encountered during such processing.

It possess more powerful data structure and files organisation capabilities than other computing languages.

The software has the ability to share data among users.

High performance and efficiency is ensured.

Security and integrity is provided.

It enhances cost effectiveness as the turnover of managing a computerised system out-weighs that of the current manual setup in banks. The new system is made to give an efficient and effective economical system of operations.

2.11 PROJECT DEVELOPMENT PLAN

ACTIVITY	DURATION (WEEKS)		
Preliminary Investigation	4		
System Analysis	2		
System Design	2		
Program Development	5		
System Evaluation	2		

2.12 COST ANALYSIS OF PROPOSED SYSTEM

Development Cost	N: k		
Labour Cost (5 monts, N1,500 per month)	7,500.00		
System analysis cost	10,000.00		

New application Software	156,000.00
TOTAL	163,000.00
Operating Cost (proposed System	7,200.00
Labour Supply (N500 per month)	2,000.00
Maintenance Personnel (N1000 per month)	12,000.00
TOTAL	 21,200.00

Annual cost saving = N132,300.00

The operating cost is yearly consumption.

It is apparent that the manual system of operating savings account in banks is inefficient and time consuming. Therefore, for an effective improvement on this, it would be suggestive for banks to implement computer-based technique that would ensure a computerised savings account services based on the installation of local Area Network and Database application system. This is a most idea and cost effective solution to the tedious manual system.

2.13 BENEFITS ANALYSIS OF NEW SYSTEM

- Promotes greater job satisfaction.
- Increase in turnover of banking setup as more customers would patronise the bank due to

efficient and effective services.

- Real time services to customers
- Better use of resources available
- Reduction of paper work and physical storage areas.
- Conducive working atmosphere.
- Reduction in time spent in data processing.
- Minimises the frequent recurrence of errors.

CHAPTER THREE

PROPOSAL FOR THE COMPUTERIZATION PROCESS

3.1 RECOMMENDATION FOR THE PROPOSED SYSTEM

3.1.1 LOCAL AREA NETWORK

The computerization solution to the current manual system of savings account services in banks is the use of local area network.

The Local Area Network (LAN) shall be based on powerful personal computer, network file server, connected to a number of computers, workstations, by means of cables and Network Interface Cards (NICS). The workstations comprise a 80286 based computer, 80286 based diskette workstations and a 80386 (SX) desktop computer as the systems administrators computer.

3.1.2 THE FILE SERVER

For the role of dedicated network file server, the system with the processor chip based on 33 MHZ, 1486 (tower model), with zero wait state performance is recommended. The computer shall offer complete compatibility with the existing ones.

The network file server will be configured with 16Mb of random access memory (RAM) a fast 600 Mb hard drive upgradable to 2Gb (that is 2000 Mb) with a cache disk controller, a 14" VGA monochrome monitor (since the file server is dedicated) and an enhanced (102-key board).

3.13 WORKSTATIONS

High performance desktop computers based on a 286 micro processor running at 16NHz. The workstation would be with 2Mb of RAM which is upgraded to 4Mb, dual 3.5" floppy drives, 40Mb hard disk drive and enhanced (102-key) board.

A fast reliable and versatile computer like the other workstation is recommended for system is administrator's workstation. This is based on the 80386 (SX) microprocessors running at least 4Mb of RAM, an internal 300M5 tape backup unit, dual floppies (3.5 and 5.24) drives and enhanced (102-key) board.

Day to day running of the affairs of the LAN installation and updating of new software packages and regular system backup will be carried out at the administrators computer.

For display, the 286 desktop computer and system administrator's computer will be equipped with 14" VGA monochrome.

The diskless workstation are recommended to help the operating system in providing security and integrity of shared data and information files.

The workstations shall serve the savings account and the other banking divisions.

3.1.4 NETWORK INTERFACE HARDWARE.

The network interface recommended would be compatible with the network system. The interface hardware for the network consist of

- a. 16-bit ethernet adapter cards for the file server and the system administrator's computer.
- b.8-bit Ethernet adapter cards for the workstations.
- c. Thin Ethernet cabling the cable length depends on the site.
- d. Ethernet connectors and terminators.

However, an internal tape backup unit be installed on the system administrator's machine to

backup the data files in the file server.

3.1.5 PRINTER

A reliable dot-matrix printer is good for high quality office print job is required. The printer should be able to turnout impressive document at 330 character per second (CPS), and should have cost - effective memory upgrade. The printers will be installed on the network file server, a workstations in each sub-section of the savings account department and the system's administrator's computer.

However, it is recommended that an uninterrupted power system (UPS) be installed on the file server and all the workstations.

3.1.6 SOFTWARE

The software for this system shall be the network operating system interfaced with MS DOS, and the main banking application system for savings account customers services.

The operating system would have the following:

- 1. High performance file/data retrieval system.
- 2. Easy to learn, easy to use interface.
- 3. Customizable security.
- 4. Inherent fault tolerance
- 5. Shared resource facilities, such as local printer.

