COMPUTERIZATION OF STOCK CONTROL SYSTEM

(A CASE STUDY OF NNPC CORPORATE HEADQUARTERS CENTRAL STORE ABUJA)

BY

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PGD/MCS/2000/2001/1060

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

FEDERAL UNIVERSITY OF TECHNOLOGY MINNA

NOVEMBER 2004

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DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
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MINNA

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF POST GRADUATE DIPLOMA IN COMPUTER SCIENCE

NOVEMBER 2004.

APPROVAL PAGE

This is to certify that this project work is carried out by ABDULMALIK KATUMI DAUDA (MRS.) in partial fulfillment of the requirements for the award of the Post Graduate Diploma in Computer Science of Federal University of Technology Minna.

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Dr. N.I. Akinwande
Supervisor

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Date

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Mr. L. N. Ezeako
Head of Department

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Date

.....
External Examiner

.....
Date

DEDICATION

This project work is dedicated to Almighty Allah, My whole family (Engr. Abdulmalik's family), and all those that have contributed in one way or the other to the successful completion of this project work.

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ABSTRACT

This project highlights the computerization of stock control system, system study of the manual operation, the cost implication of the recommended system, the new system development, testing, implementation and maintenance through software application at NNPC Corporate Headquarter Abuja. Most especially, it takes into consideration the activities of the manual stock control system in use at the central store, and elaborates on their stock control and policy measures by which it maintains efficient inventory planning.

CHAPTER ONE

1.1 INTRODUCTION TO STOCK CONTROL SYSTEM

Stock control system, otherwise known as inventory system, is designed to manage all stock related transactions. It is about how much stock you have at any one time, and how you keep track of it. It applies to every item you use to produce a product or service, from raw materials to finished goods. It covers stock at every stage of the production process, from purchase and delivery to using the stock and re-ordering.

Efficient stock control will mean you have the right amount of stock in the right place at the right time. It ensures that capital is not tied up unnecessarily, and protects production when there are problems with the supply chain.

For example, you can identify and track information for each item within the stock master file. With real-time visibility into your items, you can make more accurate stock management decisions. A standard stock control system should be able do the followings:

- Reduce costs through efficient inventory management
- Organize important information about each item for easy access
- Generates detailed item availability report for you to view critical stock information and make better stock management decisions.
- Perform everyday stock transactions such as scraps, transfers, movements and more.
- Provides fast access to related information without having to retype anything.

The different stock control systems are listed below:

- Economic order quantity
- Fixed re-order level
- Fixed re-order quantity
- Just-in-time

1.2 AIMS AND OBJECTIVE OF THE STUDY:

The aim and objective of this study is to develop a computerized stock control system that is capable of achieving the following:

- To explain Stock Management
- To study the existing Manual stock control system in NNPC central store Abuja
- To carry out the feasibility study of the computerize system
- To show the advantages of The computerized system over the manual system
- To carry out the cost analysis of the recommended system
- To develop a computerized stock control system that is capable of solving all the problems of the existing manual system.

1.3 SCOPE OF COVERAGE AND LIMITATIONS

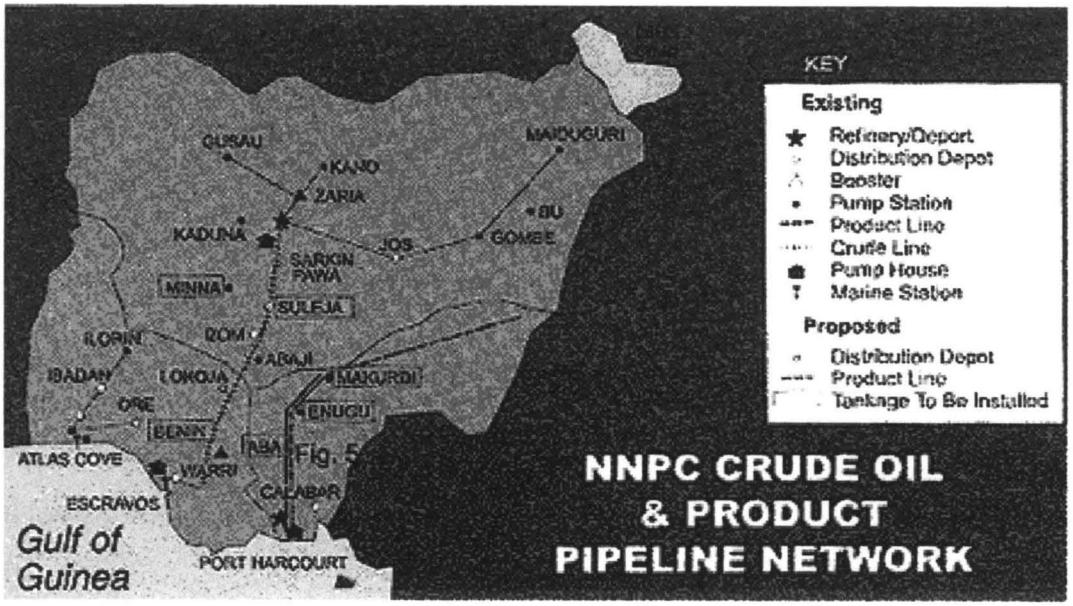
- Introduction of general stock management system
- Brief write-up about NNPC and its subsidiaries
- Description of the existing stock control system in NNPC CHQ central store
- Description of the computerized system
- Advantages of the recommended system over the manual one
- Glossary

CHAPTER TWO

2.1 BRIEF HISTORY OF NNPC

The Nigerian National Petroleum Corporation was formed in 1977 through the merger of some of the departments of the Ministry of Petroleum Resources, and the old Nigerian National Oil Corporation. The Corporation has sole responsibility for upstream and downstream developments, and is also charged with regulating and supervising the oil industry on behalf of the Nigerian Government. In 1988, the corporation was commercialized into 12 strategic business units, covering the entire spectrum of oil industry operations: exploration and production, gas development, refining, distribution, petrochemicals, engineering, and commercial investments.

