COMPUTER APPROACH TO COLLECTION AND DISSEMINATION OF CREDIT INFORMATION TO FINANCE INSTITUTIONS IN NIGERIA

[A CASE STUDY OF CENTRAL BANK OF NIGERIA CREDIT BUREAU]

BY

SUSAN YUSUF [MRS.] PGD/MCS/682/97/98

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SEPTEMBER, 2001

COMPUTER APPROACH TO

COLLECTION AND DISSEMINATION OF CREDIT INFORMATION TO FINANCE INSTITUTIONS IN NIGERIA

BY

SUSAN YUSUF [MRS.] PGD/MCS/682/97/98

A project submitted to the Department of Mathematics/Computer Science, Federal University of Technology, Minna, Nigeria in partial fulfilment of the requirements for the award of the Post-Graduate Diploma in Computer Science.

September, 2001

APPROVAL PAGE

This Project work has been read and approved by the undersigned, as meeting the requirements of the Department of Mathematics/Computer Science, Federal University of Technology, Minna.

PRINCE R. O. BADAMOSI PROJECT SUPERVISOR	DATE
DR. S. A. REJU HEAD OF DEPARTMENT	DATE
EXTERNAL EXAMINER	DATE

ACKNOWLEDGMENT

I wish to convey my sincere appreciation to all those who have contributed in one way or the other toward the successful completion of this project.

First and foremost, I give thanks and praise to God Almighty, my Lord and Saviour Jesus Christ for His love, protection and guidance throughout the period of this program.

I specifically thank God Almighty for his journey mercies on the road throughout the numerous regular trips between Abuja and Minna. I thank you Lord Jesus. Prince Badmus my Project Supervisor for the encouragement, positive criticisms and useful suggestion he gave me and for patiently going through my script and making corrections where I made mistakes. To him I am very greatly indebted. I am also thankful to all the lecturers in Computer Science Department for the knowledge they imparted in me.

In course of data collection, I would not hesitate to convey my regards to Mr. Omogbude, Mal. Abubakar Safe of Computer Science Department of Central Bank of Nigeria, Mr. Lawrence Nwobodo, Mr. P. S. Idajili of Credit Risk Management Office of Central Bank of Nigeria and many others numerous to mention. I wish to extend my special thanks to my entire family members.

To all and sundry, I thank you for all your cooperation and support. My sincere appreciation also go to my friend and course mates Mrs. Hajara Ibrahim, Mr. Olu Akinjinsola etc. for their moral and friendly support of this work. This acknowledgment will not be completed without my special thanks to Mr. L. A. Ajayi who took his time in the typing of the manuscript. May the Almighty Father continue to bless him and his wonderful family. Amen.

DEDICATION

This research work is dedicated to God Almighty for everything he has done for me, still doing for me and has planned to do and perfect in me. To my dear loving husband Mr. A. F. Yusuf [ACP]. Also to our beloved children Festus Otaru Yusuf, Daniel Adeiza Yusuf, James Ozovehe Yusuf and Faith Ahuoiza Yusuf.

ABSTRACT

The project looks at the method of Collection of Data and Dissemination of Credit Information about customers of banks who borrowed money from the banking system.

It further considered how to keep this information in electronic the form which is using the latest information technology tools. This is with view to facilitating the aggregation of this loan facilities.

The purpose of this research work is therefore to primarily identify predatory debtors who move from one financial institution to another obtaining loan without ultimate purpose of repayment within the stipulated period.

TABLE OF CONTENTS

		Page
Approval Page		i
Acknowledgment		ii
Dedication		iii
Abstract		iv
Table of Contents		V - V
Chapter 1		
Introduction		
1.1 Camonaia	e e	
1.1 Synopsis1.2 Statement of Proble	ms	
	es of the Study	
	Study	
- · · ·	Study	
Chapter 2		
Literature Review		
Chanton 2		
Chapter 3		9.
Systems Analysis and	Design	
3.0 System Design	ķ	
Chapter 4		
T 1		
Implementation		
A O I anguaga Chasan		
4.0 Language Chosen	ge Chosen	
	tsHardware Requirement	

4.3 Software Req	uirement
4.4 System Testin	ıg
4.5 System Securi	ity and Control
	enance & Recovery Strategy
Chapter 5	
SUMMARY, CO	ONCLUSION AND RECOMMENDATIONS
5.1 Summary	
5.2 Conclusion	
5.3 Recommendar	

LIST OF CODES FOR INPUT FORMS

- 1. Legal Status Code
- 2. Loan Type Code
- 3. Security Code
- 4. Repayment Status Code
- 5. Purpose Code
- 6. Business/Occupation [Sector] Code
- 7. Change Type Code
- 8. ID Code
- 9. Position held Code
- 10. Valuer Code
- 11. Classification Code
- 12. Official Status Code
- 13. Remarks Code

LEGAL STATUS CODE

CODE	LEGAL STATUS
01	Individual Nigerian
02	Sole Proprietor
03	Partnership
04	Private Limited Company
05	Public Limited Company
06	Joint Account Holder
07	Individual [Foreigner]
08	Government
09	Parastatals
10	Trade Union
11	Society/Association
12	Cooperative
13	Others

LOAN TYPE CODE

CODE	DESCRPTION OF LOAN TYPE
10	Advances
15	Fixed Term Loan
20	Advances under Lease
25	Mortgage Loan
30	Bills Discounted
35	Trust Receipts
40	Factored Debts
45	Bankers Acceptances
50	Commercial Papers
55	Hire Purchase
60	Others

SECURITY CODES

CODE	DESCRPTION
10	Clean
15	Real Estate
20	Plant/Equipment
25	Time, Savings Deposits, Other Cash Deposits
30	Government, Corporate
35	Hypothecation of Warehouse Receipts or Warrants
40	Life Insurance Policies
45	Others

PURPOSE CODES

CODE

1	Purchase of Land
2	Purchase of residential, commercial or industrial property
3	Purchase of Stocks and Shares
4	Purchase of Machinery and Equipment
5	Purchase of Stock and Inventory
6	Purchase of Commercial vehicle
7	Purchase of Consumer Durables
8	Financing of Joint Venture Business
9	Financing of New Enterprise
10	Financing of Export/Import Business
11	Financing of manufacturing Operation
12	Financing Agricultural Projects
13	Financing of Research and Development
14	Financing of Contract Work
15	Financing of Tourism related projects
16	Financing Aviation Projects
17	Financing of Other Working Capital

CHAPTER ONE

INTRODUCTION

BACKGROUND

CREDIT ADMINISTRATION

The objective of credit investigation is the acquisition of adequate information about the applicant to determine or assess his willingness and capability to service the loan when in accordance with the loan agreement. Its benefit is that it enables the bank to determine the degree of risk its willingness to assume the amount of credit that can be prudently extended given the risk involved and the terms and conditions for making the loan.

In carrying out credit investigation the following factors must be considered:

Character

- Refers to the determination to pay. It is the basic element in the
 extension of credit irrespective of whether or not the amount involved is
 large and whether the advance should be made with or without a
 security.
- The credit analyst in his examination of this factor should investigate the past record of the applicant. He should find out all he has regarding the applicant background, his associates, his records of honest dealings and other things that have bearing on the applicants willingness to discharge his obligation according to agreement. It must be borne in mind that character is tested by hard times, by poor business, by shortages of cash and lack of adequate credit than when ample money is available to discharge all obligation.

Capacity

Relates to applicant's ability to perform and also his legal capacity. No matter how honest a man is if his ability or capacity is below standards his desire to pay may not be sufficient to ensure ultimate repayment of the loan. Accordingly the credit analyst is expected to raise a number of questions concerning the applicants business ability such as experience gained in the business, the extent of training in the particular line of business, his ability to adopt to changing business condition that are influenced by government decisions/policies and technological advancement.

Capital

The analyst must seek answers to the following questions:

- 1. Does the applicant have enough capital to enable him operate effectively?
- 2. What are the borrowers net liabilities from other sources?
- 3. To what extent have previous earnings been capitalized?

The amount of capital available in a firm is a measure of past commercial successes and it provides a buffer to cushion future losses.

Condition

The general business condition and the condition in a particular industry in which the cash is operating is of great importance since the bank desire as to whether or not to be liberal will depend on if the business is at recession, recovery or boom.

CREDIT APPRAISAL

Is the process of assessing the risk of lending to a business or individual against the benefit to accrue from the loan. The basis of assessment are more qualitative than quantitative. Qualitative assessment include the following.

- To gather and appraise information regarding borrower's financial records of responsibility.
- To determine the true or correct need of the borrowing.
- To identify the risk facing the borrower's business under current and prospective economic situation.
- To estimate the degree of commitment regarding repayment.

Quantitative assessment include the following:

- 1. Analysis of historical financial data.
- 2. The projection of future financial result so as to evaluate:

The customers capacity for timely repayment of the loan.

The ability of the business to financially survive possible industrial and economic reverses.

The following factors must be considered in assessing a proposal:

1. Purpose of Borrowing

The credit analyst is interested in the reasons for which loan is required because apart from ascertaining the legality or otherwise, the purpose of borrowing will among other things, enable him determine the viability of the proposal and ensure that the purpose is in accordance with the bank policy.

It will also assist in ascertaining the sufficiency of the amount required and whether the borrowing is ultra vires the company. The purpose of borrowing is the first consideration in credit appraisal and analyst must ensure that it is realistic and beneficial to the company's financial need.

Usually the purpose for which a loan is required will help determine the terms of the advance.

2. Amount Required

The customer is required to give as precise as possible the amount required to finance the required planned project and to state in which form the credit is required.

The amount required should be viewed in proportion to borrowers own resources contribution to the project. The analyst will need to ascertain the following:

Is there any government current restrict and is the amount within borrowing powers?

Is the amount correctly calculated and sufficient for the customer's need? It is expected that the customer should give cash requirement schedule of the project and to explain the means of financing the project. It is also expected to ensure that all that should be included has been taken care of.

Is the amount realistic in relation to the customers stake in the business? Note that the borrowers stake could depend on the purpose of the loan.

Have allowances been made for possible cost over all?

Duration

For how long will the loan be required will depend on the purpose of the loan and in some cases the character of the borrower. The analyst should be able to identify what the loan tenor is on request and determine if the loan tenor is comfortable in the light of the borrowers cash flow. It should endeavour to identify what other alternative exist.

Generally, it is advisable to ascertain the duration of the project before deciding when the loan should be repaid. This is because it is wrong to ask a customer to repay when the purpose and benefits of the project have not been realized.

On the other hand if the repayment period is so far from the time the project is realized, the fund may be diverted to another thing altogether and this may hamper repayment. This explains why any moratorium given should not be too long.