Also, general office automation and financial analysis packages (like lotus, word perfect and Dbase) required to facilitate some particular routines are also recommended.

3.1.7 OTHER SUPPORT

There is need for full maintenance and technical support of the machine by a reputable company and purchase of additional software to support all the acquired packages. A training for all staff is recommended.

Quality support is crucial to implementation of solution, without which, investment in the best hardware and software may result to nothing.

CHAPTER FOUR

MANUAL SYSTEM ANALYSIS

This stage gives a detailed picture of the pre-existing state of operations. The analysis of the manual savings account banking system is done through the use of the following tools - system flow diagram and algorithm.

There are internal functional areas, extend entities and document and physical resources involved in general manual setup of customer services in banks with emphasis on savings accounting system.

Inter Functional Areas:

Saving Account:

- Opening and closing of accounts
- Deposit and withdrawal of cash
- Customer Ledger update and inquiry.
- Interest payment.
- Transfer transactions.
- Generation of transaction reports
- Banks authorization techniques.

External Entities:

Customers

Bank Officials: - Clerks

- Cashier
- Supervisor
- Accountant
- Manager

List of document and physical resources. Customer bank account referred to as ledger. Receipt and payment scroll book. Deposit and withdrawal forms. Passbook.

See the illustration of the flow of transaction processes as involved in savings account operation (fig. 4.1)

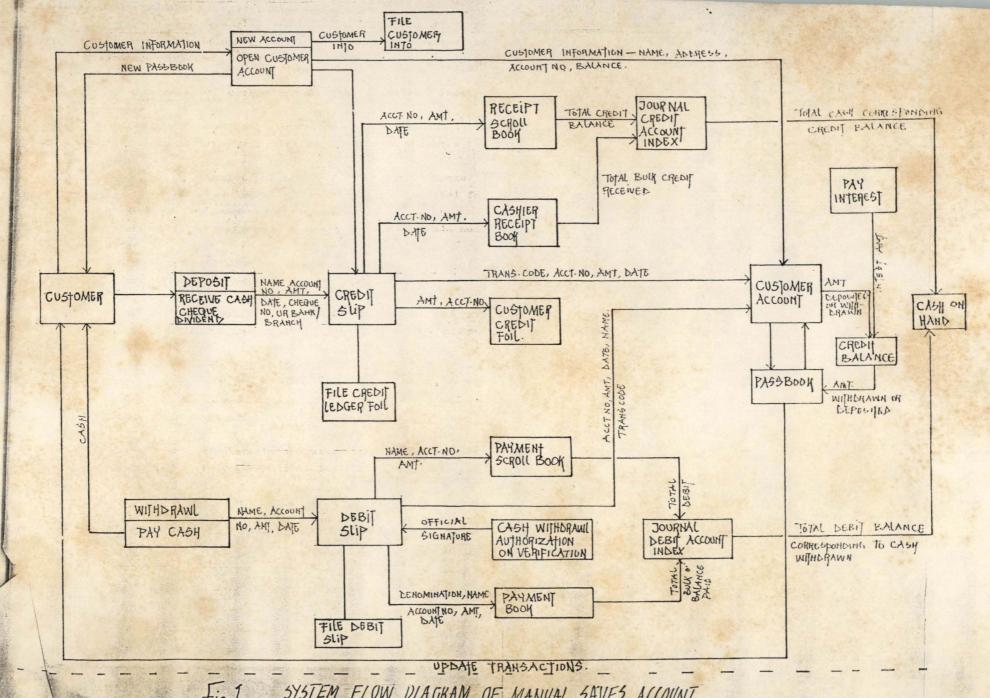


Fig 1 SYSTEM FLOW DIAGRAM OF MANUAL SAVES ACCOUNT OPERATIONS

CHAPTER FIVE

SYSTEM DESIGN AND DEVELOPMENT

The design of the proposed system involves the transformation of manual clerical operations into automated forms - this includes the development of the structure of the database files required (i.e. input specification), the design of the output screens (i.e. output specification) and the concise logical operation program for the new system.

Input Specifications:

Two database files were used in the system. They are the MASTER.dbf and CASH.dbf.

The program consists of four major sections. They are:-

RECORDS

This handles the information data records of customers. Entry of new records, update and inquiry, closing of accounts and listing of customer transactions history are carried out in this section.

TRANSACTIONS

This allows for savings account transactions such as credit and debit, transfer of cash, stop-

payment and balancing function to be carried out.

REPORTS

The report menu handles the listing of summarised enquiry which can also be printed out.

SYSTEM

The system menu comprises two parts; system security and system setup. The security subprogram is used to assign authorized access levels to users. While the setup ensures safe storage of data information on floppies.

EXIT

Terminates the execution of the application system to return to DOS prompt or environment.

CHAPTER SIX

SYSTEM IMPLEMENTATION

As earlier described the proposed system is designed in such a way to exhibit the characteristics mentioned in chapter four in order to be able to enhance greater achievement/performance in the proper required working environment.

