

**AUTOMATED CHEQUE CLEARING SYSTEM IN  
COMMERCIAL BANKING SECTOR  
(A CASE STUDY OF FIRST BANK OF NIGERIA PLC  
AGBOR, DELTA STATE)**

**BY**

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PGD/MCS/658/97/98**

**DEPARTMENT OF MATHEMATICS COMPUTER  
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**APRIL, 2000**

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**BEING A PROJECT SUBMITTED TO THE  
DEPARTMENT OF MATHEMATICS/COMPUTER  
SCIENCE, FEDERAL UNIVERSITY OF  
TECHNOLOGY, MINNA, NIGER STATE**

**IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE AWARD OF POST  
GRADUATE DIPLOMA DEGREE IN  
MATHEMATICS WITH COMPUTER SCIENCE**

**APRIL, 2000**

## **CERTIFICATION**

I, the undersigned hereby certified that this work is the true work of Mr. AKINJISOLA, OJO OLUSHIJI and it has been carried out under my supervision.

I hereby also certify that this project work is adequate in scope and qualify as the requirement for the partial fulfilment for the award of Post Graduate Diploma Mathematics and Computer Science (MCS).

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## **DEDICATION**

In appreciation of her immeasurable concern, love and sacrifice for my success in life, this project is specially dedicated to my beloved mother **MRS. J. A. AKINJISOLA**

Thank you and God bless

## **ACKNOWLEDGEMENT**

I wish to thank and praise the **ALMIGHTY GOD**, without whom there would have been nothing like me.

While I take full responsibility for any short-comings that may exist in this work, I must acknowledge my indebtedness and profound gratitude to a number of people whose assistance has helped a great deal in bringing this project to its final stage.

I am especially grateful to my project supervisor, Dr. Aiyesimi Y. M. of Department of Mathematics Computer Science, Federal University of Technology, Minna for his keen attention, guidance, suggestions and continuous perseverance and also with all thoroughness in going through the various stage of this work. Moreover, for his availability at all times which immensely contributed to the successful completion of the work and on schedule.

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m y     m i n d     f o r     e v e r .

My sincere appreciation goes to my friend Ngozi A. (Miss) for her moral inspiration, understanding and endurance during the period of  
m y   a b s e n c e   f r o m   t h e   e n v i r o n m e n t .

## **ABSTRACT**

This project, Automated cheque clearing system in commercial banking sector with respect to First Bank of Nigeria Plc, Agbor was developed to improve the manual operating procedure in cheque clearing system generally. This was achieved through the use of computer. The system will in no doubt facilitate the speed and accuracy of processing cheques as computer is known for its accuracy in data processing worldwide.

Sequel to this, the project is designed to guide anybody that chooses to use the system, to do so without encountering difficulties due to inability to understand the basic concepts and logic behind the design.

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## **REFERENCES**



## **CHAPTER ONE**

### **INTRODUCTION AND OBJECTIVE OF THE PROJECT**

#### **1.0 GENERAL INTRODUCTION**

The era of manual operations in the banking industry is gradually being phased out and is now being replaced by computer. As the society is fast growing into a greater complexity, experience has shown that innovation of computer in cheque clearing system will no doubt facilitate the speed and accuracy of processing cheques as computer is known for its accuracy in data processing.

Every business in general, regardless of its size or purpose is concerned with processing facts and data about its operation in order to provide current accurate information to management and customers.

Cheque clearing is often said to be the language of banking business. Therefore, conducting a banking business involves a number of transactions. Cheque is a written order usually on a printed form to a Bank authorising payment and is also used as a medium of exchange. It could also be used by the drawer to collect real money from the Bank or for deferred payment. In the paragraph 2 of the bill of exchange Act 1882, a cheque is said to be a bill of exchange drawn upon a Banker payable on demand. A firm that is unable to ascertain its profit with a fair degree of accuracy is liable to make excessive loss and this might lead to distressness in the system.

Cheque clearing systems of a Bank were known initially to operate manually but as a result of technological innovations, computers are to substitute the whole system. The researcher found out that it is necessary to get the cheque clearing system computerised because of the complexities involved, such as balancing, updating of accounts, and reporting of the transactions.

While you are thinking of the real thing, computer system, mention should also be made about its back-up, in case of future eventualities.

The computer is known for its accuracy, speed in computation and storage capability. Sometimes we ask ourselves that question 'why has the computer been so successfully applied to so many tasks?'

The characteristics listed below provide the key as it applied to the topic in question:

a] **Speed of Computation and Retrieval of Information**

The speed of computation is such that millions of operations and calculation can take place in a second. For example, obtaining an up-to-date statement of customers account in the bank.

b] **Accuracy of Computation and Movement of Information**

The accuracy of the machine is consistently good no matter how many times operations are carried out. Methods of error dictation are built into the design of computer to guide against mistakes occurring as information is manipulated and moved from one part of the computer system to another.

c] **Storage Capability including Secondary Storage for the Retention of Information on a Permanent Basis**

The memory of the machine enables a computer program of instruction to be held in the store. And this in turn makes the running of a program fully automatic.

Secondary storage can be added to a computer system to enable information to be retained on a permanent basis. This information can be retrieved quickly and brought into the main memory when required.

The banking industry today is faced with serious competition and no bank would want to be at the background, this is simply because no customers would patronise banks that wastes precious time.

It is indeed in this regard that the researcher decided to carry out the project, automated cheque clearing system in First Bank of Nigeria Plc, Agbor in Delta

State to minimize cost and maximise profit in the banking transaction.

## **1.2 BACKGROUND OF THE STUDY**

The First Bank of Nigeria Plc, Agbor Delta State was incorporated in December, 5, 1956. The bank is active in all aspects of commercial banking, share registration and computer services through specialized divisions.

As a good corporate citizen, First Bank of Nigeria is strongly committed to its social responsibilities and identifies with the communication in which it is represented.

The cheque clearing system of the bank were known initially to operate manually but as a result of technological innovation, computers now are to substitute the whole system. The researcher found out that it is necessary to get the cheque clearing system computerised because of the complex assignments, such as balancing, updating of accounts, and reporting of transactions.

Aggressive business promotion strategy coupled with a willingness to innovate has earned the bank an enviable position in the banking industry.

## **1.3 SIGNIFICANCE OF THE STUDY**

The objective of this project is to be able to achieve for First Bank of Nigeria Plc,

Agbor, a sound and secure computerised cheque clearing system which will ensure adequate ease and speed in cheque transactions, accuracy and an up-to-date information on account.

The need to obtain detailed account statement of customers will be met, maintenance of the accounts, in case of any change, since change is inevitable. Data input facilities for cash cheque, credit or debt operational will also be met.

Report lists which include a list of all customers of First Bank of Nigeria Plc, Agbor will also be obtained.

Generally, the system will be designed with the above objectives.

#### **1.4 DIFFERENT TYPES OF CHEQUE TRANSACTIONS IN FIRST BANK OF NIGERIA PLC, AGBOR**

The bank operates six different types of cheque transactions namely:

- a] Personal cheque
- b] Business cheque
- c] Government cheque
- d] Association cheque
- e] Bank cheque and
- f] Bank draft

## **PERSONAL CHEQUE**

This is a cheque drawn on a personal account, that is, cheque drawn on account which is operated by an individual.

The cheques contains the following:

- a] Date
- b] Payee's name
- c] Amount in words and figures
- d] Signature of the account holder
- e] Cheque number
- f] Bank branch code

## **BUSINESS CHEQUE**

This cheque is drawn on a business account - That is a cheque issued by a business concern. All the information contained in the personal cheque are also in the business cheque except that the signature of the account holder might be more than one, depending on its mandate with the bank. The signature may carry a seal of the business concern.

## **GOVERNMENT CHEQUE**

It is a cheque that is drawn by the government on its account with the bank. The

information in the government cheque is the same as the business concern.

### **ASSOCIATION CHEQUE**

This is a cheque issued by an association made payable to third parties occasionally. Example, cheque of Rotary Clubs.

### **BANK CHEQUE**

It is known as a cheque drawn by a branch of a bank on itself. It is similar to any of the above mentioned cheque except that the drawer and the drawee are the same and it is signed by the bank.

This type of cheque is used to settle transactions within a locality. For instance, cheque which is issued in favour of an oil company within the state as settlement for transaction.

### **BANK DRAFT**

This is a cheque drawn by a branch of a bank or its head office. Example of draft drawn on Ondo branch by Agbor branch of First Bank of Nigeria Plc.

Information contained in the bank draft is like that of bank cheque except that, it is drawn from one branch on another.

## **OPERATIONAL TRANSACTIONS OF THE CHEQUE**

### **i] LODGEMENT OF INSTRUCTIONS**

The different types of cheque mentioned are lodged into the accounts of the payee. After lodgement, they are batched using batch forms and they are entered into the computer for processing.