Repayment Ability

This is a very crucial element in bank lending cause even if the customer has adequate security, without any feasible means of repaying the loan, the bank may not grant the advance. It is therefore logical for a credit analyst to ascertain whether resources will be available to meet repayment for cash flow. Any repayment which come from outside resources should be appraised with great concern.

Security

This is the last cushion on which a lender falls after exhausting all avenues of recovering the loan [debt]. However, it is advisable that security be taken as an insurance and not the main justification for advancing credit. The real security for any lending should be the character of the borrower and the viability of a proposal. Despite the effort of the credit analyst, scrutinizing individuals/company/partnerships in obtaining a credit from banks, there has been severe failure of customers in servicing their loans as per the agreement. In pursuant to this the credit risk management system was introduced as a better section to minimize the distress situation in the financial system.

The credit risk management system is a computer based data gathering, processing and information dissemination system. The information on all credit facilities of N1 million [one million Naira] and above given by banks to their various customers are fed into the system.

There are two versions of the CRMS namely credit risk management bureau [CRMB], the financial institutions [FI] capture date information relating to the credit customers and by means of "Export of Diskette" to CBN together with hard copies return are made to the bureau on regular basis.

The other version of the program is the CRMS, which resides in the main server located at EDP unit of banking supervision department. The program includes also a diskette transfer system [DTS] Data Transfer System, which enables the "export diskettes from the [FI] Financial Institution, to be converted and subsequently loaded into the main database of the CRMS.

Here the information/data from various banks [FI] are consolidated with ech bank customer assigned a unique identification code [Borrower Code].

With the assigned code, reference the participating financial institution can make and obtain credit status report of their customers from the credit bureau. The main objective of the credit management system is to avail the FI the opportunity to stop the predatory debtors of FIs who go about borrowing money from one institution to another without repayment thereby rendering the banks distress.

There are cases when the same set of customers obtain loans from several banks and same attitude or rendering such loans classified.

AIMS AND OBJECTIVE OF THE STUDY

The main objective of the system are:

To maintain up-to-date information on borrowers of N1,000,000 and above.

To allocate unique code number to all financial institution customers that are involved in the credit risk.

To keep the central management informed on the large borrower i.e. those with credit of N1,000,000 and above.

To provide all the necessary information on delinquent credits.

To generate various statistical analyses from monthly credit reports sent by financial institution.

1 60

To generate necessary report on credit for financial institution.

SIGNIFICANCE OF THE STUDY

People have started loosing confidence in banking due to the insecurity in

the financial system. The situation got worse some few years ago when about 25% of the banks in the financial system could not carry out their preliminary duties to their customers. In order to minimize this level of mistrust on banks, the credit risk management system fits into the role of further prevention of banks misfortune.

The major functions of the system are to collate credit financial and all other relevant economic information on customer of financial institutions.

The system is also responsible for consolidating and furnishing such information on request, and in confidence to all participating financial institutions with the overall objective of strengthening the credit appraisal procedures of participating financial institutions with a view to enhancing credit quality in the financial system as a whole.

SCOPE AND LIMITATION

The study cover details on the role of credit risk management bureau of the CBN in the administration of appraisal of credit in the financial institutions.

I encountered a lot of problems during the period of this project. Some of them are:

As a full time employee, my free period hardly ever agreed with the free period of the employees in the credit risk management office hence it was often difficult to fix interview appointments.

A limited number of personal computers were allocated to post graduate students in the computer centre of the University, therefore it was difficult to get a PC to practice with, especially on those with oracle application for the purpose of writing the program.

Since I am not residence in Minna, and as an employee of Central Bank, I am always on official duties thus hardly have time to travel to Minna where my Supervisor resides.

CHAPTER TWO

LITERATURE REVIEW

AGGREGATE LIMIT

In the course of the study, a customer of a Participating Financial Institution having aggregate authorized limits in all forms of credit facilities of N1,000,000 [One million Naira] and above as at the date of reporting shall be deemed to be within the scope of the credit coverage of the Bureau.

On the other hand, a customer of a Participating Financial Institution shall be deemed to be outside the scope of the credit coverage of the bureau, if the amount of his aggregate outstanding balances of all forms of credit facilities are below N1,000,000 [one million Naira].

Type of Credit

Credit facilities are defined to include:

- i. Advances/overdrafts
- ii. Fixed term loan
- iii. Advance under lease
- iv. Mortgage Loan
- v. Bills discounted
- vi. Factored debts
- vii.Bankers acceptances
- viii.Commercial papers
- ix. Hire purchase
- x. Any other credit not specifically referred to above.

Reporting System

For the purpose of these Guidelines, BS 200, BS 200A, BS 201, BS 201A and BS 201B reporting system will cover the various categories of borrowers listed below:

- * All existing borrowers who were reported on Form BS 201 or BS 201A as falling within the credit scope of the Bureau in the preceding month.
- * All new borrowers whose code number were obtained from the Bureau through Report BSR 207 [Financial Institutions customers code numbers] and whose aggregate credit facilities fall within the credit scope of the bureau for the first time in the month for which Forms BS 201 is to be submitted.

However, Form BS 201 or BS 201A reporting system will not cover all borrowers who were reported in the form BS 201 or 201A as outside the credit scope of the Bureau for the first time in the preceding month and continue to remain so as at the end of the month for which form BS 201 or form BS 201A is to be submitted.

Outside the Scope of Borrowers

All borrowers who have been outside the scope of the Bureau in the preceding month but who have come within the scope once again as at the end of the month for which Form BS 201 or BS 201A as at the end of the month in which they come within the credit scope.

For example, if borrower X was outside the scope as at the end of January, 1993, but came within the credit scope as at the end of February, 1993, he should be reported on Form BS 201 to be submitted during the month of March, 1993. This arrangement is necessary for updating credit, interest rate, loan purposes and loan securities, wherever applicable.

Within the Scope of Borrowers

All borrowers who came within the credit scope for the first time as a the end of the month are actually the new borrowers to whom borrowers' code numbers have not yet been assigned by the Bureau, pending submission of Form BS 200/BS 200A [Request for code numbers for customers]. For this category of borrowers, they are to be reported as at the end of the month immediately following the month in which they first came within the credit scope of the Bureau, if they continue to remain so as at the end of the following month.

For example, if borrower Y come within the credit scope as at the end of March, 1993, for the first time, he should first be reported on the form BS 200/BS 200A [Request for code number for customer] and then on form BS 201 to be submitted along with the other April 1993 credit returns.

Frequency of Reporting

The Participating Financial Institutions are required to submit to the bureau on form BS 200/200A the particulars of their customers, who fall within the credit scope of the Bureau for the first time, with regard to their outstanding balances and limits of their credit facilities as at the last day of every month. This request will be used to furnish code numbers to the requesting financial institution.

The Participating Financial Institutions are also required to submit for the first month on BS 200 and thereafter on monthly basis to the Bureau on form BS 201 or BS 201A and BS 201B, particulars of their customers who fall within the scope of the Bureau with regard to the outstanding balances and limits of their credit facilities as at the end of every month.

Input Form Usage

BS 200/200A-Request for Code Number for Customers

The form will be used to capture information for customer that is interested in obtaining credit. The financial institution will complete the form and send to the Credit Risk Management Bureau, requesting for customer's code number.

Some of the information on this form are Financial Institution code, Borrowers name and address, National Identity Number, Borrowers' Financial Information and Directors/Shareholders information of the company.

Form BS 200 and 200A will be used by the participating financial institutions to request from the Bureau the code numbers for each of their customers who fall within the credit scope of the Bureau for the first time.

Form BS 200 should be submitted for each of the customers within 7 working days following the last working day of the month. Form BS 200A should be completed and sent along with Form BS 200 if only the borrower has no passport number or Driver's licence number. In requesting for code numbers the participating financial institutions are required to supply the Bureau in the relevant column/boxes provided on form BS 200 and BS 200a [if need be], the full particulars of such customers.

Information supplied by Financial Institutions on form BS 200 in respect of their customers, are supposed to be the most accurate and current. In returning form BS 200, they must be arranged in alphabetical order, based on the first letter of their names and consecutively numbered, commencing with No. 1 for the first form BS 200 in each month.

PROCEDURES FOR COMPLETION

Form BS 200A should be completed and sent along with Form BS 200 if only the borrower has no passport number or Driver's Licence number.

Form BS 200A must be attached to the relevant form BS 200. The number is to be completed against the heading "Form Serial Number" on the top right-hand corner of the form.

Guidelines for the completion of the various items on the form are given as follows:

i. Item A - Borrower Code

To be completed by the Credit Bureau.

ii. Item B - Financial Institution Code

This item should be completed by the participating financial institution by completing the boxes with the appropriate code numbers which had been assigned to them by the Central Bank. The four digit code number must be used in all reports submitted to the bureau.

iii. Item C Date

This refers to the month end date for which the submission relates. The 8 boxes must be completed in the order of day, month and year by treating the monthly date as numerals. If the date or month is a single digit numeral, it should always be preceded by a "O".

The year should be denoted by four digits of the numerals.

For purposes of illustration, some examples are shown below:

TO BE COMPLETED ON FORM BS 200 AS FOLLOWS:

Example [a]	30/09/1992								
		3	0	0	9	1	9	9	2
Example [b]	31/01/1992	3	1	0	1	1	9	9	2
Example [c]	30/12/1992	3	0	1	2	1	9	9	2

iv. Item D - Borrower's Full Name and Titles [if any] plus the Address

To facilitate the assigning of code numbers to the borrowers by the Bureau, it is essential that participating financial institutions should provide full and accurate names and addresses of their customers.

- a. In the case of borrowers who are individuals, their names should be exactly the same as those appearing on their driving licences, passports or National Identity Cards [when they are introduced].
- b. However, in the case of borrowers which are limited liability companies, partnership or society etc., their names should be the same as those used for registration with the relevant authorities.

- c. All titles such as "Mr.", "Dr.", "Alhaji", "Chief", "Omoba", "Sir", "Mrs.", "Ogbuefi", "Mallam", etc. should be started after their names e.g. Aliyu Natufe Mallam. The maximum number of characters in a name, including the spaces in between the words of the names, is limited to [46] characters being the maximum number of boxes provided on this form. Titles should also be reported.
- d. In order to save space the following terms should be abbreviated as follow:

Company - Co.
Limited - Ltd.
Public Limited Company - Plc.
Alias - @
Doctor - Dr.
Professor - Prof.