To implement the system on installation of a computer, system diskettes of the proposed software is obtained. In the system diskette, the following files below are found.

- * .EXE
- * .NTX
- * .DBF

These files on the provided floppies are transferred or copied onto the hard disk of the computer to be used. The following steps are taken in installing the software;

Boot up the system

Insert system diskettes in flopping drive (A or B)

At the C > (prompt)

Type md bANK1 (make directory)

Enter and type cd BANK1 (change directory)

At C:BANK1>

Type - copy A:*.*

Type bank1

Enter

This loads the system from the hard disk onto the ROM. The "COMPUTERIZED SAV-

INGS ACCOUNT SYSTEM" logo is displayed. After some seconds, the introduction screen is displayed. This screen asks for users password to gain access into the system. If password is correct

entry into the system working environment is allowed else

try again

loop

and

On recognition of password, Screen 1 (above) is displayed. The system is menu-driven as it allows easier interaction with the user.

Description of the windows are shown in the appendices.

CONCLUSION AND RECOMMENDATION

This project "COMPUTERIZED SAVINGS ACCOUNT SYSTEM" is a general study taken on the operations of Savings Account customer services in banks.

It should be borne in mind that this project based on system analysis and design is a typical example of proper computerization process that can be followed in banking automation in this present age.

With the basic knowledge of the problems and objectives of banks savings account activities, the project can be refined or modified to suite a banks' requirement within available resources.

Given more time for further development, it is recommended that the following areas listed below are looking into the bring the project to a more advanced stage.

- -Multi-user password security.
- -Detailed knowledge of general ledger operations.

Also, there is need for further study on the future implementation of a Wide Area Network (WAN) in banking computerization process.

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```
*****
*BANK.PRG
******
set talk off
set stat off
set scor off
set echo off
set bell off
set date brit
clea
do whil .t.
 @ 0,8 to 24,71 doub
  @ 2,9 to 2,70 doub
  @ 3.44 to 21.44 doub
  @ 13,9 to 13,70 doub
  @ 22,9 to 22,70 doub
  @ 5,10 to 11,42
  @ 5,46 to 11,69
  @ 16,10 to 20,42
  @ 16,46 to 20,69
  @ 4,20 to 6,32
  @ 4,51 to 6,64
  @ 15,22 to 17,30
  @ 15,54 to 17,59
  @ 1,23 say 'MERRY MORTGAGE BANK - MINNA BRANCH'
  @ 5,21 say 'MAINTENANCE'
  @ 5,52 say 'MAIN PROCESS'
  @ 16,23 say 'REPORTS'
  @ 16,55 say 'EXIT'
  @ 7,11 say 'A... New Customer Entry'
  @ 8,11 say "B... Modifying Customer's Record"
  @ 9,11 say "C...Viewing Customer's Record"
  @ 10,11 say "D...Deleting Customer's Record"
  @ 8,47 say 'E... Transaction Entry'
  @ 9,47 say 'F...Computing Interest'
  @ 18,11 say 'G...List of Daily Transaction'
  @ 19,11 say 'H... Monthly Reports'
  @ 18,52 say 'Q...Q U I T'
  @ 23,18 say 'Enter your choice (A,B,C,D,E,F,G,H or Q):'
  do whil .t.
   ch=' '
    @ 23,61 get ch pict '!'
    if ch='A' .or. ch='B' .or. ch='C' .or. ch='D' .or. ch='E';
      .or. ch='F' .or. ch='H' .or. ch='G' .or. ch='Q'
      exit
    endi
  endd
  do case
    case ch='A'
      do add
    case ch='B'
      do modify
    case ch='C'
      do view
```

```
case ch='D'
     do delete
    case ch='E'
     do trans
    case ch='F'
    do int
   case ch='G'
    do repl
   case ch='H'
    do rep2
    case ch='Q'
    exit
  endc
endd
clos data
clea
retu
*****
*ADD. PRG
*****
clea
store ctod(" / ./ ") to mdate
mdate=date()
@ 0,6 to 24,73 doub
@ 0,22 to 2,57 doub
@ 4,7 to 4,72
@ 3,27 to 5,51
@ 20,7 to 20,72
@ 1,23 say 'MERRY MORTGAGE BANK - MINNA BRANCH'
@ 4,28 say "NEW CUSTOMER ENTRY FORM"
@ 6,57 say "DATE:"
set colo to
@ 6,63 say mdate
set colo to
@ 7,7 say "ACCOUNT NUMBER (Enter '9999999999' to Exit):"
Do while .t.
  use master
  store 0 to mbal
  store spac(20) to msname, mfname
  store spac(25) to monames
 store spac(30) to mocc
 store spac(40) to maddr1, maddr2
 store spac(10) to mtrans
 store spac(1) to msex, mstat
 store spac(11) to macct_no
 @ 7,53 get macct no pict '@!'
 if macct no="99999999999"
   exit
 endi
 Loca for acct_no=macct_no
 if found()
   @ 22,24 say "CUSTOMER'S NUMBER ALREADY EXIST"
```