However, before getting to the computer room, cheque of various bank branches are separated from those of the in-house cheque, then the in-house cheque are credited directly to the payee's account. Other bank branches cheque will be for clearing. Therefore, no direct credit to the account of the payee until the cheque are cleared.

### **ii] ENCASHMENT OF THE CHEQUE**

All these cheques can be cashed depending on indication by the drawer.

Other Matters:

#### **a] Dishonoured Cheque**

When a cheque is given out by the drawer it is passed through the clearing system for settlement, and eventually comes back to the drawers bank. It is scrutinised so as to ensure that it is in order, and if it is, then it is debited to the account of the drawer at the same bank.



However, if there is any reason why the cheque should not be debited to the account, the cheque has to be returned to the payee's bank. Then, it is said to be 'dishonoured'.

Some of the reasons why a cheque may be dishonoured are:

- Insufficient funds in the account to meet the cheque
- Irregular signature
- The figures and the words on the cheque do not tally
- No date shown on the cheque
- Material alteration on the cheque without being countersigned by the drawer
- Cheques received should be banked within a prescribed time usually within six months from date of issue. If a cheque is banked after the stipulated period of six months it is said to be STALE and will be dishonoured.

Therefore, when cheque is returned unpaid, the exact reason(s) for the dishonour should be made on the cheque redue. As the payee's bank account had been credited when it was payed into the bank, the book-keeping must be reversed, that is, the amount of the cheque will be debited to the account to cancel out the original entry. This is illustrated below:

- i] Ojo buys goods from John for N500 on May 1, 1998.
- ii] Ojo sends a cheque for N500 to John on May 20, 1998
- iii] John receives and banks the cheque on May 23, 1998
- iv] The cheque is returned to John by the bank on May 27, 1998 as a dishonoured cheque.

Ojo is informed of that on the same day by John.

### Entries in the books of John

#### Ojo

1998	₦	1998	₦
May 1 Sale (A)	500		
May 27 Bank: Cheque (D)	Dishonoured	May 23 Bank (C)	500
	Bank		

1998	₦	1998	₦
May 23 Ojo (C)	500	May 27 Bank: Dishonoured	500
		Cheque (D)	

## Entries in the books of Ojo

### John

1998	₦		1998	₦
May 20 Bank (B)	500		May 1 Purchase	500
			May 27 Bank: Dishonoured	
			Cheque (D)	500
	Bank			
1998	₦		1998	₦
May 27 John	500		May 20 John (B)	500
Dishonoured				
Cheque (D)				

It can be seen that in the books of John the debit had originally been shown as paid. Now that (D) has happened the account of Ojo is debited to show that Ojo still owes the money. In Ojo's books (D) is entered to show that he still owes the money to John.

b] **Uncleared Cheque**

When cheques are banked it will take a few days at least before they are 'cleared'. That is, passed through the clearing system and proved to be good in that they are not dishonoured. Until the cheques are cleared the holder of the account may not be allowed to draw money out of his

account in respect of the uncleared cheques.

Assume that the following applies in the case of Ogala:

- January 1, 1988      Ogala has N5,000 in his bank account
- January 5, 1998      He bank's a cheque for N3,000 in the bank account. The bank statement will now show a balance of N8,000
- January 6, 1998      Ogala wishes to withdraw N7,000 from his account. Unless he had permission to have a loan or overdraft he would not be allowed to have that much, the most he would be able to draw would be N5,000, as the other N3,000 has not yet been cleared.
- January 10, 1998     The cheque for N3,000 banked 5 days ago now proves to be a good cheque, that is, cleared' and is not dishonoured. Ogala can now withdraw all the funds from his bank account including the N3,000 in respect of this cheque.

## **CHAPTER TWO**

### **FEASIBILITY STUDY**

#### **2.1 LITERATURE REVIEW**

In the last decade, there has been great expansion in the use of computer in banking industry of all type in Nigeria in particular and the world in general.

Due to this sensibility, there has been several opinion and suggestion in publications, journals, and seminars on ways of carrying this exercise in the most effective and efficient manner. Views and opinion of some researcher and writers are stated below:

A history of human evolution suggest that people are shaped, a new invention leads people and society to view the world through new eyes and to adopt new values. For example, the telescope permitted us to see beyond the confines of our eyes, but in turn, change our conception of the universe and our place in it, and in time has led us to explore outer space.

The obvious benefits derived from harnessing steam and electricity as forms of power have undoubtedly made one present society increasingly materialistic and acquisitive.

In 1979, John Shelley and Roges Hunt (1954) made an attempt to put in book some facts on computer and society with some emphasis on commercial industry in which bank is included.

In their book, *Computer Studies, A First Course*, they dedicated so many chapters to computers and society and the commercial industry. According to them, major technological innovations have a habit of affecting the lives of individuals. A society comprises of individuals, there is a tendency to use this some-what impersonal term 'society' when really we mean ourselves and our families, and friends. In other-words, Technology has helped the human race to become the superior member of the animal kingdom and as a result, we have attained a more 'comfortable' and higher form of existence than other members.

Ezeano A. N. (1992) opted that 'system that are computerised should be well guarded'. Adequate security strategy and control measures should be instituted to avoid malicious and disgruntled users access to the computer files, room and systems. Consequent upon this, measures should be taken to protect customers file loss or damage. He stated that it should be achieved through three generation of files and the files and the file dumping techniques instituted to generate files stored in magnetic tapes and disc. Hence a database system can be produced monthly or yearly report.

Nsikak E. (1986) observed that 'Computerisation actually has taken the whole world by storm because of the relief it offers human brains as well as the greater efficiency that it has given to the performances of many activities'. In the author's own view, the cheque transaction system is no exception. He also lamented that the computerisation of the whole commercial industry in which banking is included will be a great achievement made in the field and computer experts, thereby paving ways for more reliable information.

The use of computer in the cheque clearing operation contributes to management efficiency, through the generations of quick and accurate reports, appreciable cost saving through the elimination of one time working hours, reduction of stress suffered by the customers and bank workers and the elimination of the occurrence of error and duplication of records.

Edward L.G. (1987) stated that 'magnetic ink character reader is a process in which data printed in ink containing ferromagnetic particulars is read by magnetic read head. The new lexicon webster's dictionary of English language (1990) stated that 'Automated Teller machine' (ATM) is a banking machine that can process simple money transactions like in the case of deposits, small withdrawers. It is known to be activated by a plastic card. From the above outline, Automated teller machine and magnetic ink character reader would be much useful in the cheque clearing system due to its nature of quick transaction of input data.

Ezeano, A.N. et.al (1993) in their article on: user resistance and misconceptions to the use of computer quoted Hirschheins and Newman (1988) that user resistance to computerisation is legendary and can take many forms which can range from the physical sabotage of the new system to the single non-use of the system. They further stated that bank workers at times are very conservative and hold fast to the old ledger and book-keeping of the accounting system. Reasons for user-resistance towards computerisation they said could be attributed to fear of being displaced of their jobs, fear of redundancy, while some are not yet convinced of the merits of the change or the fear entertained by top management to loss of decision making power.

Sequel to this, user awareness should be intensified through the organisation of workshops, seminars and lectures by the system designer to explain the objectives and benefit of the new system since there is hardly any facet of human life that has remain unaffected directly or indirectly by the rapid development of the computer world.

## **2.2 AIMS OF FEASIBILITY STUDY**

Feasibility study views the existing system in operation before adopting the new proposals in order to obtain a full understanding of the situation prevailing so that the effective computerised system may be designed and implimented, if proved feasible.



The purpose of the feasibility study is to determine as early as possible whether the project is not worth continuing. This list could include improved clerical system. The above explanations give the conventional approach which the researcher adopted in carrying out and conducting the feasibility study of the project. It is worthwhile at this stage to analyse some of the findings put down, based on the facts collected through an oral interview with the staff of the bank.

- a] Finding out the problem(s) with the existing system
- b] Knowing the cost of maintaining the old system
- c] Advantage of the proposed system, and
- d] Replacement of the old system with the new system and the cost benefit analysis

### **2.3 MAIN FINDINGS OF THE FEASIBILITY STUDY/EVALUATION**

Feasibility evaluation usually occurs after general system requirements are defined, after specific requirements are defined, or at both times.

The projects objective is to abandon an infeasible project before serious costs have been incurred. Infact, throughout, the entire project primary goal is to maximize the probability of success and to minimize the cost of failure. A project or a system such as the computerisation of cheque clearing system can be said to be feasible when the following three dimensions are considered and namely:

- a] Technical feasibility
- b] Cost feasibility
- c] Schedule feasibility

The researcher discovered that the existing system met the three dimensions with some modification which will be taken care of in the new system and as such the system is feasible to be operated in computer. The findings are:

a] **TECHNICAL FEASIBILITY**

For this portion of the evaluation, someone with computer expertise determines whether or not the problem to be solved is amendable to a computer solution. Has such a problem ever been solved by computer? Or, if not, is it likely that this problem can be solved by computer? For example, producing customer teller can feasibly be done by computer. Deciding whether or not to change personnel policies may be optional.

b] **COST FEASIBILITY**

Once the technical feasibility is verified, the cost feasibility is examined by developing rough cost estimates. In this, approximate size and capacity of the computer required are determined.