Care must also be taken to leave a space or blank box in between two names. Aliases or other names of a borrower who is an individual should also be reported against this item as an addition to the borrower's name by prefixing the sign "@" to the Aliases [if any].

e. In the case of joint - account borrower, a certain degree of uniformity must be maintained. It is therefore suggested that such borrowers name should be arranged in the alphabetical order based on the first letter of their surnames by prefixing the sign "&" in between the order joint-account holders. For example, Mallam Sule Wadai and Mr. Debo Adesola should be completed thus, Adesola Debo Mr. & Wadai Sule Mallam.

In respect to their addresses, the address of the first person in the above example should be indicated. The information relating to Driver's licence, passport, National ID etc. is to be fully reported, with the name and other required particulars of each of the joint-account borrowers being listed separately.

f. All names must begin with the surnames or last names

v. Item E - Short Name

To be completed by the Bureau.

vi. Item F - Address

All addresses must be completed with street numbers, street names, area [if any] town or city and state, e.g.:

- a. Gambo Shuaib Mallam22, Lagos StreetKanoKano State
- b. Adewale Dotun Chief28, Cotonu CrescentWuse, Zone 6Federal Capital Territory

Spaces or boxes must be left in between words.

vii. Legal Status

This refers to the Legal Identity of types of companies and individuals.

viii. Item H - Business/Occupation Code

This item refers to the primary nature of business undertaken or occupation of the borrower. A list of business and occupations together with their designated codes is given. The participating financial institutions are requested to be guided by this list. For instance, when completing form BS 200, the financial institution should select the appropriate business or occupation code.

- a. If a borrower is an exporter the relevant code would be $\underline{40701}$. In case the borrower is an individual the legal status would be $\underline{01}$.
- b. If the borrower is a professional, the relevant code would be <u>41110</u>. Any other occupation or business which does not fall into one of the classifications given in the list should be regarded as others.

ix. <u>Item I - Driver's Licence No./Passport No./Business Reg. No./Company Reg. No./National ID.</u>

- a. This item provides for the identification of borrowers before any borrower's code is allocated. In the meantime, the various types of identification available will be used for individuals pending the introduction of a unique national identification number. All available identification types have been provided with code numbers, as in Appendix XXVIII.
- b. In the case of foreigners, their passport numbers will be used for their personal borrowing.
- c. In the case of sole proprietorships, partnerships, limited liability companies, their business registration or company incorporation number will be applicable, while in the case of trade unions, societies/associations cooperatives etc., their registration certificate numbers will be applicable.

There are 15 boxes or spaces provided, the relevant numbers should be filled in the boxes provided, starting from the left. Remaining boxes or spaces on the right should, in all cases be left blank i.e. uncompleted.

d. In case of and alphanumeric number e.g. A72819, the "A" or any other character should be completed without any blank space between the character "A" and the digit "7" as above.

Similarly, the driver's licence numbers Business Registration No. Company Registration Number, National identity number [when available], Union Association and Societies numbers, all should have their ID codes recorded against them. In case of an individual who has a driver's licence and passport, the two numbers must be provided.

x. Item J - Check Total

Items with asterisk "*" mark would be used for control purpose, hence, the arithmetical addition of items B, G and H, i.e. Financial Institution code, legal status code and Business Occupation Code should be used for calculating Check Total.

For example, if the Financial Institution code is 0042, the legal status code is 03, the Business occupation code is 40707, then the arithmetical addition of the three numbers or the check total is 40746, calculated thus:

 $0042 \\
03 \\
\underline{40701} \\
40746$

xi. <u>Item k - Borrower's Financial Information [if applicable]</u>

This comprises items k.1, k.2, k.3, k.5 and k.6 when reported, they must be treated as a composite item; in other words, all the items under this heading must be completed including indicating a zero position for the unappropriated profits on the reserves when there is a nil position. It must be emphasized that the financial information to be reported must be the position of the borrower itself and not the consolidated position of the group of companies where the borrower is the holding company or one of the subsidiaries of the holding company. In the case of borrowers which are companies, the financial information to be reported must always be obtained from the latest audited financial statements.

Where audited financial statements are not available, financial information obtained from unaudited financial statements may be used. However, where unaudited financial statements are not available, this composite item may then be left blank or uncompleted.

a. Item k.1 Financial Year End

This refer to financial year closing date for the borrowers business operations. The date should be reported as a numeral. The participating financial institution must ensure that this item is completed when reporting on the financial information of the borrowers on Form BS 200.

b. Item k.2 Audited accounts [1] or unaudited accounts [2]

This refers to the type of financial statements from which financial data/information are obtained or reported to the Bureau. The participating financial institution should fill the box with either "1" should be inserted in the box; if the financial statement is unaudited, "2" should be inserted in the box. Financial institutions must ensure that this item is completed when completing Form BS 200.

c. Item k.3 Paid up Capital [N'000]

This refers to the borrower's paid up capital. It should be reported to the nearest thousand Naira. The figures should be reported in the boxes provided, commencing with the first box on the left e.g. a capital of N1,000,000, "1,000" will be applicable using the first four boxes starting from the left e.g.

1 0 0 0

d. Item k.4 Reserves [N'000]

These refer to all kinds of reserves of a borrower which constitute part of the shareholders' funds. It should be reported in the same manner as described in k.3 - Paid up Capital under [c] above. It must

be completed "left justified" i.e. the boxes must be completed starting from the left. All amount must be reported to the nearest thousand Naira.

e. <u>Item k.5 Unappropriated Profits/Accumulated Losses [N'000]</u>

This refers to the unappropriated profits/accumulated losses of borrower as at the close of the financial year, which is to be carried forward to the next accounting period. It should be reported in the same manner described in item k.3 - Paid up capital under [c] above. However it should be noted that there could be a "NIL" position if the borrower has just commenced business or in the unlikely event, the borrower has completely transferred the unappropriated profits to the Reserve Account.

In the event that there are no unappropriated Profits or accumulated losses to be reported under this item a "0" should be inserted in the first box provided from the left for this item. At the same time the number "3" should be completed I the box provided for item. k.6.

f. <u>k.6 Unappropriated Profits [1] or accumulated Losses [2] or Nil Position [3]</u>

This refers to the actual position of the figures reported against item k.5 for unappropriated profits/accumulated losses. It must be clearly indicated against this item whether the position reported against item k.5 is "Profit" or "Losses", or "NIL" Position by inserting either "1" or "2" or "3" respectively in the box provided.

The number "1" indicates "unappropriated profits the number "2" indicates "accumulated losses" and the number "3" indicates a "NIL" position.

xii. Item L - Check Total [2]

This item refers to the arithmetical addition of items - k.2, k.3, k.4, k.5 and k.6. For the purpose of calculating the check total, refer to item x.

xiii.Directors/Shareholders Information

This item seeks to capture information on the management and ownership of borrower companies. The information required covers the following:

- i. Directors/Shareholders Code
- ii. Directors
- iii. Short name
- iv. Official status
- v. ID Code
- vi. Driver's licence No. Passport No., National Identity No., Business Reg. No., Company Inc. No.
- vii.Legal Status
- viii.Equity Interest
- ix. Appointment Date
- x. Position held
- xi. Liability as Guarantor [N'000].

BS 201 - Return of Credit Facilities

This form is designed for the rendition of returns on the credits, security held and contingent liabilities. Some of the information on the Form are Financial Institution Code, Borrower code, Date of reporting information on credits, contingent liability and information on securities. This form will be completed by the financial institution. The data capturing will be done by the financial institution and information capture on diskette.

It should be submitted for the first time in which information is rendered on credits. Subsequent returns should be on BS201A or BS201B if additional credits etc. is obtained.

Procedure for Completion

a) Form BS201 should be submitted as early as possible but not later than 21 days from the last date of submission of Form BS 200/200A request for code numbers for customers.

- b) Form BS201 should be prepared on and submitted on consolidated basis by the head office of each financial institution and minimum amount of credit facilities which should be reported is N100,000 to the nearest thousand Naira [N'000]. Each outstanding credit facilities within the credit scope of the bureau shall be compiled and entered into Form BS201 for submission to the bureau. In the case of a borrower who has obtained credit facilities at more than one branch of a financial institution, the outstanding credit facility of such a customer at each of the branches shall be consolidated into one single report on form BS201 as the aggregate amount of the credit facilities adds up to N1,000,000. For example, if a customer of XYZ bank had obtained credit facility of N400,000.00 each from 3 branches of the bank, the head office of the bank will consolidate the total credit and report same to the bureau because the aggregate is more than the minimum of N1,000,000 that should be reported or in order words, the credit is within the scope of the bureau.
- c) The items/columns required to be completed on Form BS201 are explained below. The diskette will be forwarded to the Credit Risk Management Bureau. The financial institutions are expected to accomplish the diskettes with the report listing.

d) Item B Borrowers Code

This refers to the code numbers assigned by the bureau to each borrower and supplied to the participating financial institution on report BSR207. It is the responsibility of the financial institution to ensure that the code number inserted on the form is correct at all times.

e) Item D Aggregate Outstanding Amount

This refers to the aggregate outstanding credit of the customer. This includes all types of credit from all the branches of the financial institution which is consolidated at the head office. This amount must be reported to the nearest thousand Naira [N'000]. Borrowers who have

fallen outside the scope of the bureau must be reported once immediately after they fall outside the scope of the bureau. There after, no credit report is required unless the customer comes within the scope of the bureau again.

f) Item D - Loan Type Code

The financial institutions are required to insert the loan code as in Appendix For instance if a borrower with borrowers' code 1234567 borrowed N6,000,000 on fixed term basis the loan code type will be 15 while the amount will be N6,000,000 in column D-3.

g) <u>Items D-2 Authorised Limit N'000 and D-3 Outstanding Amount</u> [N000]

The participating financial institution must ensure that the amount reported in each of these columns is rounded to the nearest thousand Naira in the case of each type of credit facility as at the end of the month. One thousand Naira and below should be rounded up as "1" as representing one thousand.

Where the borrower has more than one loan account under the same category of loan classification, the authorised limits and the outstanding amounts of all the loan accounts under that loan classification should be aggregated into two respective totals and only the aggregate totals should be reported in the respective column. Details of each loan account are not to be reported.

Where a single limit is approved to cover more than one loan classification on condition that the aggregate amount utilised does not exceed the single limit approved, such loan limit should be allocated according to the actual utilisation and allocation reported under the respective loan classification in Form BS201. The allocation of the loan limit should begin with the lower or lowest loan utilisation, proceeding in the ascending order to the largest loan utilisation so that any unutilised loan limit will be reported against the largest loan utilisation.