```
@ 23,27 say 'Press any key to continue'
 set cons off
 wait
 set cons on
 @ 22,20 clear to 23,60
 Loop
endi
do while .t.
 @ 9,7 say "SURNAME:"
 @ 9,41 say "FIRST NAME:"
 @ 11,7 say "OTHER NAMES:"
 @ 11,47 say "MARITAL STATUS[S or M]:"
 @ 13,7 say "OCCUPATION:"
 @ 13,51 say "SEX [Enter M or F]:"
 @ 15,7 say "RESIDENTIAL ADDRESS:"
 @ 17,7 say "POSTAL ADDRESS:"
 @ 19,7 say "OPENING BALANCE: #"
  @ 9,16 get msname pict '@!'
 @ 9,53 get mfname pict '@!'
 @ 11,20 get monames pict '@!'
 @ 11,71 get mstat pict '!'
 @ 13,19 get mocc pict '@!'
 @ 13,71 get msex pict '!'
  @ 15,28 get maddr1 pict '@!'
 @ 17,23 get maddr2 pict '@!'
 @ 19,25 get mbal pict "999,999,999,999.99"
  read
  ch=spac(1)
  @ 22,10 say '(S)ave entry (R)epeat entry (A)bandon entry'
  @ 23,30 say 'Enter your choice: '
  do whil .t.
   ch=' '
   @ 23,49 get ch pict '!'
    if ch='S' .or. ch='R' .or. ch='A'
     exit
    endi
   loop
  endd
  if ch="S"
   append blank
   repl acct_no with macct_no
   repl sname with msname
   repl fname with mfname
   repl onames with monames
   repl occ with mocc
   repl sex with msex
   repl addrl with maddrl
   repl addr2 with maddr2
   repl trans with 'OPENING'
   repl bal with mbal
   repl amount with mbal
   repl stat with mstat
   repl ldate with mdate
   repl odate with mdate
```

```
exit
   endi
   if ch="R"
    @ 22,7 clea to 23,70
     Loop
   endi
   exit
  enddo
  @ 8,7 clea to 19,72
  @ 21,7 clea to 23,72
clea
close all
Return
******
*MODIFY.PRG
*****
clea
store ctod(" / / ") to mdate
mdate=date()
@ 0,6 to 24,73 doub
@ 0,22 to 2,57 doub
@ 4,7 to 4,72
@ 3,29 to 5,49
@ 20,7 to 20,72
@ 1,23 say 'MERRY MORTGAGE BANK - MINNA BRANCH'
@ 4,30 say "DATA EDITING SCREEN"
@ 6,57 say "DATE:"
set colo to
@ 6,63 say mdate
set colo to
use master
@ 7,7 say "ACCOUNT NUMBER (Enter '9999999999' to Exit):"
Do while .t.
  GO TOP
  stor spac(11) to macct_no.
  @ 7,53 get macct_no
  read
  if macct_no="99999999999"
    exit
  endi
  Loca for acct_no=macct_no
  if .not. found()
    @ 22,24 say "CUSTOMER'S NUMBER DOES NOT EXIST"
    @ 23,28 say 'Press any key to continue'
    set cons off
    wait
   set cons on
    @ 22,7 clea to 23,70
    Loop
  endi
  msname=sname
  mfname=fname
```

```
monames=onames
 mstat=stat
 mocc=occ
 maddr1=addr1
 maddr2=addr2
 do while .t.
    @ 9,7 say "SURNAME:"
    @ 9,41 say "FIRST NAME:"
    @ 11,7 say "OTHER NAMES:"
   @ 13,7 say "MARITAL STATUS [S or M]:" @ 15,7 say "OCCUPATION:"
    @ 17,7 say "RESIDENTIAL ADDRESS:"
    @ 19,7 say "POSTAL ADDRESS:"
    @ 9,16 get msname pict '@!'
    @ 9,53 get mfname pict '@!'
    @ 11,20 get monames pict '@!'
    @ 13,32 get mstat pict '!'
    @ 15,19 get mocc pict '@!'
    @ 17,28 get maddr1 pict '@!'
    @ 19,23 get maddr2 pict '@!'
    read
    ch=spac(1)
    @ 22,10 say '(S)ave entry (R)epeat entry (A)bandon entry'
    @ 23,30 say 'Enter your choice:'
    do whil .t.
      ch=' '
      @ 23,49 get ch pict '!'
      if ch='S' .or. ch='R' .or. ch='A'
       exit
      endi
      loop
    endd
    if ch="S"
      append blank
      repl acct no with macct no
     repl sname with msname
      repl fname with mfname
      repl onames with monames
      repl occ with mocc
      repl addrl with maddrl
      repl addr2 with maddr2
      exit
    endi
    if ch="R"
     @ 22,7 clea to 23,70
     Loop
    endi
    exit
  enddo
 @ 8,7 clea to 19,72
 @ 21,7 clea to 23,72
endd
clea
close all
```