However, programs must be purchased, personnel must be trained, data must be converted and procedures must be developed. Added to these are the operational costs incurred as the system is used. Power, maintenance, and salaries of operations, personnel are examples of these operational costs.

Again, rough cost estimates are used. The purpose of the cost feasibility step is to determine whether the cost of the system solution is in the right range. For example, if the cost of the system is N12 million, and the estimated worth of the solution is N1.21 million, then a computer solution to the problem is cost infeasible.

c] **SCHEDULE FEASIBILITY**

If the system requires a year to develop and if a solution must be found in six months, then the proposed system is infeasible. For example, if the system is needed to computerise cheque transactions that are due on December 5, and the system cannot be completed until January 15, then the proposed system is schedule infeasible.

## **CHAPTER THREE**

### **SYSTEM SPECIFICATION**

#### **3.1 THE INPUT SPECIFICATION FILES**

The specification outline here will help to combine the programs necessary for implementation and there after. That is to detail the exact function and how it will work.

System specification is the elaborate and detailed documentation of the proposed computer - based system.

Having completed the project, it will serve as a communication documents to operating staff since it contains details of all necessary procedures. Also it will provide a permanent record of the system for future evaluation, modification and training purposes.

In the automated cheque clearing system in respect of First Bank of Nigeria Plc, Agbor, Delta State, there are five types of basic inputs required which are:

- a] Name of the person presenting the cheque. This is the person whose name appears on the cheque or the beneficiary.

- b] The cheque number. This is the number with which the bank traces the cheque in case of fraud or anomalies.  
The number of the cheque is treated as an important item on sequential presentation
- c] The account number. The account number of the person or customer or drawer whose account is to be debited has to be given.
- d] Amount to be withdrawn. This item indicates whether the person can withdraw money or not. Once the amount on the cheque is more than the balance in the customer's account, no payment will be made i.e. unfunded account.
- e] Date of presentation of the cheque. This will enable the bank to know when such a withdrawal is made, the date of presentation of the cheque is quite different from the date written on the cheque. Determination of stake cheque.

The Date structure should look like this:

**A]**

- i] Name.....
- ii] Cheque Number:.....
- iii] Amount to be Withdrawn.....
- iv] Account Number.....
- v] Date for Presentation of the Cheque.....

**B] FIRST BANK OF NIGERIA PLC, AGBOR, DELTA STATE**

**Cheque Transaction Data Entry Form**

Date:.....

- i] Type of Cheque.....
- ii] Account Number.....
- iii] Cheque Number.....
- iv] Amount Deposited.....

SAVE THE ABOVE DATA (Y/N)?

**3.2 SYSTEM ANALYSIS AND INVESTIGATION**

Analysis is the separation of the essential functions from the non-essential functions of a system, that is separating what the system achieves from what it does not.

System analysis is defined as the study of an activity procedure, method of an existing system in order to obtain a full understanding of the situation prevailing, so that the effective computerised system may be designed and implemented if proved feasible.

It is worthwhile at this stage to analyse some of the findings based on the facts collected by the researcher. The forms examined contain information about the customers, his/her name, time, address, personal address, signature, date of transaction, type of cheque, cheque number, amount deposited, state, current balance and finally available balance.

On investigation, the basic stages of collecting, recording, verifying and examining of facts that are available with a view to designing a new system which is improved, efficient and reliable other than making amendments on the old system.

A number of techniques are used during the investigation:

- Interview
- Observation
- Examination of records and documents

**Interview:**

This is the technique used in getting information by means of conversation and personal contact. The researcher was to have a face to face talk with the bank personnel about the current mode of cheque clearing system. During the course of this interview, details relating to the existing system were gathered which enabled the researcher to distinguish between facts and opinions from the respondents through the comments made and from their facial expression.

**Inspection of records:**

The banks organisation chart, procedure manuals and the input/output forms that are currently being used in the bank for cheque clearing purposes were critically examined. That is in their sample form.

**Observation:**

During the process, the reactions and attribution of both bank workers and customers were noted. This method of fact collection was adopted to ascertain the duration taken in the processing of customers accounts through cheque transactions and other facts collected relating to bankers - customers relationship.

**3.3 THE OUTPUT SPECIFICATION FILES**

When the account number is fed into the system, the system should be able to display the person's account number and address.

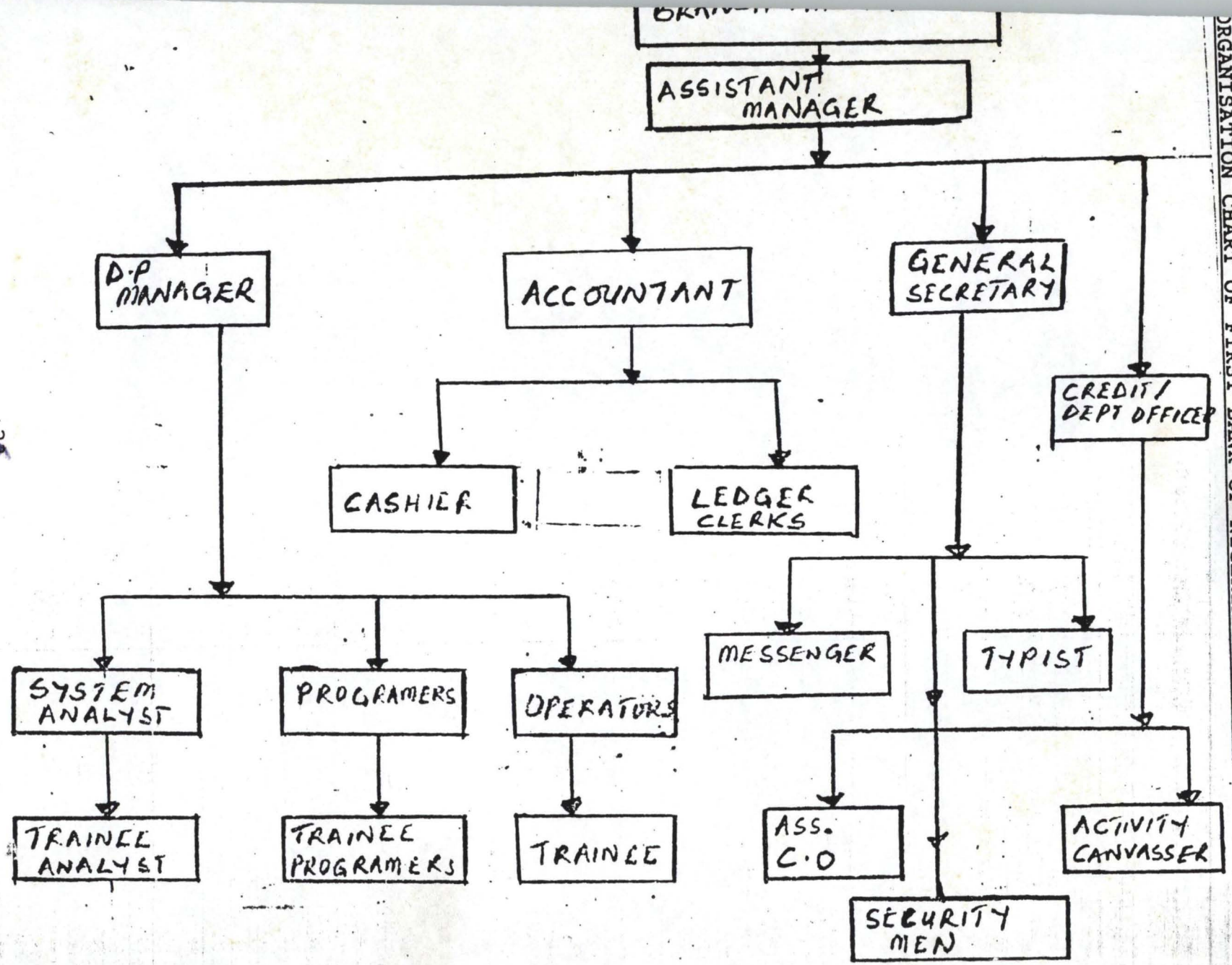
On the other hand, if the name and address do not correlate, the cheque should be returned for further enquiries. If the situation arises when the amount in the cheque is larger than the amount in the account, the cheque should be treated as



bounced cheque as commonly called.

However, it has to be noted that for a cheque to be cleared the following information has to be considered:

- a] No material alteration on the cheque, such as Date, Name of Payee, Amount in words or figures signature, cheques number and the likes.
- b] Sufficient balance in the account of the customer. For example if a customer has N300.00 in his account and wishes to withdraw N290.00 we say that he has sufficient balance and the cheque can be cleared, depending on the balancing amount policies that are operational in such bank and branch of the bank.



