

COMPUTER APPLICATION TO PROJECT MANAGEMENT

(A Case Study of the ISS300PS project in Central Bank of
Nigeria, Minna)

By

**ADAJI PETER
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CERTIFICATION

This project has been examine and found acceptable in partial fulfilment of the requirement for the post-graduate diploma in computer science of the department of mathematics/ computer science of federal university of technology, Minna.

Prince Badmus R.O
Project supervisor

Date

Professor K.R. Adeboye
HOD Mathematics/Computer Science

Date

External Examiner

Date

DEDICATION

This project work is dedicated to the Almighty God for his mercies throughout the period of this programme.

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First and foremost, I thank God for showering his blessing on me for achieving all what I have acquired and attained in my life.

My sincere gratitude to my project supervisor Prince Badamasi AbdulRasheed for his untiring effort in making sure that this project becomes a dream come true.

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ABSTRACT

The project s to automate the vital records of the project Manager in the Management of the industrial and microprocessor-based currency processing machine's project (ISS300PS). Its main thrust is to provide the database to aid management in its decision making as regards the aims and objective of the project quickly and efficiently.

With this computerization approach, relevant information needed by management for cost control and project appraisal can be accessed easily because of the ability of the computer to store and analyse data with high degree of accuracy, reliability and security.

Central Bank of Nigeria as an apex financial institution introduced the use of the Banknotes processing machines in the sorting of the notes into fit and unfit according to some predetermine criteria. The machine also shreds and detects counterfeit notes during the process. There is therefore the need for periodic appraisal of the project by proper analysis of the relevant data to ascertain equipment utilization, rate of spare parts consumption and the level of depreciation of the equipment.

This project therefore, tends to design a more viable and reliable database with appropriate vital records needed for management decisions.

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CHAPTER ONE

1.0 GENERAL INTRODUCTION

1.1 INTRODUCTION

In Nigeria, banking came with the advent of Colonial masters - The British Colonist. The introduction of the first modern banking dated back to 1892 when the African Banking Corporation was established in Lagos at the invitation of Dempster and Company. Probably as a result of the good performance of the African Banking Corporation, another bank opened its branch office in Lagos in 1894. The bank was the Bank of British West African (now known as First Bank of Nigeria Plc.). This Bank enjoyed the monopoly over banking in Nigeria until 1916. For full detail of Registered Commercial Banks in Nigeria between 1892 - 1984 when there was the great upsurge in the number of registered banks see Appendix A.

As a result of the failures of the early banks, it became necessary to regulate the opening and operations of these banks. The inconsequence led to the setting up of Paton Commission in 1948 to counter the durability of enacting the banking legislation. The success of the above legislation gave birth to the establishment of the Central Bank of Nigeria through the act of Parliament in 1958.

1.2 THE NIGERIAN FINANCE SYSTEM DEVELOPMENT AND STRUCTURE

The financial system refers to markets for financial services that is the commodity that is traded is **FUNDS**. These are done by institutions and markets.

The financial system therefore can be classified as :

1. The Banking Sector (A). The Central Bank of Nigeria
 (B). Commercial Banks
 (C). Merchant Banks and Cooperative Banks.
2. Saving Institutions (A). Federal Saving Banks

- (B). National Social Insurance Deposit Bank
3. Specialized / Development Institution
 - (A). Nigerian Industrial Development Bank (NIDB)
 - (B). Federal Mortgage Bank of Nigeria (FMBN)
 - (C). Nigerian Agricultural and Co-operative Bank (NACB)
 4. Security Markets - Stock Exchange (Capital and Money Market)
 5. Insurance Institutions - Insurance Companies
 6. Public Sector - Federal and State Government & Parastatals
 7. Finance Houses - Lease and hire Purchase Companies

The financial system performs the following functions :

- (a). To ensure that there is adequate and quality Stock of money to service the needs of the economy, the Central Bank of Nigeria serves as the apex.
- (b). There are other non - monetary institutions, whose function is to facilitate the transfer of money between economic units.
- (c). It helps to mobilize the collection and storage of saving.

1.3 AIMS AND OBJECTIVES

The automation of the currency processing function of the bank prompted the study, aiming at developing a Currency Processing Management System (CPMS) for the management of the currency processing project with the following objectives :

- To provide an Integrated Database System for the Currency presented for processing
- To ascertain the effectiveness and the suitability of the project with the use of the present equipment.
- To determine the performance and consequently the training need for the operators of the Currency Processing Equipment (The IS 300PS).
- To improve the security of the processed currency.

- To make critical project management decision easier and efficient.

1.4 SCOPE OF THE STUDY

The scope of this study is limited to the management of the available currency that are required for processing since currency management function of Central Bank is a very wide duty. This project specializes in the currency management as its relates to the processing of the currency brought back from circulation into *Fit*, *Unfit*, and *Shredded* banknotes.

The critical area of interest shall therefore be limited to the followings :

- a. Currency Requisitions and Returns for note auditing and processing management
- b. Management of float boxes and generation of packing slips.
- c. Currency Project Planning and Control including information shortages claims, surplus claims, operators surplus, currency output classification and record of breakdown of the equipment.

1.5 METHODOLOGY

The method used to gather information and obtain data for this project is basically the observation of the users at work, a study of the relevant documents on the project and most importantly by simply talking to the people involved in the present system. The choice of the above methods arose because of the following needs :

- a. To give a useful insight into the problems, works conditions, bottle-necks and method of work.
- b. To search through previous records and documentation to highlight problems.
- c. To establish and verify information by interviewing and also to provide an opportunity to meet the users and overcome possible resistance to change.

1.6 LIMITATION OF THE STUDY

One major limitation was the out -of - date documentation of the present manual system. The present job description lacks the necessary details and is inflexible. The security requirement of the currency and the project in general is very demanding and so there were difficulties in the willingness of the operators/users to disclose in concise form the perceived constraints on the job.

Records of the past failures of Computerization in the banks created some apathy to the acceptance of the study by the management of the Bank. More so that such failures was encouraged by huge expenditure. Effort was therefore made to limit the overhead cost for the project at the expected OUTPUT. This was responsible to the choice of a limited scope of study.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 BRIEF HISTORY OF CENTRAL BANK OF NIGERIA

The Central Bank of Nigeria was established in 1958 by an Act of Parliament and which stated the following principal objectives :

- The issue of Legal Tender Currency in Nigeria
- The maintenance of external reserves to safeguard the international value of the currency
- The promotion of monetary stability and a sound financial structure
- Acting as banks and financial adviser to the Government

In order to enable the bank consistently achieve these objectives the Act also conferred adequate powers on the Bank and these are exercisable by the Governors and the officials of the Bank.

The Central Bank of Nigeria formally started operation on 1st July, 1959 when its office in Lagos was declared opened by the then Prime Minister of the Federation, The Late Sir, Abubakar Tafawa Balewa. Two departments were initially created, viz-a-viz.

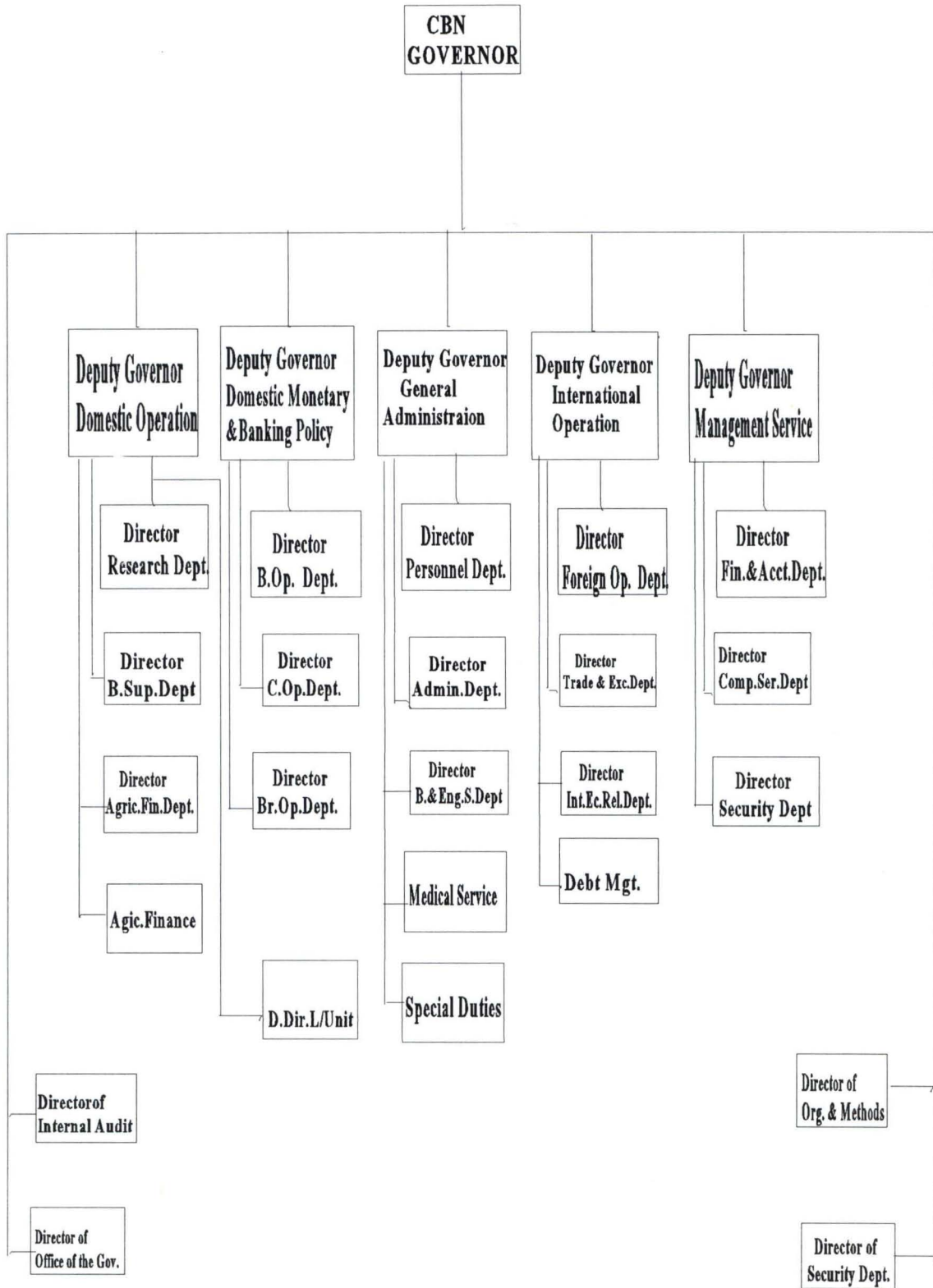
- a. The General Manager's Department which was charged with the responsibility for currency and Banking Functions and
- b. The Secretary's Department, which was given general administrative responsibilities along with personnel function. It also carried out some research functions.

Since then, the Bank has undergone several restructuring, the former post of Executive Directors was scrapped while five Deputy Governors were appointed to assist the Governor in the day to day administration of the Bank.

The deputy Governors were assigned portfolio as indicated below :

- (A). Deputy Governor - **DOMESTIC MONETARY AND BANKING POLICY**
 - Research Department
 - Banking Supervisor Department
 - Agriculture Finance Department
- (B). Deputy Governor - **DOMESTIC OPERATION**
 - Banking Operations Department
 - Currency Operations Department
 - Branches Operations Department
- (C). Deputy Governor - **GENERAL ADMINISTRATION**
 - Personnel Department
 - Administrative Department
 - Building and Engineering Services Department
- (D). Deputy Governor - **INTERNATIONAL OPERATIONS**
 - Foreign Operation Department
 - Trade and Exchange Department
 - International Economic Relation Department
- (E). Deputy Governor - **MANAGEMENT SERVICES**
 - Finance and Account Department
 - Computer Services Department
 - Security Department

CENTRAL BANK OF NIGERIA ORGANOGRAM



2.3 THE FUNCTIONS OF CENTRAL BANK OF NIGERIA

The 1958 Act of Parliament which established the central Bank of Nigeria stated the following as the Principal functions of the bank :

- The use of legal tender currency in Nigeria
- The maintenance of external reserves to safeguard the international currency of the country.
- The promotion of monetary stability and a sound financial structure
- Acting as banker and financial adviser to the Government

In order to enable the bank consistently achieve these objectives, the Act also conferred adequate powers on the bank and these are exercised by the Governors and the official of the bank. It is pertinent, however to state that the Bank officials are appointed by the Board of Directors.