A remark should then be made in the "remark" column [column 8] to indicate the mode of sourcing the loan. Similarly in the case of a group of companies sharing common loan limit [3], the loan limited [3] should also be allocated according to utlisation outstanding as at the end of the month. The allocation should be made in ascending order, with the lowest utilisation, company by company, so that the balance of the unutilised limit [3] would be allocated against the largest utilisation of the last company being allocated to. For this purpose, if the loan limit or the aggregate loan limit utilised by any one of the companies in the group is below N1,000,000.00. It may not be reported, but if that borrower was within the scope in the previous month, the borrower's code must be reported in the "borrower code" column B for the last time. On the other hand, if the loan limit utilised by the same company in the group rose to N1,000,000.00 and above in the subsequent month, it should be reported on Form BS201.

h. D-4 Maturity Date

This item refers to the maturity date of each type of credit. If any type of credit is aggregated under the same loan type code, and they have different maturity dates, the maturity date of the larger or largest amount should be inserted. In reporting the date 8 boxes have been provided for the "day", "month" and "year".

i. D-5 Interest Rate

The rate to be reported should be the actual rate of interest charged on the loan account[s] at the end of the month of the report. The report should not be based on "spread" or "a certain percentage point" over a specified interest rate, cost of fund or 3-month or 6-month deposit rate, etc. the interest rate should be reported to 2 decimal places. The "%" sign should be ignored. However for the purpose of calculating the hash total, the interest rate should be treated as if there we no decimal point. Example, if the interest rate for advances is 18.75. In computing the hash total, it should be regarded as 1875.

Where a borrower has more than one loan account of the same loan category and such loan accounts are charged different interest rates, the loan rate to be reported in Forms BS 201, 201A, 201B for the borrower, should be that applicable to the largest loan account in that category. For purpose of illustration, see example 1 given below:

1. Example I

Fixed term loan a/c1 Fixed term loan a/c2 Fixed term loan a/c3	Approved Limit N'000 4,000 3,000 1,000	Outstanding Balance N'000 2,200 2,200 600	Interest % p.a. N'000 20.00 21.00 19.05
	8,000	5,600	

In example 1 above, the interest rate of 20% on Fixed Term loan on A/C1 should be used to report the total limit of N8,000,000 and a total outstanding balance of N5,600,000 because fixed term loan A/C1 is the largest loan based on its approved limit as at the date of reporting.

In the event that there are two or more large loan accounts of equal limit in the same loan category and that such loan accounts are charged different interest rates, the loan interest rate to be reported should be the higher or highest interest rate applicable to one of such loan accounts.

j. D-6 Purpose Code

A list of standardized descriptions of loan purposes together with their codes, is given in Appendix XXV. For instance if a loan facility was granted for the purchase of land, the appropriate code to be reported is "1". If it is for the purchase of machinery and equipment code 4 should be used. The same purpose codes should be used continuously if the purpose of the loan facility remain unchanged.

Where a borrower has more than one line of credit facilities of the same category of loan classification and such facilities are granted for different purposes, the purpose applicable to the largest limit of the facilities should aggregated for the purpose of reporting to the Bureau. In cases where the approved limits are the same, the purpose code should be based on the largest outstanding balance.

k. D-7 Repayment Status Code

A list of standardized description of loan and/or interest repayments together with their codes is given in Appendix XXIV attached to this project. The loan repayment status should be reported by selecting the appropriate repayment status code from the list. For instance if a loan facility is subject to quarterly repayment of loan principal and/or loan interest and the repayment has been regularly made by the borrower, the financial institution should report such repayment status under this column by selecting the applicable repayment status code.

1. D-8 Remark Code

A list of Remarks Code as indicated in Appendix XXXIII applies to each loan type. The mode of sourcing the loan should be indicated. While the code of the lead bank is L, other banks should indicate their interest with an S. The space should be left blank for other mode of sourcing.

Item E Securities

This item relates to securities pledged by the borrower for the credit obtained from the financial institution. In cases where securities have not been perfected, such credits will be regarded as clean until a legal charge is created.

BS 202 - Report of Changes in respect of Borrowers

This form will be used to capture information o the changes to form BS 200. The form will be completed by the financial institution and send to the Credit Risk Management Bureau. Various update program will be run to update the respective customer records.

BS 203 - Request for Credit Information

This form will be completed by the Financial Institution to request for customer credit information. The respective financial institutions are expected to complete this form and send to the Credit Risk Management Bureau to request for customers credit position before granting him credit facility. Some of the information on the form are full name of borrower, National Identity number and Borrower code if the borrower code is known. Based on this request, the appropriate report containing the Borrower Credit position will be generated by the Credit Bureau and send to the respective financial institution.

The Financial Institutions should request from the bureau through Form BS 203 for credit information on any particular customer to whom that participating financial institution proposes to grant or increase loan facilities that fall within the scope of the Bureau. Form BS 203 must always be completed in accordance with the guidelines of the Bureau. The request reference number which is provided on the form must be duly completed by the financial institution thus:

- The first four boxes should indicate the year of inquiry.
- The next five boxes should indicate the cumulative number of credit inquiries on form BS 203 from the beginning of the year to date. It should be rightly justified i.e. completion must start from the right and be preceded by zeros.

BS 204-SUMMARY OF SUBMISSION FOR FORM BS 200/BS 201/BS 202

This form is a summary of submission of Form BS 200, BS 200A and BS 202 and report of credit information contained in the attached diskettes. It serves as a covering letter from the participating financial institution to confirm the number of Forms BS 200, BS 200A, or BS 202 and diskettes sent on a particular submission to the bureau. Forms BS 204 must be sent in duplicate by the financial institution so that receipt of the form may be acknowledged on the second copy. The guidelines should be followed when completing Form BS 204. For example, if Disk No. 1 of 4 was replaced because of any discrepancy, the disc No. of the replacement diskette should continue to be numbered as Disk No. 1 of 4 while the Re-Disk No. should be completed as Re-diskette for Form BS 201 has to be changed the second and third time, the Disk No. will remain as Disk No. 1 of 4 while the Re-Disk No. will be Re-Disk No. 2 and Re-Disk No. 3 respectively.

BS 205 - Bank Examiners Classification

This form will be completed by the Bank Examiners after carrying out examination of the financial institutions. Some of the information on the form are borrower code, outstanding balance, date of examination and classification code.

BS 206 - Repayment Status Table Form

This form will be used to capture information on the repayment status. Some of the information on the form are repayment status code and description. The form will be completed by the credit risk management bureau.

BS 207 - Legal Status Table Form

This form will be used to capture information on the borrowers legal status. Some of the information of this form are purpose code and descriptions. The form will be completed by the Credit Risk Management Bureau.

BS 208 - Purposes Table Form

This form will be used to capture information on the credit purpose. Some of the information on this form are purpose code and descriptions. The form will be completed by the Credit Risk Management Bureau.

BS 209 - Change Type Table Form

This form will be used to capture information on the change type that affects the form BS 202. Some of the information of this form are change code and description. The form will be completed by the Credit Risk Management Bureau.

BS 210 - ID Table form

This form will be needed to capture information on the ID Code for the customer identity. This ID Code will serve as an indicator for the particular supplied for the identification by the borrower. The form will be completed by the Credit Risk Management Bureau.

BS 211 - Loan Type Table Form

This form will be used to capture information on the loan type. This form will be completed by the Credit Risk Management Bureau. Some of the information on the form are loan type code and description.

BS 212 - Official Status Code

This form will be used to capture information on the official status of the Director/Shareholder of the company. This form will be completed by the Credit Risk Management Bureau. Some of the information o the form are official status code and description.

BS 213 - Business/Occupation Table Form

This form will be used to capture information on the business/occupation. This form will be completed by the Credit Risk Management Bureau. Some of the information on the form are business/occupation, code and description.

BS 214 - Additional Identification Form

This form will be used to capture additional identification. This form will be completed by the financial institution. This position makes the system to be flexible.

BS 215 - Position Code Table Form

This form will be used to capture information on the position. This form will be completed by the Credit Risk Management Bureau. Some of the information on the form are position code and description.

Introduction to Output Report

The essence of any systems is to generate complete and accurate reports. The report have to be such that could easily be read and understood and must convey the same meaning as that kept by the manual system but probably with more information. In addition, the computer generated report would be neater and could be reproduced at request with minimum effort when compared with the manual system.

All required report currently generated manually shall be computer generated. All registers maintained shall be computer oriented. The details of the layout of all the reports that will be supported by the system are presented below and they include:

OUTPUT REPORTS

BS 200 Report of Loans and Advances to Customers

This report provides a summary of all credits within the scope of the Bureau submitted for the month, plus all other borrowers who have subsequently been reported as outside the scope since their first report to the Bureau. This report must accompany the diskette containing BS 201, BS 201A and BS 201B monthly data.

BSR 201 Report of Borrower's Securities

This report provides a summary of the list of the securities, pledged by Financial Institution customers submitted for the month, plus all other borrowers who have subsequently been reported as outside the scope since their first report to the Bureau. This report must accompany the diskette containing BS 201, BS 201A and BS 201B monthly data.

BSR 202 REPORT OF BORROWERS WITH CONTINGENT LIABILITIES AND RESTRUCTURED FACILITIES

This report provides a summary of the list of customers with contingent liabilities outstanding or restructured facilities for the month, plus all other borrowers who have subsequently been reported as outside the scope since their first report to the Bureau. This report must accompany BS 201, BS 201A and BS 201B monthly data.

BSR 203 Report on Summary of Diskettes

This report provides a summary of total borrowers and a grand hash total of the information on forms BS 201, BS 201A and BS 201B data captured on a personal computer diskette. Each form BS 201, BS 201A

and BS 201B diskette submitted should be accompanied by this report, which must be duly dated and signed by an authorized officer of the financial institution. This report should be produced by the system only after all the borrowers on Form BS 201, BS 201A and BS 201B have been data captured and proved correct.

BSR 204 - Harsh Verification for Loans and Advances

This report produced by the Credit Bureau provides a listing of the borrowers reported on form BS 201 in order to reconcile the contents of the diskette with the hard copy. The computer system calculates the harsh total based on the number of borrowers in the diskette. If there is any discrepancy, the diskette will be returned to the Financial Institution for correction.

BSR 205 - Hash Verification for Securities

This report produced by the Credit Bureau provides a listing of the borrowers reported on Form BS 201 in order to reconcile the contents of the diskette with the hard copy. The computer system calculates the harsh total based on the number of securities on the diskette. It then compares the calculated harsh total with the hash total on the diskette. If there is any discrepancy, the diskette will be returned to the Financial Institution for correction.

BSR 206 - Credit Report

This report will be used by the Bureau to furnish the participating financial institutions [upon receipt of Form BS 203] a credit report on any particular customer to whom a financial institution proposes to grant or increase credit facilities. The report provides a brief comment on the customers legal status, type of business/occupation, credit position, type of credit, contingent liabilities, etc.