In addition to these subsidiaries, the industry is also regulated by the Department of petroleum resources (DPR), a department within the Ministry of Petroleum Resources. The DPR ensures compliance with industry regulations; processes applications for licenses, leases and permits, establishes and enforces environmental regulations. The DPR, and NAPIMS, play a very crucial role in the day-to-day activities throughout the industry.



Most of the major oil and gas projects focus on the joint venture operations in which NNPC is the major shareholder, and the deep offshore development program, being carried out under production sharing contract. All development plans for such projects must be approved by NNPC. There are other projects, which the corporation develops primarily in areas of products distribution (pipelines, depots), refining, and petrochemicals. Current projects being handled by subsidiaries of NNPC, include the gas supply pipeline to industries in Lagos, under a major initiative of the Nigerian Gas Company (NGC), and Shell Nigeria Gas (SNG). The subsidiary companies include:

2.1.1 WARRI REFINERY AND PETROCHEMICAL COMPANY LIMITED (WRPC)

Warri Refining and Petrochemical Company (WRPC) Limited was commissioned in September 1978 with an initial capacity of 10,000 barrels per day of crude oil, was enhanced in 1987 to a capacity of 125,000 barrels per day. The Petrochemical plants (polypropylene and Carbon Black), which were built to optimize the refinery, were

- To utilize the nation's abundant natural gas resources, which would otherwise be flared
- To provide job opportunities. (A United Nations Study indicates that in developing countries, one job in a Petrochemicals complex of this type generates on the average, seven additional jobs outside), due to downstream activities.
- To save foreign exchange via Import substitution.
- To act as a catalyst to Nigeria's industrial expansion and diversification of the economy.
- To enhance the acquisition of modern technology and know-how in the country.

2.1.5 NIGERIAN GAS COMPANY (NGC)

The Nigerian Gas Company Limited (NGC) was established in 1988 as one of the twelve subsidiaries of the Nigerian National Petroleum Corporation (NNPC). It is charged with the development of an efficient gas industry to fully serve Nigeria's energy and industrial feedstock needs through an integrated gas pipeline network and also to export natural gas and its derivatives to the West African Sub-region.

2.1.6 INTEGRATED DATA SERVICES LIMITED (IDSL)

The Integrated Data Services Limited (IDSL) was incorporated in 1988 to offer Geophysical and Petroleum Engineering Services in the Upstream Sector of the oil industry. IDSL was set up to offer services in the upstream sector of the oil and gas industry. These services include:

1 Seismic Data Acquisition

2 Reservoir Engineering Services

3 Data Storage and Management Services

2.1.7 NIGERIAN PETROLEUM DEVELOPMENT COMPANY LIMITED (NPDC)

The Nigerian Petroleum Development Company Limited a wholly owned commercial subsidiary of the NNPC was set up in 1988 to engage in the exploration and production of business nationally and internationally.

2.1.8 NATIONAL ENGINEERING AND TECHNICAL COMPANY (NETCO)

NETCO is Nigeria's first national engineering company and its wholly owned subsidiary of the (NNPC), NETCO was established in 1989 to provide an effective and reliable engineering base for the NNPC group and the entire oil and gas Industry. Its services, which extend to the rest of the Nigerian economy and beyond, comprise: Feasibility studies, Conceptual Design, Procurement, Construction Supervision and Project Management. The company is well equipped with the latest technology in Engineering to carry out it activities.

2.1.9 NATIONAL PETROLEUM INVESTMENT SERVICES (NAPIMS)

The National Petroleum Investment Management Services (NAPIMS) in the Exploration & Production (E & P) Directorate is the upstream arm of NNPC that oversees the Federation investments in the Joint Venture Companies (JVCs). Production Sharing Companies(PSCs) and Service Contract Companies (Scs). NAPIMS is, therefore, set up to earn margin arising from investments in the JVCs, PSCs and SCs with the multinationals and also protect the nation's strategic interests in the JVCs. In addition, NAPIMS engages in frontier exploration services in basins where the multinationals hesitate to venture into, like the Chad Basin.

2.1.10 PETROLEUM PRODUCT MARKETING COMPANY LIMITED (PPMC)

PPMC, one of the twelve subsidiaries of NNPC was established in 1988. This business unit is responsible for the distribution and marketing of petroleum products

2.1.11 HYSON

Hyson (Nigeria) limited is (in Affiliation with Calson (Bermuda) Ltd). This company is a joint venture between NNPC and Vitol S.A. a swiss international crude oil and product trading company. Hyson / Calson is strictly a product marketing outfit, designed to market our excess petroleum products in the west and central sub region and elsewhere. Calson is registered in Bermuda, while Hyson provides logistic services for Calson in Nigeria. The strategic advantages to NNPC for establishing this company are quite substantial. They include the receipt of dividends from the company, the processing of its crude oil at the port – Harcourt refinery, the export of petroleum products from Nigeria to west and central African countries and beyond, and as a profitable avenue for Nigeria's crude oil sale. Also pays for logistic provided by Hyson in foreign exchange.

2.1.12 Nigerian Liquefied Natural Gas Limited (NLNG).

The mission of the NLNG, a joint venture between NNPC and three other major oil gas producing companies in Nigeria namely: Shell, ELF (now Totalfina ELF) and Agip is to acquire and ensure a growing share of the international market for Nigeria's abundant natural gas resources by the promotion and sustained implementation of a competitive liquefied natural gas project.

Liquefied Natural Gas Project

The liquefied natural gas project, currently the Krgest construction project in Nigeria, is an ambitious $3.8 billion facility being built at Finima, Rivers State. This first phase projected is designed to process 5.9 million tones of LNG. Finally the plant will process non-associated gas supplied from Shell Nigeria's Soku Fields.