```
*****
*VIEW. PRG
******
clea
use master
store ctod(" / / ") to mdate
mdate=date()
@ 0,6 to 24,73 doub
@ 0,22 to 2,57 doub
@ 4,7 to 4,72
@ 3,29 to 5,49
@ 21,7 to 21,72
@ 1,23 say 'MERRY MORTGAGE BANK - MINNA BRANCH'
@ 4,30 say "DATA VIEWING SCREEN"
@ 6,7 say "ACCOUNT NUMBER (Enter '9999999999' to Exit):"
Do while .t.
  go top
  stor spac(11) to macct_no
  @ 6,53 get macct_no pict '@!'
  read
  if macct no="99999999999"
    exit
  endi
  Loca for acct_no=macct_no
  if .not. found()
    @ 22,24 SAY "CUSTOMER'S NUMBER DOES NOT EXIST"
    @ 23,27 say 'Press any key to continue'
    set cons off
    wait
    set cons on
    @ 22,20 clear to 23,60
    Loop
  endi
  modate=odate
  msname=sname
  mfname=fname
  monames=onames
  mstat=stat
  msex=sex
  mocc=occ
  maddr1=addr1
  maddr2=addr2
  mtrans=trans
  mbal=bal
  mldate=ldate
  @ 8,7 say 'DATE ACCOUNT OPENED:'
  set colo to n/w
  @ 8,28 say modate
  set colo to
  @ 8,45 say "DATE LAST UPDATED:"
  set colo to n/w
  @ 8,64 say mldate
```

```
set colo to
  @ 10,7 say "SURNAME:"
 @ 10,41 say "FIRST NAME:"
@ 12,7 say "OTHER NAMES:"
  @ 12,48 say "MARITAL STATUS:"
  @ 12,67 say "SEX:"
 @ 14,7 say "OCCUPATION:"
  @ 16,7 say "RESIDENTIAL ADDRESS:"
 @ 18,7 say "POSTAL ADDRESS:"
  @ 20,7 say "CURRENT BALANCE: #"
  @ 10,16 get msname pict '@!'
  @ 10,53 get mfname pict '@!'
 @ 12,20 get monames pict '@!'
 @ 12,63 get mstat pict '!'
 @ 12,71 get msex pict '!'
  @ 14,19 get mocc pict '@!'
  @ 16,28 get maddr1 pict '@!'
  @ 18,23 get maddr2 pict '@!'
 @ 20,25 get mbal pict "999,999,999,999.99"
  clea gets
  @ 23,27 say 'Press any key to continue'
  set cons off
  wait
  set cons on
  @ 7,7 clea to 20,72
  @ 22,7 clea to 23,72
  loop
endd
clea
close all
Return
******
DELETE, PRG
******
clea
use master
store ctod(" / / ") to mdate
mdate=date()
@ 0,6 to 24,73 doub
@ 0,22 to 2,57 doub
@ 4,7 to 4,72
@ 3,29 to 5,50
@ 21,7 to 21,72
@ 1,23 say 'MERRY MORTGAGE BANK - MINNA BRANCH'
@ 4,30 say "DATA DELETING SCREEN"
@ 6,7 say "ACCOUNT NUMBER (Enter '9999999999' to Exit):"
Do while .t.
  go top
  stor spac(11) to macct_no
 @ 6,53 get macct_no pict '@!'
  if macct_no="99999999999"
    exit
```

```
endi
Loca for acct_no=macct_no
if .not. found()
  @ 22,24 SAY "CUSTOMER'S NUMBER DOES NOT EXIST" @ 23,27 say 'Press any key to continue'
  set cons off
  wait
  set cons on
  @ 22,20 clear to 23,60
  Loop
endi
modate=odate
msname=sname
mfname=fname
monames=onames
mstat=stat
msex=sex
mocc=occ
maddr1=addr1
maddr2=addr2
mtrans=trans
mbal=bal
mldate=ldate
@ 8,7 say 'DATE ACCOUNT OPENED:'
set colo to n/w
@ 8,28 say modate
set colo to
@ 8,45 say "DATE LAST UPDATED:"
set colo to n/w
@ 8,64 say mldate
set colo to
@ 10,7 say "SURNAME:"
@ 10,41 say "FIRST NAME:"
@ 12,7 say "OTHER NAMES:"
@ 12,48 say "MARITAL STATUS:"
@ 12,67 say "SEX:"
@ 14,7 say "OCCUPATION:"
@ 16,7 say "RESIDENTIAL ADDRESS:"
@ 18,7 say "POSTAL ADDRESS:"
@ 20,7 say "CURRENT BALANCE: #"
@ 10,16 get msname pict '@!'
@ 10,53 get mfname pict '@!'
@ 12,20 get monames pict '@!'
@ 12,63 get mstat pict '!'
@ 12,71 get msex pict '!'
@ 14,19 get mocc pict '@!'
@ 16,28 get maddr1 pict '@!'
@ 18,23 get maddr2 pict '@!'
@ 20,25 get mbal pict "999,999,999,999.99"
clea gets
ch='
@ 23,23 say 'TO DELETE THIS RECORD (Y or N):'
do whil, .t.
  @ 23,55 get ch pict '!'
```