Below are the function and how these function are fulfilled.

1. ISSUE OF LEGAL TENDER CURRENCY

The Bank in pursuance of its power of having the sole right of issuing notes and coins throughout Nigeria, issue the first Nigeria Currency in 1959. This Currency replaced the West African Currency Board issued which were then in circulation in the four British West African Countries. Since then the form and pattern of the Nigeria Currency has been periodically changed according to economic and political exigencies. The Currency notes and legal tender in settlement of debts is a limit to which coins can be used for any particular transaction. This is to ensure that people are not tenderly inconvenienced by being forced to take coins in excess of what can be reasonably carried out.

2. MAINTENANCE OF EXTERNAL RESERVES

The strength of any currency on the international scene depends on certain factors paramount among which are the country's volume of trade and its size of the external reserves. Hence the act entrust the management of Nigeria's External Reserves to the hands of the Central Bank of Nigeria who issue the currency for proper management so as to safeguard its international value. The main use of

external reserves is in paying for our import goods and services and settling our sundry external debts all arising from transaction with other nations. It is the bank's duty therefore to ensure that the Total External Reserves (TER) is not less than 25% of the Total demand liabilities of the Bank at any given time.

3. **BANKING AND FINANCIAL ADVISERS TO THE GOVERNMENT**

The Bank keeps the account of the Federal Government, State Government, Corporation and quasi-Government Institutions such as Universities and Research Institutes.

It is responsible for floating all internal borrowing of the Government through the issue of Nigerian treasury Bills, Treasury Certificates, and the various Federal Republic of Nigeria Development Stocks. The Bank offers expert financial advice to the Government on matters relating to annual budgets, Development Plans and Government borrowing (both internal and external). It has the responsibility for the formulation and execution of monetary policy in the economy using such tools as :

- A. Liquidity Ratio
- B. Credit Guidelines
- C. Special Deposits Appreciate Credit Ceiling
- D. Cash Reserve Requirement

4. **FUNCTIONS IN RELATION TO THE COMMERCIAL BANKS**

As Bankers bank, all clearing banks maintain Current Account with the Bank just as individuals maintain accounts with their bankers.

Similarly, as lenders of last resort, the bank is always standing ready to meet the temporary financial needs of the Commercial Banks. It carries out periodic examination of the books of both the commercial and Merchant bank. It also operates the Clearing house function in the head office and the functions to facilitate the settlement of inter-bank indebtedness.

5. FUNCTION IN RELATION TO THE PUBLIC

The Central Bank of Nigeria renders several services to the general public including :

- (a). The exchange of notes and coins in the demand denomination
- (b). Replacement of mutilated notes resulting from form, burnt, stained, dyed, destruction by termites.
- (c). Withdrawal of old and dirty notes from circulation and replacing them with new ones
- (d). Provides statistical data on economical financial matters as a centre of research.

6. FUNCTION IN RELATION TO THE BANK'S CUSTOMER'S

The Bank provides night-safe facilities for its customers. this facility is that which enables the Bank's customers to deposit cash, cheque with the Bank after the normal working hour. Also the Bank in addition to transferring of funds through customer's account operates documentary and irrevocable letters of credit on behalf of its customers.

7. FUNCTION IN RELATION TO THE FINANCIAL MARKET

One of the objectives of the Bank as enumerated in the central Bank Act is the promotion of sound financial structure in the economy. In essence, the Bank is charged with the responsibility of developing the money and capital markets in the country.

For the development of money market, the Bank issues and redeems Treasury Bill and certificates, manages the Banker Unit Fund (BUF) and process application from Banks for issuance of Negotiable Certificates of Deposit (NCD). For the Capital Market, the Bank issues and redeem Federal Republic of Nigeria Development Stocks.

The Bank helps in no small measure in the development of Financial Institution such as The Nigeria Stock Exchange, The Nigeria Bank for Commerce & Industry, The Nigeria Industrial Development Bank, The Securities & Exchange Commission etc. for the mobilization of long term capital for investment purposes.

8. AGRICULTURAL PRODUCTIVITY

In a bid to enhance Agriculture productivity in the economy, the Federal Government set up The Agricultural Credit Guarantee Scheme, the management of which has been entrusted with the Bank. Under this Scheme, an initial fund of ₦100Million was created to enable it guarantee up to minimum of 75%, of whatever credit the Commercial and Merchant Bank extend to the Farmer's Cooperative Societies as well as the State Government that engage in Agriculture. From this Fund claims in respect of loans which cannot be recovered are met by the bank.

2.4 **CURRENCY PROJECT MANAGEMENT**

One of the management problems in the bank particularly the IS 300PS project is lack of adequate data. There are no data necessary for future planning. In some cases where some are available their reliability is open to question. Most of those who gather these data are either illiterate or literate but ignorant of the importance of such data. However, planning is more politicized in Nigeria Projects than any thing else.

No project can run efficiently without some organized management. Even an apparently simple sequence of actions needs a certain amount of management. In any project there must be plan on what is to be done and there must also be some level of monitoring to track how things are going in relation to the plan. The process of monitoring is very important in controlling the overall costs and benefits of the project. If work is running below expectation, or if cost are beginning to escalate, it is essential to discover this as soon as possible and to be able to see how the project as a whole is going to be affected. The sooner a problem is uncovered, the sooner corrective action can be taken and the possible effects of the problem curtailed.

The aim of the project management system therefore is to produce data needed for :

- ◆ Planning
- ◆ Estimate time and effort and therefore cost as accurate as possible
- ◆ Identifying and setting of sensible tasks for the team
- ◆ Evaluating prior experiences effectively
- ◆ Scheduling of work.
- ◆ Using the resources effectively
- ◆ Monitoring and Controlling of the progress of the project
- ◆ Evaluating what is being produced and insisting on the importance of high - quality work

- ◆ Identifying quickly the cause of problems and creating the flexibility to adjust previous plans if necessary.

The need for computer application to project management therefore can not be over-emphasized, moreover the system has the ability to aid management to identify areas of potential risk, such as inexperienced personnel, new technologies or problem of requirement capture and to compensate for these by making further contingency plans.

CHAPTER THREE

3.0 **SYSTEM ANALYSIS & DESIGN**

3.1 **INTRODUCTION**

System Analysis is the process or activities involved in examining an already existing system (manual or computerized system) for new system to be introduced. The analysis is carried out by the System Analyst and with the primary aim of obtaining complete and authentic information which will acquaint the analyst with the knowledge of prevailing situation so that the feasibility of designing an effective computerized system can be known.

On the other hand, system Analysis can also be defined as the process of answering questions about how the system under investigation actually work. Answering questions, of course, must be preceded by gathering information that start with the preliminary investigation, feasibility study, fact finding, fact analysis, system design, system implementation, system review and maintenance, and system documentation.

3.2 **FEASIBILITY STUDY**

Feasibility study is the broad study of a system to identify reasons which justifies the development of the new system or favours non-execution of the project. However, this study is usually carried out by a small group of people who may be one or two.

The objectives which the analysts working on project feasibility should accomplish includes the followings:

(1). **CLARIFY AND UNDERSTAND THE PROJECT REQUEST**

The followings will be the attainment of this project (a) what is being done? (b) what is required?

(2) **DETERMINE THE SIZE OF THE PROJECT**

This is necessary, so as to estimate the amount of time and number of people required to develop the project.

(3) **ASSESS COST AND BENEFIT OF THE PROPOSAL AND THE ALTERNATIVE APPROACHES**

What is the cost of the project, including the cost of training and retraining end-users of the information system?

(4) Determine the technical, financial and operational feasibility of alternative approaches.

(5) Report the findings to management with recommendations outlining the acceptance or rejection of the proposal.

3.3 **METHODS OF INVESTIGATION**

Methods of investigation includes the fact finding techniques that can be used to carry out investigation on the existing system of the case study. The techniques or methods includes the followings:-

■ **INTERVIEW**

Interview is a technique or method in which questions are directed to respondent for immediate feedback. It can be carried out in the form of face-to-face conversation or through any other communication means; but it is better carried out in the form of face-to-face conversation. However, interview is always the best method of fact finding on an existing system. It is because of these reasons, that interviewing method have been chosen as one of the fact finding technique.

■ **QUESTIONNAIRE**

The questionnaire is another important fact finding technique or method of investigation to be used on the existing system analysis and feasibility study.

However, the questionnaire is a method of getting facts in which questions are structured in logical order and send to the respondent who are expected to respond by writing down their opinion regarding the various questions asked.

■ **OBSERVATION**

For proper understanding of the existing system, observation method is also one of the technique to be used for the analysis and feasibility study. It is defined as having a direct access to the old procedure for close and personal examination aimed at identifying irregularities.

■ **RECORD INSPECTION**

This involves critical inspection of past records, procedure manual instructions, report, etc. which can reveal useful information about the system in vogue.

This technique is also chosen in order to have a wider perspective of the whole system.

3.4 **THE EXISTING SYSTEM**

For proper understanding and analysis of the ISS 300PS project and its mode of record keeping, the existing operation (manual method of record keeping) at the Central Bank of Nigeria is divided into four components which are discussed below :

3.4.1 **THE EXISTING METHOD OF OPERATION**

Before designing a new or enhanced information system, sufficient and proper grasping of the existing work and information flow is of paramount important. This was carried out adequately and effectively with above four methods of investigation at the case study premises.

However, the interview, questionnaire, observation and record inspection gathered from the existing mode of operation at the case study office (i.e. currency processing department) were documented and the information flow of the proposed "**CPO SOFTWARE**" was reduced to the basic components (Input, processing and output) for easy and better design technique of the "**CPO SOFTWARE**"

3.4.2 SYSTEM OBJECTIVES

Since the existing system is documented, analysis was carried out, on the documentation in order to identify the obvious and the not-so obvious problems of the manual existing operation, including inefficiencies in information flow and storage, duplication of effort, deficiencies in information dissemination, staff discontent, inaccuracy of operational data etc.

After the identification of all relevant and non-relevant problems, possible solution were used in order to commence the system design for the proper attainment of the CPO Software objectives. Specifically, the objectives and features of the new systems are as follows:-

- (1) To develop a customized software packages "*CPO SOFTWARE*" that will stand the test of time.
- (2) It is user friendly
- (3) It is Y2K compliance, hence come Year 2000, it will work efficiently.
- (4) It reduces or eliminate the burden of manual method of storing and processing of currency data.

3.4.3 DESIGN CONSTRAINTS

Central Bank of Nigeria being the apex bank of the country, issuance of operational information to non-staff is completely against the management rule. This is so in order to safeguard the bank as against any unwanted criminal act. This reason however, affected the design of the CPO Software.

Therefore, the intended CPO software will be developed subject to specific constraints encountered during the time of system analysis of the existing operation. The purpose of this activity is to detail, at the onset of the system development process, any cost, hardware, schedule, procedural, software, database and operating constraints that may limit the definition and designation of the targeted system

to be developed.

3.4.4 **REQUIREMENT DEFINITION**

Having completed the analysis that resulted in the definition of some certain variables for proper data processing and information requirement. The interview, questionnaire, observation and record inspection made became the functional specifications for the system input, processing and the output requirement which are discussed in the project work. Moreover, the functional specification shows the logic of the system (input/output, work and information flow) from the perspective of the users.

3.5 **TESTING PROJECT FEASIBILITY**

To test for project feasibility, the following factors are mainly considered :

1. **OPERATIONAL FEASIBILITY**

This relates or is concerned with the workability of the proposed information system when developed and installed.

2. **TECHNICAL FEASIBILITY**

This test seeks to clarify if the proposed project can be done with the current equipment, existing software technology and available personnel.

3. **ECONOMICAL FEASIBILITY**

The test for financial feasibility is undertaken to assess cost of implementing a proposed project vis-a vis the benefit derived in implementing the project.

However, in relating the proposed system with all of the above testing project feasibility, the result of the testing shows and proved that the project is economical, hence it is feasible to be undertaken for actual implementation.

3.6 **CHANGEOVER PROCEDURE**

The changeover from one (i.e old system) to another (i.e new system) may take place when :

1. The system have been proved to the satisfaction of the system analyst and other implementation activities have been completed.
2. User managers are satisfied with the result of the system tests, staff training and reference manuals.
3. The target date for changeover is due.