When fully operational, the plant will process associated gas supplied from two Shell fields (Soku and Bomu), two Agip fields (Oshi and Idu), and three ELF fields (ibewa, Obagi and Ubeta). As mentioned earlier, the shareholders of the project comprise NNPC (40%), Shell (25.6%), ELF (15%), and Agip (10.4%). The IFC, which was to have been a shareholder in the project, declined to participate. The operating company is called the Nigerian Liquefied Natural Gas company – (NLNG). The project consists of a two train LNG liquefaction plant – 5.9million tones / year), 2 LNG storage tanks (168,000 cubic meters), a 200km feed gas pipeline, jetty, office, housing, power generating facilities.

The NLNG had negotiated a number of long term (22.5 years) purchased agreements for the gas before the project commenced: ENEL(Italy) agreed to take 2.5million metric tones per year, ENAGAS (Spain) – 1.2mmtly, BOTAS (Turkey) 0.8mmtly, GAZ de FRANCE – 0.4mmtly, with the balance going to TRANSGAS of Portugal. The company has procured the seven LNG carriers required to transport the LNG. The company owns four carriers, while three have been chartered. Another two carriers have been ordered from the Hyundai construction company to meet the demands of a third train extension to the project.

The shareholders signed an agreement for the front-end engineering of a second phase development, planned to add a third train to the two currently under construction, TSKJ,

the consortium comprising Technip, Snamprogetti, Kellogy, and JGC, reappointed project managers for the second phase development, which came on stream in 2002.

An agreement has also been signed by the partners for the developement of the 4th and 5th trains – a project known as NLGN PLUS. The project is scheduled to come on stream in 2005.

The country has 4 refineries with a total capacity of 445,000 bpd.

- Port Harcourt 'A'- 60,000bbl/d
- Port Harcourt 'B'- 150,000bbl/d
- Warri- 125,000bbl/d
- Kaduna- 110,000bbl/d

The new Port Harcourt 'B' refinery was planned as an export refinery, but problems encountered with the existing 3 refineries have resulted in all of its production diverted to local consumption. All of the refineries are in need of complete overhauling. The Government has attempted to meet the shortfall by importing gasoline. The domestic shortage of refined products persists, and has led to numerous clashes and accidents. The most recent incident occurred in Warri, Delta State, where more than 1,000 people lost their lives when a gasoline pipeline exploded and caught fire. Villagers were scavenging for gasoline, which had been in very short supply. A number of options being considered by the Government include:

- Leasing
- Privatizations,
- Contract management
- Joint venture

Stock Control System – Keeping Track Manually

Stock taking involves making an inventory – list – of stock, and noting its location and value. It's often an annual exercise – a kind of audit to work out the value of the stock as of the accounting process.

Codes, including barcodes, can make the whole process much easier but it can still be quite time – consuming. Checking stock more frequently – a rolling stocktaking – avoids a massive annual exercise, but demands constant attention throughout the year.

Any stock control system must enable you to:

- Track stock levels
- Make orders
- Issue stock

The simplest manual system is the stock book, which suits small businesses with few stock items. It enables you to keep a log of stock received and stock issued.

Stock cards are used for more complex systems. Each type of stock has an associated card, with information such as:

- Description
- Value
- Location
- Re – order level (if this method is used) quantities and lead time
- Supplier details
- Information about past stock history

issued item coming in and going out of the warehouse respectively. The bin card contains the following information:

i. Item number
ii. Minimum stock balance
iii. Date
iv. Store receipt / issue no
v. Vendor name
vi. Received qty
vii. Issued qty
viii. Balance
ix. Received value (in ₦)
x. Issued value (in ₦)
xi. Balance value (in ₦)

See appendix I for a copy of the bin card.

The store requisition form is used by the stationery and the spare parts sections to control the items issued out of store to staff as per demand. It is usually in triplicate for distribution as follows:

- Store's copy
- Account's copy and
- User's copy

i. The store requisition form contains the following details:
ii. Name of requesting officer
iii. Requesting officer's department
iv. Item serial no
v. Description
vi. Quantity requested

vii. Item code

viii. Quantity issued

ix. Stock balance

See appendix II for a copy of the store requisition form.

Item received is usually added to stock balance to arrive at new stock balance and also Quantity of issued items are subtracted from the present balance to arrive at new stock balance. This is a continuous process.

2.3 Problems affecting the existing system

- Fixed time re-ordering method encourages capital tied down
- Information retrieval is usually time consuming and error prone
- There is limit to the level of report that can be generated from any typical manual system
- No proper record keeping
- Delay in decision making

2.4 The necessity for computerization

Having studied the existing system and the problems, there is the need for improvement to enhance the inventory planning system, which will lead to faster decision-making. The recommended system has being carefully studied and discovered that it will solve the above listed problems.

CHAPTER THREE

Introduction to Stock management

Stock control system is a system designed to manage all stock related transactions. For example, you can identify and track information for each item within the stock master file. With real-time visibility into your items, you can make more accurate stock management decisions. A standard stock control system should be able do the followings:

- Reduce costs through efficient inventory management
- Organize important information about each item for easy access
- Generates detailed item availability report for you to view critical stock information and make better stock management decisions.
- Perform everyday stock transactions such as scraps, transfers, movements and more.
- Provides fast access to related information without having to retype anything.

3.2 Stock control methods

The different stock control methods are listed below:

- Economic order quantity
- Fixed re-order level
- Fixed re-order quantity
- Just-in-time