```
read
    if ch='Y' .or. ch='N'
      exit
    endi
  endd
  @ 23,20 clea to 23,60
  if ch='Y'
    dele
    pack
    @ 22,31 say 'RECORD IS DELETED'
  else
    @ 22,29 say 'RECORD IS NOT DELETED'
  endi
  @ 23,27 say 'Press any key to continue'
  set cons off
  wait
  set cons on
  @ 7,7 clea to 20,72
  @ 22,7 clea to 23,72
  loop
endd
clea
close all
Return
******
TRANS. PRG
******
clea
mdate=date()
use trans
if .not. eof()
  if date <> mdate
   use btrans
   appe from trans.dbf
   use trans
    zap
  endi
endi
sele 1
 use master
sele 2
 use trans
@ 0,6 to 24,74 doub
@ 0,22 to 2,57 doub
@ 4,7 to 4,73
@ 3,32 to 5,56
@ 20,7 to 20,73
@ 1,23 say 'MERRY MORTGAGE BANK - MINNA BRANCH'
@ 4,33 say "DEPOSIT/WITHDRAWAL FORM"
@ 6,57 say "DATE:"
@ 6,63 say mdate
@ 7,7 say "ACCOUNT NUMBER (Enter '9999999999' to Exit):"
do whil .t.
```

```
stor spac(11) to macct_no
stor spac(1) to mtrans
stor 0 to mamt
sele 1
go top
@ 7,53 get macct_no pict '@!'
if macct_no='9999999999'
  exit
endi
loca for acct_no=macct_no
ch1=' '
if .not. found()
  @ 21,33 say 'Account Number not found.'
  @ 23,33 say 'Press "C" to Continue:'
 do whil .t. ch1=','
    @ 23,56 get ch1 pict '!'
   read
    if ch1='C'
     exit
    endi
  endd
  if ch1='C'
   @ 21,30 clea to 23,60
    loop
  endi
endi
mbal=bal
@ 9,7 say 'SURNAME:'
@ 9,41 say 'FIRST NAME:'
@ 11,7 say "OTHER NAMES:"
@ 13,7 say 'TRANSACTION(Enter "D" for DEPOSIT or "W";
           for WITHDRAWAL):'
@ 15,7 say "CURRENT BALANCE:#"
@ 17,7 say "TRANSACTION AMOUNT: #"
set color to n/w
@ 9,16 say sname
@ 9,53 say fname
@ 11,20 say onames
@ 15,25 say mbal pict "999,999,999.99"
set color to
do whil .t.
  do whil .t.
    @ 13,65 get mtrans pict '!'
    read
    if mtrans="D" .or. mtrans="W"
      exit
    endi
    mtrans=' '
  endd
  set color to n/w
  if mtrans="D"
    @ 13,66 say "EPOSIT"
  else
```

```
endi
set color to
ch2=' '
do whil .t.
  @ 17,28 get mamt pict '999,999.99'
  if mtrans='W'
    ch2=' '
    if mamt+100>mbal
      set colo to n/w
      if mamt>mbal
        @ 21,27 say "OVERDRAFT is not allowed."
      else
        @ 21,22 say "CUSTOMER'S BALANCE is below #100.00."
      endi
      @ 23,19 say 'Press "R" for RE-ENTRY or "A" for ABANDON:'
      set colo to
      do whil .t.
       ch2=' '
        @ 23,62 get ch2 pict '!'
        read
        if ch2='R' .or. ch2='A'
          @ 21,15 clea to 23,65
          exit
        endi
      endd
      if ch2='R'
        mamt=0
        loop
      else
        exit
      endi
    endi
    nbal=mbal-mamt
    nbal=mbal+mamt
  endi
  exit
endd
if ch2='A'
  exit
endi
@ 19,7 say "NEW BALANCE: #"
set colo to n/w
@ 19,21 say nbal pict '999,999,999.99'
@ 21,16 say '(S)ave entry (R)epeat entry (A)bandon entry'
@ 23,30 say 'Enter your choice:'
set colo to
do whil .t.
  @ 23,49 get ch3 pict '!'
  if ch3='S' .or. ch3='R' .or. ch3='A'
    exit
  endi
```