However, the changeover may be achieved in a number of ways. The most common methods are :

(1). **DIRECT CHANGEOVER**

This direct method is the complete replacement of the old system by the new, in one move. It is a bold move, which should be undertaken only when everyone concerned has confidence in the new system. When a direct changeover is planned, system tests and training should be comprehensive, and the changeover itself planned in details. This method is potentially the least expensive but the most risky.

For security reasons, the old system may be held in abeyance, including people and equipment. In the event of a major failure of the new system, the organization would revert to the old system.

(2). **PARALLEL RUNNING**

This means processing data by both the old and new systems to cross-check the results. It's main function and attraction is that the old system is kept alive and operational until the new system has been used for at least one system cycle, using full live data in the real operational environment of place, people, equipment and time. It allows the results of the new system to be compared with the old system before acceptance by the user, thereby promoting user confidence.

On the other hand, its main disadvantage is the extra cost, the difficulty and (sometimes) the intractability of user staff having to carry out the different clerical operation of two systems (old and new) on the time available for one.

(3). **PILOT RUNNING**

This is similar in concept to parallel running. Data from one or more previous periods for the whole or part of the system is run on the new system after results have been obtained from the old system, and the new results are compared with the old. It is not as disruptive as parallel operation, since timing is less critical. This method is more like an extended system, test, but it may be considered a more practical form of changeover for organizational reasons.

(4). **STAGE CHANGEOVER**

This involves a series of limited-size direct changeovers, the new system being introduced piece by piece. A complete part, or logical section, is committed to the new system while the remaining parts or sections are processed by the old system. Only when the selected part is operating satisfactorily is the remainder transferred. This method reduces the risk inherent in a direct changeover of the whole system and enables the analyst and users to learn from mistakes made as the changeover progress.

Given the above four methods of changeover, staged changeover is chosen for this system (CPO software) because of the following reasons :

- (1) The system to be developed will be installed gradually, so as to enable the concerned organization that is the staff of CPO Engineering to become accustomed to area of the IS 300PS project data storage and processing before the coming of the next stage.
- (2) In the staged changeover, part of the system can be (and often is) installed before the rest of the system has been completed. This gives the opportunity of valuable feedback from the users which the system is being developed.
- (3) It also takes some of the pressure off the developers since small parts of the system can be

delivered when they are ready without waiting for completion of the whole system.

3.7 THE DESIGN OF THE PROPOSED SYSTEM

This section deals with the transformation of information gathered in the system Analysis stage into logical and physical designs of the new system in terms of output, input, files and procedures.

3.8 DESIGN SPECIFICATION

After gathering and analyzing data, an explicit system specification is written, which set forth for what the system should be doing. Almost, always, system specifications begin with a detailed description of the required outputs of the system.

However, once the system's output is specified, it then become necessary and important to determine the input data which is known as input requirements. These requirements specify the sources of the data needed by the systems, as well as the formats in which the data are most easily and economically retrieved.

3.8.1 OUTPUT SPECIFICATION

Output refers to the result and information that are generated by a system. The output from a computer system is required primarily to communicate the result of processing to users or other systems or more importantly, to provide a permanent (Hard) copy of this result for consultation and for management decision making.

However, the output specification is a determinant for the input specification. The design process of the output begins by the identification of the output the system must produce. It is as result of this, that in designing output for the CPO Software, that the needs of the end-users were fully considered. Specifically, the following reports are expected to be generated from the output specification. They include:

1. The total number of currency processed by each operator per month.

2. Total Fit, Unfit, Fake and Shredded bank notes processed.
3. Report on IS 300 PS Project Machine users

3.8.2 INPUT SPECIFICATION

The input specification is an interactive avenue where the Computer and end-users Communicate via the use of the popular input device called the keyboard. Hence, having considered the output that needs to be generated by the proposed system, there is need to design the input, which will bring about the output.

Input refers to the mode of entering data in to a system. The consideration for input design is very important because it series as the point of most contact for the users with the system and it is prone to errors. Based on this, the input design should be made to attain the following objectives:-

- ◆ To achieve the highest level of accuracy.
- ◆ To ensure that the input is acceptable and understood by the users.
- ◆ To produce a cost effective method of input.

3.9 SYSTEM DESIGN & PROCEDURES

System design is the use of an analyst creative ability and sense in organizing a logical but literally feasible procedure for a computerized system specifically, the design stage of the CPO software design produces three (3) output as follows :

3.9.1 GENERAL SYSTEM DESIGN

The general system design includes the flow chart (procedures) a written explanation (Pseudocode). For this study coding (programming) is used to depict the representation of the software. This is available in the project appendixB.

3.9.2 DATABASE DESIGN

Database Design which is also known as file design is the common denominator of any system. It contains the raw material (data) necessary to produce the output.

In manufacturing, for example, it is only when the product to be made is decided upon that the raw material could be specified and ordered. In the process of developing an information system, output requirements are first decided upon before input data are specified. In a sense, output requirements can be thought of as input data base design.

Therefore the database file design include all the database files used throughout in the system for the proper storage of currency processing data. Below are the physical descriptive structures of the entire database file used.

(1). **OPERATOR.DBF**

This database file is used to stored relevant information regarding the IS 300 PS Project Machine users. The structure of the database file is as shown below :

<u>S/NO</u>	<u>FIELD NAME</u>	<u>TYPE</u>	<u>WIDTH</u>
1	REGDATE	DATE	8
2	REGTIME	CHR	8
3	IDCODE	CHR	4
4	NAME	CHR	30

(2) **NPS.DBF**

This database file is used to store information regarding the total amount outputted by each operator and the duration at which the machine was working. Below is the structure of the database file.

<u>S/NO</u>	<u>FIELD NAME</u>	<u>TYPE</u>	<u>WIDTH</u>
1	REGDATE	DATE	8
2	REGTIME	CHR	8
3	IDCODE	CHR	4

4	NAME	CHR	30
5	OUTPUT	NUM	16,2
6	NOTETYPE	NUM	2
7	SHORTAGE	NUM	12,2
8	SURPLUSES	NUM	12,2
9	BANKCODE	CHR	2
10	BANKNAME CHR		30
11	TIMESTART	CHR	8
12	TIMECLOSE	CHR	8

(3) **BANK.DBF**

The Bank database file store all information regarding Banks in the country for cash clearing.

<u>S/NO</u>	<u>FIELD NAME</u>	<u>TYPE</u>	<u>WIDTH</u>
1	REGDATE	DATE	8
2	REGTIME	CHR	8
3	BANKCODE	CHR	2
4	BANKNAME CHR		30

(4) **CPO.DBF**

This is the master database file. It is used to hold a comprehensive record of all currency process (fit, unfit, manual & shredded), and its percentage by each operator on a daily basis.

<u>S/NO</u>	<u>FIELD NAME</u>	<u>TYPE</u>	<u>WIDTH</u>
1	REGDATE	DATE	8
2	REGTIME	CHR	8
3	IDCODE	CHR	4
4	NAME	CHR	30
5.	NOTETYPE	NUM	2
6.	NOTEISSUED	NUM	16,2
7.	FIT	NUM	12,2
8.	UNFIT	NUM	12,2
9.	MANUAL	NUM	12,2
10.	SHREDDED	NUM	12,2
11.	TOTAL	NUM	16,2

3.10 COST & BENEFIT ANALYSIS

3.10.1 COST ANALYSIS

The cost analysis is the analysis of the total cost (expenses) that is needed in order to put the CPO software to be developed into actual implementation. It is quite important to note that cost and benefit analysis at times is difficult to quantify at best, but must be done in order to estimate the financial and operational impact within the organization. Below is the break down of the cost of implementing the CPO software.

S/NO	DESCRIPTION OF ITEMS	UNIT	RATE	AMOUNT
A.	DEVELOPMENTAL COST			
	1. System Analysis & Design for 4 weeks	4 Weeks	6,000	24,000
	2. Software Development for 3 weeks	3 Weeks	5,000	15,000
	3. Equipment purchase (Computer System)	2	250,000	250,000
	4. Installation	Lot	35,000	35,000
	5. Personnel Training (10 Staff)	2 Weeks	5,000	50,000
	TOTAL COST ON ITEM (A)			374,000
B	OPERATING COST			
	1. Supplies of computer accessories and stationeries.	Lot	50,000	50,000
	2. Equipment Maintenance.	Lot	120,000	120,000
	3. Application Software as may be required	Lot	45,000	45,000
	4. Labour Cost.	lot	85,000	85,000
	TOTAL COST ON ITEM (B)			300,000.00
	GRAND TOTAL ON (A+B)			674,000.00

3.10.2 BENEFITS ANALYSIS

The benefit analysis cannot be over emphasized. A management information system, if it operates

well, enable managers to make higher - quality decisions. An improved operating system will result, for example, in more effective customer billing, this will result in better customer relation. *Surely this Is Desirably, but How Much Does it Worth?*

Suffice to say that cost - benefit analysis is difficult to quantify at best , but must be done in order to estimate the financial and operational impact of the system development project on the concerned organization . The CPO software will ensure a timely and accurate production of currency processing reports that will enable the management to take proper decisions as regards distribution and handling of bank notes in the country .

In view of the above, the following benefits will be derived from the system if properly implemented:-

1. **COMPREHENSIBILITY**

This refers to the ease with which relevant users can understand what the system is doing and how it functions.

2. **CONVENIENCE**

This is simplicity, efficiency and reliability with which the system is operated

3. **ADAPTABILITY**

This is the extent, efficiency and ease with which the system can be adjusted to meet the changing needs of particular users or various users.

4. **PRECISION**

This refers to the avoidance of ambiguity in information content and necessary user actions

5. **TOLERANCE**

This refers to the degree to which the system is tolerant of users making slight variations and error interaction.

6. **HELPFULNESS**

This is the amount of support given to assist users in performing required tasks.

7. **FRIENDLINESS**

This refers to the politeness of the system messages and dialogues.

Judging from all of the above benefits, it is then reasonable to say that the cost expenditure will justify the design of a customized CPO Software.

CHAPTER FOUR

4.0 PROGRAMMING DEVELOPMENT / IMPLEMENTATION

4.1 THE PROCESS OF SOFTWARE DEVELOPMENT

The process of software development is a co-operative effort of the users of software and computer professionals. While computer professional are those familiar with the technology and how it can be applied to meet a business information processing needs, users of software on this side have an in-depth familiarity with their respective functional areas.

The skills and knowledge of these two groups complement each other and can be combined to create any type of information system during the software development process.

However, because system or software development is a team effort, most organizations have adopted a standardized "System/software Development Methodology" that provides a frame work for co-operation and a successful development of a new system. This step-by-step system development procedures is illustrated below in a tabular form.

STEPS	ACTIVITIES	MEASURABLE OUTPUT
Analysis & Specification	Appraisal of existing situation Identification of users requirement	
Design	Design the overall program structure. Design the detailed processor processing logic	Process logic specifications, using pseudo code or flow chart techniques
Programming	Writing of code in the appropriate processor language entry of written code into the computer	Hand written program code computer printed list out of code
Testing and Debugging	Removal of syntax and logic errors. Final testing of program	Error free program Execution.
Installation and Maintenance	Error free program installation User training	Program documentation and upgrade procedures

However, software development process is essentially the same, be it for Inventory Management

System, Currency processing, airline reservation system etc. As a member of a "Project Team" progress through the procedures outlined in a software development methodology, the result of one step provide the input for the next step and/or subsequent steps. The project team typically is made up of both Users and computer professionals (i.e System Analyst, Programmer and Data processing Manager). The methodological approach to software development is a tool Information services and Users Managers employ to coordinate the effort of a variety of people engaged in a complex process. Hence for a successful program development of CPO software, it is assumed that the writer of this project work is part of the project team as a programmer. The above five (5) steps in the table were followed one after the other in order to design and developed a customized software package called the "*CPO Software*" .

4.2 CHOICE OF PROGRAMMING LANGUAGE

From the previous analysis, it is pertinent to say that the proposed system is going to be used to store large number of data / information, and time to time retrieval of record. Due to this fact, the choice of the programming language chosen for the development of the system is Database Management system (DBMS) Package with special preference for Dbase IV and Clipper 5.0.

4.3 FEATURES OF THE PROGRAMMING LANGUAGE CHOSEN

However, the choice of Dbase IV Clipper 5.0 is because of the following reasons and features posses by the two applications software.