### 3.5 FUNCTIONS OF DIFFERENT PERSONNEL

a] **Manager:**

The Branch Manager is the head of the marketing and public relations. He is the person who utilizes the human and material resources available effectively and efficiently.

Also he motivates, leads and directs the labour force to accomplish the objectives by providing the conducive working environment for their operations.

b] **Accountant:**

The accountant is responsible for the day-to-day organisation and administration of the accounting system of the bank. He handles enquiries from customers about their account, lending in the form of loans and overdrafts.

c] **General Secretary:**

The general secretary does the filing and indexing of the bank transaction, customers personnel and business correspondences. He supplies information and establishes procedures to ensure confidentiality and security of information.

d] **Officers:**

These are the bodies responsible for current saving bank accounts, bills, foreign exchange, computation of capitalization of interests, opening of current accounts, updating of mandate records and issuing of cheques and pass-book.

e] **Clerks:**

They undertake clerical duties such as raising entries of cheques, balancing and updating of ledgers and other books of accounts and report to the supervisor.

f] **Non-Clerical Officers:**

This set of officers includes the messenger, typist securitymen and activity canvassers. They all contribute to the smooth operation of the organisation.

### 3.6 DETAILED LAYOUT OF INPUT FILE STRUCTURE

The files are categorised into three structure. They are the input, the processing and the output files.

i] **Input Files:**

These are the data base files which contain the different fields and field-width for data entry. In this system, the main input file, otherwise known as the master file, is called Justmast DBF.

ii] **Transaction DBF:**

This is also a data base file which is used in creating units for data entry.

iii] **Temporary DBF:**

This is the input file used in storing units for data entry. Three files, apart from being data base files are used to update one another.

The input files for this system are:

No	File Name	File Description
1	Justmast DBF	System DBF
2.	Transaction DBF	Transaction Database file
3.	Temporary DBF	Temporary Transaction Database file

## MASTER DBF: FILE STRUCTURE

Field No	File Name	Field Type Width	DEC	Decription
1	Type-cheqs	Character 25		Type of cheque
2.	Cheq-num	Character 10		Cheque number
3.	Amt Deposit	Numeric 8	2	Amt/Deposited
4.	Acc-num	Character 10		A/C number
5.	F-name	Character 10		First name
6.	L-name	Character 15		Last name
7.	H-Address	Character 20		Home address
8.	P-Address	Character 15		Personal address
9.	State	Character 10		State
10.	Country	Character 15		Country
11.	Date	Date 8		Date
12.	On-bal.	Numeric 10	2	Current B/L
13.	Av. Bal.	Numeric 10	2	Available B/L

## TRANSACTION DBF FILE STRUCTURE

Field No	Field Name	Field Type	Width	DEL	Description
1	Type cheq	Character	25		Type of cheq
2	Cheq name	Character	10		Cheq number
3	Pre-Date	Date	8		Present date
4	Acc-Name	Character	10		Acc Number
5	Cu-Bal	Numeric	10	2	Current Num
6	Ava. Bal	Numeric	10	2	Ava. Bal.
7	Amount	Numeric	10	2	Amt cheq.

Field No	File Name	Field Type Width	BEC	Description
1	Type-cheqs	Character 25		Type of cheque
2.	Cheq-num	Character 10		Cheque number
3.	Pre-Date	Date 8		cheq num
4.	Acc-num	Character 10		Pre-date
5.	Cu-Bal	Numeric 10	2	Acc num
6.	Ava. Bal	Numeric 10	2	Ava-bal
7.	Amount	Numeric 10	2	Amt on cheq

These three input files will update one another, that is, why we have some fields occurring more than one in the DBF files. And beside, these various fields will allow the user to enter data required for operation on the customer's accounts.

### 3.7 DETAILED LAYOUT OF PROCESSING PROCEDURES

The programme for the system is within modules and procedures, so as to ensure easy maintenance and effective operations with each procedure during a specific task.

This section can be concluded with the design stage in chapter four where all the operations are detailed.

## **CHAPTER FOUR**

### **DESIGN OF INPUT AND OUTPUT SYSTEM**

#### **4.1 SYSTEM DESIGN**

To design the cheque transaction system, a main menu known as menu of command files will be produced, to enable the user select the specific function required to carry out the operations.

The menu will be made up of eight (8) options, including an avenue for getting away from the system environment. That is, if one wants to stop work with the system for the time being.

The options for the menu are as follows:

- a] Cheque clearance
- b] View customer's account
- c] Update customer's account (edit)
- d] Transactions (cheque clearance)
- e] Close customer's account
- f] Display customer's account
- g] Display all transaction
- h] Print all transactions



The output will be in the form below:

FIRST BANK OF NIGERIA PLC, AGBOR			
FILES		OUT REPORT	
A. Cheque Clearance		F Display Customer Account	
B. View Customers Account		G Display all customer accounts	
		H Print customer accounts	
		I. Print all customer account	
MAINTENANCE		INFORMATION	
C. Update Customer Account		Date	Time
D. Close Account		15/11/98	20:16:10
E. Change Time			
[ENTER SELECTION (A-I, OR X TO QUIT) : :]			

Upon selection of any of the options, the procedure for the generation of the required output is set to work, in order to generate the desired output.

**OPTION (A) (Cheque clearance)**

This option allows the users to see the position of cheque deposited, that is whether the cheque is cleared or not.

**OPTION (B) (View customer's account)**

This option is used to list the content of a file. It will display all the records regarding customer's account.

**OPTION (C)** (Update Customer's account (edit))

This option allows the user to update contents of one customer's account from another.

We can also specify that the update will add, subtracts or replace the entire field.

**OPTION (D)** (Transaction (cheque clearance))

Action takes place here in this option. All the transactions, activities and daily operations of a bank are carried out here.

**OPTION (E)** (Close customer's account)

This option is used when a customer's account is closed. It is concerned primarily with a way of getting rid of record from the file.

**OPTION (F)** (Display customer's account)

This menu command file is used to display customer's account. The contents of the file for customer's account will be displayed under this option.

**OPTION (G)** (Display all transactions)

Like option F, this option will display all the transaction in respect of

different cheques

**OPTION (H) (Print all transactions)**

In this option, if the user wishes to have the bar copy of the transaction, it allows him/her to print and have the copy(s).

**MODULAR STRUCTURE OF THE SYSTEM**

**4.2 COMPUTER HARDWARE/SOFTWARE REQUIREMENTS**

The first task of the proposed system is to determine the general requirements of the system. This is the step at which the problem to be solved is defined.

For the proposed system to be successful, the following software and hardware requirements should be met. The old system was designed to run on the IBM PC computers and all its compatibles. The new system can be run on IBM PC computers and other types.

**DETAILS OF HARDWARE REQUIREMENTS**

An IBM computer and/or any completely IBM compatible of other good computers with or without IBM compatible, which processes the following configuration.

- a] A ram capacity of 4MB (4 megabytes)
- b] The system should be able to utilize online database
- c] A 3.5 diskette drive unit
- d] A monochrome or colour monitor
- e] At least a 20 megabytes hard disk space
- f] At least 640 kilobytes of memory
- g] A printer capable of printing 132 characters at 10 characters per inch.

### **DETAILS OF SOFTWARE REQUIREMENTS**

The old system was built on a DOS version 4.0, but the new system requires a DOS version 7.0 or any higher version available.

### **4.3 SYSTEM DESIGN LIFE CYCLE**

The various stages in the life cycle of a system design as it apply to automated cheque clearing system in First Bank of Nigeria Plc, Agbor, Delta State are as follows:

- a] Preliminary survey
- b] Feasibility study
- c] System analysis
- d] Design

- e] Testing
- f] Maintenance

The preliminary survey in the development of this system was carried out to determine if the system can be developed to solve the procession problems facing the bank.

The result of the feasibility study conducted by the researcher, made the researcher to carry out the work, that is to design the system.

The input/output file structure and layout are specified. Since one purpose of developing a new system is to change the existing one, the user of the new system will be trained on the operation and procedures.

Maintenance is required because the programs, inevitably will have errors that must be corrected when they appear.

#### **4.4 FILE CREATION**

Business deal with entities of different types, whose presence is the processing of the day to day transaction. Records that represents these entities are grouped together in files and each file contains record of the same type.

System design would not be completed without details of the files to be used in the new system for the purpose of business transaction, in developing the system, the researcher created three (3) files namely justmast file, transaction file and temporary file. This is not so much actively used along side with the other two files mentioned above.

### **JUSTMAST FILE**

This is a relatively permanent file containing records and data, vital to the training of the system. This file can be updated and maintained from time to time to ensure accuracy of data in the file.