```
endd
    @ 21,16 clea to 23,65
    if ch3='R'
      @ 13,66 clea to 13,72
      loop
    endi
    exit
  endd
  if ch2='A'
    @ 9,7 clea to 19,73
    loop
  endi
  @ 9,7 clea to 19,73
  if ch3='S'
    repl bal with nbal
    repl ldate with mdate
    repl amount with mamt
    sele 2
    appe blan
   repl date with mdate
    repl acct_no with macct_no
    repl trans with mtrans
    if mtrans='D'
     repl credit with mamt
    else
      repl debit with mamt
    endi
  endi
endd
clos data
clea
retu
*****
INT.PRG
*****
@ 23,15 say spac(50)
@ 23,22 say 'STATUS: Calculating Interest - WAIT'
use master
do whil .not. eof()
 mbal=bal
 mint=2.5/100*mbal/12
 mbal=mbal+mint
 repl int with mint
 repl bal with mbal
  skip
endd
@ 23,22 say spac(40)
@ 23,17 say 'INTEREST COMPUTATION COMPLETED - Press any key'
set cons off
wait
set cons on
@ 23,17 say spac(50)
Retu
```

```
******
REP1.PRG
******
use trans
sort on trans to transl.dbf
copy file transl.dbf to trans.dbf
erase transl.dbf
use trans
mdate=date
@ 1,19 say "LIST OF DAILY TRANSACTIONS AS AT " +dtoc(mdate) if trans= 'D'
set devi to prin
  mtrans2='DEPOSIT'
else
  mtrans2= 'WITHDRAWAL'
endi
@ 3,3 say "TRANSACTION: "+mtrans2
@ 5,3 say "ACCOUNT NO"
@ 5,18 say "CUSTOMER'S NAME"
@ 5,48 say "AMOUNT"
@ 5,62 say "CURRENT BALANCE"
r=5
mt=trans
do whil .not. eof()
  mtrans=trans
  if mtrans<>mt
    mt=trans
    eject
    @ 1,19 say "LIST OF DAILY TRANSACTIONS AS AT " +dtoc(mdate)
    if mtrans= 'D'
      mtrans2= 'DEPOSIT'
    else
      mtrans2= 'WITHDRAWAL'
    endi
    @ 3,3 say "TRANSACTION: "+ mtrans2
    @ 5,18 say "CUSTOMER'S NAME"
    @ 5,3 say "ACCOUNT NO"
    @ 5,48 say "AMOUNT"
    @ 5,62 say "CURRENT BALANCE"
    r=5
  endi
  if r>50
    eject
    @ 1,19 say "LIST OF DAILY TRANSACTIONS AS AT" +dtoc(mdate) @ 3,3 say "TRANSACTION: "+mtrans2
    @ 5,3 say "ACCOUNT NO"
    @ 5,18 say "CUSTOMER'S NAME"
    @ 5,48 say "AMOUNT"
    @ 5,62 say "CURRENT BALANCE"
    r=5
  endi
  macct_no=acct_no
```

```
msname=sname
 mfname=fname
 moname=oname
 if mfname <> spac(20)
   mfname=left(mfname,1)+'.'
 endi
 if moname <> spac(25)
   moname=left(moname,1)+'.'
 endi
 name=rtrim(msname)+ ', '+rtrim(mfname)+rtrim(moname)
 if mtrans= 'D'
   mamt=credit
 else
    mamt=debit
 endi
 mbal=bal
 r=r+1
 @ r,3 say macct_no
 @ r,18 say name
 @ r,46 say mamt
 @ r,62 say mbal
  skip
endd
clea
retu
******
*REP2.PRG
*****
use btrans
mth=cmonth(date)
yr=year(date)
yr=ltrim(str(yr))
sort on acct_no to btrans1.dbf
copy file btransl.dbf to btrans.dbf
erase btrans1.dbf
set devi to prin
@ 1,51 say "MONTHLY REPORT FOR "+upper(mth)+', '+yr
@ 4,6 say "ACCOUNT NO."
@ 4,20 say "CUSTOMER'S NAME"
@ 4,51 say "OLD BALANCE"
@ 4,66 say "TOTAL DEPOSIT"
@ 4,82 say "TOTAL WITHDRAWAL"
@ 4,101 say "INTEREST"
@ 4,112 say "CURRENT BALANCE"
@ 5,6 say repl('-',120)
r=5
sele 1
 use master
sele 2
 use btrans
sele 1
stor 0 to tot1, tot2, gtot1, gtot2, gint, gbal
```