BSR 207 - Customers Code Numbers

This report will be used by the Bureau to assign customers code number [upon receipt of Form BS 200/BS 200A]. The code numbers assigned by the Bureau will be used in all exchange of Information on customers between the bureau and the participating financial institution.

Because of the importance of this code number all financial institution are advised to write in the customers credit file or any other relevant records, the code number so that it may not be overlooked when dealing with the Bureau.

BSR 208 - Quarterly Credit Report

This report will be used by the Bureau to finish the participating financial institution a quarterly report on the credit facilities of their customers incorporating, where applicable, other loan facilities granted to such customers by other participating members, and particulars of the securities obtained therefrom. Contingent liabilities outstanding and the repayment status reported by the participating financial institutions will also be included in this report.

ADVANTAGES OF THE PROPOSED SYSTEM

The benefits of the proposed system comprise mainly the elimination of problems associated with the present manually operated procedures.

Some of these benefits are:

- Prompt and accurate information on all available customers' credits.
- Safer, less tedious and less cumbersome method of storing credit information of all banks' customers.
- Unique method of generating code numbers to all customers that are involved in the credit risk.

- More efficient way of generating appropriate credit reports to the Field Examination Department on regular basis for on-site comparative analysis.
- Assist in the preparation of various statistical analysis generated from monthly credit reports sent by the financial institutions for management information and economic analysis.
- Delinquent customers with non-performing loans will be easy to trace within short period of time.

CHAPTER THREE

SYSTEMS ANALYSIS AND DESIGN

The Credit Risk Management System is designed to enable the Banking Supervision Department to improve on their Data gathering activities on the credit with respect to financial institutions.

System Design

In designing the system, the following were considered:

Data Gathering
Data Storage
Data Integrity
Data Security
Data Retrieval
Adaptability to change
Ease of use

Data Gathering

Data to this Credit Risk Management System come form a number of sources e.g. Banks, Finance companies, the Banking Supervision Department and Banking Examination Department.

Input forms have been designed to capture these pieces of data. In addition, similar looking computer-based forms were designed for data Entry purposes.

Data Storage

The data that will be stored in files [tables] on the computer must be structured and stored in a manner that will enhance:

Efficiency with respect to performance of query processing and report generation.

Flexibility with respect to the formulation of queries and reports.

To this end, emphasis is placed on completeness of the relational data base design.

Data Integrity

For the data into the system to be useful, its integrity must be considered. The design of the system puts a high premium on the integrity of the data that is kept by the system. Incoming data is put through a series of integrity checking procedures to ascertain the reasonableness of the data before acceptance. To be thorough on integrity, update of existing data are not concluded without an equally vigorous test for acceptability. In the event of a rejection, the user is informed of the cause of the rejection and opportunity is given for immediate correction. Furthermore, integrity will be controlled in the course of periodic generation of validation reports, highlighting new entries and recent updates for human inspection. In this way, erroneous but responsible data can be spotted during visual inspection [call over].

Data Security

Data Security is very vital just like Data Integrity. Based on the sensitivity of the data that would be coming into the system, the design of the security aspect will be simple in concept and effective in operation. User identification number and password will be allocated to all users before access can be gained into the system. This would be reassigned or remove from time to time by the System Administrator. Secondly, all users will be grouped into functional categories, and each category will be given privileges or capabilities, to perform specific functions within the system. These categories can be reviewed by the System Administrator from time to time.

Data Retrieval

Credit Risk Management System involves a high volume of data, the ability to rapidly retrieve selected information from the database will be considered. This will really have a strong impact on the quality of decision making by the managerial users. Provision would be made for query processing.

Adaptability of Change

This adaptability to change and the flexibility was considered in the designing of the system.

This would be achieved by the table driven approach of the design. A number of far reaching changes can be accommodated by the system without recourse to system, modification. As an example the entire menu system can be re-organize without program modification. These and similar changes can be realized by table modification.

Ease of Use

Considering the fact that Banking Supervision and Financial Institution staff that will be using the system may not be computer professionals, the design placed a high premium on ease of use and user friendliness.

This design consideration was approached by:

- The menu driven.
- The shallowness of the menu hierarchy.
- The clarity of economic name used for the entity.
- The consistent interpretation given to the limited number of functions keys made available to the user.

Processing

- Input on request for code number are received from Financial Institutions
- Borrower code number generation programs in module is processed to generate the appropriate code numbers.
- Director code number generation programs in module is processed to generate the appropriate code number.
- Only Credit amount of N1,000,000 and above and delinquent credit amount of N1,000,000 and above are allowed into the system.
- Normal credits that fall below N1,000,000 are tagged in the system.
- Credits that are past due for 90 days and above are delinquent.
- Diskettes received from the financial institution are used to update the respective customer balances.

APPLICATION

DESCRIPTION OF THE APPLICATION SYSTEM

The Credit Risk Management System is a computer based data gathering, processing and information dissemination system. The information on all credit facilities of N1 million and above given by banks to their various customers are fed into the system.

There are two versions of the CRMS namely: the Credit Risk Management Bureau [CRMB]. The Financial Institutions [FIs] capture date/information relating to the credit customers and by means of "Export of Diskette" to CBN together with hard copies, returns are made to the Bureau on regular basis.

The other version of the Program is the CRMS which resides in the Main Server located at EDP Unit of Banking Supervision Department. The Program includes also a Diskette Transfer System [DTS] which enables the "Export Diskettes" from the FIs to be converted and subsequently loaded into the main Database of the CRMS. Here information/data from various banks [FIs] are consolidated with each bank customer assigned a unique identification code [Borrowers' Code].

With the assigned code reference the participating financial institutions can make and obtain credit status report of their customers from the Credit Bureau.

CHAPTER FOUR

4.0 PROGRAM IMPLEMENTATION AND LANGUAGE CHOSEN

The collection and discussion of credit information system was developed with Visual FoxPro. Visual FoxPro is a window-based database oriented programming language. The language is suitable for this research project because of record manipulation needs of the program which a glaring characteristic of Visual FoxPro. Visual FoxPro can easily be installed on any version of windows.

Visual FoxPro allow the use of menus, Tables. Forms, Reports, etc. for developing an application. Some of these objects constitute the collection and dissemination of credit information software.

TABLES

Tables are data files that keep records. In the software, three databases were used

- a. Main table: This contains the records of each financial institution credit information. It contains such fields as borrowers code, financial institution, legal status, security code, purpose of loan, type of loan, etc.
- b. Fin table: This table contains the records of all the available financial institutions. It consist of the fields; financial institution code and financial institution name.

c. Report table: This table is use to hold records prior to generating a report.

MENUS

Menus are used to standardise program flow and logic. Two menus are used in the program.

- a. Main menu: The main menu as the name implies controls the access to every other module of the program. The items of the main menu are
 - i. Credit Data manipulation
 - ii. Financial Institutions
 - iii. Report Generation
 - iv. Exit
- **b.** Submenu: The submenu is activated when report generation is selected from the main menu. It presents the user with the choice of which type of report is to be printed.

REPORT MENU

- i. Above 1 Million naira
- ii. Below I Million naira
- iii. Select Financial Institution
- iv. Quit

4.1 **FORMS**

The program makes use of two major forms:

- a. Main form: This form is used to provide data values for the fields of the main table. The form has the facilities for adding records to the table, deleting records from the table, modifying existing records.
 Navigating through the records of the table
- b. The financial institution form is also used to accept data values for the fields of financial table. The form also has the facilities for deletion, addition and modification of records from the table. It also has navigation properties.

REPORTS

Three type of reports are generated from the program:

- a. Above 1 million: This is a list of borrowers of above I million naira.
- **b.** Below 1 million: This is a list of borrowers of less than 1 million naira.
- c. Select financial institution: This report is used to produce a list of borrowers from a particular financial institution.

4.2 SYSTEM REQUIREMENTS – HARDWARE REQUIREMENTS

The specification below represents configuration that should work well for most application development project:

- An IBM or 100% compatible PC with an 80486/Pentium 33MHZ processor or better.
- A CD-ROM drive functioning as a logical drive (for installation only).
- 8MB Ram for one Routine component and 3MB for each additional
 Routine Component you want to run concurrently.
- 16MB RAM for one Builder component and an additional \$MB for each additional Builder you want to run concurrently.
- The oracle installer provides hard disk space requirements for each product in the space-required field.
- For 32-bit applications, either Microsoft Windows or Microsoft Windows NT 3.51 or latter.

4.3 **SOFTWARE REQUIREMENTS**

Structural programming, in computer science, a general term referring to programming that produces programs with clean flow, clear design and a degree of modularity or hierarchical structure.

Benefits of structured programming include ease of maintenance and case of readability by other programmers.

4.4 SYSTEM TESTING

System testing is one of the significant steps of system analysis and design. This is done to determine whether the application package can withstand the test of time in its goal realization. A good software package should be able to live up to its expectations.

For Credit Administration, the individual programs were run and tested for syntax and logical errors. After which the entire system of program were tested as a whole, linked together and proved bugs free.

More so, the screen layout and help messages were also tested to ensure they work accordingly. By the test conducted, the system practically is capable of realizing the set objectives accurately and efficiently.

4.5 SYSTEM SECURITY AND CONTROLS

This section presents the different levels of security and controls to be built into the system to ensure the correctness of information supplied by the system in all prints and responses to all on-line query requests.

SYSTEM CONTROLS

Data will be supplied to the system by filling of various forms. The control mechanism is anchored on two procedures, namely:

- Off-line control
- On-line Control

The off-line controls exploit the bureaucratic processes which all input schedules would normally pass through in the off-line mode, that is the environment which is external to the computer. For instance, all input schedules pertaining to the system must be signed by the appropriate officer. It guarantees that all input documents are truly certified.

The on-line control procedures make special provisions for the data entry operation. Apart from normal validation and editing to ensure correctness of the entries, the following provision will also be made.

Various reports will be produced in the system highlighting the new entire.

Summary of charges taking place in any file [table] will be printed for the following reasons:

- a. Reconciliation of individual entries against all changes on the file.
- b. Audit trails arranged for cross-checking output reports against each other.

System Security

The system security will take the form of physical security and access security. The hardware will be placed in secured environment that will prevent any sort of damage to the system. The access security software that will prevent an unauthorized personnel from gate-crashing into the system will be installed.

4.6 SYSTEM MAINTENANCE AND RECOVERY STRATEGY

a. Recovery Strategy

In the event of a breakdown of the computer, it is pertinent to consider file security and recovery. Computer files containing data should be secured through the following procedures:

Backup procedures will be fully specified in the operations manual. Some of the strategies to be adopted are:

i. No less than two copies of all essential files, especially master files will be made.

- ii. The files will be copied in not less than three different generations. For example, when input for the third month of a year is being processed, copies of master, reference and transaction tables will exist for the first and second months. This will ensure that files are always available should the need for their use arise.
- iii. The files will be stored in at least two different locations [off-site].

b. Maintenance Strategy

The design will ensure to provide a user-do-it yourself system. Most of the problems that may be encountered will have to do with files and with the backup strategy discussed above and adequate operational manual, these problems can be solved by the users.

For proper maintenance of the system, a mirror-copy of the system that will be given to the user will be kept by the Computer Services Department. Any maintenance work will be done at Computer Services Department. This approach will enable the user department to carry out their normal processing without any disturbance.

There is also a provision for a backup machine which can be used for maintenance work without interference with the live system. A mirror-copy of the system will be on the backup machine, this will enable amended/enhancement be made.

The enhanced/amended version will be copied back to replace the live after it has been thoroughly tested and agreed to by the user.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

SUMMARY

The Computerized Credit Risk Management System is designed to perform the following functions:

Capture, store, consolidate and disseminate credit information of N1,000,000 [One million Naira] and above.

To monitor large credits of N1,000,000 and above.

To generate appropriate credit reports to the Field Examination Department on regular basis for on-site comparative analysis.

To prepare various statistical analysis generated from monthly credit reports sent by the financial institutions for management information and economic analysis.

To generate information for other requests from financial institutions and other government agencies such as Federal Ministry of Finance and Justice etc.

To generate unique code numbers to all customers that are involved in the credit risk.

In Chapter One, under introduction, background information was given while the problem of the existing system was identified. There also we stated the aims and objectives of the project.

Chapter Two reviewed the literature of Credit Risk Management System and listed out the advantages of a Computerized Credit Information System. From the analysis and procedural steps in Chapter Two, an attempt is made to design the existing system in Chapter Three.

Chapter Four illustrated the different implementation stages with emphasis on system testing and maintenance, security control etc.

CONCLUSION

The quest for timely and accurate information for most organization especially for Management decision making has motivated the development of effective, efficient and reliable Credit Bureau.

The CBN Credit Bureau is designed to collate, consolidate and disseminate credit information to financial institutions at request.

Bank Examination Department, Auditors, Researchers and other staff from the Bank need to work efficiently and effectively with these information. In virtue of this, it is believed that effective implementation of this system will foster improved information flow in the financial sector as the problem associated with manual credit administration system is alleviated if not completely eliminated.

RECOMMENDATION

If the seemingly endless cycle of debt/credit management, appraisal, repayment and classification in the context of bank financing and the hardship and distress which has been experienced in the banking sector is to be addressed and the cumbersome manual process eliminated/reduced to the barest minimum, there is need to embrace full and unfettered automation of the credit administration system in the bank.

What alternates are available to the banking sector in its quest for effective credit management and elimination of insolvency and abandonment of credits by borrowers from one bank to another than a system which enables the bank to keep track of borrowers who borrows from one bank to another without genuine intention to repay.

The man hour spent on manual administration of credits could be put into more effective areas of customers' needs in the bank. This issues are reviewed in this project and we believe that for banks the Credit Risk Management System is necessary for the banking sector to have a better credit appraisal and rating system, keep a database of current and future borrowers from the system and be able to share these valuable data/information amongst the financial institutions.

BIBLIOGRAPHY

Agu, C. C. [1988], Nigerian Banking Structure and Performance, Africana-FEP Publishers Limited, Lagos.

Ajayi, I and Ojo, O. [1981], Money and Banking: Analysis and Policy in the Nigerian Context, George Allen and Unwin Limited, London

Alashi, S. O. [1993], "Bank Failure Resolution: The Main Options", NDIC Quarterly, Vol. 3, No. 2, June.

Benston, George [1986], Perspectives on Safe and Sound Banking: Past, Present and Future, MIT Press, Cambridge, Mass.

Fabo, Frank J. [1991], Hand Book of Liability & Asset Management

Falegan, S. B. [1987], *Redesigning Nigeria's Financial System*, University Press Limited, Ibadan.

Falegan, S. B. [1987], Restructuring The Nigerian Financial System For Economic Resuscitation" in The Bullion, Central Bank of Nigeria, Vol. 17, No. 4, October/November.

Gelb, A. and Honohan, P. [1989], Financial Sector Reforms In Adjustment Programme, The World Bank.

Haslem, John A. [1984], Bank Funds Management.

Koch, Timonthy W. [1992] "Bank Management" Second Edition Dryden Press, USA.

Nyong, M. O. [1994], Bank Supervision and The Safety and Soundness of The Banking System: An Early Warning Model Applied to Nigeria Data", CBN Economic Financial Review, Vol. 32, No. 4.

Odozi, V. A. [1994], Keynote address at the seminar on "The Nigerian Banking System and Policies: Issues, Problems and Prospects", for CBN Executives, Lagos.

Ojo, Ade T. [1994], An Overview of the Nigerian Banking System, CBN Economic and Financial review, Vol. 32, No. 3 September.

Okigbo, P. N. C. [1981], Nigeria's Financial System, Longman Group, Lagos

Ologun, S. O. [1994], "Bank Failure In Nigeria: Genesis, Effects and Remedies", CBN Economic and Financial Review, Vol. 32, No. 3.

FITC, Executive Seminar on CRMS, November, 1998.

The Credit Risk Management System, Operational Manual,

Central Bank of Nigeria, Annual Reports and Statement of Accounts [various issues].

Central Bank of Nigeria, Briefs, "The Nigerian Financial System" July 1992.

Central Bank of Nigeria, Statistical Bulletin [various issues].

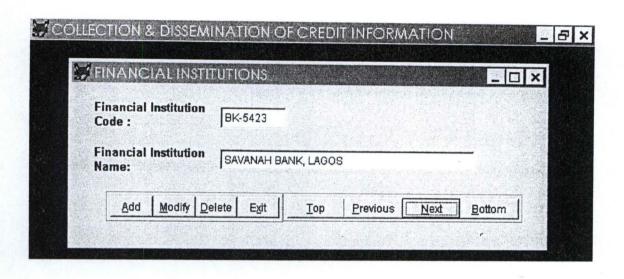
Central Bank of Nigeria, [1974], Twenty Years of Central Banking In Nigeria.

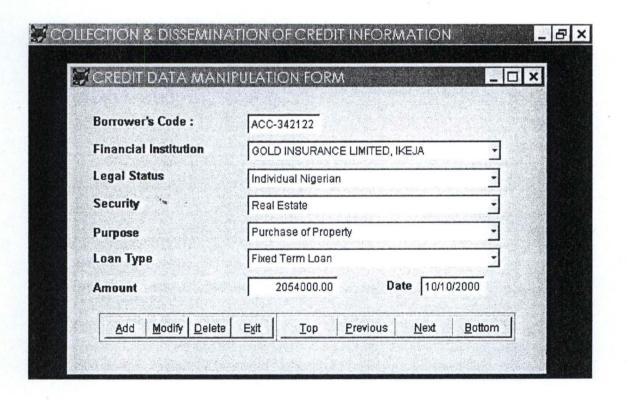
Systems: A Summary Current Perspectives in Banking Operations, Management and Regulation, 2nd Edition, Thomas Havnilesky and Bank Capital and Risk - A survey of London Clearing Banks Institute of Bankers, London.

The Banks and Risk Management Cambridge Seminar, 1988.

Analysing Corporate Credit and Evaluating the Risk ADC Gardner workbook

Furash, Edward E., [1996]. The Allocation of Risk Budgets.





CREDIT DATA COLLECTION

FINANCIAL INSTITUTIONS

REPORT GENERATION

QUIT

Above One Million Naira

Below One Million Naira

Select Financial Institution

Quit

```
SET SYSMENU OFF
close all
clear all
CLEAR
set safety off
set color to w/b
clear
set path to \susan
set dire to \susan
PUBLIC choice, ch, mfin, modified
CLEAR
_screen.caption = "COLLECTION & DISSEMINATION OF CREDIT INFORMATION"
screen.picture = "\susan\"
do FORM frmintro
do fpass with "CREDIT"
sele a
use maintab exclusive
sele b
use fininst exclusive
sele c
use repttab exclusive
sele a
ch = 0
define window fed2 from 8,15 to 30,60 color scheme 3
do while ch <> 4
activate window fed2
move window fed2 center
@1,2 GET ch FUNCTION '*vt CREDIT DATA COLLECTION; FINANCIAL
INSTITUTIONS; REPORT GENERATION; QUIT' font "ARIAL", 16 STYLE "BS";
SIZE 1.2, 32, 1 VALID GOR2() DEFAULT 1
READ CYCLE
if lastkey() =27
 deactivate window fed2
 clear
endif
enddo
PROCEDURE gor2
deactivate window fed2
clear
do case
case ch = 1
 sele a
 do form frmmain
case ch = 2
 sele b
 do form frmfin
case ch = 3
```

```
do repmenu
CASE ch = 4
 quit
endcase
return
Procedure Repmenu
choice =0
define window fed1 from 6,15 to 28,58 color scheme 3
do while choice <> 4
activate window fed1
move window fed1 center
@1,2 GET choice FUNCTION '*vt Above One Million Naira; Below One Million Naira;
Select Financial Institution; Quit' font "Roman", 16 STYLE "BS";
SIZE 1.3, 30, 1 VALID GOR() DEFAULT 1
READ CYCLE
if lastkey() =27
 deactivate window fed1
 clear
endif
enddo
return
PROCEDURE gor
deactivate window fed1
clear
do case
 case choice = 1
    sele c
    appe from maintab for amount >= 1000000
    report form rptabove preview
 case choice = 2
    sele c
    zap
    appe from maintab for amount < 1000000
    report form rptbelow preview
 case choice = 3
    do form frmsele
 case choice = 4
    deactivate window fed1
endcase
return
parameter passw
  close all
  set cursor off
```

Clear

set status off

```
set talk off
define window pass from 6,32 to 15,70
move window pass center
Trial =0
DO WHILE TRIAL < 3
activate window pass
 @1,10 SAY "LOG IN POST" FONT "ROMAN",8 STYLE "BS"
 @3,1 SAY "Password Please:" FONT "ROMAN",8 STYLE "BS"
  STORE 0 TO I, CNT
  CPASS = ""
  J = 23
  DO WHILE CNT < 10 .AND. I <> 13
       J = J + 1
       I = 0
       DO WHILE I = 0
       I = INKEY()
       ENDDO
       IF I<>13
        @3,J SAY "*" font "Roman",10
        CNT = CNT + 1
        CPASS = CPASS + CHR(I)
       ENDIF
  ENDDO
  trial = trial + 1
  IF UPPER(CPASS) = passw
      DEACTIVATE WINDOW PASS
      messagebox("CORRECT PASSWORD! ACCESS ALLOWED")
        set cursor on
      EXIT
  else
      DEACTIVATE WINDOW PASS
      messagebox("WRONG PASSWORD! TRY AGAIN")
      loop
  endif
ENDDO
if upper(cpass) <> passw
 quit
endif
```

```
PUBLIC oform1
oform1=NEWOBJECT("form1")
oform1.Show
RETURN
             form1 (c:\susan\frmmain.scx)
*-- ParentClass: form
*-- BaseClass: form
DEFINE CLASS form1 AS form
      Top = 20
      Left = 45
      Height = 319
      Width = 536
      DoCreate = .T.
      Caption = "CREDIT DATA MANIPULATION FORM"
      WindowType = 1
      Name = "Form1"
      ADD OBJECT txtborrowno AS textbox WITH;
            Comment = "", ;
            ControlSource = "maintab.borrowno", ;
            Format = "!!!-999999", ;
            Height = 23, ;
            InputMask = "!!!-999999", ;
            Left = 200, ;
            MaxLength = 10.;
            TabIndex = 2, ;
            Top = 29;
            Width = 84, ;
            Name = "txtBorrowno"
      ADD OBJECT Iblborrowno AS label WITH:
            AutoSize = .T., ;
            FontBold = .T.,;
            FontSize = 10,;
            WordWrap = .T., ;
            BackStyle = 0, ;
            Caption = "Borrower's Code:",;
            Left = 26, ;
            Top = 29.:
            Width = 113, ;
            TabIndex = 1,;
            Name = "lblBorrowno"
      ADD OBJECT cholegal AS combobox WITH;
            Comment = "", ;
            RowSourceType = 1,;
            RowSource = "Individual Nigerian, Sole Proprietor, Partnership, Private
Limited Company, Public Limited Company, Joint Account Holder, Individual
```

```
(Foreigner), Government, Parastatals, Trade
Unions, Society/Association, Cooperative, Others", ;
             ControlSource = "maintab.legal", ;
             Height = 24. :
             Left = 200, ;
             TabIndex = 4.:
             Top = 90.;
             Width = 287.:
             Name = "cboLegal"
      ADD OBJECT Ibliegal AS label WITH:
             AutoSize = .T.,;
             FontBold = .T..:
             FontSize = 10, ;
             WordWrap = .T., ;
             BackStyle = 0, ;
             Caption = "Legal Status", ;
             Height = 18, ;
             Left = 26, ;
             Top = 90, ;
             Width = 79, ;
             TabIndex = 3.:
             Name = "lblLegal"
      ADD OBJECT choloantype AS combobox WITH;
             Comment = "", ;
             RowSourceType = 1,;
             RowSource = "Advances, Fixed Term Loan, Advances under
Lease, Mortgage Loan, Bills Discounted, Trust Receipts, Factored Debts, Bankers
Acceptances, Commercial Papers, Hire Purchase, Others", ;
             ControlSource = "maintab.loantype", ;
             Height = 24, ;
             Left = 200. :
             TabIndex = 6,;
             Top = 180, ;
             Width = 287, ;
             Name = "cboLoantype"
      ADD OBJECT Iblloantype AS label WITH;
             AutoSize = .T., ;
             FontBold = .T.,
             FontSize = 10, ;
             WordWrap = .T., ;
             BackStyle = 0, ;
             Caption = "Loan Type", ;
             Height = 18, ;
             Left = 26,
             Top = 183, ;
             Width = 67, ;
             TabIndex = 5,;
             Name = "lblLoantype"
```

```
ADD OBJECT chosecurity AS combohox WITH:
             Comment = "", ;
             RowSourceType = 1,;
             RowSource = "Clean, Real Estate, Plant/Equipment, Time/Savings
Deposits/Other Cash Deposits, Government/Corporate, Hypothecation of Warehouse
Receipts or Warrants, Life Insurance Policies, Others", ;
             ControlSource = "maintab.security", ;
             Height = 24, ;
             Left = 200. :
             TabIndex = 8.:
             Top = 120, ;
             Width = 287.:
             Name = "cboSecurity"
      ADD OBJECT Iblsecurity AS label WITH;
             AutoSize = .T., ;
             FontBold = .T., ;
             FontSize = 10,;
             WordWrap = .T., ;
             BackStyle = 0, ;
             Caption = "Security", ;
             Left = 26,
             Top = 121, ;
             Width = 52, ;
             TabIndex = 7,;
             Name = "lblSecurity"
       ADD OBJECT chopurpose AS combohox WITH;
             Comment = "", ;
             RowSourceType = 6, ;
             RowSource = "purpose.purpose", ;
             ControlSource = "maintab.purpose", ;
             Height = 24,;
              Left = 200, ;
             TabIndex = 10, ;
              Top = 150, ;
              Width = 287, ;
              Name = "cboPurpose"
       ADD OBJECT Ibipurpose AS label WITH;
              AutoSize = .T., ;
              FontBold = .T.,;
              FontSize = 10,;
              WordWrap = .T.,;
              BackStyle = 0,;
              Caption = "Purpose", ;
              Left = 26,
              Top = 154, ;
              Width = 52,;
              TabIndex = 9,;
              Name = "lblPurpose"
```

```
ADD OBJECT chofininst AS combobox WITH:
      Comment = "", ;
      RowSourceType = 6, ;
      RowSource = "fininst.fininst", ;
      ControlSource = "maintab.fininst", ;
      Height = 24. :
      Left = 200.:
      TabIndex = 12.:
      Top = 59, ;
      Width = 288, ;
      Format = "", ;
      InputMask = "". :
      Name = "cboFininst"
ADD OBJECT Iblfininst AS label WITH;
      AutoSize = .T., ;
      FontBold = .T., ;
      FontSize = 10, ;
      WordWrap = .T., ;
      BackStyle = 0, ;
      Caption = "Financial Institution", ;
      Height = 18, ;
      Left = 26, ;
      Top = 60.:
      Width = 125,;
      TabIndex = 11,;
      Name = "lblFininst"
ADD OBJECT txtamount AS textbox WITH ;
      Comment = "", ;
      ControlSource = "maintab.amount", ;
      Height = 23, ;
      Left = 200, ;
      TabIndex = 14, ;
      Top = 212, :
      Width = 104, ;
      Name = "txtAmount"
ADD OBJECT Iblamount AS label WITH;
      AutoSize = .T., ;
      FontBold = .T.,;
      FontSize = 10,;
      WordWrap = .T., ;
      BackStyle = 0, ;
      Caption = "Amount", ;
      Height = 18, ;
      Left = 26, ;
      Top = 216, ;
      Width = 49,;
      TabIndex = 13, ;
      Name = "lblAmount"
```

```
ADD OBJECT txtdate AS textbox WITH;
      Comment = "", ;
      ControlSource = "maintab.date", ;
      Height = 23. :
      Left = 396. :
      TabIndex = 16. :
      Top = 212.:
      Width = 73, ;
      Name = "txtDate"
ADD OBJECT Ibldate AS label WITH;
      AutoSize = .T., ;
      FontBold = .T.. :
      FontSize = 10.:
      WordWrap = .T., ;
      BackStyle = 0, :
      Caption = "Date", ;
      Left = 358, ;
      Top = 214.:
      Width = 29,
      TabIndex = 15, ;
      Name = "lbIDate"
ADD OBJECT cmdgrpeditor AS commandgroup WITH;
      AutoSize = .T., ;
      ButtonCount = 6.:
      BackStyle = 1.:
      Value = 1, ;
      Height = 33, ;
      Left = 33, ;
      Top = 253, ;
      Width = 202, ;
      TabIndex = 13, ;
      BackColor = RGB(192,192,192), ;
      Name = "cmdgrpeditor", ;
      Command1.AutoSize = .F., ;
      Command 1. Top = 5, ;
      Command1.Left = 6, ;
      Command1.Height = 23,;
      Command1.Width = 48, ;
      Command1.Caption = "\<Add", ;
      Command1.Default = .F., ;
      Command1.Name = "cmdadd". :
      Command2.AutoSize = .F., ;
      Command2.Top = 5,;
      Command2.Left = 54,;
      Command2.Height = 23, ;
      Command2.Width = 48, ;
      Command2.Caption = "\<Save", ;
      Command2.ColorScheme = 2, ;
```

```
Command2.Name = "cmdsave", ;
      Command3.AutoSize = .F., :
      Command 3.Top = 5.
      Command3.Left = 101.:
      Command3.Height = 23.:
      Command3.Width = 48, ;
      Command3.Caption = "\<Delete".:
      Command3.Name = "cmddelete", ;
      Command4.AutoSize = .F., ;
      Command4.Top = 5.:
      Command4.Left = 149.:
      Command4. Height = 23, ;
      Command4.Width = 48.:
      Command4.Caption = "E\<xit", ;
      Command4.Name = "cmdexit", ;
      Command5.AutoSize = .F., ;
      Command5.Top = 5.:
      Command5.Left = 5, ;
      Command5.Height = 23,;
      Command5.Width = 48,;
      Command5.Caption = "\<Revert", ;
      Command5.Name = "cmdrevert", ;
      Command6.AutoSize = .F., ;
      Command6.Top = 5,;
      Command6.Left = 53, ;
      Command6.Height = 23, ;
      Command6.Width = 48,;
      Command6.Caption = "\<Modify", ;
      Command6.Name = "cmdmodify"
ADD OBJECT cmdgrpnavigator AS commandgroup WITH;
      AutoSize = .T., ;
      ButtonCount = 4, ;
      BackStyle = 1,;
      Value = 1, ;
      Height = 33, ;
      Left = 233, :
      Top = 253, ;
      Width = 271.
      TabIndex = 14, ;
      BackColor = RGB(192,192,192), ;
      Name = "cmdgrpnavigator", ;
      Command1.Top = 5.:
      Command1.Left = 5,;
      Command1.Height = 23,;
      Command1.Width = 66,;
      Command1.Caption = "\<Top", ;
      Command1.Name = "cmdtop", ;
      Command2.AutoSize = .F., ;
      Command2.Top = 5,;
```

```
Command2.Left = 70, ;
      Command2.Height = 23.:
      Command2.Width = 66, ;
      Command2.Caption = "\<Previous".
      Command2.Name = "cmdprevious", ;
      Command 3.Top = 5.:
      Command3.Left = 135, ;
      Command3.Height = 23, ;
      Command3.Width = 66, ;
      Command3.Caption = "\<Next". :
      Command3.Name = "cmdnext", ;
      Command4.AutoSize = .F., ;
      Command4.Top = 5.:
      Command4.Left = 200. :
      Command4.Height = 23, ;
      Command4.Width = 66, ;
      Command4.Caption = "\<Bottom", ;
      Command4.Name = "cmdbottom"
PROCEDURE Activate
      sele a
      thisform.cmdgrpeditor.cmdadd.visible = .t.
      this form. cmdgrpeditor. cmdmodify. visible = .T.
      thisform.cmdgrpeditor.cmdrevert.visible = .F.
      thisform.cmdgrpeditor.cmdsave.visible = .F.
ENDPROC
PROCEDURE cmdgrpeditor.cmdadd.Click
      *sele proi1
      APPEND BLANK
      modified = .f.
      Thisform.setall("Readonly",.F., "Textbox")
      Thisform.setall("Readonly",.F.,"combobox")
      Thisform.setall("Readonly", F., "EDITbox")
      thisform.cmdgrpnavigator.enabled = .F.
      thisform.cmdgrpeditor.cmdadd.visible = .F.
      thisform.cmdgrpeditor.cmdmodify.visible = .F.
      thisform.cmdgrpeditor.cmdrevert.visible = .T.
      thisform.cmdgrpeditor.cmdsave.visible = .T.
      thisform.cmdgrpeditor.cmdsave.enabled = .T.
      THISFORM.REFRESH()
ENDPROC
```

PROCEDURE cmdgrpeditor.cmdsave.Click

replace borrowno with THISFORM.txtborrowno.VALUE

replace loantype with THISFORM.cboloantype.VALUE replace security with THISFORM.cbosecurity.VALUE

replace legal with THISFORM.cbolegal.VALUE

```
replace purpose with THISFORM.cbopurpose.VALUE
                    replace fininst with THISFORM.cbofininst.VALUE
                    replace amount with this form.txtamount.value
                    replace date with thisform.txtdate.value
       thisform.cmdgrpeditor.cmdadd.visible = .T.
      thisform.cmdgrpeditor.cmdrevert.visible = .F.
       thisform.cmdgrpeditor.cmdmodify.visible = .T.
       thisform.cmdgrpnavigator.enabled = .T.
      Thisform.setall("Readonly",.T.,"Textbox")
Thisform.setall("Readonly",.T.,"combobox")
      Thisform.setall("Readonly",.T., "EDITbox")
ENDPROC
PROCEDURE cmdgrpeditor.cmddelete.Click
      store 0 to rep1
      rep1 = messagebox("Are you really sure?", 36, "Want to Delete?")
      if rep1 = 6 then
      DELETE
      PACK
      THISFORM.REFRESH()
      endif
      if this.parent.cmdadd.visible == .F.
             this.parent.cmdadd.visible = .T.
             this.parent.cmdrevert.visible = .F.
             this.parent.cmdsave.enabled = .F.
      endif
ENDPROC
PROCEDURE cmdgrpeditor.cmdexit.Click
      THISFORM.RELEASE()
ENDPROC
PROCEDURE cmdarpeditor.cmdrevert.Click
      if modified == .f.
      GO BOTTOM
      DELETE
      PACK
      else
                   replace borrowno with mborrowno
                    replace legal with mlegal
                   replace loantype with mloantype
                    replace security with msecurity
                   replace purpose with mpurpose
                   replace fininst with mfininst
                   replace amount with mamount
                   replace date with mdate
      endif
      Thisform.setall("Readonly",.T.,"Textbox")
      Thisform.setall("Readonly",.T.,"combobox")
      Thisform.setall("Readonly", .T., "EDITbox")
```

```
thisform.cmdgrpeditor.cmdadd.visible = .T.
      this form. cmdgrpeditor. cmdmodify. visible = T
      thisform.cmdarpeditor.cmdrevert.visible = .F.
      thisform.cmdgrpeditor.cmdsave.enabled = .F.
      thisform.cmdgrpnavigator.enabled = .T.
      THISFORM.REFRESH()
ENDPROC
PROCEDURE cmdgrpeditor.cmdmodify.Click
      Thisform.setall("Readonly",.F., "Textbox")
      Thisform.setall("Readonly", .F., "combobox")
      Thisform.setall("Readonly", .F., "editbox")
      thisform.cmdgrpnavigator.enabled = .F.
      modified = .t.
                    mborrowno = THISFORM.txtborrowno.VALUE
                    mlegal = THISFORM.cbolegal.VALUE
                    mloantype = THISFORM.cboloantype.VALUE
                    msecurity = THISFORM.cbosecurity.VALUE
                    mpurpose = THISFORM.cbopurpose.VALUE
                    mfininst = THISFORM.cbofininst.VALUE
                    mamount = thisform.txtamount.value
                    mdate = thisform.txtdate.value
      thisform.cmdgrpeditor.cmdadd.visible = .F.
      this form. cmd grpeditor. cmd modify. visible = .F.
      this form.cmd arpeditor.cmd revert.visible = .T.
      thisform.cmdgrpeditor.cmdsave.visible = .T.
      thisform.cmdgrpeditor.cmdsave.enabled = .T.
      THISFORM.REFRESH()
ENDPROC
PROCEDURE cmdgrpnavigator.cmdtop.Click
      GOTO TOP
      THISFORM.REFRESH()
      this.parent.cmdprevious.enabled = .F.
      this.enabled = .F.
      this.parent.cmdnext.enabled = .T.
      this.parent.cmdbottom.enabled = .T.
ENDPROC
PROCEDURE cmdgrpnavigator.cmdprevious.Click
      IF !BOF()
            SKIP -1
            this.parent.cmdbottom.enabled = .T.
            this.parent.cmdnext.enabled = .T.
            IF BOF()
                   GO TOP
                   this.parent.cmdtop.enabled = .F.
```

this.enabled = .F.

```
this.parent.cmdnext.enabled = .T.
                        this.parent.cmdbottom.enabled = .T.
                  else
                        this.parent.cmdtop.enabled = .T.
                        this.enabled = .T.
                  ENDIF
            ENDIF
            THISFORM.REFRESH()
      ENDPROC
     PROCEDURE cmdgrpnavigator.cmdnext.MouseDown
            LPARAMETERS nButton, nShift, nXCoord, nYCoord
     ENDPROC
     PROCEDURE cmdgrpnavigator.cmdnext.Click
            IF !EOF()
                  SKIP
                  this.parent.cmdtop.enabled = .T.
                  this.parent.cmdprevious.enabled = .T.
                  IF EOF()
                        GO BOTTOM
                        this.parent.cmdbottom.enabled = .F.
                        this.enabled = .F.
                        this.parent.cmdprevious.enabled = .T.
                        this.parent.cmdtop.enabled = .T.
                  ENDIF
            ENDIF
            THISFORM.REFRESH()
     ENDPROC
     PROCEDURE cmdgrpnavigator.cmdbottom.Click
            GO BOTTOM
            THISFORM.REFRESH()
            this.parent.cmdnext.enabled = .F.
            this.enabled = .F.
            this.parent.cmdtop.enabled = .T.
            this.parent.cmdprevious.enabled = .T.
     ENDPROC
ENDDEFINE
*-- EndDefine: form1
```

CENTRAL BANK OF NIGERIA CREDIT BUREAU

LIST OF BORROWERS FROM PARTICULAR FINANTIAL INSTITUTION

GOLD INSURANCE LIMITED, IKEJA

Borrowno	Legal Code	Loan Type	Purpose	Amount	Date
ACC-342122	Individual Nigerian	Fixed Term Loan	Purchase of Property	2,054,000.00	10/10/00
ACC-434433	Private Limited Company	Advances	Purchase of Commercial Vehicle	45,000,780.00	02/13/01
ACC-856677	Parastatals	Trust Receipts	Purchase of Stocks and Shares	7,800,000.00	06/19/00

CENTRAL BANK OF NIGERIA CREDIT BUREAU

LIST OF BORROWERS BELOW ONE MILLION NAIRA (N1,000,000.00)

	Borrower's Number	Legal Status	Loan Type	Purpose	Amount		
SAVANAH BA	NK, IKEJA						
	ACC-123445	Individual Nigerian	Fixed Term Loan	Purchase of Property	850,000.00		
		<u> </u>			850,000.00		
STANDARD T	STANDARD TRUST BANK, V-ISLAND						
	ACC-121245	Partnership	Mortgage Loan	Purchase of Machinery and Equipment	54,677.00		
	ACC-126533	Individual Nigerian	Fixed Term Loan	Purchase of Land	560,000.00		

614,677.00

CENTRAL BANK OF NIGERIA CREDIT BUREAU

LIST OF BORROWERS ABOVE ONE MILLION NAIRA (N1,000,000.00)

Borrower's Number	Legal Status	Loan Type	Purpose	Amount
FIRST BANK, IKEJA				
ACC-654322	Individual Nigerian	Fixed Term Loan	Purchase of Property	1,250,000.00
				1,250,000.00
GOLD INSURANCE LIMITE	O, IKEJA	¥		
ACC-342122	Individual Nigerian	Fixed Term Loan	Purchase of Property	2,054,000.00
ACC-434433	Private Limited Company	Advances	Purchase of Commercial Vehicle	45,000,780.00
ACC-856677	Parastatals	Trust Receipts	Purchase of Stocks and Shares	7,800,000.00
				54,854,780.00
HOLLANDER BROOKERS,	IKOYI			
ACC-125677	Parastatals	Mortgage Loan	Purchase of Stocks and Shares	5,656,433.00
ACC-096764	Private Limited Company	Advances under Lease	Purchase of Machinery and Equipment	43,450,000.00
				49,106,433.00
STANDARD TRUST BANK,	V-ISLAND			
ACC-122254	Individual Nigerian	Fixed Term Loan	Purchase of Property	2,337,878.00
ACC-480091	Government	Hire Purchase	Financing Aviation Projects	234,000,000.00
,				236,337,878.00

rung areas were as the signi	Borrower's Number	Legal Status	Loan Type	Purpose	Amount
TRADE BA	NK, ISOLO				
	ACC-875111	Individual Nigerian	Trust Receipts	Purchase of Property	5,423,222.00
					5,423,222.00
UNION BAN	NK, IKEJA				
	ACC-230898	Sole Proprietor	Fixed Term Loan	Purchase of Consumer Durables	2,323,322.00
	ACC-542333	Joint Account Holder	Mortgage Loan	Financing of Joint Venture Business	23,600,700.00
			1		25,924,022.00
UNITED BA	NK FOR AFRICA	A, IKEJA			
	ACC-326767	Public Limited Company	Fixed Term Loan	Purchase of Machinery and Equipment	9,500,000.00

9,500,000.00