The operation of changing a master file to reflect the latest state of its contained data is called updating of master file. The information contained in the master file in the system are as follows:

- [1] Type of cheque
- [2] Cheque number
- [3] Amount deposited
- [4] Account number
- [5] First name
- [6] Last name
- [7] Home address
- [8] Post address

- [9] State
- [10] Country
- [11] Date
- [12] Current Balance
- [13] Available

### **TRANSACTION FILE**

This is made up of the various transactions created from the source document. It is used to update the master file. The transaction file contains data about business activities taking place within a specific period of time. Its function is closely related to that of master file. At the end of the time period, these files will be used for updating the master file and it should be noted that at the start of a day, the transaction file is empty.

The information contained in the transaction file in the system are as follows:

- [1] Type of cheque
- [2] Present date
- [3] Account number
- [4] Current balance
- [5] Available balance
- [6] Amount

## **CHAPTER FIVE**

### **5.0 SYSTEM IMPLEMENTATION**

The implementation of the new system would come up immediately after the design stage. The successful implementation of the new design depends on the co-operation on the part of both the user's department and the Electronic Data Processing Department (EDP) whose representatives would be involved right from the system study.

We develop new system to change existing processing procedures.

### **5.1 COMPUTER PROGRAM**

A program is a set of instruction that directs the computer on how to process a set of data to obtain the objective of a particular application.

A program can also be said to be a sequence on instructions which a computer follows to perform a specified task. Programs are written in any of the computer languages available and each instructions these language defines a basic operation to be performed.



In developing this system, the program itself is written in Database (Dbase). Dbase is a structured query language rather than the high level language. This means that there is an available command which the user can use to achieve a complex task unlike the high level language. Database are easy and straight forward to comprehend.

The program written for the system is the application program and it is broken down in MODULES. Each modules comprises of a program that performs a specific task.

The menu of command files is one aspect of the modules that control the program and it is made up of eight options.

In the main program of the system, cheque clearing, data entry form the master DBF and the transaction DBF.

The name of the program for this system is 'FIRST BANK OF NIGERIA PLC, AGBOR CHEQUE CLEARING SYSTEM'.

## **5.2 PRACTICAL OPERATION OF THE PROGRAMME AND INSTALLATION**

The system can be operated with DOS version 6.0 or any higher version available with computer having two drives.

Insert the diskette containing the application files into the empty drive A, after removing the DOS diskette, then type the command MD bank on the system prompt. It will create sub-directory called Bank on the hard disk. Then, type the following command to copy all system from A to C: Copy A > Copy \*.\* > Copy \*.\*:\BANK and then press return key. The file has been copied, by listing all the files for the user to verify.

### 5.3 PROGRAMME REVIEW AND MAINTENANCE

Review should be carried out after several cycles of operations due to the following reasons:

- a] System should be adjusted to meet future needs whenever the need arises;
- b] Amendment to programs may need to be effected perhaps for more efficient running;
- c] To deal with unforeseen circumstances arising in operation and necessary changes affected maintenance should be ongoing in order to keep the system efficient and up-to-date.

Possible areas of error occurrence in a computer system are:

- i] Electric
- ii] Mechanical
- iii] Human and file medium

Electronic and mechanical facilities are normally detected by the computer and the software.

Since the information is vital to the efficient working of the total system and these information can be protected from destruction or corruption. This is referred to as file security and can be exercised in two ways.

- a] Physical Security and
- b] Operational Security

i] **Physical Security:**

This refers to the safety of the files while awaiting processing. This is largely done by the operation supervisor in an installation by providing suitable housing facilities for the storage media, including file protection for all master copies.

The Operation Supervisor also instructs the media to avoid physical damage. In addition, another file security technique known as the GRAND-FATHER-SON method is introduced. In this method, three versions of a file exist at a time. The current file is son created from the father was in-turn created from the grandfather. The recovery advantages is always possible.

**Operational Security:**

This is a joint effort analyst, programmers and manufacturers to assist operators

in processing files correctly. Dumping (that is, copying the whole content into another feasible media and keeping it away from working one) of the files periodically is another security measure.

#### **5.4 COST ESTIMATION**

In comparing the estimated cost of the existing and the new system, one would conclude that the new system is less expensive than the old one, which is critically based on the cost of designing, writing and testing new programs, and buying of materials to achieve the specific goal of the system.

#### **5.5 SYSTEM CONCLUSION**

Judging from what has been said about the areas of computer applications and uses in the cheque clearing system, the importance of system cannot be measured in monetary terms. The frequency, efficiency with which customers are being attended to and the accuracy with which information relating to individual cheques are cleared.

Customers as well as employee satisfaction cannot be left out. Savings are incurred as a reduction in manpower. Equipment savings would be derived from the new system, for the money which would have been used in purchasing

equipment like cheque clearing machines are saved and utilised for other useful purposes like buying of recent computer for proper network of the bank if requires.

## 5.6 SYSTEM RECOMMENDATION

I have personally taken more time, cost and a host of others to make this project a reality to the best I can, more works are still left to be done therefore, I urge my fellow computer scientists in the field to continue from where I stopped.

I would recommend that the system when well and fully implemented would meet the set-out objective. Data should be checked before input into the system. Standby generator and uninterrupted power supply should be provided to supplement the National Electric Power Authority (N.E.P.A) in case of power failure.

The risk of fraud will be greatly reduced if the internal control audit personal will certainly increase the chances for large scale computer fraud and corruptions, including cases of information.

Therefore, bank manager, auditors, computer staff and security managers, must all work together and co-operate to safeguard the confidentiality of financial information and to restrict access to unauthorised personnel to use the system.

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APPENDIX

PROGRAM ID      CHEQUE CLEARING SYSTEM IN FIRST BANK OF NIGERIA PLC, AGBOR

\*PROJECT TITLE  
\*DATE  
\*AUTHOR  
CLEAR ALL  
SET WORKING ENVIRONMENT  
SET TALK OFF  
SET ESCAPE OFF  
SET HEADING OFF  
SET HELP OFF  
SET MENU OFF  
SET SAFETY OFF  
SET STATUS OFF  
        SE DATE BRITISH  
SET PROCEDURE TO MENU

DO WHILE .J.  
    CLEAR  
    @ 1, 9 TO 3, 69  
    @ 4, 1 TO 23, 77  
    @ 6, 3 TO 12, 37  
    @ 5, 4 TO 7, 20  
    @ 6, 5 SAY SPACE (15)  
    @ 6, 41 TO 12, 20 DOUBLE  
    @ 5, 42 TO 7, 59 DOUBLE  
    @ 6, 43 SAY SPACE (15)  
    @ 14, 3 TO 21, 37  
    @ 13, 4 TO 15, 20 DOUBLE  
    @ 14, 5 SAY '  
    @ 14, 41 TO 21, 75  
    @ 13, 42 TO 15, 59 DOUBLE  
    @ 14, 43 SAY SPACE (16)  
    @ 5, 2 SAY CHR (176) + CHR(176)  
    @ 6, 2 SAY CHR(176)  
    @ 7, 2 SAY CHR(176)  
    @ 8, 2 SAY CHR(176)  
    @ 9, 2 SAY CHR(176)  
    @ 10, 2 SAY CHR(176)  
    @ 11, 2 SAY CHR(176)  
    @ 12, 2 SAY CHR(176)  
    @ 13, 2 SAY CHR(176)+CHR(176)  
    @ 14, 2 SAY CHR(176)  
    @ 15, 2 SAY CHR(176)  
    @ 16, 2 SAY CHR(176)  
    @ 17, 2 SAY CHR(176)  
    @ 18, 2 SAY CHR(176)  
    @ 19, 2 SAY CHR(176)  
    @ 20, 2 SAY CHR(176)

@ 21, 2 SAY CHR(176)  
 @ 22, 2 SAY REPLIBLE (CHR(176), 75)  
 @ 21, 76 SAY CHR(176)  
 @ 20, 76 SAY CHR(176)  
 @ 19, 76 SAY CHR(176)  
 @ 18, 76 SAY CHR(176)  
 @ 17, 76 SAY CHR(176)  
 @ 16, 76 SAY CHR(176)  
 @ 15, 76 SAY CHR(176)  
 @ 14, 76 SAY CHR(176)  
 @ 13, 76 SAY REPLIBLE (CHR(176), 17)  
 @ 12, 76 SAY CHR(176)  
 @ 11, 76 SAY CHR(176)  
 @ 10, 76 SAY CHR(176)  
 @ 9, 76 SAY CHR(176)  
 @ 8, 76 SAY CHR(176)  
 @ 7, 76 SAY CHR(176)  
 @ 6, 76 SAY CHR(176)  
 @ 5, 60 SAY REPLIBLE (CHR(176), 17)  
 @ 5, 21 SAY REPLIBLE (CHR(176), 21)  
 @ 6, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 7, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 8, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 9, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 9, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 10, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 11, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 12, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 13, 21 SAY REPLIBLE (CHR(176), 21)  
 @ 14, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 15, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 16, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 17, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 18, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 19, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 20, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 21, 38 SAY REPLIBLE (CHR(176), 3)  
 @ 2, 12 SAY "FIRST BANK OF NIGERIA PLC, AGBOR"  
 @ 6, 9 SAY "FILES"  
 @ 6, 44 SAY "OUT REPORTS"  
 @ 14, 7 SAY "MAINTENACE"  
 @ 14, 45 SAY "INFORMATION"  
 @ 8, 9 SAY "A. CHEQUE CLEARANCE"  
 @ 10, 9 SAY "B. VIEW CUSTOMER ACCOUNT"  
 @ 8, 46 SAY "F. DISPLAY CUSTOMER ACCOUNT"  
 @ 9, 46 SAY "G. DISPLAY ALL CUSTOMER ACCOUNT"  
 @ 10, 46 SAY "H. PRINT CUSTOMER ACCOUNT"  
 @ 11, 46 SAY "I. PRINT ALL CUSTOMER ACCOUNT"  
 @ 16, 9 SAY "C. UPDATE CUSTOMER ACCOUNT"  
 @ 18, 9 SAY "D. CLOSE ACCOUNT"



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@ 20, 9 SAY "E. CHANGE TIME"
@ 16, 49 SAY "DATE          TIME"
@ 17, 47 SAY TODAY
@ 17, 63 SAY TIME ( )
@ 22, 18 SAY "[ENTER SELECTION (A-L, OR X TO QUIT):]"
DO WHILE J.
  I=0
  DO WHILE I=0
    I=INKEY ( )
    @ 17, 63 SAY TIME ( )
    @ 22, 58 SAY ""
    IF UPPER (CHR(I)) $"ABCDEFGHIX"
      EXIT
    ENDIF
    I-0
    ENDDO
    @ 22, 58 SAY YOOER (CGR(I))
    IF NOT CHR(I) $"Ee"
      EXIT
    ENDIF
    SET COLOR TO N/W
    @ 14, 6 SAY "MAINTENANCE"
    @ 20, 9 SAY "E. CHANGE DATE"
    @ 14, 6 SAY "MAINTENANCE"
    @ 22, 58 SAY ""
  ENDDO
DO CASE
CASE CHR (I)$ "Xx"
  SET TALK ON
  SET ESCAPE ON
  SET BELL ON
  SET HEADING ON
  SET HELP ON
  SET SAFETY ON
  SET STATUS ON
  CLEAR
  RETURN
CASE CHR (I)$ "Bb"
  DO VIEW
CASE CHR (I)$ "Cc"
  DO UPDATE
CASE CHR (I)$ "Dd"
  DO CLOSE
CASE CHR (I)$ "Ff"
  DO DISPLAY1
CASE CHR (I)$ "Gg"
  DO DISPLAY2
CASE CHR (I)$ "Hh"
  DO PRINT1
CASE CHR (I)$ "Ii"

```

```

DO PRINT2
END CASE
ENDDO
RETURN
*****
PROCEDURE TRANS.
*****
USE MASTER
CLEAR
DO WHILE .J.
@ 10, 2 TO 14, 70
STORE SPACE (10) TO MCHE_NUMBER
@ 12, 5 SAY "ENTER CUSTOMER ACCT. NUMBER TO CASE THE CHEQUE" GET
MCHC_NUMBER PICT "@!"
READ
LOCATE FOR CHE_NUMBER = TRIM (MCHC_NUMBER)
IF FOUND ( )
CLEAR
STORE 0 TO BAL1, BAL, BAL3
@ 1, 20 SAY "FIRST BANK OF NIGERIA, PLC AGBOR"
@ 3, 22 SAY "CHEQUE TRANSATION"
@ 7, 4 SAY "CURRENT BALANCE....."
@ 7, 26 SAY CU_BAL PICT "9,999,999.99"
@ 9, 4 SAY "AMOUNT TO CASH....."
END CASE
ENDDO
RETURN
*****
PROCEDURE TRANS
*****
USE JUSTMAST
CLEAR
DO WHILE .T.
@ 10, 2 TO 14, 70
STORE SPACE(10) TO MCHE_NUMBE
@ 12, 5 SAY "ENTER CUST ACCOUNT NUMB TO CASE THE CHEQ" GET MCHC_NUMBR
PICT "999999"
READ
LOCATE FOR CHE_NUMBER = TRIM (C=MCHC_NUMBE)
IF FOUND ( )
CLEAR
STORE 0 TO BAL1, BAL2, BAL3
@ 1, 20 SAY "FIRST BANK OF NIGERIA PLC AGBOR"
@ 3, 22 SAY "CHEQUE TRANSACTION"
@ 7, 4 SAY "CURRENT BALANCE....."
@ 9, 26 SAY CU_BAL PICT "9,999,999.99"
@ 9, 4 SAY "AMOUNT TO CASH....."
@ 9, 26 SAY GET BAL1 PICT "9,999,999.99"
@ 11, 4 SAY "TYPE OF CHEQUE ....."
@ 11, 26 SAY TYPE_CHEQUES

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@ 13, 4 SAY "CHEQUE NUMBER....."

@ 13, 27 SAY CHE_NUMBER
@ 15, 4 SAY "FIRST NAME....."
@ 15, 30 SAY F_NAME
@ 15, 60 SAY "LAST NAME....."
@ 15, 60 SAY 'L_NAME
READ
BAL2 = CU_BAL-BAL1
@ 18, 10 SAY "NEW BALANCE IS"
@ 18, 32 SAY BAL2 PICT "9,999,999.99"
REPLACE CU_BAL WITH BAL2
@ 20, 0
WAIT
ELSE
@ 22, 15
WAIT "ACCOUNT NUMEBR DOES NO EXIST"
ENDIF
MORE = "Y"
@ 22, 15
@ 22,15 SAY "CARRY MORE TRANSACTION(Y/N)? "GET MOR"
READ
IF UPPPER (MORE) = "Y"
    CLEAR
    LOOP
CLSE
    CLEAR
    SAY "FILES"
    EXIT
ENDIF
ENDDO
RETURN
*****
PROCEDURE VIEW
*****
USE JUSTMAST
CLEAR
DO WHILE .T.
@ 10, 2 TO 14, 70
STORE SPACE (10) TO MCHE_NUMBE
@ 12, 5 SAY "ENTER CUSTOMER ACC. NUM. TO VIEW: "GET MCHE_NUMBE"
PICT "@!"
READ
LOCATE FOR CHEQ_NUM = TRIM (MCHE_NUMBE)
IF FOUND ( )
CLEAR
MTYPE_CHEQS = TYPE_CHQS
MACC_NUMBER = ACC_NUM
MCHE_NUMBE = CHEQ_NUM
MF_NAME = F_NAME

```

```

ML_NAME = L_NAME
MAMT_DEPOSIT = AMT_DEP
MH_ADDRESS = H_ADDRESS
MP_ADDRESS = P_ADDRESS
MSTATE = STATE
MCOUNTRY = COUNTRY
MDATE = DATE
MCU_BAL = CU_BAL
MAVA_BAL = AVA-BAL
@ 0, 0 TO 24, 79 DOUBLE
@ 1, 20 SAY "FIRST BANK OF NIGERIA PLC AGBOR BRANCH"
@ 3, 22 SAY "CHEQUE CLEARANCE FORM"
@ 5, 3 SAY "TYPE CHEQUE .....:"
@ 5, 20 SAY MTYPE_CHEQS
@ 5, 47 SAY "ACCT. NUMBER .....:"
@ 5, 63 SAY MACCT_NUMBER
@ 7, 3 SAY "CHEQUE NUMBER .....:"
@ 7, 20 SAY MCHE_NUMBE
@ 9, 3 SAY "FIRST NAME .....:"
@ 9, 20 SAY MF_NAME
@ 9, 43 SAY "LAST NAME .....:"
@ 9, 50 SAY ML_NAME
@ 11, 3 SAY "AMOUNT DEPOSIT .....:"
@ 11, 20 SAY MAMT_DEPOSIT
@ 13, 3 SAY "HOME ADDRESS .....:"
@ 13, 20 SAY MH_ADDRESS
@ 13, 40 SAY "PRESENT ADDRESS .....:"
@ 13, 62 SAY MP_ADDRESS
@ 15, 3 SAY "STATE .....:"
@ 15, 20 SAY MSTATE
@ 15, 34 SAY "COUNTRY .....:"
@ 15, 49 SAY MCOUNTRY
@ 17, 3 SAY "DATE OF TRANSACTION .....:"
@ 17, 31 SAY MDATE
@ 19, 2 SAY "CURRENT BALANCE .....:"
@ 19, 31 SAY MCU_BAL
@ 20, 2 SAY "AVAILABLE BALANCE .....:"
@ 20, 31 SAY MAVA_BAL
ELSE
@ 22, 15
WAIT "ACCOUNT NUMBER DOES NOT EXIT"
ENDIF
    MORE = "T"
@ 22, 15
@ 22, 15 SAY "VIEW MORE (YEST/NO)? "GET MOR
READ
IF UPPER (MORE) = "YES"
    CLEAR
    LOOP
ELSE

```

```

CLEAR
EXIT

ENDIF
ENDDO
RETURN
*****
PROCEDURE UPDATE
*****

USE JUSTMAST
CLEAR
DO WHILE .T.
@ 10, 2 TO 14, 70
STORE SPACE (10) TO MCHE_NUMBE
@ 12, 5 SAY "ENTER CUSTOMER ACCOUNT NUMBER TO UPDATE " GET
MCHE_NUMBER PICT "@!"
READ
MCHE_NUMBER = LTRIM (MCHE_NUMBER)
MCHE_NUMBER = RTRIM(MCHE_NUMBER)

DO WHILE .NOT. EOF ()
LOCATE FOR CHEQ_NUM = MCHE_NUMBER
IF FOUND ( )
CLEAR
MTYPE_CHEQS = TYPE_CHEQS
MACC_NUMBER = ACC_NUMBER
MCHE_NUMBE = CHEQ_NUMBER
MF_NAME = F_NAME
ML_NAME = L_NAME
MAMT_DEPOSIT = AMT_DEPOSIT
MH_ADDRESS = H_ADDRESS
MP_ADDRESS = P_ADDRESS
MSTATE = STATE
MCOUNTRY = COUNTRY
MDATE = DATE
MCU_BAL = CU_BAL
MAVA_BAL = AVA-BAL
*ENDDO
@ 0, 0 TO 24, 79 DOUBLE
@ 1, 20 SAY "FIRST BANK OF NIGERIA PLC AGBOR BRANCH"
@ 3, 22 SAY "CHEQUE TRANSACTION FORM"
@ 5, 3 SAY "TYPE CHEQUE .....:"
@ 5, 20 SAY MTYPE_CHEQS
@ 5, 47 SAY "ACCT. NUMBER .....:"
@ 5, 63 SAY MACCT_NUMBER
@ 7, 3 SAY "CHEQUE NUMBER .....:"
@ 7, 20 SAY MCHE_NUMBE
@ 9, 3 SAY "FIRST NAME .....:"
@ 9, 20 SAY MF_NAME
@ 9, 43 SAY "LAST NAME .....:"
@ 9, 50 SAY ML_NAME

```

```

@ 11, 3 SAY "AMOUNT DEPOSIT ....."
@ 11, 20 SAY MAMT_DEPOSIT
@ 13, 3 SAY "HOME ADDRESS ....."
@ 13, 20 SAY MH_ADDRESS
@ 13, 40 SAY "PRESENT ADDRESS ....."
@ 13, 62 SAY MP_ADDRESS
@ 15, 3 SAY "STATE ....."
@ 15, 20 SAY MSTATE
@ 15, 34 SAY "COUNTRY ....."
@ 15, 49 SAY MCOUNTRY
@ 17, 3 SAY "DATE OF TRANSACTION ....."
@ 17, 31 SAY MDATE
@ 19, 2 SAY "CURRENT BALANCE ....."
@ 19, 31 SAY MCU_BAL
@ 20, 2 SAY "AVAILABLE BALANCE ....."
@ 20, 31 SAY MAVA_BAL
TT = " "
WAIT "PRESS ANY KET TO CONTINUE ....." TO TT
EXIT
ELSE
@ 22, 15
WAIT "ACCOUNT NUMBER DOES NOT EXIST"
ENDIF
SKIP
ENDDO
MORE = .T.
@ 22, 15
@ 22, 15 SAY "UPDATE MORE (Y/N)? " GET MORE
READ
IF MORE
CLEAR
LOOP
ELSE
CLEAR
EXIT
ENDIF
ENDDO
RETURN
*****
PROCEDURE CLOSE
*****
USE JUSTMAST
CLEAR
DO WHILE .T.
@ 10, 2 TO 14, 70
STORE SPACE (10) TO MCHE_NUMBE
@ 12, 5 SAY "ENTER CUSTOMER ACCOUNT NUMBER TO CLOSE " GET
MCHE_NUMBE PICT " @! "
READ
LOCATE FOR CHEQ_NUM = TRIM (MCHE_NUMBER)

```

```

IF FOUND ( )
CLEAR
MTYPE_CHEQS = TYPE_CHQS
MACC_NUMBER = ACC_NUM
MCHE_NUMBE = CHEQ_NUM
MF_NAME = F_NAME
ML_NAME = L_NAME
MAMT_DEPOSIT = AMT_DEP
MH_ADDRESS = H_ADDRESS
MP_ADDRESS = P_ADDRESS
MSTATE = STATE
MCOUNTRY = COUNTRY
MDATE = DATE
MCU_BAL = CU_BAL
MAVA_BAL = AVA-BAL
@ 0, 0 TO 24, 79 DOUBLE
@ 1, 20 SAY "FIRST BANK OF NIGERIA PLC AGBOR BRANCH"
@ 3, 22 SAY "CHEQUE CLEARANCE FORM"
@ 5, 3 SAY "TYPE CHEQUE .....:"
@ 5, 20 SAY MTYPE_CHEQS
@ 5, 47 SAY "ACCT. NUMBER .....:"
@ 5, 63 SAY MACCT_NUMBER
@ 7, 3 SAY "CHEQUE NUMBER .....:"
@ 7, 20 SAY MCHE_NUMBER
@ 9, 3 SAY "FIRST NAME .....:"
@ 9, 20 SAY MF_NAME
@ 9, 43 SAY "LAST NAME .....:"
@ 9, 50 SAY ML_NAME
@ 11, 3 SAY "AMOUNT DEPOSIT .....:"
@ 11, 20 SAY MAMT_DEPOSIT
@ 13, 3 SAY "HOME ADDRESS .....:"
@ 13, 20 SAY MH_ADDRESS
@ 13, 40 SAY "PRESENT ADDRESS .....:"
@ 13, 62 SAY MP_ADDRESS
@ 15, 3 SAY "STATE .....:"
@ 15, 20 SAY MSTATE
@ 15, 34 SAY "COUNTRY .....:"
@ 15, 49 SAY MCOUNTRY
@ 17, 3 SAY "DATE OF TRANSACTION .....:"
@ 17, 31 SAY MDATE
@ 19, 2 SAY "CURRENT BALANCE .....:"
@ 19, 31 SAY MCU_BAL
@ 20, 2 SAY "AVAILABLE BALANCE .....:"
@ 20, 31 SAY MAVA_BAL
ELSE
@ 22, 15
WAIT "ACCOUNT NUMBER DOES NOT EXIST"
ENDIF

```

MORE = .T.

```

PACK
@ 22, 15
@ 22, 15 SAY "CLOSE MORE (Y/N)? "GET MORE
READ
IF MORE
    CLEAR
    LOOP
ELSE
    CLEAR
    EXIT
ENDIF
ENDDO
RETURN

```

\*\*\*\*\*

PROCEDURE DISPLAY1

\*\*\*\*\*

```

USE JUSTMAST
CLEAR
DO WHILE .T.
@ 10, 2 TO 14, 70
STORE SPACE (10) TO MCHE_NUMBE
@ 12, 5 SAY "ENTER CUSTOMER ACCOUNT NUMBER TO DISPLAY " GET
MCHC_NUMBE PICT "xxxxxxxxxxxxxxxxxx "
READ
LOCATE FOR CHEQ_NUM = TRIM (MCHC_NUMBER)
IF FOUND ()
CLEAR
MTYPE_CHEQS = TYPE_CHQS
MACC_NUMBER = ACC_NUM
MCHC_NUMBE = CHEQ_NUM
MF_NAME = F_NAME
ML_NAME = L_NAME
MAMT_DEPOSIT = AMT_DEP
MH_ADDRESS = H_ADDRESS
MP_ADDRESS = P_ADDRESS
MSTATE = STATE
MCOUNTRY = COUNTRY
MDATE = DATE
MCU_BAL = CU_BAL
MAVA_BAL = AVA-BAL
@ 0, 0 TO 24, 79 DOUBLE
@ 1, 20 SAY "FIRST BANK OF NIGERIA PLC AGBOR BRANCH"
@ 3, 22 SAY "CHEQUE CLEARANCE FORM"
@ 5, 3 SAY "TYPE CHEQUE .....:"
@ 5, 20 SAY MTYPE_CHEQS
@ 5, 47 SAY "ACCT. NUMBER .....:"
@ 5, 63 SAY MACCT_NUMBER
@ 7, 3 SAY "CHEQUE NUMBER .....:"
@ 7, 20 SAY MCHC_NUMBER
@ 9, 3 SAY "FIRST NAME .....:"

```



```

@ 9, 20 SAY MF_NAME
@ 9, 43 SAY "LAST NAME .....:"
@ 9, 60 SAY ML_NAME
@ 11, 3 SAY "AMOUNT DEPOSIT .....:"
@ 11, 20 SAY MAMT_DEPOSIT
@ 13, 3 SAY "HOME ADDRESS .....:"
@ 13, 20 SAY MH_ADDRESS
@ 13, 43 SAY "PRESENT ADDRESS .....:"
@ 13, 62 SAY MP_ADDRESS
@ 15, 3 SAY "STATE .....:"
@ 15, 20 SAY MSTATE
@ 15, 34 SAY "COUNTRY .....:"
@ 15, 49 SAY MOUNTRY
@ 17, 3 SAY "DATE OF TRANSACTION .....:"
@ 17, 31 SAY MDATE
@ 19, 2 SAY "CURRENT BALANCE .....:"
@ 19, 31 SAY MCU_BAL
@ 20, 2 SAY "AVAILABLE BALANCE .....:"
@ 20, 31 SAY MAVA_BAL
ELSE
@ 22, 15
WAIT "ACCOUNT NUMBER DOES NOT EXIST"
ENDIF
MORE = .T.
@ 22, 15
@ 22, 15 SAY "DISPLAY MORE (Y/N)? "GET MORE
READ
IF MORE
CLEAR
LOOP
ELSE
CLEAR
EXIT
ENDIF
ENDDO
RETURN

```

\*\*\*\*\*

PROCEDURE PRINT1

\*\*\*\*\*

```

CLEAR
USE JUSTMAST
GO TOP
R = 1
N = 1
STORE (10) TO NAME
DO WHILE .NOT. EOF ( )
IF R = 1
@ R, 9 SAY "FIRST BANK OF NIGERIA PLC, AGBOR BRANCH"
R = R + 1
@ R, 15 SAY "AGBOR DELTA STATE"

```

```

R = R + 2
@ R, 5 SAY "DETAIL REPORT OF CUSTOMER ACCOUNT UNITS TRANSACTIONS"
R = R + 1
@ R, 0 SAY "S/NO      NAME          ACC. NUMBER      CURRENT BALANCE      DATE"
R = R + 2
ENDIF
NAME = F_NAME + SUBSTR (L_NAME, 1, 1)
@ R, 1 SAY STR(N,3)
@ R, 6 SAY NAME
@ R, 23 SAY ACC_NUM
@ R, 41 SAY CU_BAL
@ R, 60 SAY DATE
R = R + 1
N = N + 1
SKIP
IF R = 20
    WAIT
    R = 1
    CLEAR
ENDIF
ENDDO
WAIT
RETURN

```

\*\*\*\*\*

PROCEDURE DISPLAY2

\*\*\*\*\*

```

USE JUSTMAST
CLEAR
DO WHILE .T.
@ 10, 2 TO 14, 70
STORE SPACE (10) TO MCHE_NUMBER
@ 12, 5 SAY "ENTER CUSTOMER ACCOUNT NUMBER TO DISPLAY " GET
MCHE_NUMBE PICT " xxxxxxxxxxxxxxxxx "
READ
LOCATE FOR CHEQ_NUM = TRIM (MCHE_NUMBER)
IF FOUND ( )
CLEAR
MTYPE_CHEQS = TYPE_CHQS
MACC_NUMBER = ACC_NUM
MCHE_NUMBE = CHEQ_NUM
MF_NAME = F_NAME
ML_NAME = L_NAME
MAMT_DEPOSIT = AMT_DEP
MH_ADDRESS = H_ADDRESS
MP_ADDRESS = P_ADDRESS
MSTATE = STATE
MCOUNTRY = COUNTRY
MDATE = DATE
MCU_BAL = CU_BAL
MAVA_BAL = AVA-BAL

```

```

@ 0, 0 TO 24, 79 DOUBLE
@ 1, 20 SAY "FIRST BANK OF NIGERIA PLC AGBOR BRANCH"
@ 3, 22 SAY "CHEQUE CLEARANCE FORM"
@ 5, 3 SAY "TYPE CHEQUE .....:"
@ 5, 20 SAY MTYPE_CHEQS
@ 5, 47 SAY "ACCT. NUMBER .....:"
@ 5, 63 SAY MACCT_NUMBER
@ 7, 3 SAY "CHEQUE NUMBER .....:"
@ 7, 20 SAY MCHE_NUMBER
@ 9, 3 SAY "FIRST NAME .....:"
@ 9, 20 SAY MF_NAME
@ 9, 43 SAY "LAST NAME .....:"
@ 9, 60 SAY ML_NAME
@ 11, 3 SAY "AMOUNT DEPOSIT .....:"
@ 11, 20 SAY MAMT_DEPOSIT
@ 13, 3 SAY "HOME ADDRESS .....:"
@ 13, 20 SAY MH_ADDRESS
@ 13, 43 SAY "PRESENT ADDRESS .....:"
@ 13, 62 SAY MP_ADDRESS
@ 15, 3 SAY "STATE .....:"
@ 15, 20 SAY MSTATE
@ 15, 34 SAY "COUNTRY .....:"
@ 15, 49 SAY MCOUNTRY
@ 17, 3 SAY "DATE OF TRANSACTION .....:"
@ 17, 31 SAY MDATE
@ 19, 2 SAY "CURRENT BALANCE .....:"
@ 19, 31 SAY MCU_BAL
@ 20, 2 SAY "AVAILABLE BALANCE .....:"
@ 20, 31 SAY MAVA_BAL
ELSE
@ 22, 15
WAIT "ACCOUNT NUMBER DOES NOT EXIST"
ENDIF
MORE = .T.
@ 22, 15
@ 22, 15 SAY "DISPLAY MORE (Y/N)? "GET MORE
READ
IF MORE
  CLEAR
  LOOP
ELSE
  CLEAR
  EXIT
ENDIF
ENDDO
RETURN
*****
PROCEDURE PRINT2
*****
CLEAR

```

```

USE JUSTMAST
GO TOP
R = 1
N = 1
STORE (10) TO NAME
DO WHILE .NOT. EOF ( )
IF R = 1
@ R, 9 SAY "FIRST BANK OF NIGERIA PLC, AGBOR BRANCH"
R = R + 1
@ R, 15 SAY "AGBOR DELTA STATE"
R = R + 2
@ R, 5 SAY "DETAIL REPORT OF ALL CUSTOMER ACCOUNT UNITS TRANSACTIONS"
R = R + 1
@ R, 0 SAY "S/NO      NAME          ACC. NUMBER      CURRENT BALANCE      DATE"
R = R + 2
ENDIF
NAME = F_NAME + SUBSTR (L_NAME, 1, 1)
@ R, 1 SAY STR(N,3)
@ R, 6 SAY NAME
@ R, 23 SAY ACC_NUM
@ R, 41 SAY CU_BAL
@ R, 60 SAY DATE
R = R + 1
N = N + 1
SKIP
IF R = 20
  WAIT
  R = 1
  CLEAR
ENDIF
ENDDO
WAIT
RETURN

```

FIRST BANK OF NIGERIA PLC, AGBOR			
FILES		OUT REPORT	
A. Cheque Clearance		F Display Customer Account	
B. View Customers Account		G Display all customer accounts	
		H Print customer accounts	
		I. Print all customer account	
MAINTENANCE		INFORMATION	
C. Update Customer Account		Date	Time
D. Close Account		15/11/98	20:16:10
E. Change Time			
[ENTER SELECTION (A-I, OR X TO QUIT) : :]			

FIRST BANK OF NIGERIA PLC, AGBOR			
FILES		OUT REPORT	
A. Cheque Clearance		F Display Customer Account	
B. View Customers Account		G Display all customer accounts	
		H Print customer accounts	
		I. Print all customer account	
MAINTENANCE		INFORMATION	
C. Update Customer Account		Date	Time
D. Close Account		15/11/98	20:17:10
E. Change Time			
[ENTER SELECTION (A-I, OR X TO QUIT) : :]			

**FIRST BANK OF NIGERIA PLC, AGBOR BRANCH  
CHEQUE CLEARANCE FORM**

Cheque..... Personal ACCT. NUMBER .....a111  
Cheque Number: A1111  
Name: .....JUSTIN Last Name: Ogala  
Amount Deposit 3,000  
Home Address: Bosso Present Address: Lagos  
State: Agbor Country: Nigeria  
Date of Transaction: 01/01/98  
Current Balance: 2,000  
available Balance: 2,000  
US |||A:\JUSVIEW MORE (YES/NO)? REC 1/8 |||File||| ExclLock|||NumCap|||

**FIRST BANK OF NIGERIA PLC, AGBOR BRANCH  
CHEQUE CLEARANCE FORM**

Type cheque ..... Personal ACCT. NUMBER .....a111  
Cheque Number: A1111  
First Name: .....JUSTIN Last Name: OGALA  
Amount Deposit 3,000  
Home Address: Bosso Present Address: Lagos  
State: Agbor Country: Nigeria  
Date of Transaction: 01/01/98