- It is easy to write an active user Interface program and also simple to understand.
- It is user friendly.
- It reduces data redundancy.
- Data integrity can be maintained

- Provide easy and greater access to information
- Individual database file can be designed to meet specific requirement of particular functional Unit of an organization
- The clipper 5.0 allows the source program to be compile to an executable file thereby allowing the program to be run independently of the application software that is used coding the program (i.e. Dbase IV and Clipper 5.0)

4.4 PHYSICAL AND LOGICAL DESIGN OF THE SYSTEM

The physical and logical design of the system deal with the physical construction of the logical design of the proposed system. It has to do with program specification for output, input file and processing into computer software. The designation of the computer software is important to ensure that the actual program produce performed all the tasks intended and to allow for the future modification to be performed in an efficient manner and with minimum destruction to the design of the system. Therefore , documentation of the program specification are attached in the appendixC .

4.5 SYSTEM IMPLEMENTATION

System Implementation is a broad term that encompasses testing & debugging, hardware and software requirement, system installation and system conversion.

It is also the co-ordination of the fact which are necessary in ensuring the operation of the new system.

4.6 SYSTEM TESTING AND DEBUGGING

The essence of program testing is to make sure that program is error free and that all the logic involved are well defined and straight forward. However, it is often seen as means of establishing that a program is error free and that it does what is required. This is very dangerous point of view. It is virtually impossible to test a program so thoroughly that it can be claimed to be free of error. In most cases, fixing one error gives rise to host of others, which in turn have to be corrected exhaustively. It is much more realistic to think of testing as a "Process of finding errors". When a stage is reached when the program appears to run perfectly, this does not mean that there are no more errors in the program, it simply mean that those errors have not been discovered.

Hence, the CPO Software have been developed, tested with real live data, irrespective of people and environment and it was found to be error free.

4.7 HARDWARE AND SOFTWARE REQUIREMENTS

To make maximum utilization of developed system, certain hardware and software needs to be installed.

HARDWARE REQUIREMENT

This comprises of all the physical component of the computer system and its accessories. Therefore the choice of the computer requirement is done to suit both the current and the future needs of the organization with respect to the volume and types of data to be processed. In summary, a computer system with the following minimum requirement is required.

A. COMPLETE COMPUTER SYSTEM

PENTIUM II 333 CELERON INTEL

4.1 GB HDD

64MB SDRAM

36X CD-ROM DRIVE+SOUND CARD+2No. OF SPEAKERS

14" SVGA MONITOR

1.44MB FDD

MICROSOFT MOUSE

WINDOWS KEYBOARD

B. **OTHER COMPONENTS**

UN-INTERRUPTED POWER SUPPLY (UPS)

AUTOMATIC VOLTAGE REGULATOR (STABILIZER)

EPSON LQ2170 PRINTER

HP LASER JET 1100AL PRINTER

1 PACKET OF 3.5" DISKETTE

SOFTWARE REQUIREMENTS

Software requirements are the basic and other relevant application software that is needed to be installed on the computer system in order to make maximum utilization of the computer system and the developed CPO Software. It is because of this fact that the following software must be installed on the system. The software includes:

A. **OPERATING SYSTEM SOFTWARE**

WINDOWS '95 OR '98

MS-DOS 6.22 OR HIGHER

B. **CPO SOFTWARE**

C. **OTHER APPLICATION SOFTWARE**

COMPLETE OFFICE '97

d. MS-WORD

e. MS-EXCEL

f. MS-POWER POINT

g. MS-ACCESS

h. MS-PUBLISHER etc.

h. MS-PUBLISHER etc.

WORD PERFECT 6.1 FOR WINDOWS

COREL DRAW 5.0 & ABOVE

DBASE IV

CLIPPER 5.0

VISUAL BASIC

However, other application software apart from the ones mentioned above may be installed as may be required by the staff and organization concerned.

4.8 SYSTEM INSTALLATION

This is the process of transferring the developed system from the floppy disk to a permanent storage device called the hard disk.

However, installing the CPO Software is very simple, though a batch program has been written to take care of the installation process. All the users need to do is to follow the following procedures.

<u>STEPS</u>	<u>PROCEDURES</u>	<u>FORMAT AND DEFAULT</u>	<u>RESULT</u>
1	Go to the Dos-Prompt	C:\>	
2	Insert the source diskette containing the CPO Software into drive A.		Diskette Inserted
3.	At the Dos-Prompt i.e C:> type (Install A :) and press enter key		C:\>Install A: (Press Enter) Installation Completed

At the end of the installation, the floppy diskette becomes a backup and well safeguarded as against any damages for future use.

4.9 STARTING THE SYSTEM

After the successful installation of the CPO Software, starting the new system is very easy. All the user need to do is to change to the directory name called <CPO>

i.e. C:\>CD CPO (PRESS ENTER KEY)

and while the default directory is CPO, type CPO to commence running of the program.

4.10 MENU STRUCTURE

The Main Menu of the CPO Software is in a form of rectangular square containing Popup or Pull down menu options. The user of the system is expected to use the UP and DOWN arrow key to highlight option to be preceded by an ENTER KEY to carry out the execution.

Below is the structure of the main menu.

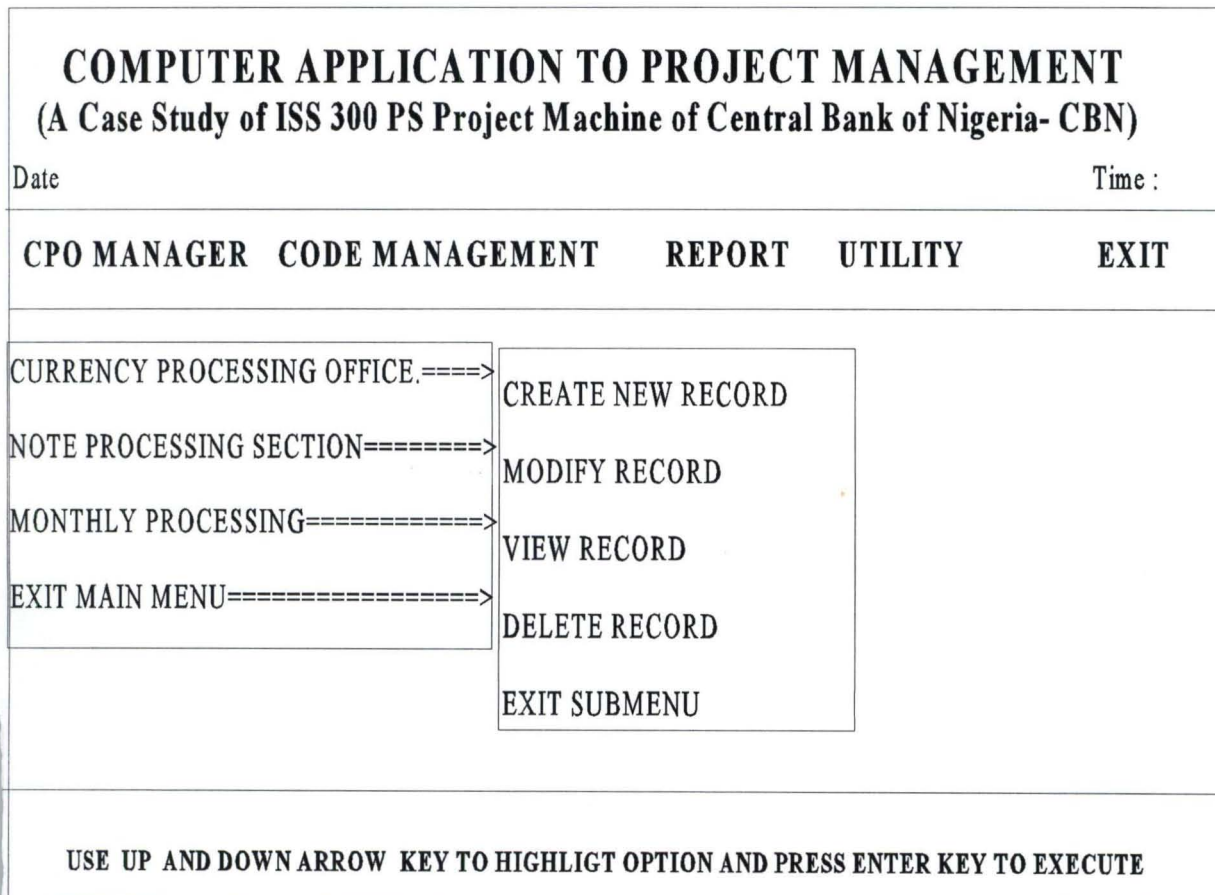


Fig. 1.0 Main Menu Structure

COMPUTER APPLICATION TO PROJECT MANAGEMENT (A Case Study of IS300 PS Project Machine of Central Bank of Nigeria -CBN)				
Date:		Time:		
CPO MANAGER	CODE MANAGEMENT	REPORT	UTILITY	EXIT
	REGISTRATION OF OPERATORS => REGISTRATION OF BANK=====> EXIT MAIN MENU	CREATE NEW RECORD MODIFY RECORD VIEW RECORD DELETE RECORD EXIT TO SUBMENU		
USE UP AND DOWN ARROW KEY TO HIGHLIGHT AND PRESS ENTER KEY TO EXECUTE				

Fig. 2.0 Code management SubMenu

COMPUTER APPLICATION TO PROJECT MANAGEMENT (A Case Study of IS300 PS Project Machine of Central Bank of Nigeria -CBN)				
Date:		Time:		
CPO MANAGER	CODE MANAGEMENT	REPORT	UTILITY	EXIT
		1. Total Number of Bank Note Processed by Each 2. Total Number of Fit Bank Note Processed at Minna Branch 3. Total Number of Unfit Bank Note Processed at Minna Branch 4. Total Number of Shredded Bank Note Processed at Minna Branch 5. EXIT MAIN MENU		
USE UP AND DOWN ARROW KEY TO HIGHLIGHT AND PRESS ENTER KEY TO EXECUTE				

Fig. 3.0 Report Generation SubMenu

4.11 FINAL HANDOVER

Once the system has been working for an agreed period of time, the developer of the system will want to withdraw. Prolonged involvement of the system developer with a working system should be avoided. The system becomes the responsibilities of a maintenance group within the computer department instead of the development staff. The users must be satisfied that the system works properly and meet all their requirements by the time hand over takes place. It is essential, therefore, that the hand over takes place formally with a clear understanding on all sides that the developer involvement has come to an end.

In view of the above, it is sufficient to say that the CPO Software developed has satisfied all the necessary rudiments of system implementation and the users that is, the organization concerned where also satisfied that the system works properly and have met the requirements. Hence, the hand over concludes the programming and system implementation.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION, AND RECOMMENDATIONS

The aims and objective of this project is to far fetch the implication of application of computer to project management with a particular interest on the IS 300 PS Project Machine of Central Bank Nigeria (CBN), Minna Branch.

The IS 300 PS Project Machine which is notable for its timeliness and accuracy in processing currency with high speed does not possess the capability of storing the result of its processing in its memory for a long period of time and lack facilities for further subsequent retrieval of information regarding the currency processed.

It is in view of this, that a customized software was suggested and undertaken to enable the users/operators of the machine to store and retrieve their daily currency processing result on the system. This method of computerization will completely reduce if not eradicate the burden of the manual method of storing the currency processing result.

5.2 CONCLUSION

Without any hesitations, the computer technology has created an overwhelming awareness for itself. This awareness commences in the late forties with a very small initial investment, and has been increasing both in strength and importance. When one looks back with an analytical mind, one can conclude that computer technology keeps on advancing with remarkable increase in speed, accuracy and reliability. It is because of these important features of the computer system that the project was undertaken to further promote the computer awareness and the design of indigenous software.

5.3 RECOMMENDATIONS

Looking at computer operation from the application programs and customized software perspective, it does substantially appear that no meaningful computerization or computer operation can take place without data being manipulated in one way or the other.

That a computer is a powerful and wonderful machine is based on its ability to process data fast and accurately. It is also because of this fact that the followings were recommended :

- The Currency Processing Office or department should forward a proposal to the CBN Management for the actual implementation of the CPO Software.
- It is also recommended that with time, the department should be networked in order to decentralize the data entry of the currency processed by the staff.
- Lastly, it is recommended that the CPO Software should be implemented in other branches of the Central Bank of Nigeria.

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*

*AUTHOR :ENGER. PETER ADAJI
*LICENSEE :Central Bank of Nigeria-CBN, Minna Branch
*PROJECT TITLE :Computer Application to Project Management(CAPM)
*

Set Talk off
Set Echo off
Set Bell off
Set Stat off
Set Scor off
Set Safe off
Set Conf off
Set Esca off
* Set Wrap on
* Set proc to clap
Set date to brit
private sc_hpop // Saves horizontal popup
clear
x=inkey(2)
set color to w+/br, ,
@00,00 clear to 05,79
@00,00 to 05,79 color "w+/r"
cbn1 = "COMPUTER APPLICATION TO PROJECT MANAGEMENT"
cbn2= "(A case Study of the ISS 300PS Project of Central Bank of Nigeria-CBN)"
@01,(80-len(cbn1))/2 say cbn1
@02,(80-len(cbn1))/2 say cbn1

Do while .t.
@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use'+chr(25)+'key to highlight option &
press'+chr(17)+chr(196)+chr(217)+'key to select'
@04,01 prompt "CPO MANAGER"
@04,20 prompt "CODE MANAGEMENT"
@04,40 prompt "REPORT"
@04,55 prompt "UTILITY"
@04,70 prompt "Exit"
menu to ch1
Save screen to sc_hpop
Do case
case ch1=1
do CS
case ch1=2
do CM

```
case ch1=3
do REPorter
case ch1=4
do UTY
othe
exit
Endcase
Restore Screen from sc_hpop
Enddo
clear
@23,31 say "CPO MANAGER,Undergoes Normal Shut Down...!!!"
Return
```

```
*/-----Menu Choice for Credit Scheme-----
```

```
Procedure CS
```

```
private sc_vpop
```

```
Do while .t.
```

```
Set color to w+/b
```

```
@06,00 clear to 14,38
```

```
@06,00 to 14,38
```

```
@21,08 clear to 23,71
```

```
@21,08 to 23,71
```

```
@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press  
'+chr(17)+chr(196)+chr(217)+' key to select'
```

```
@07,1 prompt " Currency Processing Office....."
```

```
@09,1 prompt " Note Processing Section....."
```

```
@11,1 prompt " Monthly Processing....."
```

```
@13,1 prompt " Exit Main Menu....."
```

```
menu to fchoice
```

```
Save screen to sc_vpop
```

```
Do case
```

```
case fchoice=0
```

```
loop
```

```
case fchoice=1
```

```
do CP
```

```
case fchoice=2
```

```
do NPS
```

```
case fchoice=3
```

```
do MP
```

```
othe
```

```
exit
```

```
Endcase
```

```
Restore Screen from sc_hpop
```

```
Enddo
```

Return

*/-----Menu Choice for CP-----

Procedure CP

Do while .t.

Set color to w+/b

@08,39 clear to 18,57

@08,39 to 18,57

@21,08 clear to 23,71

@21,08 to 23,71

@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217)+' key to select'

@09,40 prompt " Create New File"

@11,40 prompt " Modify File...."

@13,40 prompt " View File....."

@15,40 prompt " Delete File...."

@17,40 prompt " Exit Menu....."

menu to ch2

Save screen

Do case

 case ch2=0

 loop

 case ch2=1

 do ccp

 case ch2=2

 * do mcp

 case ch2=3

 * do vcp

 case ch2=4

 * do dcp

 othe

 exit

Endcase

Restore Screen from sc_hpop

Enddo

Return

*/-----Menu Choice for NPS-----

Procedure NPS

Do while .t.

Set color to w+/b

@08,39 clear to 18,57

@08,39 to 18,57

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217)+' key to select'
@09,40 prompt " Create New File"
@11,40 prompt " Modify File...."
@13,40 prompt " View File....."
@15,40 prompt " Delete File...."
@17,40 prompt " Exit Menu....."

menu to bchoice

Save screen

Do case

case bchoice=1

* do cnps

case bchoice=2

* do mnps

case bchoice=3

* do vnps

case bchoice=4

* do dnps

case bchoice=0

loop

othe

exit

Endcase

clea

Restore Screen from sc_hpop

Enddo

Return

/-----Menu Choice for Code Management-----

Procedure CM

private sc_vpop

Do while .t.

Set color to w+/b

@06,20 clear to 12,50

@06,20 to 12,50

@21,08 clear to 23,71

@21,08 to 23,71

@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217)+' key to select'

@07,21 prompt " Registration of Operators.."

@09,21 prompt " Registration of Banks....."

@11,21 prompt " Exit Main Menu....."

```
menu to fchoice
Save screen to sc_vpop
Do case
  case fchoice=0
    loop
  case fchoice=1
    do RLT
  case fchoice=2
    do RB
  othe
  exit
Endcase
clea
Restore Screen from sc_hpop
Enddo
Return
```

***/-----Menu Choice for Table Files-----**

```
Procedure RLT
Do while .t.
Set color to w+/b
@08,51 clear to 18,69
@08,51 to 18,69

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217)+' key to select'
@09,52 prompt " Create New File"
@11,52 prompt " Modify File...."
@13,52 prompt " View File....."
@15,52 prompt " Delete File...."
@17,52 prompt " Exit Menu....."
```

```
menu to tchoice
Save screen
Do case
  case tchoice=1
    do crlt
  case tchoice=2
    do mrlt
  case tchoice=3
    do vrlt
  case tchoice=4
    do drlt
```

```
case tchoice=0
  loop
  othe
  exit
Endcase
Restore Screen from sc_hpop
Enddo
Return
```

***/-----Menu Choice for Table Files-----**

Procedure RB

Do while .t.

Set color to w+/b

@08,51 clear to 18,69

@08,51 to 18,69

@21,08 clear to 23,71

@21,08 to 23,71

**@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217)+' key to select'**

@09,52 prompt " Create New File"

@11,52 prompt " Modify File...."

@13,52 prompt " View File....."

@15,52 prompt " Delete File...."

@17,52 prompt " Exit Menu....."

menu to tchoice

Save screen

Do case

case tchoice=1

do crb

case tchoice=2

***do mrb**

case tchoice=3

*** do vrb**

case tchoice=4

*** do drb**

case tchoice=0

loop

other

exit

Endcase

Restore Screen from sc_hpop

Enddo

***/-----Menu Choice for Report Program-----**

Procedure reporter

private sc_vpop

Do while .t.

Set color to w+/b

@06,19 clear to 18,75

@06,19 to 18,75

@21,08 clear to 23,71

@21,08 to 23,71

@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217)+' key to select'

@07,20 prompt " 1.Total No. of Bank Note Processed by Each Operator..."

@09,20 prompt " 2.Total No. of Fit Bank Note Processed at Minna....."

@11,20 prompt " 3.Total No. of Unfit Bank Note Processed at Minna....."

@13,20 prompt " 4.Total No. of Shredded Bank Note Processed at Minna.."

@15,20 prompt " 5.Total No. of Manual Bank Note Processed at Minna...."

@17,20 prompt " 6.Exit Main Menu....."

menu to fchoice

Save screen to sc_vpop

Do case

case fchoice=0

loop

case fchoice=1

do rep1

case fchoice=2

do rep2

case fchoice=3

do rep3

case fchoice=4

do rep4

case fchoice=5

do rep5

othe

exit

Endcase

Restore Screen from sc_vpop

Enddo

Return

*/-----Menu Choice for manager-----

Procedure UTY

private sc_vpop

Do while .t.

Set color to w+/b

@06,55 clear to 16,77

@06,55 to 16,77

@06,55 to 16,77

@21,08 clear to 23,71

@21,08 to 23,71

@22,10 say 'Use'+chr(25)+'or'+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217)+' key to select'

@07,56 prompt " Introduction..."

@09,56 prompt " Backup Files..."

@11,56 prompt " Restore Files.."

@13,56 prompt " Empty Databases"

@07,56 prompt " Exit Main Menu."

menu to fchoice

Save screen to sc_vpop

Do case

case fchoice = 0

loop

case fchoice = 1

!attrib + r intro.text

!edit intro.text

case fchoice = 2

* do bf

case fchoice = 3

* do RFile

case fchoice = 4

do empty

othe

exit

Endcase

clea

Restore Screen from sc_vpop

Enddo

Return

*/-----Procudure Program to Empty Databasees-----

Procedure empty

@21,08 clea to 23,71

@21,08 to 23,71

outer= "Please Wait,Cleaning of Database Files in Progress...!!!"

@22,(80-len(outer))/2 say outer

x=inkey(4)

sele 1

use cpo

go top

zap

sele 2

```
use nps
go top
zap
```

```
sele 3
use summary
go top
zap
```

```
*----- PROCEDURE CRT-----
```

```
proc crt
clear
set color to w+/b
*set proc to header
*do head
subh="Registration of New Operator's"
@05,(80-len(subh))/2 say subh
```

```
use operator
index on idcode to idcode
```

```
@07,03 say "REG.DATE"
@07,14 say "REG.TIME"
@07,27 say "OPERATOR CODE"
@07,47 say "OPERATOR NAME"
l=1
```

```
Do while .t.
```

```
*----- Initialization of Variables-----
```

```
xregdate=dtoc(date())
xregtime=time()
xidcode=space(04)
xname=space(20)
if l<10
```

```
    @08+l,03 get xregdate pict "99/99/99"
```

```
    @08+l,14 get xregtime pict "99:99:99"
```

```
    clear gets
```

```
    do while .t.
```

```
    fb="ENTER OPERATOR'S ID.CODE or Press Enter Key on Code to Exit"
```

```
    @23,02 clea to 23,77
```

```
    @23,(80-len(fb))/2 say fb
```

```
    @08+l,31 get xidcode pict "9999"
```

```
    read
```

```
    if xidcode=space(04)
```

```
        clear
```

```
        close all
```

```
        return
```

```
    endif
```

```

go top
seek xidcode
if found()
  fb="OPERATOR CODE ALREADY EXIST, Press Any Key To Retry"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  set cons off
  wait" "
  @23,02 clea to 23,77
  xidcode=space(04)
  loop
endif
exit
enddo
do while .t.
@08+l,43 get xname pict"@!"
read
if xname=space(20)
  @23,02 clea to 23,77
  fb="OPERATOR'S NAME CANNOT BE EMPTY, Press Any Key To Retry"
  @23,(80-len(fb))/2 say fb
  set cons off
  wait " "
  @23,02 clea to 23,77
  loop
endif
exit
enddo
@22,02 clea to 23,77
* set proc to saver
*do boye
x=0
do while x=0
x=inkey()
if upper (chr(x)) $ "SRA"
  exit
endif
x=0
enddo
if upper(chr(x)) $ "R"
  @08+i,03 clea to 19,77
  @22,02 clea to 23,77
  fb="ENTER OPERATOR'S CODE or Press Enter Key on Code to Exit"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  loop

```

```

endif
if upper (chr(x))$"A"
  clear
  close all
  return
endif
appen blank
repl regdate with date ()
repl regtime with xregtime
repl idcode with xidcode
repl name with xname
i=i+2
@22,02 clea to 23,77
loop
Else
l=1
Endif
Enddo
retu
* _____ EOF _____
* _____ PROCEDURE MRLT _____
proc mrlt
clea
set color to w+/b
* set proc to header
*do head
subh="Modification of Registered Operators"
@05,(80-len(subh))/2 say subh

use operator
index on idcode to idcode

@07,03 say "REG.DATE"
@07,14 say "REG. TIME"
@07,27 say "OPERATOR CODE"
@07,47 say "OPERATOR NAME"
l=1
Do while .t.
*----- Initialization of Variables-----
xregdate=dtoc(date())
xregtime=time()
xidcode=space(04)
xname=space(20)
if l<10
  @08+l,03 get xregdate pict "99/99/99"
  @08+l,14 get xregtime pict "99:99:99"

```



```

clear gets
do while .t.
fb="ENTER OPERATORS ID CODE or Press Enter Key on Code to Exit"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
@08+i,03 get xidcode pict "9999"
read
if xidcode=space(04)
clear
close all
return
endif
go top
seek xidcode
if .not. found ()
fb="OPERATOR'S CODE DOES NOT EXIST, Press Any Key To Retry"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
set cons off
wait " "
@23,02 clea to 23,77
xidcode=space(04)
loop
endif
xname=name
@08+i,43 get xname pict "@!"
clea gets
exit
enddo

```

----- Modification Commences Here-----

```

@22,02 clea to 23,77
*
set proc to saver
*do jara
x=0
do while x=0
x=inkey()
if upper (chr(x)) $ "MRA"
exit
endif
x=0
enddo
if upper (chr(x)) $ "R"
@08+i,03 clea to 19,77
@22,02 clea to 23,77
fb="ENTER OPERATOR'S CODE or Press Enter Key on Code To Exit"
@23,02 clea to 23,77

```

```

@23,(80-len(fb))/2 say fb
loop
endif
if upper (chr(x)) $ "A"
clear
close all
return
endif
*----- Modification Commences Here-----
do while .t.
@08+i,43 get xname pict "@!"
read
if xname=space(30)
@23,02 clea to 23,77
fb="OPERATOR'S NAME CANNOT BE EMPTY, Press Any Key To Retry"
@23,(80-len(fb))/2 say fb
set cons off
wait " "
@23,02 clea to 23,77
loop
endif
exit
enddo
@22,02 clea to 23,77
set proc to saver
*do boye
x=0
do while x=0
x=inkey()
if upper (chr(x)) $ "SRA"
exit
endif
x=0
enddo
if upper (chr(x)) $ "R"
@08+i,03 clea to 19,77
@22,02 clea to 23,77
fb="ENTER OPERATOR'S CODE or Press Enter Key on Code To Exit"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
loop
endif
if upper (chr(x)) $ "A"
clear
close all
return

```

```

endif
seek xidcode
repl regdate with date()
repl regtime with xregtime
repl idcode with xidcode
repl name with xname
i=i+2
  @22,02 clea to 23,77
  loop
  Else
l=1
Endif
Enddo
retu
*-----EOF-----
*-----PROCEDURE VRLT-----
proc vrlt
clear
set color to w+/b
  set proc to header
* do head
subh="Viewing of Registered Operator's"
@05,(80-len(subh))/2 say subh

use operator
index on idcode to idcode

@07,03 say "REG.DATE"
@07,14 say "REG. TIME"
@07,27 say "OPERATOR CODE"
@07,47 say "OPERATOR NAME"
l=1
Do while .t.
*----- Initialization of Variables-----
xregdate=dtoc(date())
xregtime=time()
xidcode=space(04)
xname=space(20)
if l<10
  @08+l,03 get xregdate pict "99/99/99"
  @08+l,14 get xregtime pict "99:99:99"
  clear gets
do while .t.
fb="ENTER OPERATOR'S ID CODE or Press Enter Key on Code To Exit"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb

```

```

@08+l,31 get xidcode pict "9999"
read
if xidcoce=space(04)
  clear
  close all
  return
endif
go top
seek xidcode
if .not. found ()
  fb="OPERATOR'S CODE DOES NOT EXIST,Press Enter Key To Retry"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  set cons off
  wait " "
  @23,02 clea to 23,77
  xidcode=space(04)
  loop
endif
xname=name
@08+l,43 get xname pict "@"
clea gets
exit
enddo

```

```

*
@22,02 clea to 23,77
set proc to saver
*do duba
  x=0
  do while x=0
    x=inkey()
    if upper (chr(x)) $ "VRA"
      exit
    endif
    x=0
  enddo
  if upper (chr(x)) $ "R"
    @08+i,03 clea to 19,77
    @22,02 clea to 23,77
    fb="ENTER OPERATOR'S CODE or Press Enter Key on Code To Exit"
    @23,02 clea to 23,77
    @23,(80-len(fb))/2 say fb
    loop
  endif
  if upper(chr(x)) $ "A"
    clear

```

```

close all
return
endif
i=i+2
@22,02 clea to 23,77
loop
else
i=1
endif
enddo
retu
*-----EOF-----
*-----PROCEDURE DRLT-----
proc drlt
clear
set color to w+/b
*set proc to header
*do head
subh="Deletion of Unwanted/obsolete registered Operator's"
@05,(80-len(subh))/2 say subh

use operator
index on idcode to idcode

@07,03 say "REG. DATE"
@07,14 say " REG. TIME"
@07,27 say "OPERATOR CODE"
@07,47 say "OPERATOR NAME"
I= 1
Do while .t.
*-----Initialization of variables-----
xregdate=dtoc(date())
xregtime=time()
xidcode= space(04)
xname=space(20)
if I< 10
@08+I,03 get xregdate pict"99/99/99"
@08+I,14 get xregtime pict "99:99:99"
clear gets
do while .t.
fb="ENTER OPERATOR'S ID CODE or press Enter key on code to Exit"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
@08+I,31 get xidcode pict "9999"
read
if xidcode=space(04)

```

```
clear
close all
return
endif
go top
seek xidcode
if .not. found()
  fb="OPERATOR'S CODE DOES NOT EXIST, PressAny Key To Retry"
  @23,02 clea to 23,77
  xidcode=space(04)
  loop
endif
xname=name
@08+1,43 get xname pict "@!"
clea gets
exit
enddo
```

```
@22,02 clea to 23,77
*set proc to saver
*do kashe
x=0
do while x=0
x=inkey()
if upper(chr(x)) $ "DRA"
  exit
endif
x=0
enddo
if upper(chr(x)) $ "R"
  @08+1,03 clea to 19,77
  @22,02 clea to 23,77
  fb="ENTER OPERATOR'S CODE or Press Enter Key on Code to Exit"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  loop
endif
if upper(chr(x)) $ "A"
  clear
  close all
  return
endif
dele
pack
i=i+2
@22,02 clea to 23,77
```

```

loop
else
l=1
endif
enddo
retu
*-----EOF-----
*-----PROCEDURE CRB-----
proc crb
clear
set color to w+/b
* set proc to header
  * do head
subh="Registration of New Bank for Cash Transfer"
@05,(80-len(subh))/2 say subh
use bank
index on bankcode to bankcode
@07,03 say "REG. DATE"
@07,14 say "REG. TIME"
@07,27 say "BANK CODE"
@07,43 say "BANK NAME"
@07,63 say "BANK SHORTNAME"
l=1
Do while .t.
  *-----Initailization of Variables-----
  xregdate=dtoc(date())
  xregtime=time()
  xbankcode=space(02)
  xbankname=space(30)
  xshortname=space(03)
  if l < 10
    @08+l,03 get xregdate pict "99/99/99"
    @08+l,14 get xregtime pict "99:99:99"
    clear gets
    do while .t.
      fb="ENTER BANK CODE or Press Enter Key to Bank Code to Exit"
      @23,02 clea to 23,77
      @23,(80-Len(fb))/2 say fb
      @08+l,29 get xbankcode pict "99"
      read
      if xbankcode=space(02)
        clear
        close all
        return
      endif
    endwhile
  endif
  go top

```

```

seek xbankcode
if found()
  fb="BANK CODE ALREADY EXIST,Press Any Key to Retry"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  set cons off
  wait" "
  @23,02 clea to 23,77
  xbankcode =space(2)
  loop
endif
exit
Enddo
do while .t.
  @08+i,33 get xbankname pict "@!"
  read
  if xbankname = space(30)
    @23,02 clear to 23,77
    fb= "BANK NAME WITH BRANCH CANNOT BE EMPTY,Press Any Key to
Retry"
    @23,(80-len(fb))/2 say fb
    set cons off
    wait " "
    @23,02 clea to 23,77
    loop
  endif
  exit
enddo
do while .t.
  @08+l,70 get xshortname pict "@!"
  read
  if xshortname=space(03)
    @23,02 clea to 23,77
    fb="BANK SHORT NAME CANNOT BE EMPTY,Press Any Key to Retry"
    @23,(80-Len(fb))/2 say fb
    set cons off
    wait " "
    @23,02 clea to 23,77
    loop
  endif
  exit
enddo
@22,02 clea to 23,77
x=space(1)
@22,02 say "Make your Decision {S -save R -retry A -Abort" get x pict "!" valid
x $ "SRA"

```



```
read
if x = "R"
  @08+1,03 clea to 19,77
  @22,02 clea to 23,77
  fb="ENTER BANK CODE or Press Any Key on Code to Exit"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  loop
endif
if x = "A"
  clear
  close all
  return
endif
if x ="S"
  appen blank
  repl regdate with date()
  repl regtime with xregtime
  repl bankcode with xbankcode
  repl bankname with bankname
  repl shortname with xshortname
  i=i+2
  @22,02 clea to 23,77
  loop
  else
  i=1
  endif
endif
enddo
retu
```

*-----EOF-----

*-----PRPROCEDURE CP-----

proc ccp

clear

set color to 'w+/b'

* set proc to header

*do head

subh= "DATA ENTRY SCREEN FOR CURRENCY PROCESSING OFFICE FOR:
"+dtoc(DATE())

@05,(80-len(subh))/2 say subh

*do veto1

* Do while .t.

*-----Initailization of Variable-----

*do xpublic

*do initial

store "Y" to ans

do while ans ="Y"

do while .t.

fb="ENTER OPERATOR'S ID CODE or Press Enter Key on Code to Exit"

@23,02 clea to 23,77

xidcode=space(04)

@23,(80-len(fb))/2 say fb

@07,33 get xidcode pict "9999"

read

if xidcode=space(04)

clear

close all

return

endif

use operator

index on idcode to idcode

go top

seek xidcode

if .not. found()

fb="OPERATOR'S ID CODE DOES NOT EXIST, Press Any Key to Retry"

@23,02 clea to 23,77

@23,(80-len(fb))/2 say fb

set cons off

wait " "

@23,02 clea to 23,77

xidcode=space(04)

loop

endif

xname=name

use cpo

index on idcode+dtoc(regdate) to iddate

```

go top
xregdate=dtoc(date())
keys=xidcode+xregdate
seek keys
if found()
  fb="THIS RECORD ALREADY EXIT,Press Any Key to Retry"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  set cons off
  wait " "
  @23,02 clea to 23,77
  loop
endif
@07,40 get xname pict "@!"
clea gets
exit
enddo
do while .t.
  fb="ENTER NOTE TYPE/DENOMINATION"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  STORE 0 TO XNOTETYPE
  @09,33 get xnotetype pict "99"
  read
  if xnotetype=5 .or. xnotetype=10 .or. xnotetype=20 .or. xnotetype=50
    exit
  endif
enddo
do while .t.
  fb="ENTER NUMBER OF BOXES ISSUED TO OPERATOR"
  box=0
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  @11,33 get box pict "99999"
  read
  if box=0
    fb="NUMBER OF BOXES ISSUED TO OPERATOR CANNOT BE EMPTY, Pree
Any Key to Retry"
    @23,02 clea to 23,77
    @23,(80-len(fb))/2 say fb
    set cons off
    wait " "
    @23,02 clea to 23,77
    loop
  endif
  xbox=(1000*box)

```

```

XNOTEISSUED =0
@11,39 say "TOTAL BANK NOTE ISSUED" get xnoteissued pict
"9,999,999,999.99"
  read
  *clea gets
  exit
enddo
fb="ENTER AMOUNT OF FIT BANK NOTE PROCESSED"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
XFIT =0
@13,33 get xfit pict "9,999,999.99"
read
fb="ENTER AMOUNT OF UNFIT BANK NOTE PROCESSED"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
XUNFIT =0
@13,33 get xunfit pict "9,999,999.99"
read
fb="ENTER AMOUNT OF SHREDDED BANK NOTE PROCESSED"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
XSHREDDED =0
@17,33 get xshredded pict "9,999,999.99"
read
tot_proc=(xfit+xunfit+xshredded)
xmanual=(xnoteissued-tot_proc)
xtotal_p=(xfit+xunfit+xshredded+xmanual)
xpercentage=(xmanual/xtotal_p)*100
@19,33 say xmanual pict "9,999,999.99" color 'n/w'
@19,46 say "TOTAL "
@19,54 say xtotal_p pict "9,999,999.99" color 'n/w'
@19,66 say "% "
@19,71 say xpercentage pict "9999.9999" color 'n/w'
* clea gets
* _____Decision Making For Saving_____
@22,02 clea to 23,77
x=space(1)
@22,02 say "Make your Decision {S -save R -retry A -Abort" get x pict "!" valid x
$ "SRA"
read
if x = "R"
  @17,33 clea to 19,77
  @22,02 clea to 23,77
  fb="ENTER OPERATOR'S ID CODE or Press Enter Key no Code to Exit"
  @23,02 clea to 23,77

```

```
@23,(80-len(fb))/2 say fb
loop
endif
if x = "A"
  clear
  close all
  return
endif
if x = "S"
  use
  use cpo
  appen blank
  repl regdate with date()
  *repl regtime with xregtime
  repl idcode with xidcode
  repl name with xname
  repl notetype with xnotetype
  repl no_box with box
  repl noteissued with xnoteissued
  repl fit with xfit
  repl unfit with xunfit
  repl shredded with xshredded
  repl manual with xmanual
  repl total_p with xtotal_p
  repl percentage with xpercentage
  @07,33 clea to 19,77
  @22,02 clea to 23,77
endif
@22,02 say "More Data to Add [Y/N]" get ans pict "!" valid ans $ "YN"
read
enddo
return
```


```
proc mnps
clear
subh="DATA ENTRY SCREEN FOR NOTE PROCESSING SECTION
FOR:"+dtoc(DATE())
@05,(80-len(subh))/2 say subh
Do while .t.
*.....Initialize of variables.....
do while .t.
fb="ENTER OPERATION'S ID. CODE or Press Enter Key on Code to Exit"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xidcode =space(4)
@07,33 get xidcode pict "9999"
read
if xidcode=space(04)
clea
close all
return
endif
use operator
index on idcode to idcode
go top
seek xidcode
if.not. found()
fb="OPERATOR'S ID CODE DOES NOT EXIST, Press Any Key To Retry"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
set cons off
wait " "
@23,02 clea to 23,77
ixcode=space(04)
loop
endif
xname=name
use nps
index on idcode+dtoc(regdate) to iddate
go top
xregdate=dtoc(date())
keys= xidcode+xregdate
seek keys
if found()
fb="THIS RECORD ALREADY EXIT, Press Any Key To Retry"
@23,02 clea to 23,77
```

```
@23,(80-len(fb))/2 say fb
set cons off
wait " "
@23,02 clea to 23,77
loop
endif
@07,40 get xname pict "@!"
clea gets
exit
enddo
do while .t.
fb="ENTER AMOUNT OUTPUTTED BY OPERATOR"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xoutput =0
@09,33 get xoutput pict "9,999,999,999.99"
read
if xoutput=0.00
fb="AMOUNT OUTPUTTED CANNOT BE EMPTY, Press Any Key To Retry"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
set cons off
wait " "
@23,02 clea to 23,77
loop
endif
exit
enddo
do while .t.
fb="ENTER NOTE TYPE /DENOMINATION {5, 10, 20, 50}"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xnotetype =0
@11,33 get xnotetype pict "99"
read
if xnotetype=5 .or. xnotetype=10 .or. xnotetype=20 .or. xnotetype=50
exit
endif
enddo
fb="ENTER SHORTAGE ON AMOUNT OUTPUTTED"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xshortage =0
@13,33 get xshortage pict "9,999,999.99"
read
fb="ENTER SURPLUSES ON AMOUNT OUTPUTTED"
```

```
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xsurpluses =0
@15,33 get xsurpluses pict "9,999,999.99"
read
do while .t.
fb="ENTER BANK CODE"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xbankcode =space(2)
@17,33 get xbankcode pict "99"
read

use bank
index on bankcode to bankcode
go top
seek xbankcode
if.not. found ()
fb="BANK CODE DOES NOT EXIST, Press Any Key To Retry"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
set cons off
wait " "
@23,02 clea to 23,77
ixbankcode=space(02)
loop
endif
xbankname=bankname
@17,40 get xbankname pict "@!"
read
*clea gets
exit
enddo
do while .t.
fb="ENTER MACHINE STARTING TIME"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xtime_start =space(8)
@19,33 get xtime_start pict "99:99:99"
read
if xtime_start=space(08)
fb="STARTING TIME CANNOT BE EMPTY, Press Any Key To Retry"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
set cons off
wait " "
```



```

@23,02 clea to 23,77
  loop
endif
exit
enddo
do while .t.
fb="ENTER MACHINE CLOSING TIME"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
xtime_close =space(8)
@19,45 get xtime_close pict "99:99:99"
read
if xtime_close=space(08)
fb="CLOSING CANNOT BE EMPTY, Press Any Key To Retry"
@23,02 clea to 23,77
@23,(80-len(fb))/2 say fb
set cons off
wait " "
@23,02 clea to 23,77
  loop
endif
exit
enddo

```

*Decision Making For Saving.....

```

@22,02 clea to 23,77
mrep =space(1)
@22,02 say "Make your decision S -save, R- retry, A abort" get mrep
read
if mrep= "R"
  @07,33 clea to 19,77
  @22,02 clea to 23,77
  fb="ENTER OPERATOR'S ID CODE or Press Enter Key on Code to Exit"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  loop
endif
if mrep= "A"
  clear
  close all
  return
endif
use
use NPS
appen blan
repl regdate with date()

```

```
* repl regtime with xregtime
repl idcode with xidcode
repl name with xname
repl output with xoutput
repl notetype with xnotetype
repl shortage with xshortage
repl surpluses with xsurpluses
repl bankcode with xbankcode
repl bankname with xbankname
repl timestart with xtime_start
repl timeclose with xtime_close
@07,33 clea to 19,77
@22,02 clea to 23,77
enddo
retu
```

```
* .....EOF.....  
* .....Monthly Process.....
```

```
proc MP  
clea  
set color to w+/b  
*set proc to header  
*do head  
@07,02 clear to 19,77
```

```
sele 1  
use operator  
index on idcode to idcode  
  go top  
sele 2  
use cpo  
index on idcode to id  
  go top  
sele 3  
use summary  
index on idcode to projecc  
  go top
```

```
@22,02 clea to 23,77  
outer="[p]rocess [c]ancel"  
rep =space(1)  
@23,(80-len(outer))/2 say outer get rep pict "!"  
read  
if rep= "C"  
  clear  
  close all  
  return  
endif  
sele 1  
xidcode=space(04)  
xname=space(20)  
xnotetype=0  
xnoteissued=0.00  
xfit=0.00  
xunfit=0.00  
xshredded=0.00  
xmanual= 0.00  
xtotal_p=0.00  
Do while .not. eof()  
midcode=idcode  
mname=name
```

```
sele 2
xidcode=idcode
if xidcode<> midcode .and. .not. eof()
  skip
  *sele 1
  loop
endif
xregdate=regdate
xname=name
xnotetype=notetype
xnoteissued=noteissued
xfit=fit
xunfit=unfit
xshredded=shredded
xmanual=manual
xtotal_p=total_p
sele 3
seek xidcode
if.not.found()
  appe blank
endif
repl regdate with date()
repl idcode with xidcode
repl name with xname
*repl notetype with xnotetype
repl noteissued with (noteissued+xnoteissued)
repl fit with (fit+xfit)
repl unfit with(unfit+xunfit)
repl shredded with (shredded+xshredded)
repl manual with (manual+xmanual)
repl total_p with(total_p+xtotal_p)

sele 1
  skip
Enddo
  use
jobend="MONTHLY PROCESSING COMPLETED PRNTING JOB, press any keyto
continue..."
@22,02 clea to 23,77
@22,05 say "MESSAGE"COLOR "W+/r"
@23,(80-len(jobend))/2 say jobend
set cons off
wait " "
set cons on
clea
return
```

```

*-----EOF-----
*-----REPORT GENERATION-----
*-----PROC REP1-----
proc REP1
  @21,08 clea to 23,71
  @21,08 to 23,71
  outer="[S]screen  [P]rinter"
  rep =space(1)
  @22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
  read
  if rep = "P" &&-----Generating Printer printing-----
  *sele 3
  use summary
  index on idcode to projcc
  go top
  set device to screen
  xregdate=cmonth(regdate)
  @21,08 clea to 23,71
  @21,08 to 23,71
  outer="[P]rinting  [C]ancel"
  rep =space(1)
  @22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
  read
  if rep= "C"
    clear
    close all
    return
  endif
  clear
  set device to print
  fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
  SOUTER="TOTAL NUMBER OF BANK NOTE PROCESSED BY EACH OPERATOR
FOR:"+xregdate+"1998"
  @01,(80-LEN(fouter))/2 say fouter
  @02,(80-LEN(souter))/2 say souter
  @04,01 say "S/NO"
  @04,06 say "code"
  @04,13 say "FIT"
  @04,26 say "UNFIT"
  @04,38 say "SHREDDDED"
  @04,51 say "MANUAL"
  @04,63 say "TOTAL PROCESSED"
  @05,01 say repl("=",77)
  xpage =1
  row=06
  mrow=62

```

```
xsno=1
go top
xidcode=space(04)
xname=space(20)
xnotetype=0
xnoteissued=0.00
xfit=0.00
xunfit=0.00
xshredded=0.00
xmanual=0.00
xtotal_p=0.00
do while .not. eof()
  if row > mrow
    eject
    clear
    xpage=xpage+1
    row=08
    set device to prin
    fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
    souter="TOTAL NUMBER OF BANK NOTE PROCESSED BY EACH
OPERATORFOR: "+xregdate+" 1998"
    @01,(80-LEN(fouter))/2 say fouter
    @01,67 say "Date:"+dtoc(date())
    @02,(80-LEN(souter))/2 say souter
    @02,67 say "Time:"+time()
    @04,01 say "S/NO"
    @04,06 say "CODE"
    @04,13 say "FIT"
    @04,26 say "UNFIT"
    @04,38 say "SHREDDED"
    @04,51 say "MANUAL"
    @04,63 say "TOTAL PROCESSED"
    @05,01 say repl("=",77)
  endif
  xregdate=regdate
  xname=name
  xidcode=idcode
  xnoteissued=noteissued
  xfit=fit
  xunfit=unfit
  xshredded=shredded
  xmanual>manual
  xtotal_p=total_p
  @row,01 say xsno pict "999"
  @row,06 say xidcode pict "@"
  @row,09 say xfit pict "9,999,999.99"
```

```

@row,22 say xunfit pict "9,999,999.99"
@row,35 say xshredded pict "9,999,999.99"
@row,49 say xmanual pict "9,999,999.99"
@row,63 say xtotal_p pict "9,999,999,999.99"
row=row+2
xsno=xsno+1
skip
enddo
set device to screen
use
jobend="CPO MANAGER HAS COMPLETED PRINTING JOB, press Any key to
continue..."
@22,02 clea to 23,77
@22,05 say "MESSAGE" color"w+*/r"
@23,(80-len(jobend))/2 say jobend
set cons off
wait " "
clea

return
endif

```

*-----PROC REP2-----

```

proc REP2
@21,08 clea to 23,71
@21,08 to 23,71
outer="[S]creen  [P]rinter"
rep =space(1)
@22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
read
if rep = "P" &&-----Generating Printer printing-----
use summary
index on idcode to projecc
go top
set device to screen
xregdate=cmonth(regdate)
@21,08 clea to 23,71
@21,08 to 23,71
outer="[P]rinting  [C]ancel"
rep =space(1)
@22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
read
if rep= "C"
clear
close all
return
endif

```

```
clear
set device to print
fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
SOUTER="TOTAL NUMBER OF FIT BANK NOTE PROCESSED BY EACH
OPERATOR FOR:"+xregdate+"1999"
@01,(80-LEN(fouter))/2 say fouter
@02,(80-LEN(souter))/2 say souter
@04,01 say "S/NO"
@04,10 say "ID CODE"
@04,20 say "OPERATOR'S NAME"
@04,45 say "FIT"
@04,62 say "AMOUNT ISSUED"
@05,01 say repl("=",77)
xpage =1
row=06
mrow=62
xsno=1
go top
xidcode=space(04)
xname=space(20)
xnotetype=0
xnoteissued=0.00
xfit=0.00
xunfit=0.00
xshredded=0.00
xmanual=0.00
xtotal_p=0.00
do while .not. eof()
  if row > mrow
    eject
    clear
    xpage=xpage+1
    row=08
    set device to printer
    fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
    souter="TOTAL NUMBER OF BANK NOTE PROCESSED BY EACH
OPERATORFOR: "+xregdate+" 1998"
    @01,(80-LEN(fouter))/2 say fouter
    @01,67 say "Date:"+dtoc(date())
    @02,(80-LEN(souter))/2 say souter
    @02,67 say "Time:"+time()
    @04,01 say "S/NO"
    @04,10 say "ID CODE"
    @04,20 say "OPERATOR'S NAME"
    @04,45 say "FIT"
    @04,62 say "AMOUNT ISSUED"
```



```

@05,01 say repl("=",77)
endif
xregdate=regdate
xname=name
xidcode=idcode
xnoteissued=noteissued
xfit=fit
xunfit=unfit
xshredded=shredded
xmanual=manual
xtotal_p=total_p
@row,01 say xsno pict "999"
@row,10 say xidcode pict "@"
@row,20 say xname pict "@!X"
@row,43 say xfit pict "9,999,999.99"
@row,60 say xnoteissued pict "9,999,999.99"
row=row+2
xsno=xsno+1
skip
if eof()
sum xfit to totalfit
sum xnoteissued to totalis
row =row+1
@row,03 say "TOTAL FIT NOTE & BANK NOTE ISSUED"
@row,37 say totalfit pict "999,999,999,999.99"
@row,58 say totalis pict "999,999,999,999.99"
row =row+1
@row,01 say repl("=",77)
endif
enddo
set device to screen
use
jobend="CPO MANAGER HAS COMPLETED PRINTING JOB, press Any key to
continue..."
@22,02 clea to 23,77
@22,05 say "MESSAGE" color"w+*/r"
@23,(80-len(jobend))/2 say jobend
set cons off
wait " "
clea
return
endif

```

```

*-----PROC REP3-----
proc REP3
@21,08 clea to 23,71

```

```
@21,08 to 23,71
outer="[S]creen [P]rinter"
rep =space(1)
@22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
read
if rep = "P" &&-----Generating Printer printing-----
  use summary
  index on idcode to projecc
  go top
  set device to screen
  xregdate=cmonth(regdate)
  @21,08 clea to 23,71
  @21,08 to 23,71
  outer="[P]rinting [C]ancel"
  rep =space(1)
  @22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
  read
  if rep= "C"
    clear
    close all
    return
  endif
  clear
  set device to print
  fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
  SOUTER="TOTAL NUMBER OF UNFIT BANK NOTE PROCESSED BY EACH
OPERATOR FOR:"+xregdate+"1999"
  @01,(80-LEN(fouter))/2 say fouter
  @02,(80-LEN(souter))/2 say souter
  @04,01 say "S/NO"
  @04,10 say "ID CODE"
  @04,20 say "OPERATOR'S NAME"
  @04,45 say "UNFIT"
  @04,62 say "AMOUNT ISSUED"
  @05,01 say repl("=",77)
  xpage =1
  row=06
  mrow=62
  xsno=1
  go top
  xidcode=space(04)
  xname=space(20)
  xnotetype=0
  xnoteissued=0.00
  xfit=0.00
  xunfit=0.00
```

```
xshredded=0.00
xmanual=0.00
xtotal_p=0.00
do while .not. eof()
  if row > mrow
    eject
    clear
    xpage=xpage+1
    row=08
    set device to printer
    fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
    souter="TOTAL NUMBER OF UNFIT BANK NOTE PROCESSED BY EACH
OPERATORFOR: "+xregdate+" 1999"
    @01,(80-LEN(fouter))/2 say fouter
    @01,67 say "Date:"+dtoc(date())
    @02,(80-LEN(souter))/2 say souter
    @02,67 say "Time:"+Time()
    @04,01 say "S/NO"
    @04,10 say "ID CODE"
    @04,20 say "OPERATOR'S NAME"
    @04,45 say "UNFIT"
    @04,62 say "AMOUNT ISSUED"
    @05,01 say repl("=",77)
  endif
  xregdate=regdate
  xname=name
  xidcode=idcode
  xnoteissued=noteissued
  xfit=fit
  xunfit=unfit
  xshredded=shredded
  xmanual=manual
  xtotal_p=total_p
  @row,01 say xsno pict "999"
  @row,10 say xidcode pict"@!"
  @row,20 say xname pict"@!X"
  @row,43 say xunfit pict "9,999,999.99"
  @row,60 say xnoteissued pict "9,999,999.99"
  row=row+2
  xsno=xsno+1
  skip
  if eof()
    sum xunfit to totalfit
    sum xnoteissued to totalis
    row =row+1
    @row,01 say repl("=",77)
```

```

row =row+1
@row,03 say "TOTAL UNFIT NOTE & BANK NOTE ISSUED"
@row,37 say totalfit pict "999,999,999,999.99"
@row,58 say totalis pict "999,999,999,999.99"
row =row+1
@row,01 say repl("=",77)
endif
enddo
use
EJECT
set device to screen
jobend="CPO MANAGER HAS COMPLETED PRINTING JOB, press Any key to
continue..."
@22,02 clea to 23,77
@22,05 say "MESSAGE" color"w+*/r"
@23,(80-len(jobend))/2 say jobend
set cons off
wait " "
clea
return
endif

```

*-----PROC REP4-----

```

proc REP4
@21,08 clea to 23,71
@21,08 to 23,71
outer="[S]creen  [P]rinter"
rep =space(1)
@22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
read
if rep = "P" &&-----Generating Printer printing-----
use summary
index on idcode to projecc
go top
set device to screen
xregdate=cmonth(regdate)
@21,08 clea to 23,71
@21,08 to 23,71
outer="[P]rinting  [C]ancel"
rep =space(1)
@22,(80-len(outer))/2 say outer get rep pict "!" valid rep $ "PC"
read
if rep= "C"
clear
close all
return

```

```

endif
clear
set device to print
fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
SOUTER="TOTAL NUMBER OF SHREDDED BANK NOTE PROCESSED BY EACH
OPERATOR FOR:"+xregdate+"1999"
@01,(80-LEN(fouter))/2 say fouter
@02,(80-LEN(souter))/2 say souter
@04,01 say "S/NO"
@04,10 say "ID CODE"
@04,20 say "OPERATOR'S NAME"
@04,45 say "SHREDDED"
@04,62 say "AMOUNT ISSUED"
@05,01 say repl("=",77)
xpage =1
row=06
mrow=62
xsno=1
go top
xidcode=space(04)
xname=space(20)
xnotetype=0
xnoteissued=0.00
xfit=0.00
xunfit=0.00
xshredded=0.00
xmanual=0.00
xtotal_p=0.00
do while .not. eof()
if row > mrow
eject
clear
xpage=xpage+1
row=08
set device to printer
fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
souter="TOTAL NUMBER OF SHREDDED BANK NOTE PROCESSED BY EACH
OPERATORFOR: "+xregdate+" 1999"
@01,(80-LEN(fouter))/2 say fouter
@01,67 say "Date:"+dtoc(date())
@02,(80-LEN(souter))/2 say souter
@02,67 say "Time:"+Time()
@04,01 say "S/NO"
@04,10 say "ID CODE"
@04,20 say "OPERATOR'S NAME"
@04,45 say "SHREDDED"

```

```
@04,62 say "AMOUNT ISSUED"  
@05,01 say repl("=",77)  
endif  
xregdate=regdate  
xname=name  
xidcode=idcode  
xnoteissued=noteissued  
xfit=fit  
xunfit=unfit  
xshredded=shredded  
xmanual=manual  
xtotal_p=total_p  
@row,01 say xsno pict "999"  
@row,10 say xidcode pict "@!"  
@row,20 say xname pict "@!X"  
@row,43 say xshredded pict "9,999,999.99"  
@row,60 say xnoteissued pict "9,999,999.99"  
row=row+2  
xsno=xsno+1  
skip  
if eof()  
  sum xshredded to totalshredded  
  sum xnoteissued to totalis  
  row =row+1  
  @row,01 say repl("=",77)  
  row =row+1  
  @row,03 say "TOTAL SHREDDED NOTE & BANK NOTE ISSUED"  
  @row,37 say totalshredded pict "999,999,999,999.99"  
  @row,58 say totalis pict "999,999,999,999.99"  
  row =row+1  
  @row,01 say repl("=",77)  
endif  
enddo  
use  
set device to screen  
jobend="CPO MANAGER HAS COMPLETED PRINTING JOB, press Any key to  
continue..."  
@22,02 clea to 23,77  
@22,05 say "MESSAGE" color"w+*/r"  
@23,(80-len(jobend))/2 say jobend  
set cons off  
wait " "  
clea  
return  
endif
```

*-----PROC REP5-----

proc REP5

@21,08 clea to 23,71

@21,08 to 23,71

outer="[S]creen [P]rinter"

rep =space(1)

@22,(80-len(outer))/2 say outer get rep pict "!" valid rep \$ "PC"

read

if rep = "P" &&-----Generating Printer printing-----

use summary

index on idcode to projecc

go top

set device to screen

xregdate=cmonth(regdate)

@21,08 clea to 23,71

@21,08 to 23,71

outer="[P]rinting [C]ancel"

rep =space(1)

@22,(80-len(outer))/2 say outer get rep pict "!" valid rep \$ "PC"

read

if rep= "C"

clear

close all

return

endif

clear

set device to print

fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"

SOUTER="TOTAL NUMBER OF MANUAL BANK NOTE PROCESSED BY EACH

OPERATOR FOR:"+xregdate+"1999"

@01,(80-LEN(fouter))/2 say fouter

@02,(80-LEN(souter))/2 say souter

@04,01 say "S/NO"

@04,10 say "ID CODE"

@04,20 say "OPERATOR'S NAME"

@04,45 say "MANUAL"

@04,62 say "AMOUNT ISSUED"

@05,01 say repl("=",77)

xpage =1

row=06

mrow=62

xsno=1

go top

xidcode=space(04)

xname=space(20)

xnotetype=0

```
xnoteissued=0.00
xfit=0.00
xunfit=0.00
xshredded=0.00
xmanual=0.00
xtotal_p=0.00
do while .not. eof()
  if row > mrow
    eject
    clear
    xpage=xpage+1
    row=08
    set device to printer
    fouter="COMPUTER APPLICATION TO PROJECT MANAGEMENT"
    souter="TOTAL NUMBER OF MANUAL BANK NOTE PROCESSED BY EACH
OPERATORFOR: "+xregdate+" 1999"
    @01,(80-LEN(fouter))/2 say fouter
    @01,67 say "Date:"+dtoc(date())
    @02,(80-LEN(souter))/2 say souter
    @02,67 say "Time:"+Time()
    @04,01 say "S/NO"
    @04,10 say "ID CODE"
    @04,20 say "OPERATOR'S NAME"
    @04,45 say "MANUAL"
    @04,62 say "AMOUNT ISSUED"
    @05,01 say repl("=",77)
  endif
  xregdate=regdate
  xname=name
  xidcode=idcode
  xnoteissued=noteissued
  xfit=fit
  xunfit=unfit
  xshredded=shredded
  xmanual=manual
  xtotal_p=total_p
  @row,01 say xsno pict "999"
  @row,10 say xidcode pict "@!"
  @row,20 say xname pict "@!X"
  @row,43 say xmanual pict "9,999,999.99"
  @row,60 say xnoteissued pict "9,999,999.99"
  row=row+2
  xsno=xsno+1
  skip
  if eof()
    sum xmanual to totalmanual
```



```
sum xnoteissued to totalis
row =row+1
@row,01 say repl("=",77)
row =row+1
@row,03 say "TOTAL MANUAL NOTE & BANK NOTE ISSUED"
@row,37 say totalmanual pict "999,999,999,999.99"
@row,58 say totalis pict "999,999,999,999.99"
row =row+1
@row,01 say repl("=",77)
endif
enddo
use
set device to screen
jobend="CPO MANAGER HAS COMPLETED PRINTING JOB, press Any key to
continue..."
@22,02 clea to 23,77
@22,05 say "MESSAGE" color"w+*/r"
@23,(80-len(jobend))/2 say jobend
set cons off
wait " "
clea
return
endif
```

COMPUTER APPLICATION TO PROJECT MANAGEMENT

TOTAL NUMBER OF FIT BANK NOTE PROCESSED BY EACH OPERATOR FOR: December 1999

ID CODE	OPERATOR'S NAME	FIT	AMOUNT ISSUED
0001	USIOBOH GODDY O	45,555.00	45,555.00
0002	OYETOLA GEORGE GBENGA	34,344.00	677,778.00
0003	OKOEDO JULIUS	2,334.00	678,888.00
0004	ADAMS PETER	899.00	43,222.00
TOTAL FIT NOTE & BANK NOTE ISSUED		3,596.00	172,888.00