```
do whil .not. eof()
  macct no=acct no
  msname=sname
  mfname=fname
  moname=oname
  if mfname <> spac(20)
    mfname=left(mfname,1)+'.'
  endi
  if moname <> spac(25)
    moname=left(moname,1)+'.'
  name=rtrim(msname)+ ', '+rtrim(mfname)+rtrim(moname)
  mint=int
  mbal=bal
  sele 2
  go top
  set filter to acct_no=macct_no
  sum debit to tot1
  sum credit to tot2
  gtot1=gtot1+tot1
  gtot2=gtot2+tot2
  gint=gint+mint
  obal=mbal+tot1-tot2-mint
  r=r+1
  @ r,6 say macct no
  @ r,20 say name
  @ r,49 say o bal pict '999,999,999.99'
  @ r,66 say tot2 pict '99,999,999.99'
  @ r,83 say tot1 pict '99,999,999.99'
  @ r,101 say mint pict '9,999.99'
  @ r,112 say mbal pict '999,999,999.99'
  sele 1
  skip
  if r>50
    eject
    @ 1,51 say "MONTHLY REPORT FOR "+upper(mth)+', '+yr
    @ 4,6 say "ACCOUNT NO."
    @ 4,20 say "CUSTOMER'S NAME"
    @ 4,51 say "OLD BALANCE"
    @ 4,66 say "TOTAL DEPOSIT"
    @ 4,82 say "TOTAL WITHDRAWAL"
    @ 4,101 say "INTEREST"
    @ 4,112 say "CURRENT BALANCE"
    @ 5,6 say repl('-',120)
    r=5
  endi
endd
r=r+5
if r>43
  eject
 r=5
endi
@ r,6 say "Total Deposit for the Month = #"
@ r,37 say tot2 pict '999,999,999,999,999.99'
@ r+3,6 say "Total Withdrawal for the Month = #"
```

@ r+3,40 say totl pict '999,999,999,999,999.99'
@ r+6,6 say "Total Interest Paid for the month = #"
@ r+6,43 say mint pict '999,999,999'
@ r+9,6 say "Total Customers' Balances for the Month = #"
@ r+9,49 say mbal pict '999,999,999,999,999,999,999.99'
set devi to scre
retu

MAINTENANCE A...New Customer Entry B...Modifying Customer's Record C...Viewing Customer's Record D...Deleting Customer's Record G...List of Daily Transaction H...Monthly Reports Enter your choice (A,B,C,D,E,F,G,H or Q):

DATA DELETING SCREEN -

ACCOUNT NUMBER (Enter '99999999999' to Exit): 87654321

DATE ACCOUNT OPENED: 01/02/95 DATE LAST UPDATED: 01/02/95

SURNAME: ROSELYN FIRST NAME: UNUEROH

OTHER NAMES:

MARITAL STATUS:S SEX:F

OCCUPATION: JOURNALIST

RESIDENTIAL ADDRESS: SHIRORO ROAD, TUDUN WADA, MINNA.

POSTAL ADDRESS: NEWSLINE PUBLICATION, MINNA.

CURRENT BALANCE: # 5,000.00

TO DELETE THIS RECORD (Y or N):

DATA VIEWING SCREEN

ACCOUNT NUMBER (Enter '9999999999' to Exit): 87654321

DATE ACCOUNT OPENED: 01/02/95 DATE LAST UPDATED: 01/02/95

SURNAME: ROSELYN FIRST NAME: UNUEROH

OTHER NAMES:

MARITAL STATUS:S SEX:F

OCCUPATION: JOURNALIST

RESIDENTIAL ADDRESS: SHIRORO ROAD, TUDUN WADA, MINNA.

POSTAL ADDRESS: NEWSLINE PUBLICATION, MINNA.

CURRENT BALANCE: # 5,000.00

Press any key to continue

DATA EDITING SCREEN

DATE: 01/02/95

ACCOUNT NUMBER (Enter '9999999999' to Exit): 87654321

SURNAME: ROSELYN FIRST NAME: UNUEROH

OTHER NAMES:

MARITAL STATUS [S or M]: S

OCCUPATION: JOURNALIST

RESIDENTIAL ADDRESS: SHIRORO ROAD, TUDUN WADA, MINNA.

POSTAL ADDRESS: NEWSLINE PUBLICATION, MINNA.

(S) ave entry (R) epeat entry (A) bandon entry Enter your choice:

DEPOSIT/WITHDRAWAL FORM

ACCOUNT NU

DATE: 01/02/95

SURNAME: RMBER (Enter '9999999999' to Exit): 87654321

OTHER NAMEOSELYN

FIRST NAME: UNUEROH

TRANSACTIOS:

CURRENT BAN(Enter "D" for DEPOSIT or "W" for WITHDRAWAL): WITHDRAW

LANCE: # 5,000.00

TRANSACTION AMOUNT:# 1,000.00

NEW BALANCE: # 4,000.00

(S) ave entry (R) epeat entry (A) bandon entry

Enter your choice:

NEW CUSTOMER ENTRY FORM

DATE: 01/02/95

ACCOUNT NUMBER (Enter '9999999999' to Exit): 87654321

SURNAME: ROSELYN FIRST NAME: UNUEROH

OTHER NAMES: MARITAL STATUS[S or M]: S

OCCUPATION: JOURNALIST SEX [Enter M or F]: F

RESIDENTIAL ADDRESS: SHIRORO ROAD, TUDUN WADA, MINNA.

POSTAL ADDRESS: NEWSLINE PUBLICATION, MINNA.

OPENING BALANCE: # 5,000.00

(S) ave entry (R) epeat entry (A) bandon entry Enter your choice: