COMPUTERIZATION OF CHEQUE TRANSACTIONS IN BANKING INDUSTRY

(A Case Study of United Bank for Africa Plc, Minna Branch)

BY

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APRIL, 2002.

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A PROJECT SUBMITTED TO THE DEPARTMENT OF

MATHEMATICS/COMPUTER SCIENCE, FEDERAL UNIVERSITY

OF TECHNOLOGY, MINNA, NIGER STATE

THE AWARD OF POST GRADUATE DIPLOMA

IN COMPUTER SCIENCE

APRIL, 2002.

CERTIFICATION

This is to certify hat this project "Computerization of Cheque Transaction in Banking Industry (A case study of United Bank for Africa Plc, Minna)" by YAHAYA MUSA (PGD/MCS/2000/1047) has been read and meet the requirements governing the award of the Post Graduate Diploma in Computer Science of the Federal University of Technology, Minna.

Dr. Y. M. Aiyesimi (Project Supervisor)	Date
Mr. L. N. Ezeako (Head of Department)	Date
External Examiner	Date

DEDICATION

This project is dedicated to all the members of my family.

ACKNOWLEDGEMENTS

Thanks be to Allah, the giver of all kinds that have given me opportunity of undertaking this study.

My appreciation goes to my project supervisor in person of Dr. Y. M. Aiyesimi who deposit his tight schedules speared his time to go through the manuscript.

I am grateful to the Head of Department and all the lecturers of the department who have guided me through the course of my studies.

I am also grateful to my wife for her patience during . my course work and project.

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ABSTRACT

This project "Computerization of Cheque Transactions in Banking Industry, a case study of United Bank for Africa PLC (UBA), Minna was developed by researcher as a result of urgent need and call for minimization of cost and maximization of profit in Banking Industry.

The system which is typical of any computerized system, is saving less labour intensive cut down cost and also if well utilized according to the operational procedures, has a high degree accuracy.

In developing the system, the researcher was able to let user into the overall working of the system, which include how to install the system, the hardware requirements, to enable the system run successfully because not all Computer Hardware can accommodate the system. A detailed file specification table, which includes the file name, field name and field specifications.

This 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.

Also, various input processing and output files have been analysed according to their modular procedures for easier understanding and maintenance. human mind could not begin to manage, can be carried out within seconds for example, obtaining an up-to-date statement of customer's account in the Bank.

(b) Accuracy of computation and movement of information:

The accuracy of the machine is consistently good, no matter how man time's operations are carried out. Methods of error detection are built into the design of computers to guard 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 complete program of instruction to be held in store and this in turn makes the running of a program fully automatic, that is, once loaded the computers can work without intervention. It also allows the program to modify its flow-path as it is being processed.

Generally, the system will be designed with the above objectives in mind but then not strictly within their limits.

1.3 SCOPE OF THE STUDY

The scope of this study is limited to United Bank for Africa PLC, Minna, with special area consideration on the "Computerization of Cheque Transaction in Banking Industry"

1.4 BRIEF HISTORY OF THE BANK

The United Bank for Africa Plc is one of the Nigeria three Commercial Banks. It was established in 1961 by a consortium of fine (5) International Banks to over the Banking business carried on in Nigeria since 1949 by the British and French bank Limited. With an assets base of over #55 billion and over 205 branches spread over Nigeria, UBA has recorded an impressive growth over the years. UBA Plc is active in all aspects of Commercial Banking and provides international banking, trusteeship, share registration, cooperate finance and computers services through specialized divisions and subsidiaries.

Four of the following International Banks, namely, banquet Nationale De Pairs, Bankers International Corporation of New York, Banca Nationale del devoro and Monte Dei Paschi di Siena, who together own 40 percentage of the share holding are expertise available to assist the Bank and its customers. Nigeria interest constitutes 605 of the share holdings of the bank.

UBA Plc has branches in New York and Grand Cayman Island. It also maintains correspondents relationship with many Banks in Africa and major countries in the world.

1.5 ORGANIZATIONAL STRUCTURE OF THE BANK

A new organizational structure to drive the bank's new strategies direction was approved by the Board of Directors at its meeting of 4th March, 1996.

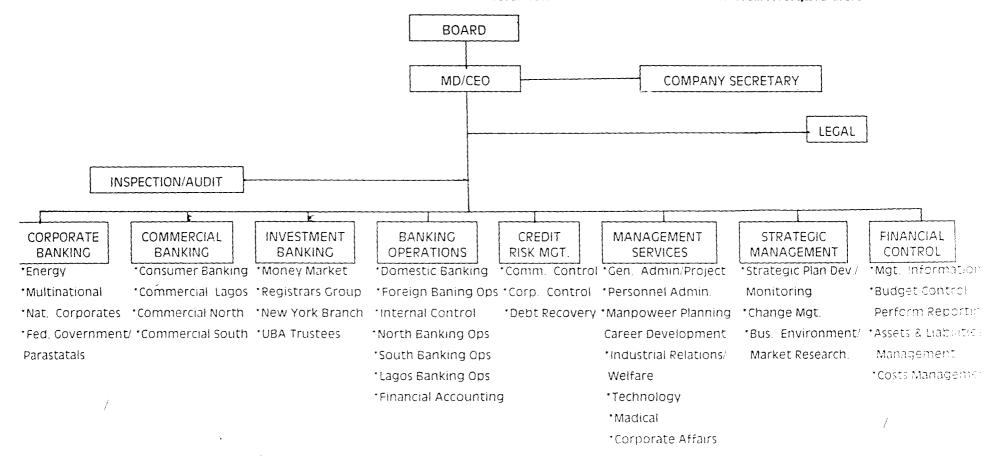
The Directors, in designing the top-level organizational structure look at the following critical factors:

- 1. Emphasis on market strategy of the business units
- 2. Span of control that will promote efficiency
- 3. The need to achieve synergy by grouping together organizational units similar or complements

- 4. The need for equity and balance in allocation of responsibilities are evenly allocated.
- 5. Need to make clear distinction between Banking operations and the marketing units and to maintain their respective focus.

Attached is the USA Plc top level Organizational Structure and their respective duties.

UBA TOP LEVEL ORGANISATIONAL STRUCTURE (APPROVED - MARCH, 1996)



1.6 DIFFERENT TYPES OF CHEQUE TRANSACTIONS IN UBA PLC, MINNA

The bank operates six (6) different types of cheque Transactions namely: -

- A. Personal Cheque
- B. Business Cheque
- C. Government Cheque
- D. Association Cheque
- E. Bank Cheque
- F. Bank Draft

Let us look at detailed analysis of the cheque.

A. Personal Cheque:

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

The cheque contains the following:

- a) Date
- b) Payee name
- c) Amount in words and figure.
- d) Signature of the account holder.
- e) Cheque number.

f) Bank branch code.

B. Business cheque:

This cheque is drawn on a Business Account, that is a cheque issued by a business concerned. For example, Kris and Co. Ltd, Bank of Credit and Commerce. All information as business cheque except that the significant of account holder might be more than one, depending on its mandate with the bank. The significant may carry a seal of the significant business concerned.

C. 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 as the same as the business concerned

D. Association Cheque:

It is a cheque that is issue by an association made payable in most cases to the treasurer of the association and payable to third parties occasionally. Examples, cheque of clubs made.

E. Bank Cheque:

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

This type of cheque is used to settle transactions within a locality for instance, cheque, which is issued in favour of FUTMIN, Consult in Minna as settlement.

Information contained in bank cheque is the same as in the business cheque except that, it is signed by the bank.

F. Bank Draft:

This is a cheque drawn by a branch of a bank or it heads office. Example, a drawn on Minna branch by Kontagora branch.

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

1.7 OPERATIONAL TRANSACTIONS OF THE CHEQUE.

The different types of cheque mentioned, are lodged into the accounts of the payees. After lodgment, they are

batched using batch forms and they entered into the computer for processing.

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

1.8 ENCASHMENT OF THE CHEQUE.

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

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CHAPTER TWO

2.1 LITERATURE REVIEW

In the last decade there has been great, expansion of use of computer in the banking industry of all types in Nigeria in particular and the world generally. But this expansion has so far produced very little published material on computerization generally, as against what is available on other fields like Transportation, Machine, Accounting, and Engineering etc. what is written on computerization of banking transaction generally is mere report on survey rather than consideration of more fundamental issues like the computerization of cheque transaction. In 1979, John Shelly and roger hunt (1984) made an attempt to put in book some facts on computer and society with some emphasis on commercial industry in which bank is includes.

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 is composed of individuals and these is a tendency to use this some what impersonal term "society" when we really mean ourselves and our families and friends. On balance, technology has helped the human race to become the superior members of the animal kingdom and as a result we have attained a more "comfortable" and higher form of existence than other members. A classic example is the wheel which allowed heavy goods to be transported more easily and quickly and when the superior pulling power of an ox or a horse was enlisted, with far less effort for humans.

The invention of primitive tools, especially of iron implements, enables people to manufacture goods, cut stone and dig channels in the earth to irrigate formally barren land. The fact that iron swords and the deadly horse – driven charists used in battle caused mutilation and dearth is more a reflection of "man's in humility to man" than a bad side- effect of primitive technology.

Printing result in the opening up of knowledge to the whole of society and raising its mind to a higher intellectual level, so that knowledge was no longer the exclusive

preserve of the few. The harnessing of water, steam and electricity to create power greater than the muscle of man led to faster movement from one place to another over land, sea, and air as well as to the mass production of goods and greater employments prospects for the majority.

However, such advances or progress can bring in their wake, certain changes in the lives of individual s and a reorganization of society which some claim is not very beneficial.

In addition to all these, we have the current technology, which led to the development of the computers. It would be naïve of us to believe that this technology will be all good or all bad. If history repeats itself as it has done through out the past, then we can expect our lives to be affected in some way. Hence, the purpose of this is to encourage you to assess the value of technological advances in the field of computers.

COMPUTER IN SOCIETY

In trying to assess the impact of computers on society, there are two points worth noting. The first is that the incredible speed with which this form of technology has made itself felt in so many millions of computers being used in our society today. So entrenched in our society are computers that, if they could be swept away over night, the entire financial world of the west would collapse. This may serve to illustrate the second point, namely, that computers have penetrated our society for more deeply than the average man or woman can appreciate, especially when we consider the benefits of computers to the commercial world. There have been noticeable lapses here and there, take for instance, the case when we are sent repeated reminders for an invoice already paid, or our driving license is displayed because of "teaching problem" with the new computers system. Nevertheless, for better or worse, industrial societies have become dependent upon computers in a similar degree to their dependence upon electricity and the telephone system.

DEPENDENCE OF SOCIETY ON COMPUTER

The use of the term "society " above needs more explanation. What we really mean is those organizations

within society for which individuals work, for example the educational, commercial, industrial, administrative, transaction, medical, social, legal and financial world banking, insurance and credit companies which would suffer without computers countries. They form the majority of users. Indeed it it doubtful whether the financial would in particular could even survive today without assistance from computers.

Also Richard James and Philip Graham in their contributions to the companies' automation.

Much more automation is likely in the banks. It is expected that these will eventually be "automated teller machine" which will enable customers to draw money from accounts (but not overdrawn), pay bill, obtain bank statement (record of transaction) transfer money between accounts and change standing order instructions all on the authority of a plastic card (without the need for human counter clerk or teller). Cheque handling and updating of customers accounts, printing customers' statement calculating interest charge, on line enquiry system to

provide information on customers' current balance, overdrafts, interest changes and shares.

2.2 AIMS OF FEASIBILITY STUDY

Generally, feasibility study looks at the system, which is presently in operation, considering its problems and briefly looks at a range of alternative ways of doing the job. The list could include improved clerical systems as well as computer solutions. For each of these possibilities, a list of the cost and benefits is compiled and a 'recommended solution presented to the management.

In other words, feasibility study is designed to assist in choosing from among a range of alternatives rather that from two choices. Knowledge of the existing system will be developed in more detail at each succeeding stages in the System analysis and the above explanations give the conventional approach, which the researcher adopted in carrying out or conducting the feasibility study of the project. He tried to find out through an oral interview of the staff of the bank.

- (a) The operation of the system: That is whether it is operated manually or with computers.
- (b) Finding out the problem (s) with the existing system.
- (c) Knowing the cost of maintaining the old system.
- (d) Advantages of the proposed system.
- (e) Replacement of the old system with new system and the cost-benefit analysis.

2.3 MAIN FINDINGS OF THE FEASIBILITY STUDY

The project or a system such as the computerization of cheque transaction can be said to be feasible when it passes through these three tests:

- (i) Operational feasibility
- (ii) Technical feasibility
- (iii) Economical feasibility

The researcher discovered that the existing system met the three requirements with some modifications which will be taking care of in the new system and as such, the system is feasible to be operated in a computer. The findings are:

(i) Operational Feasibility

This addresses the question of whether or not we can run the system. Are schedules for processing realistic? Can input data actually be collected, errors corrected, and the system run a schedule?

(ii) Technical Feasibility

This has to do with the existing equipment in the bank, that is to see whether they met up with the operations requirement and whether the personnel that will use the machines are competent in the application of the system.

The new system will take care of the hardware components for efficient and proper operations.

(iii) Economical Feasibility

In this aspect, we are talking about cost-benefit analysis.

In examining costs versus benefits, there are number of factors to consider, such as:

- a. Development cost
- b. Operational cost
- c. Maintenance cost

- a. Development cost refers to the actual cost of analysis, design and installation for the system.
- b. Operational cost: This is cost of operating a new system when assessing total cost.
- c. Maintenance cost: This refers to the cost of routine maintenance and enhancements. It is said that no system is ever finished, "bugs" will need repairs, and users will request periodic enhancements as they work with a system.

However, having seen the general view of the different costs and their operation, the researcher believed that the new system would reduce costs and enhance better profit for the management.

Finally, the new system will have advantage over the existing one in the areas of:

1. Reduction in clerical activity: The new system designed to reduce the operation of clerical staff particularly the cashier who is to collect manual entry, at times calculate before transferring to the computer for processing. If the old system continues to exist, it will be time consuming knowing fully well the importance of time to the bank and her customers, also, there is danger of inaccuracy.

2. Improvement in operation: The practice whereby the old system cannot correct the idea where a customer's account is credited to another customer all in the name of coding problems. The new system will eliminate this and help to check the fraud, which the old system of operation can generate.

2.4 MANUAL SYSTEM AND PROBLEMS

The operations that take place in the cheque transaction, which is the main thrust of the study, are manually operated. Below are some of the problems associated with the manual operation in the cheque transaction.

- 1. Delay in debiting customers' account on due date of the clearing instruments lodge into their accounts.
- 2. Inability of the customers to reconcile, ascertain balance and statement of their transaction properly because of the system of operation

3. Manual system of operation does not enhance bank's performance in terms of rendering quick efficient and quality services to its customers/clients.

2.5 DATA COLLECTION

Data were collected through contact with the staff using interview method.

2.6 DATA PRESENTAION

The data were presented in a precise and straightforward manner for easy understanding for the readers

CHAPTER THREE

3.1 SYSTEM DESIGN

System design is the process of planning a system or to replace or to complete an existing system. The first step towards system design is the identification of system requirement and it is followed by the formulation of their design alternatives.

3.2 SYSTEM SPECIFICATION

This is the program documentation of the proposed system. It is a collection of sorts of program responsible for the proper operations of the expected task. However, it should note that the new system was developed in modular.

This is a programming technique that requires dividing a big job into sub-programs with the aim of developing program for advantage, which is the reduction of the complexity of a program.

It therefore follows that the programs specification provides detail documentation of the entire system. It reserves as the mode of communication to the computer for the execution of the entire task. The program specifications also serve as a means of maintaining the entire system. This could be in terms of modification or adding news facilities to the overall workings of the system.

3.3 CHOICE OF THE PROGRAMMING LANGUAGE USED

The choice of programming language is an important factor to be considered when developing a system. Visual Foxpro 6.0 is chosen due to its vast features (ideal for database systems), which brought about the existing power of database management to personal computer users. Visual Foxpro will allow bank chegue transaction data to be held as a single large collection of information that can be accessed by adding new records modifying or deleting records without changing all the application programs that refers to that data. Visual Foxpro has the ability to: categorize, sort, store and report information.

Specifically, the choice of the programming Visual FoxPro because of the following reasons:

- 1. It is suitable for cheque Transaction processing.
- 2. It is easy to use and understand

- 3. It is easy to make correction
- 4. It is easy to develop user-friendly application; hence, data entry and updating can be easily performed.

3.4 INPUT AND OUTPUT SPECIFICATION

3.4.1 INPUT SPECIFICATION

For proper execution of task, a system needs to be inputed. For this proposed system, the inputs required are the detailed of clearing instruments such as Local, Intra, and Inter clearing cheques sent for collection.

Below are the input forms required to each of the above clearing cheques.

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in banking industry
(A case study of United Bank of Africa pic Minha)
A project developed by:

YAHAYA MUSA
PRODUCTOR SCIENCE DEPARTMENT
FEDERAL UNWERSTY OF TECHNOLOGY MINNA
INPARTIAL FULFILMENT FOR THE REQUIREMENT FOR THE AWARD OF
POSTGRADUATE DIPLOMAIN COMPUTER SCIENCE

3.4.2 OUTPUT SPECIFICATION

The result of any process is communicated to the users via out. This could be informing of software (Report that appear on the screen) or hardcopy (Report that appear on paper via printer). However, the reports generated for the new system could be found in appendix II.

3.5 DATABASE SYSTEM

The introduction of computers in organization and the ever-increasing sophistication of data processing system have shown the importance of data as one of the most valuable organization resources.

It is from the manipulation and interpretation of data information is generated and in turn used for decision making.

The realization of the importance of data shows that there is a need for proper management and efficient organization of dada.

Thus, a database can be defined as a mechanized shared centrally controlled collection of data used in an organization. It is regarded as any collection of useful

information organized in a systematic and consistent manner. A good example of this is the telephone directory and library catalog. Database system allows the data to be produced and organized separately from other resources.

3.6 DATABASE STRUCTURES

The database file structure is used to describe the structure of the database files required in proposed system.

The structure is in terms of the field names, field width as well as the content of the files.

The proposed system is expected to operate on these database files namely process.DBF and transaction.DBF.

The structure of these files are stated below:

S/N	FIELD NAME	TYPE	WIDTH	DEC.	INDEX
1.	Name	Char	25	0	None
2.	Acct-num	Num	12	0	None
3.	Cheq-num	Num	12	0	None
4.	Amt-width	Num	12	2	None
5.	Pre-Date	Date	8	0	None
6.	Cheq-type	Char	20	0	None
7.	Amt-depo	Num	12	2	None

8.	Cle-Date	Date	8	0	None
9.	Curr-bal.	Num	12	2	None
10.	Avail-bal	Num	12	2	None

3.7 COST AND BENEFIT ANALYSIS

3.7.1 COST ANALYSIS

Introducing a new system to an organization is not always an easy task particularly in United Bank for Africa Plc, Minna which has a large network of operations. The cost of this new system will entail heavy financial commitment. Although the bank has established Information Technology and system designing departments who are charged with the responsibility of acquiring, designing, installing, implementing and maintenance of this new system in the bank.

Already computers have been acquired by the bank for the take off of the new system. The only areas that will involve more financial resources are the installation and implementation and above all training of the computer personnel or users of the new system. No matter the cost of implementing the new system, its importance to the bank and the management cannot be over emphasized.

3.7.2 BENEFIT ANALYSIS

Successful implementation of the proposed system will enhance efficient, courteous and quality services to the bank customers and above all sustained and improve bank profitability.

CHAPTER FOUR

4.1 SYSTEM IMPLEMENTATION

The output needed is determining in the design phase and the most effective way of entering variable data intro the system is only by entering necessary and detailed data from the application form. However, only authorized users can use the system. The top down approach is employed that is a method of breaking down complex problems into manageable modules or procedures. Each module is required to perform a specific task. This is the advantage of allowing for quick means of programs debugging.

4.2 SYSTEM REQUIREMENTS

For the proposed system to work effectively and with high level of reliability, the following computer configurations would be required for the new system.

The choice of the selection is purely based on the needs of the new system objectives with respect to the volume and nature of the challenges ahead.

4.2.1 HARDWARE REQUIREMENTS

The hardware configuration for the proposed system is designed to operate in window environment below is the system required to facilitate the operation of the new system.

Machine

IBM or compatible

Microprocessor -

Pentium III 733 Mhz and above.

RAM

128Mb

Hard Disk

20Gb

Floppy Disk Drive - 1.44Mb

Monitor

5 V.G.A

Keyboard

102 enhanced

Printers

LaserJet 1200 series

Power source

Uninterruptible Power Supply (UPS)

4.2.2 SOFTWARE REQUIREMENTS:

The software configurations for the proposed system is as follows:-

- 1. Operating System software (windows 98/ 2000).
- 2. Designed software

other application software such as

4.3 SYSTEM INSTALLATION

After the proposed system must have been developed and implemented, the next stage is the system installation which is the process of transforming the proposed development system into the actual computers system, that is to be used for running and processing of cheque transaction package.

How ever, to install the system into the computers, the following steps are to be followed:

STEPS	PROCEDURE	RESULT		
1. Go to start	Click	Start popup menu		
		is displayed.		
2. Run submenu	Click	Run dialog box		
		displayed		
3. Insert chequepro	-			
diskette into A:\		-		
4. Type the source	Browse			
drive (A:\)		Content of A:\		
	Double -	displayed		
5. Select set-up	click			
		Installation begins		
6. Follow the	Click			
instruction that		Installation in		
Follows		progress		
7. Destination				
		Software installed		
		C:\ successfully		

Bringing the Software from C:\ to Window Program Submenu

STEPS	PROCEDURE	RESULT	
1. Go to start	Click	Start popup menu	
	,	displayed	
2. Setting	Click	-	
submenu			
	Click	Taskbar dialog box	
3. Choose taskbar			
& start menu	Click	-	
4. Select start			
menu program	Double - click	-	
5. Browse to			
select	Click	-	
chequepro			
software	Click	chequepro software	
6. Select folder		copied into program	
(program)		submenu	
7. Destination		successfully.	
	·		
	26		
	36		

4.4 SYSTEM TESTING

The process of testing the system developed by making sure that the system is error free and to confirm that it does what it is required to do appropriately is known as SYSTEM TESTING. In the process of testing and debugging errors, fixing one error gives rise to a host of others which in turn have to be corrected and exhaustively tested. However, when a stage is reached when the program appears to run perfectly, this does not mean that those errors have not been tested and found to be error free.

4.5 SYSTEM CONVERSION

System conversion is the process of changing over the manual/ old system to the new proposed system that has been developed. Though the system conversion involves four (4) stages, the organization is to pick the stage that is more desirable to tem.

The four (4) stages include:

- Direct change over
- Parallel change over
- Pilot change over

Staged change over.

Given the above and methods, the desirable change over stage is the parallel change over, meaning that after the proposed system must have been developed, it is going to be on parallel in conjunction with the manual /old system and the output results are compared to see if there are any lapses before the new system now fully take control of the whole cheque Transaction scheme of United Bank of Africa, PLC, Minna Branch.

CHAPTER FIVE

5.1 PROGRAM MAINTENANCE

Program maintenance is the final stage in system development, once the system is operational. The researcher takes into consideration changes that can occur at any given time within the system and therefore the need for system maintenance. The Bank should make provision for training of data processing staff for the maintenance of the system. The job of these staff will be to ensure the efficient running of the system and to male the changes required by the users.

Provision should also be provided at certain stage for a review of the system, which will ensure that the system conforms to the requirements specified in the feasibility study stage.

5.2 LIMITATIONS

The proposed system for cheque transactions of united Bank for Africa, PLC, (UBA) would have been more elaborate than this but the researcher was constrained of the underlisted problems.

- A. Limited time to source for more research, complete and submit the project.
- B. Finance: Lack of required fund to travel round for more information as not previous research on the topic.
- C. Human Factor: Family and other related human problems.

5.3 RECOMMENDATION

This project will be incomplete without inference drawn from the research carried out. Hence, the researcher deems it necessary to make following recommendations:

- i. For effective implementation of the proposed system the hardware and software specification given earlier should be adherent to.
- ii. The operators and the users should be adequately trained for effective use of the system.
- iii. Periodic evaluation and monitoring of the new system and the old one should be maintained in order to draw proper inferences in terms of efficiency, economy and efforts involved.

- iv. Adequate security should be provided by the management for the equipments in terms of fire, environmental problems, natural disaster and above all sabotage.
- v. Management should ensure that the system is properly maintained to avoid deadlock and system halt.

5.4 CONCLUSION

Developing a new system is not an easy task particularly as it affects the Banking Industry. Actually, one thing is to develop a system another thing is seeing a system operational and maintenance. If the operational techniques being spelt out in this project is well and efficiently implemented, the researcher has no doubt that the bank will benefit immensely in areas of cost benefit, speed and accuracy of operations to meet the demand of both the customers and the management.

The feasibility study was carefully carried out to meet the exact need of the bank. The researcher actually without biased of interest, worked on the project as specified. The researcher hoped that this project would go a long way in enhancing efficiency and profitability and also be able to help the bank in its current drive to meet up with the competitiveness of the Banking Industry.

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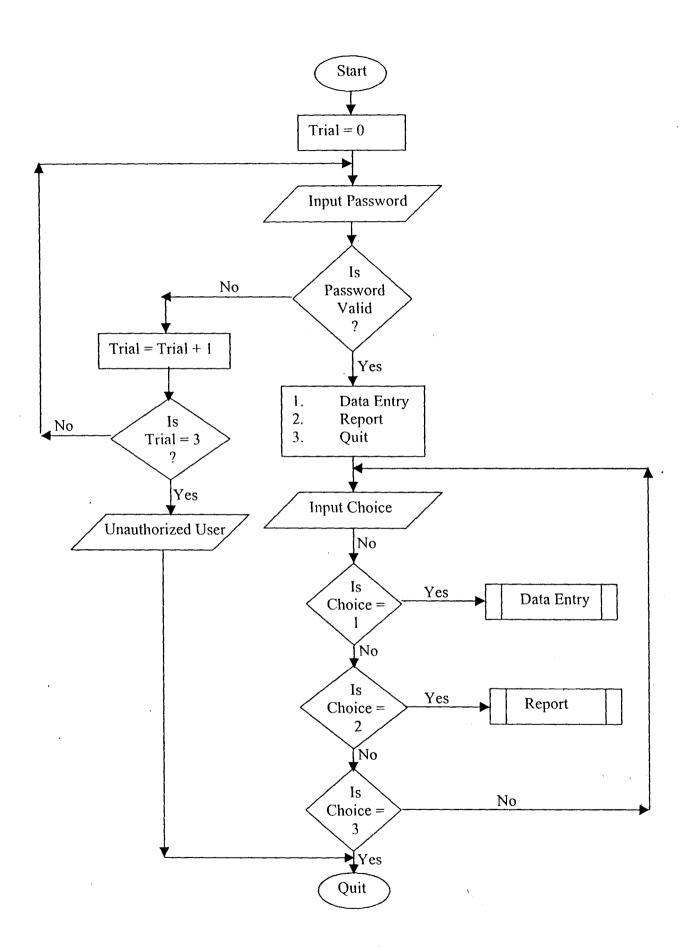
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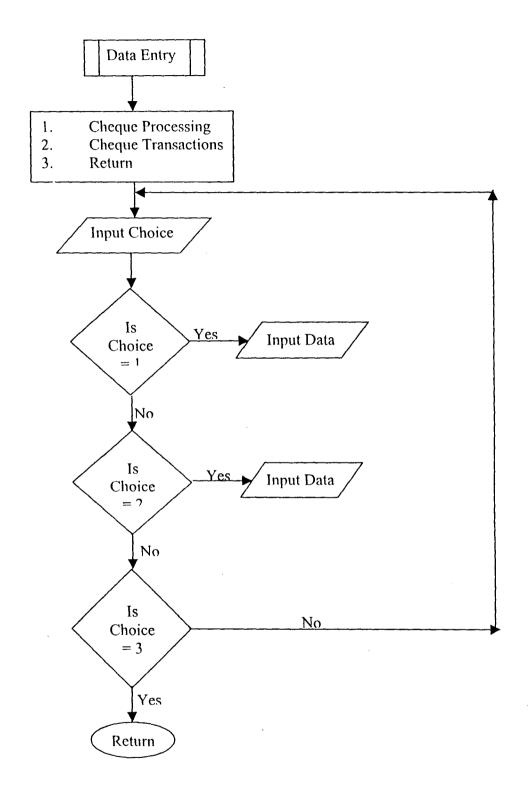
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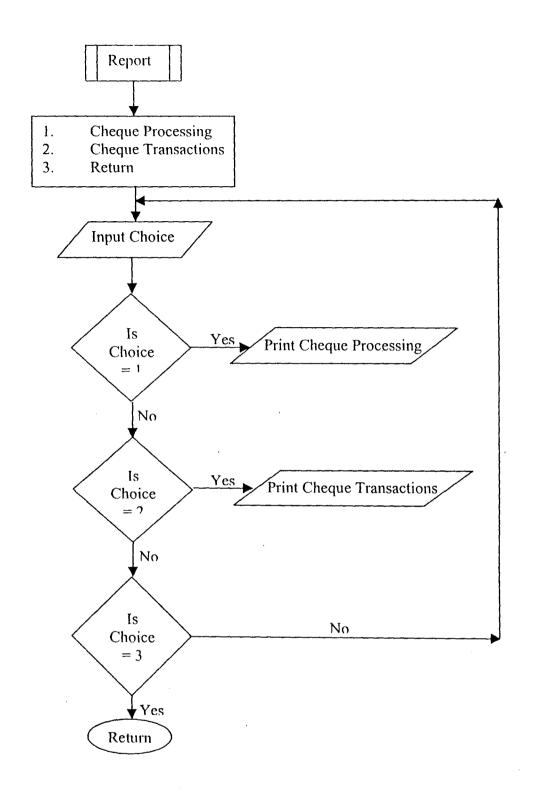
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APPENDIX I







APPENDIX II

CHEQUE TRANSACTION REPORT

04/04/02

ACCOUNT NUMBER	CHEQUE NUMBER	CHEQUE TYPE	PRESENT DATE	CLEARING DATE	AMOUNT DEPOSITED	AVAILABLE AMOUNT	CURRENT BALANCE
UBA0001	1	PERSONAL	01/02/02	03/03/02	5,000.00	120,000.00	125,000.00
UBA0002	2	PERSONAL	02/01/02	04/03/02	2,000.00	100,000.00	102,000.00
UBA0003	3	PERSONAL	02/02/02	04/04/02	2,500.00	150,000.00	152,500.00
UBA0004	4	PERSONAL	03/02/02	04/04/02	3,000.00	100,000.00	103,000.00
UBA0005	5	PERSONAL	03/03/02	05/04/02	5,000.00	120,000.00	125,000.00

APPENDIX III

```
Caption = "A project developed by:",;
      Height = 25;
      Left = 193,;
      Top = 116, ;
      Width = 222,;
      ForeColor = RGB(128,64,0),;
      BackColor = RGB(128,0,64),;
      Name = "Label3"
ADD OBJECT label6 AS label WITH;
      AutoSize = .T.,;
      FontBold = .T.,;
      FontItalic = .F.,;
      FontSize = 10,;
      BackStyle = 0,;
      Caption = "PGD/MCS/99//",;
      Height = 18,;
      Left = 264,;
      Top = 168.:
      Width = 89.:
      ForeColor = RGB(84,18,109),;
      BackColor = RGB(0,64,128),;
      Name = "Label6"
ADD OBJECT label7 AS label WITH;
      AutoSize = .T.,;
      FontBold = .T.;
      FontItalic = .F.,;
      FontSize = 11,;
      BackStyle = 0,;
      Caption = "MATHS/COMPUTER SCIENCE DEPARTMENT",;
      Height = 20;
      Left = 171,;
      Top = 217, ;
      Width = 327,;
      ForeColor = RGB(255,0,128),;
      BackColor = RGB(0,64,128),;
      Name = "Label7"
ADD OBJECT label8 AS label WITH;
      AutoSize = .T.,;
      FontBold = .T.,;
      FontItalic = .F.,;
      FontSize = 11,;
      BackStyle = 0,;
       Caption = "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA",
```

```
Height = 20;
             Left = 152,;
             Top = 240,;
             Width = 362,;
             ForeColor = RGB(255,0,128),;
             BackColor = RGB(0,64,128),;
             Name = "Label8"
      ADD OBJECT label9 AS label WITH;
             AutoSize = .T.,;
             FontBold = .T.:
             FontItalic = .F.,;
             FontSize = 11,;
             BackStyle = 0,;
             Caption = "IN PARTIAL FULFILMENT FOR THE REQUIREMENT
FOR THE AWARD OF ",;
             Height = 20,;
             Left = 41,;
             Top = 265, ;
             Width = 527,;
             ForeColor = RGB(255,0,128),;
             BackColor = RGB(0.64,128),;
             Name = "Label9"
      ADD OBJECT label 10 AS label WITH;
             AutoSize = .T.,;
             FontBold = .T.;
             FontItalic = .F.,;
             FontSize = 11,;
             BackStyle = 0,;
             Caption = "POSTGRADUATE DIPLOMA IN COMPUTER
SCIENCE.",;
             Height = 20,;
             Left = 112,;
             Top = 284,;
             Width = 385,;
             ForeColor = RGB(255,0,128),;
             BackColor = RGB(0,64,128),;
             Name = "Label10"
      ADD OBJECT label4 AS label WITH;
             AutoSize = .T.,;
             FontBold = .T.,;
             FontItalic = .T.,;
             FontName = "Bookman Old Style",;
             FontSize = 22,;
             BackStyle = 0,;
```

```
Caption = "Welcome to",;
      Height = 36,;
      Left = 217,;
      Top = 8,;
      Width = 175,;
      ForeColor = RGB(128,64,0),;
      BackColor = RGB(128,0,64),;
      Name = "Label4"
ADD OBJECT label2 AS label WITH;
      AutoSize = .T.,;
      FontBold = .T., ;
      FontItalic = .F.,;
      FontSize = 16,;
      WordWrap = .T.;
      Alignment = 2,;
      BackStyle = 0,;
      Caption = "CHEQUE TRANSACTIONS IN BANKING INDUSTRY",
      Height = 27,;
      Left = 17,;
      Top = 50,;
      Width = 496,;
      ForeColor = RGB(0,0,160),;
      BackColor = RGB(128,0,64),;
      Name = "Label2"
ADD OBJECT label11 AS label WITH;
      AutoSize = .T.,;
      FontBold = .T.,;
      FontItalic = .F.,;
      FontSize = 16,;
       WordWrap = .T.,;
       Alignment = 2,;
      BackStyle = 0,;
      Caption = "(A Case Study of United Bank of Africa Plc, Minna.)",;
      Height = 27,;
      Left = 28,;
      Top = 76, ;
       Width = 516,;
       ForeColor = RGB(0,0,160),;
       BackColor = RGB(128,0,64),;
       Name = "Label11"
PROCEDURE timer2.Timer
       thisform.release()
ENDPROC
```

```
PROCEDURE timer4.Timer
           i = 0.025
           DO WHILE(THISFORM.WIDTH >= 0 AND THISFORM.HEIGHT >=
0)
                 IF !(THISFORM.WIDTH = 0 OR THISFORM.HEIGHT = 0)
                       THISFORM.WIDTH = THISFORM.WIDTH - i
                       THISFORM.HEIGHT = THISFORM.HEIGHT - i
                 ELSE
                       THISFORM.VISIBLE = .F.
                       THISFORM.RELEASE
                       EXIT
                 ENDIF
           ENDDO
     ENDPROC
ENDDEFINE
*-- EndDefine: form1
PUBLIC oform1
oform1=NEWOBJECT("form1")
oform1.Show
RETURN
      ****************
*-- Form:
           form1 (c:\chequepro\flogin.scx)
*-- ParentClass: form
*-- BaseClass: form
DEFINE CLASS form1 AS form
      Top = 14
      Left = 92
      Height = 164
      Width = 337
      DoCreate = .T.
      Caption = "Form1"
      Icon = "metour.ico"
      Name = "Form1"
      ADD OBJECT cmdok AS commandbutton WITH;
            Top = 123,;
            Left = 107,;
```

```
Height = 25,;
      Width = 61,
      FontBold = .T., ;
      Caption = "<OK",;
      TabIndex = 3,;
      ForeColor = RGB(128,0,0),;
      Name = "CMDOK"
ADD OBJECT cmdclose AS commandbutton WITH;
      Top = 123,;
      Left = 170,;
      Height = 25;
      Width = 61,;
      FontBold = .T., ;
      Caption = "\<CLOSE",;
      TabIndex = 4,;
      ForeColor = RGB(128,0,0),;
      Name = "CMDCLOSE".
ADD OBJECT text1 AS textbox WITH;
      Height = 25,;
      Left = 167,;
      TabIndex = 1,;
      Top = 56, ;
       Width = 101,;
      Name = "Text1"
ADD OBJECT text2 AS textbox WITH;
      Height = 25,;
      Left = 167,;
      TabIndex = 2,;
      Top = 83,;
       Width = 101,;
      PasswordChar = "*",;
      Name = "Text2"
ADD OBJECT label 1 AS label WITH;
       FontBold = .T., ;
       BackStyle = 0,;
       Caption = "USER NAME",;
       Height = 17,;
       Left = 71,;
       Top = 62;
       Width = 84,;
       TabIndex = 5,;
       ForeColor = RGB(64,0,0),;
```

```
Name = "Label1"
```

```
ADD OBJECT label2 AS label WITH;
      FontBold = .T.;
      BackStyle = 0,;
      Caption = "PASSWORD",;
      Height = 13,;
      Left = 71.;
      Top = 88,;
      Width = 85,;
      TabIndex = 6,;
      ForeColor = RGB(64,0,0),;
      Name = "Label2"
ADD OBJECT label3 AS label WITH;
      FontBold = .T.,;
      FontSize = 12,;
      BackStyle = 0,;
      Caption = "ENTER USER NAME AND PASSWORD", ;
      Height = 25,;
      Left = 29,;
      Top = 28, ;
       Width = 317,;
      TabIndex = 7,;
       ForeColor = RGB(128,0,128),;
      Name = "Label3"
PROCEDURE cmdok.Click
        myear = thisform.text1.value
       if upper(alltrim(thisform.text2.value)) = 'CHEQ'
        flag = 0
        thisform.release()
       do form ffirst
      else
        if trial < 3
          trial = trial + 1
          flag = 1
          messagebox('Invalid Password, Try Again', 'Wrong Password')
          thisform.text2.value = ""
          thisform.refresh()
          this form.text2.set focus
        endif
        if trial = 3 and. flag = 1
          messagebox('Unauthorised User !','Wrong Password')
          quit
         endif
       endif
```

```
return
      ENDPROC
      PROCEDURE cmdclose.Click
            quit
            thisform.release()
            close all
      ENDPROC
ENDDEFINE
*-- EndDefine: form1
PUBLIC oform1
oform1=NEWOBJECT("form1")
oform1.Show
RETURN
      *************
            form1 (c:\chequepro\fprocess.scx)
*-- ParentClass: form
*-- BaseClass: form
DEFINE CLASS form1 AS form
      Top = 6
      Left = 32
      Height = 280
      Width = 453
      DoCreate = .T.
      Caption = "CHEQUE PROCESSING FORM"
      Icon = "metour.ico"
      BackColor = RGB(128, 128, 128)
      Name = "Form1"
      ADD OBJECT shape1 AS shape WITH;
            Top = 36, ;
            Left = 12,;
            Height = 193,;
            Width = 420,;
            Curvature = 75,;
            BackColor = RGB(0,128,128),;
            Name = "Shape1"
```

```
ADD OBJECT txtname AS textbox WITH;
      Comment = "",;
      ControlSource = "m.name", ;
      Format = "!", ;
      Height = 23;
      Left = 200,;
      MaxLength = 25;
      TabIndex = 2,;
      Top = 46, ;
      Width = 216,;
      Name = "txtName"
ADD OBJECT Iblname AS label WITH;
      AutoSize = .T.,;
      FontBold = .T., ;
      WordWrap = .T., ;
      BackStyle = 0,;
      Caption = "NAME",;
      Left = 32,;
      Top = 50,;
      Width = 33,;
      TabIndex = 1;
      ForeColor = RGB(0,64,128),;
      Name = "lblName"
ADD OBJECT txtcheqnum AS textbox WITH;
      Comment = "", ;
      ControlSource = "m.cheqnum", ;
      Height = 23,;
      Left = 200,;
      TabIndex = 4,;
      Top = 149, ;
       Width = 113,;
      Name = "txtCheqnum"
ADD OBJECT lblcheqnum AS label WITH;
       AutoSize = .T.,;
       FontBold = .T.;
       WordWrap = .T., ;
       BackStyle = 0,;
       Caption = "CHEQUE NUMBER", ;
       Height = 17,;
       Left = 32,;
       Top = 150,;
       Width = 99,
       TabIndex = 3,;
```

```
ForeColor = RGB(0.64,128),;
      Name = "lblCheqnum"
ADD OBJECT txtw amt AS textbox WITH;
      Comment = \overline{},;
      ControlSource = "m.w amt",;
      Height = 23,;
      Left = 200,;
      TabIndex = 6,;
      Top = 115, ;
      Width = 114,;
      Name = "txtW amt"
ADD OBJECT lblw amt AS label WITH;
       AutoSize = .T.,;
      FontBold = .T., ;
       WordWrap = .T., ;
       BackStyle = 0,;
       Caption = "AMOUNT TO BE WITHDRAWN",;
      Height = 17,;
      Left = 32,
       Top = 116, ;
       Width = 164,;
       TabIndex = 5,;
       ForeColor = RGB(0.64,128),;
       Name = "lblW amt"
ADD OBJECT txtacctnum AS textbox WITH;
       Comment = "",;
       ControlSource = "m.acctnum", ;
       Height = 23,;
       Left = 200,;
       MaxLength = 12,;
       TabIndex = 8,;
       Top = 82, ;
       Width = 112,;
       Name = "txtAcctnum"
ADD OBJECT Iblacctnum AS label WITH;
       AutoSize = .T.,;
       FontBold = .T.;
       WordWrap = .T., ;
       BackStyle = 0,;
       Caption = "ACCOUNT NUMBER",;
       Height = 17,;
       Left = 32,;
```

```
Top = 79,;
      Width = 108,;
      TabIndex = 7,;
      ForeColor = RGB(0,64,128),;
      Name = "lblAcctnum"
ADD OBJECT txtpres date AS textbox WITH;
      Comment = "",;
       Alignment = 3;
       Value = \{\}, ;
       ControlSource = "m.pres_date",;
      Format = "E",;
       Height = 23,;
       InputMask = "",;
       Left = 200,;
       TabIndex = 10,;
       Top = 183,;
       Width = 111,;
       Name = "txtPres date"
ADD OBJECT lblpres date AS label WITH;
       AutoSize = .T.,;
       FontBold = .T.,;
       WordWrap = .T., ;
       BackStyle = 0,;
       Caption = "PRESENT DATE", ;
       Height = 17,;
       Left = 32,;
       Top = 182,;
       Width = 86,;
       TabIndex = 9,;
       ForeColor = RGB(0,64,128),;
       Name = "lblPres date"
ADD OBJECT label 1 AS label WITH;
       FontBold = .T., ;
       FontSize = 11,;
       BackStyle = 0,;
       Caption = "CHEQUE PROCESSING FORM", ;
       Height = 24,;
       Left = 112,;
       Top = 12, ;
       Width = 228,;
       ForeColor = RGB(0,0,128),;
       Name = "Label1"
```

```
ADD OBJECT shape2 AS shape WITH;
      Top = 231, ;
      Left = 12,;
      Height = 39,;
      Width = 433,
      BorderWidth = 2,;
      Curvature = 15,;
      BackColor = RGB(247,236,191),;
      BorderColor = RGB(130,82,30), ;
      Name = "Shape2"
ADD OBJECT cmdadd AS commandbutton WITH;
      AutoSize = .F.;
      Top = 238,;
      Left = 17,;
      Height = 25,;
      Width = 59;
      FontBold = .T.,;
      FontName = "Century Schoolbook",;
      FontSize = 9,;
      Caption = "\Add",;
      TabIndex = 10.:
      ForeColor = RGB(0,0,160),;
      Name = "cmdadd"
ADD OBJECT cmddelete AS commandbutton WITH;
      AutoSize = .F.,;
      Top = 238,;
      Left = 78,;
      Height = 25;
       Width = 59,;
      FontBold = .T.;
      FontName = "Century Schoolbook",;
      FontSize = 9,;
       Caption = "\<Delete",;
      TabIndex = 11,;
      ForeColor = RGB(0,0,160),;
      Name = "cmddelete"
ADD OBJECT cmdmodify AS commandbutton WITH;
       AutoSize = .F.,;
       Top = 238, ;
      Left = 139,;
      Height = 25,;
       Width = 59,;
       FontBold = .T., ;
       FontName = "Century Schoolbook",;
```

```
FontSize = 9;
      Caption = "\<Modify",;
      TabIndex = 12,;
      ForeColor = RGB(0,0,160),;
      Name = "cmdmodify"
ADD OBJECT cmdclose AS commandbutton WITH;
      AutoSize = .F.;
      Top = 238,;
      Left = 200,;
      Height = 25,;
      Width = 59,;
      FontBold = .T.,;
      FontName = "Century Schoolbook",;
       FontSize = 9,;
      Caption = "\<Close",;
      TabIndex = 13,;
      ForeColor = RGB(0,0,160),;
      Name = "cmdclose"
ADD OBJECT cmdfirst AS commandbutton WITH;
      AutoSize = .F.,;
      Top = 238, ;
      Left = 262,;
      Height = 25;
       Width = 43,;
       FontBold = .T.;
       FontName = "Century Schoolbook",;
       FontSize = 9;
      Caption = "<<",;
      TabIndex = 14,;
       ForeColor = RGB(0,0,160),;
       Name = "cmdfirst"
ADD OBJECT cmdnext AS commandbutton WITH;
       AutoSize = .F.,;
      Top = 238,;
       Left = 352,;
       Height = 25,;
       Width = 43,;
      FontBold = .T., ;
       FontName = "Century Schoolbook",;
       FontSize = 9,;
       Caption = ">",;
       TabIndex = 16,;
       ForeColor = RGB(0,0,160),;
       Name = "cmdnext"
```

```
ADD OBJECT cmdlast AS commandbutton WITH;
      AutoSize = .F.,;
      Top = 238,;
      Left = 397,;
      Height = 25,;
      Width = 43,;
      FontBold = .T.,;
      FontName = "Century Schoolbook",;
      FontSize = 9,;
      Caption = ">>", ;
      TabIndex = 17,;
      ForeColor = RGB(0,0,160),;
      Name = "cmdlast"
ADD OBJECT emdprevious AS commandbutton WITH;
       AutoSize = .F.,;
      Top = 285,;
      Left = 315,;
      Height = 25,;
       Width = 43,;
      FontBold = .T.,;
       FontName = "Century Schoolbook",;
      FontSize = 9,;
       Caption = "<", ;
       TabIndex = 15,;
      ForeColor = RGB(0,0,160),;
      Name = "cmdprevious"
ADD OBJECT command1 AS commandbutton WITH;
       AutoSize = .F.,;
       Top = 239,;
       Left = 306,;
       Height = 25;
       Width = 44,;
       FontBold = .T.,;
       FontName = "Century Schoolbook",;
       FontSize = 9,;
       Caption = "<",;
       TabIndex = 15,;
       ForeColor = RGB(0,0,160),;
       Name = "Command1"
PROCEDURE cmdadd.Click
       IF THIS.CAPTION = "\<Add New"
```

```
ans = MESSAGEBOX("This Record is about to be Deleted, Proceed?",
4 + 32, "Warning")
            IF ans = 6
                  IF !EOF()
                        DELETE
                        PACK
                        SCATTER MEMVAR MEMO BLANK
                        THISFORM.REFRESH
                  ELSE
                        MESSAGEBOX("End of File Encoutered", 0 +
64,"Warning")
                  ENDIF
            ENDIF
      ENDPROC
      PROCEDURE cmdmodify.Click
            IF USED("tprocess")
                  SELE tprocess
            ELSE
                  SELE 0
                  USE tprocess
            ENDIF
            IF THIS.CAPTION = "\<Modify"</pre>
                  THISFORM.SETALL("readonly",.F., "textbox")
                  THISFORM.SETALL("readonly", F., "editbox")
                  THISFORM.SETALL("readonly",.F.,"combobox")
      THISFORM.SETALL("ENABLED",.F.,"COMMANDBUTTON")
                  THISFORM.cmdclose.ENABLED = .T.
                  THIS.ENABLED = .T.
                  THIS.CAPTION = "\<Save"
                  THISFORM.REFRESH
            ELSE
                  GATHER MEMVAR MEMO
                  THIS.CAPTION = "\<Modify"
                  THISFORM.SETALL("readonly",.T.,"textbox")
                  THISFORM.SETALL("readonly",.T.,"editbox")
                  THISFORM.SETALL("readonly",.T.,"combobox")
      THISFORM.SETALL("ENABLED",.T.,"COMMANDBUTTON")
            ENDIF
      ENDPROC
      PROCEDURE cmdclose.Click
            THISFORM.RELEASE
      ENDPROC
```

```
PROCEDURE cmdfirst.Click
     IF USED("tprocess")
            SELE tprocess
      ELSE
            SELE 0
            USE tprocess
      ENDIF
      IF !BOF()
            GO TOP
      ELSE
            MESSAGEBOX("This is the First Record", 0 + 64,"Warning")
      ENDIF
      SCATTER MEMVAR MEMO
      THISFORM.REFRESH
ENDPROC
PROCEDURE cmdnext.Click
      IF USED("tprocess")
            SELE tprocess
      ELSE
            SELE 0
            USE tprocess
      ENDIF
      IF !EOF()
            SKIP 1
      ELSE
            MESSAGEBOX("This is the Last Record", 0 + 64, "Warning")
      ENDIF
      SCATTER MEMVAR MEMO
      THISFORM.REFRESH
ENDPROC
PROCEDURE cmdlast.Click
      IF USED("tprocess")
            SELE tprocess
      ELSE
            SELE 0
            USE tprocess
      ENDIF
      IF !EOF()
            GO BOTTOM
      ELSE
            MESSAGEBOX("This is the Last Record", 0 + 64,"Warning")
      ENDIF
      SCATTER MEMVAR MEMO
      THISFORM.REFRESH
ENDPROC
```

```
PROCEDURE cmdprevious.Click
            IF USED("tprocess")
                  SELE tprocess
            ELSE
                  SELE 0
                  USE tprocess
            ENDIF
            IF !BOF()
                  SKIP-1
            ELSE
                   MESSAGEBOX("This is the first Record", 0 + 64, "Warning")
            ENDIF
             SCATTER MEMVAR MEMO
            THISFORM.REFRESH
      ENDPROC
      PROCEDURE command1.Click
            IF USED("tprocess")
                   SELE tprocess
             ELSE
                   SELE 0
                   USE tprocess
             ENDIF
             IF !BOF()
                   SKIP-1
             ELSE
                   MESSAGEBOX("This is the first Record", 0 + 64,"Warning")
             ENDIF
             SCATTER MEMVAR MEMO
             THISFORM.REFRESH
       ENDPROC
ENDDEFINE
 *-- EndDefine: form1
 *Menu Section
 ******
set device to screen
clear
SET SYSMENU OFF
CLOSE ALL
CLEAR
 set date to brit
set safety off
 set color to w/b
 set exclusive on
 set date to brit
```

```
set century on
set status off
set talk off
```

clear set path to c:\chequepro set defa to c:\chequepro

PUBLIC MY, myear store space(9) to myear PUBL mdate, mno, xyr,prval,date mdate = {//}

_screen.icon = "Metour.ico"
_screen.caption = "CHEQUE TRANSACTIONS IN BANKING INDUSTRY"
_screen.picture = "LOGO.bmp"
sele 0
do form flogin

set exact on
SET DATE TO BRIT
set century on
SET SYSMENU OFF
CLOSE ALL
CLEAR
set safety off
clear

public validck, prval

sele a store 0 to validck zoom window screen max

my = 0

sele 1 do form ffirst

if validck > 0 quit endif set sysmenu save set sysmenu to do mainmenu.mpr read events return