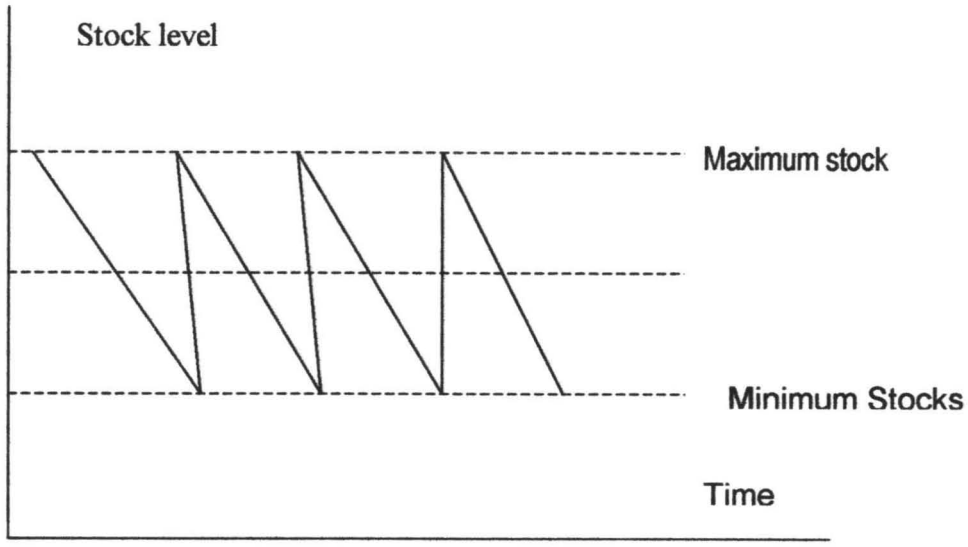
At this point, a brief explanation about each of the system will be of paramount importance to this discussion.

3.3 Just-in-time system

Since stock cost so much to keep, this method of stock control was developed in Japan and has now become much more popular in the United Kingdom. This is the Just-in-time method which involves keeping stocks to an absolute minimum, and the stock items are ordered only when they are needed. Because Items are ordered when needed, hence the method is known as Just-in-time. This time in some cases has been reduced to minutes or hours, and the stock items arrive on site moments before they are needed. However, while this method reduces cost of keeping stock and prevents huge capital from being tied down, it requires a very high level of organizational skill and a very close relationship with your suppliers.

3.4 Fixed re-order stock level

This method of stock control is where the organization decides the minimum level of stock it can tolerate, and then re-orders before the stock reach this level. The exact timing will depend on how long the stocks take to arrive. This can be illustrated as follows.



The distance between the re-order line and the minimum stock level depends on how long it may take for the order to arrive. This time is known as lead time.

3.5 Fixed time re-ordering

This method is exactly as its title suggests. The firm re-orders stock at a fixed time each month or week. It can offer a good solution as it represents a routine for the firm and ensures that stock are regularly supplemented. However, it may well mean that the level of stocks fluctuations quite a bit depend on the rate they are used up. It is a little inflexible as a system as well unless used very carefully.

3.6 Economic order quantity

For any company there is an optimum level of stocks. The precise level of this will vary in different firms and industries. They have to balance the cost of holding stocks (the space taken, the money tied up, etc) with the costs of ordering stock. The more firms order at once the better the deal they will usually get. Hence the level of stocks that

strikes the balance between these two costs is known as the economic order quantity. If this is taken to be the optimum level of stocks it should help to minimize the firm's cost which is important re-requisite to maximizing profit.

CHAPTER FOUR

4.1 Introduction

Stock control system – keeping track using software

Computerized stock control systems run on similar principles to manual ones, but they are more flexible and information is easier to retrieve. You can quickly get a stock valuation or find out how well a particular item of stock is moving.

A computerized system is a good option for businesses dealing in many different type of stock. Other useful features include:

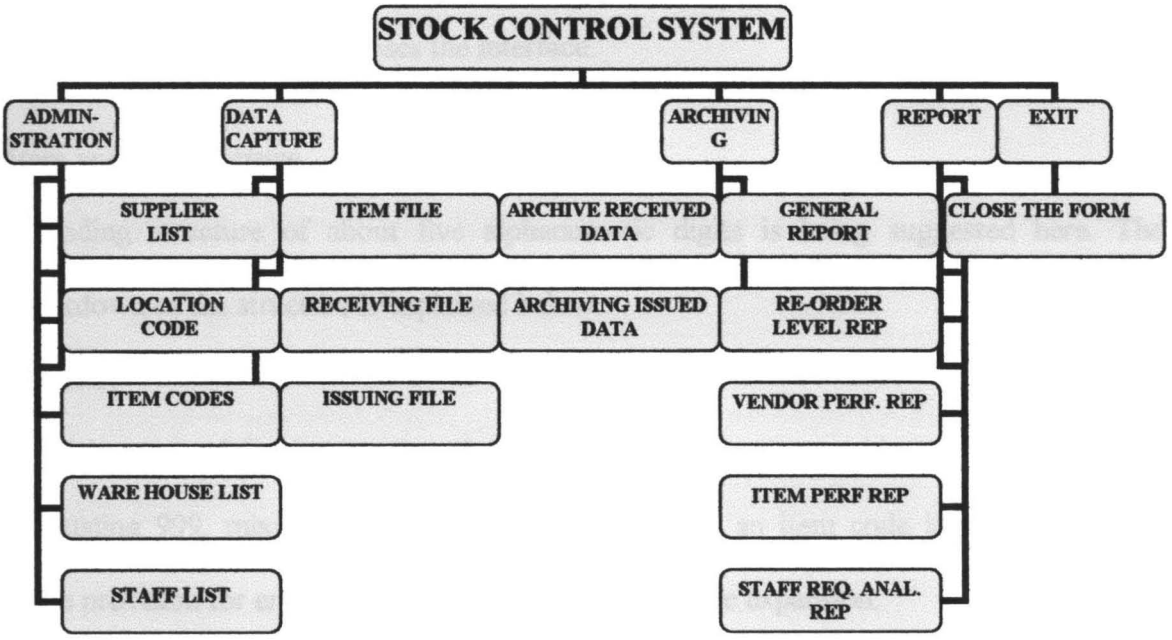
- Stock and pricing data working alongside accounting and invoicing systems, all the systems drawn on the same set of data. You only have to input the data once. Sales Order Processing (SOP) and purchase Order Processing (POP) can be integrated in the system so that stock balances and statistics are automatically updated as orders are processed.
- Automatic stock monitoring, triggering orders when the re – order level is reached.
- Identifying the cheapest and fastest supplier.
- A good stock control tracking software may take care of the user's needs and more.

- Multiple prices for items
- Prices in different currency
- Automatic updating, selecting groups of items to update, single – item updating
- Using more than one warehouse
- Ability to adapt to your changing needs
- Quality control and batch tracking
- Integration with other packages
- Multiple users at the same time

4.2 Brief description of the computerized system

The recommended system will be developed using Oracle development tools. Oracle database has been chosen because NNPC has adopted it as standard database software.

The computerized system which will be capable of efficient stock control management will have the laid down interface.



From the above interface, it can be seen that the recommended system will use top down design approach. This implies that there is only one entry and one exit.

ITEM_MASTER_TAB2 (THE ITEM MASTER FILE)

COLUMN NAME	DATA TYPE	LENGHT
ITEM_CODE	CHAR	5
ITEM_LOCATION_CODE	CHAR	5
MINIMUM_STOCK	NUMBER	15
BALANCE_QTY	NUMBER	15
UNIT_PRICE	NUMBER	10

LOCATION_CODES (ALL POSSIBLE WAREHOUSE LOCATIONS)

COLUMN NAME	DATA TYPE	LENGHT
LOCATION CODE	CHAR	5
DESCRIPTION	CHAR	30

RECEIVED_TAB2 (DATA FILE FOR ALL RECEIVED ITEMS)

COLUMN NAME	**DATA TYPE**	**LENGHT**
SER_NO	CHAR	5
ITEM_CODE	CHAR	5
RECEIVED_DATE	DATE	11
STORE_REC_NO	CHAR	5
VEND_CODE	CHAR	5
RECEIVED_QTY	NUMBER	10
UNIT_PRICE	NUMBER	10

RECEIVED_TAB2_HISTORY (COPY OFRECEIVED_TAB2)

This is the same layout with received_tab2 data file.

STAFF_TAB (STAFF DATA FILE)

COLUMN NAME	**DATA TYPE**	**LENGHT**
ID_NO	CHAR	5
SURNAME	CHAR	20
INITIALS	CHAR	6
DESIGNATION	CHAR	30
DEPT_CODE	CHAR	5
STAFF LOCATION	CHAR	10

SUPPLIER TAB (SUPPLIER'S DATA FILE)

COLUMN NAME	DATA TYPE	LENGTH
SUPPL_CODE	CHAR	5
COMPANY_NAME	CHAR	30
SUPPL_ADDRESS	CHAR	40
SUPPL_PHONE_NO	CHAR	15
REMARK	CHAR	10

WHAREHOUSE_TAB (WAREHOUSE CODES AND THEIR DESCRIPTIONS)

COLUMN NAME	DATA TYPE	LENGTH
WHAREHOUSE_CODES	CHAR	5
DESCRIPTION	CHAR	30

DEPARTMENT_TAB (DEPARTMENTAL CODES)

COLUMN NAME	DATA TYPE	LENGHT
ZONE_CODES	CHAR	5
LOCATION CODE	CHAR	5
DEPARTMENT_CODE	CHAR	7
DESCRIPTION	CHAR	40
GL_DEPT_CODE	CHAR	15

STAFF_LOCATION_CODES (STAFF LOCATION DATA FILE)

COLUMN NAME	DATA TYPE	LENGTH
ZONE_CODE	CHAR	5
DESCRIPTION	CHAR	30

4.5 Detail layout of output specification

Gen_report format

Item Code	Item Description	Location Code	Item location descrition	Minimum Stock	Balance Qty	Unit price
80001	Photocopy paper	01001	Warehouse A shelf 1	100	300	500

Reorder level report format

Item code	Item Description	Minimum Stock	Balance Qty	Unit price
80001	Photocopy paper	200	200	500

Vendor's performance report format

There is a master detail relationship that exist here

Vendor code	Company name	Supply address	Supply phone
CS001	Ami nig LTD	No 3 Wuse 2 abuja	0920082217

Ser no	Vend_code	Item code	Received date	Store_rec_no	Received_qty	Unit_price
00001	CS001	80001	22-NOV-2004	01001	5000	500
00002	CS001	80002	Parker pen	01002	1000	100

Staff request analysis report

Id no	Surname	Initials	Designation	department
90433	Oke john	K.O	DM APLL Mtce	ISD

S/N	Staff Id no	Item code	Issued date	Store issued no	Issued Qty	Approved By	Issued by
00001	90433	80001	22-Nov-2004	01001	10	Mr. Jacob	Mr. Femi
00002	90433	80002	22-Nov-2004	01001	5	Mr. Jacob	Mr. Femi

PROGRAM DOCUMENTATION

The computerized system is design using oracle 9i database engine and having oracle form 6i and report 6i at front end. The input layout shown above are table structures created in oracle database.

There are five sub modules on the interface which are explained below:

1. Maintenance module
2. Data capture
3. Archiving
4. Report and
5. Exit

Maintenance

All the data that are captured once and later referenced for other uses are captured at this level and stored in the database. Amendments to such data can also be done at this point.

Data capture

Data that will be captured on regular basis and amendment to such data are taken care of in this module.

Archiving

The system is designed in such a way that the issuing and receiving data files will continue to grow and as such there is the need for archiving and periodic system clear down. This module therefore, periodically will take archive of the two files to their respective history files thereby making reference into the past possible if the need arises.

Report

Just as the name suggests, all necessary reports are produced at this level.

Exit

Clicking exit here will close the interface and return the user to the desktop level.

4.6 Cost analysis

For proper implementation of this system, the following will have to be put in place.

- A copy of Oracle database and its development tools
- A server and at least three workstations for a local area network
- A database administrator and a network administrator

- The existing staff of these sections will have to be trained to enhance their understanding of the new system.

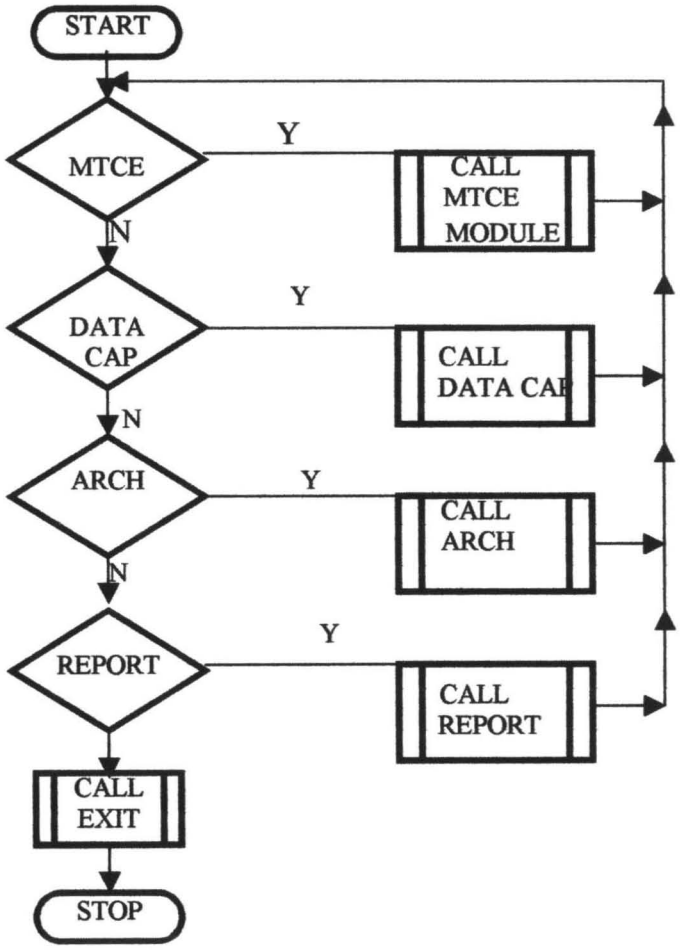
Having checked the required items and taken a good look on the items that are already on ground, it can be concluded that the only cost that NNPC will incur in the process of implementing this system will be the cost of providing a server and a local area network. This is because of the reasons listed below:

- NNPC has acquired Oracle license.
- There are enough desktop computers in these sections that can be connected to the server.
- The company has trained Network and Database administrators in oracle. It therefore implies that the cost NNPC will incur will be very minimal because of the structures that are already on ground. However, it is pertinent to state here that if any other company is to adopt the recommended computerized system, the total cost as explained above will be taken into consideration. The use Access database will be more cost effective for the implementation of this system by any company that has no Oracle database tools.

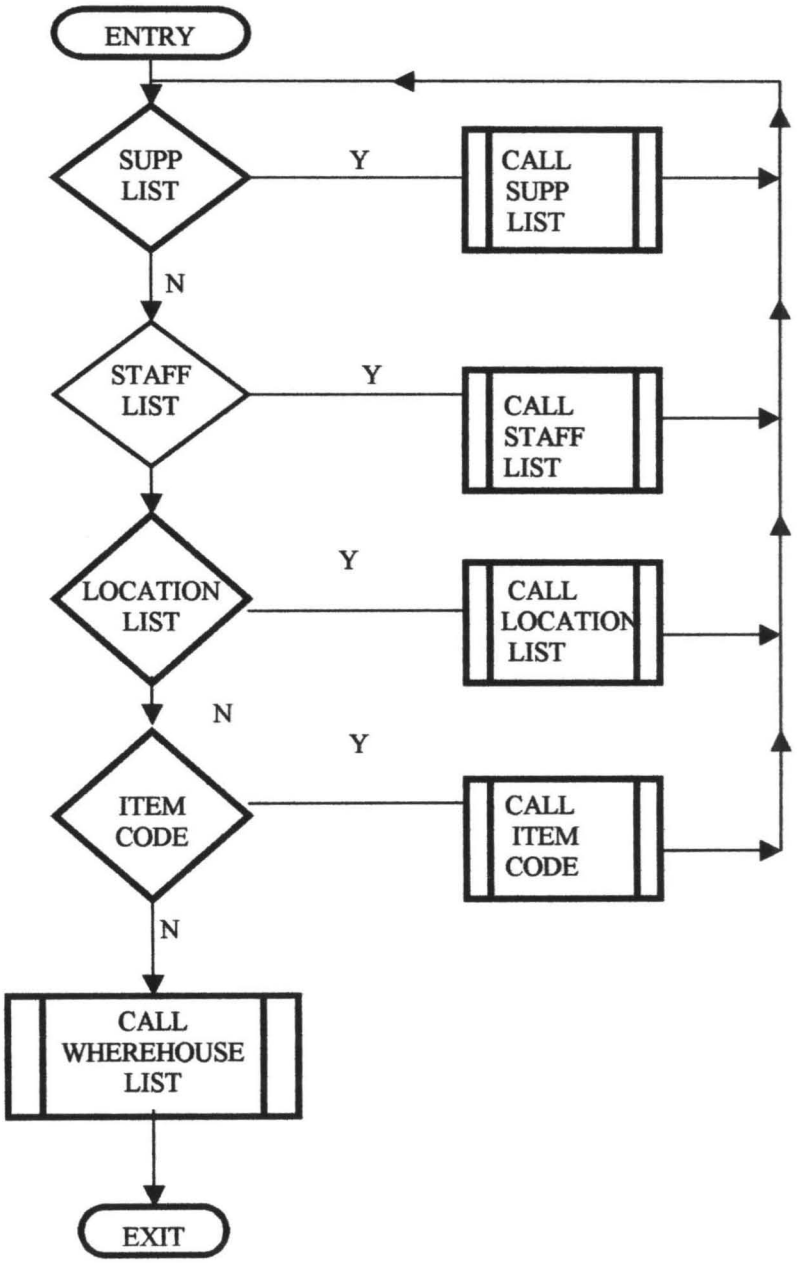
4.7 System flowchart

From the interface, it can be seen that top down design approach has been used in the system development. Therefore, the flowcharts of the various sub modules are as drawn below:

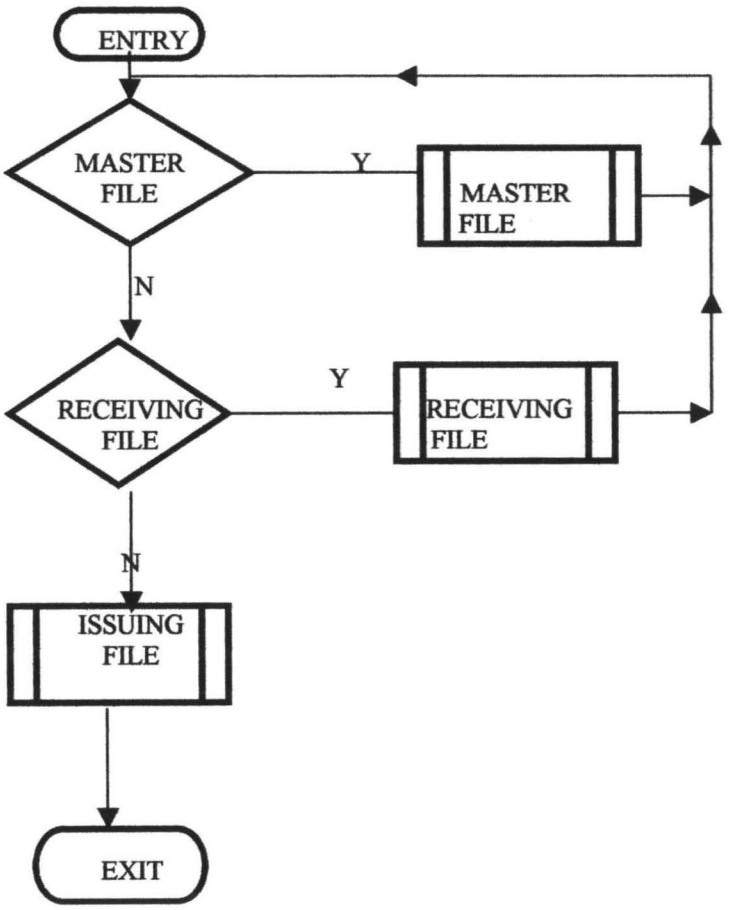
MAIN PROGRAM (INTERFACE)



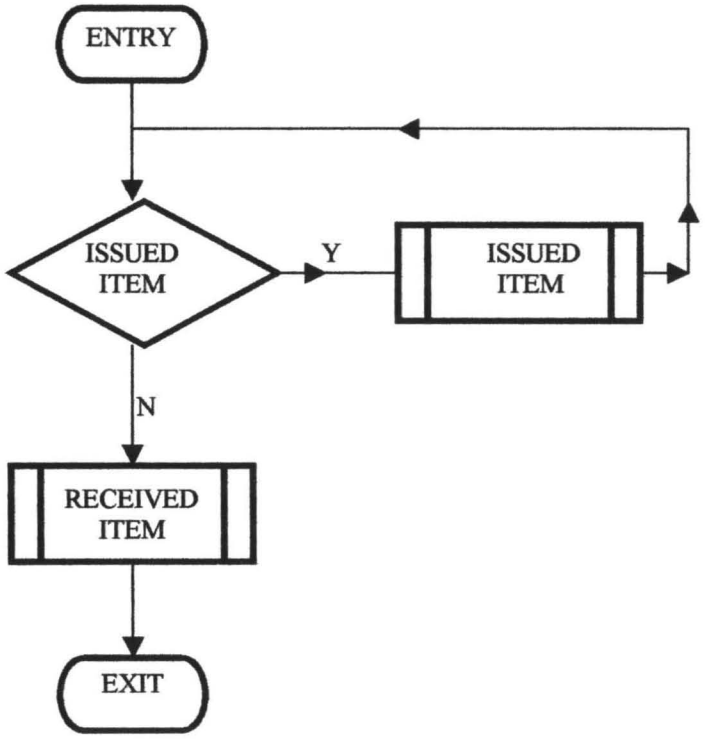
MAINTENANCE MODULE



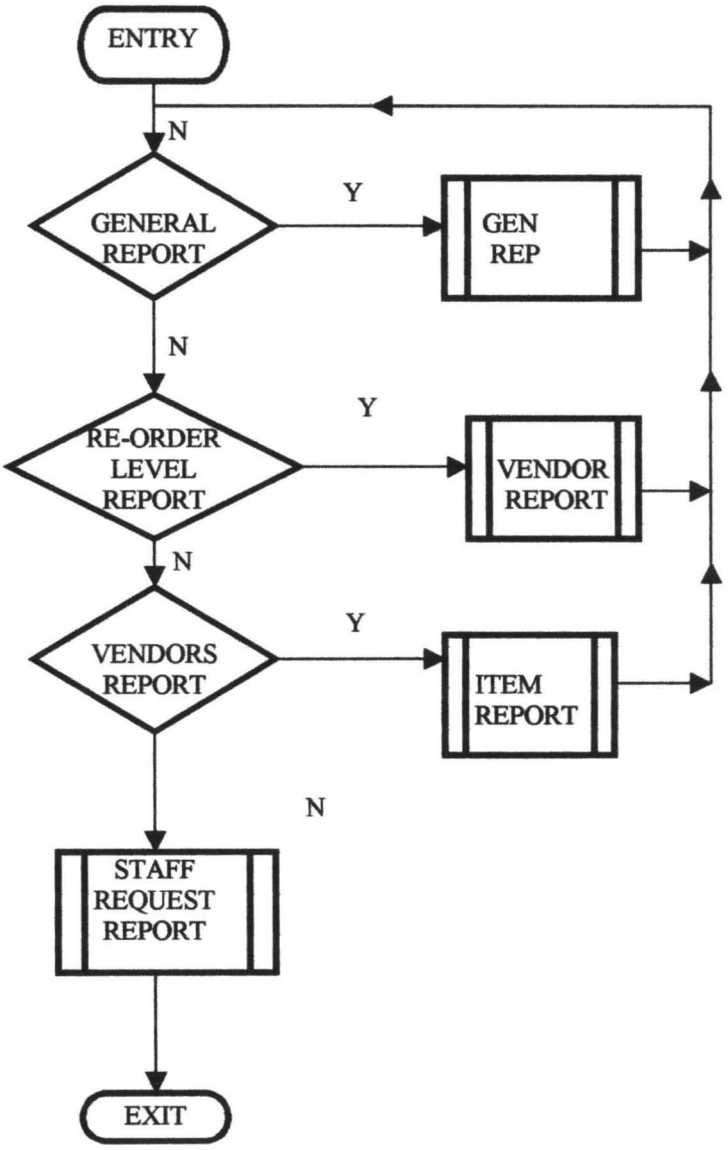
DATA CAPTURE



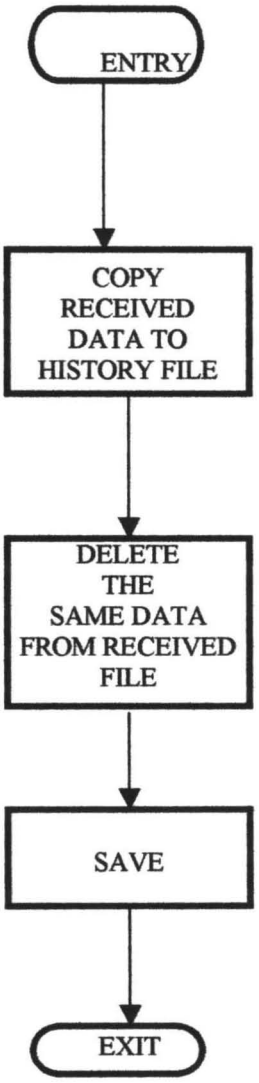
ARCHIVING



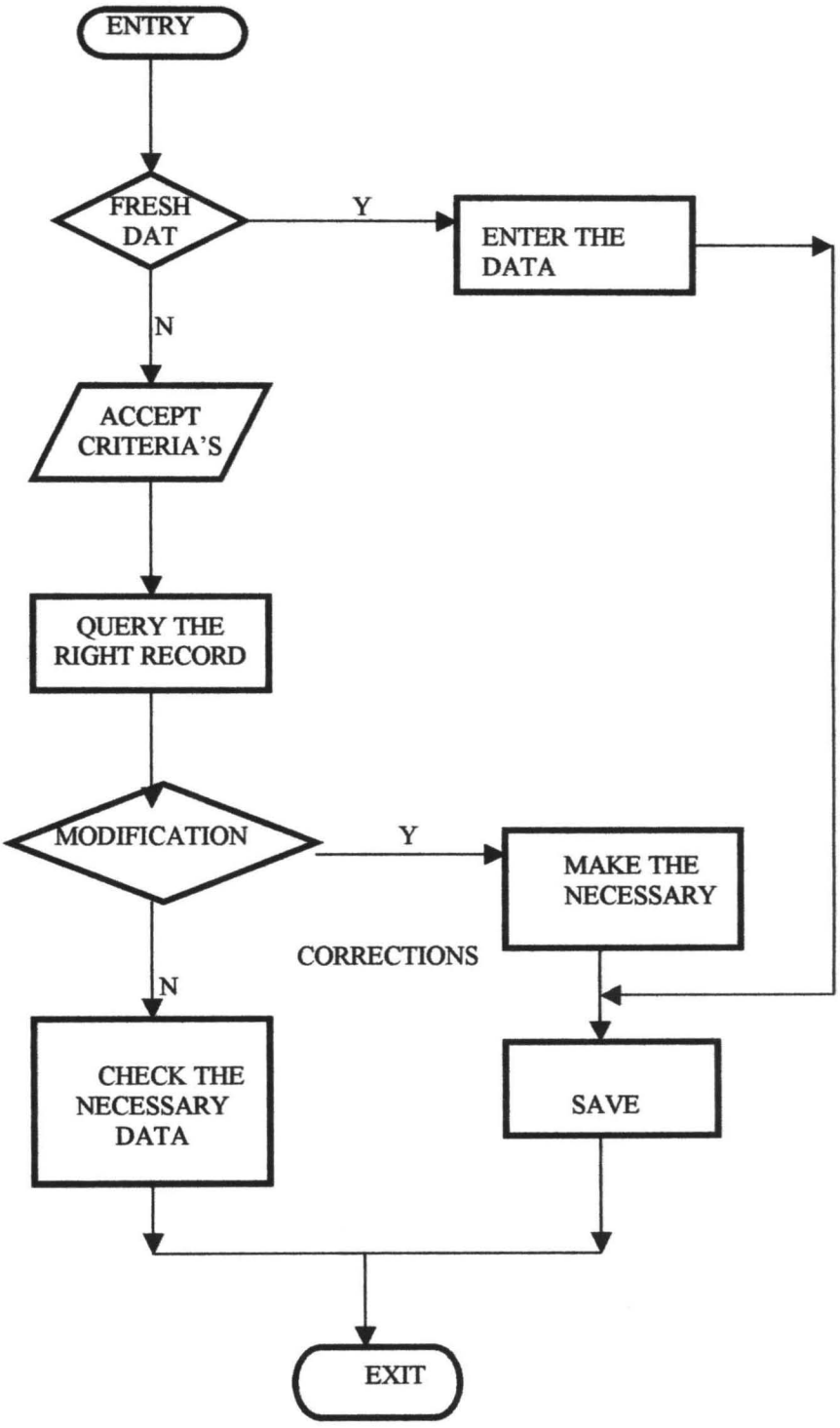
REPORT


ENTRY
N
GENERAL REPORT
Y
GEN REP
N
RE-ORDER LEVEL REPORT
Y
VENDOR REPORT
N
VENDORS REPORT
Y
ITEM REPORT
N
STAFF REQUEST REPORT
EXIT

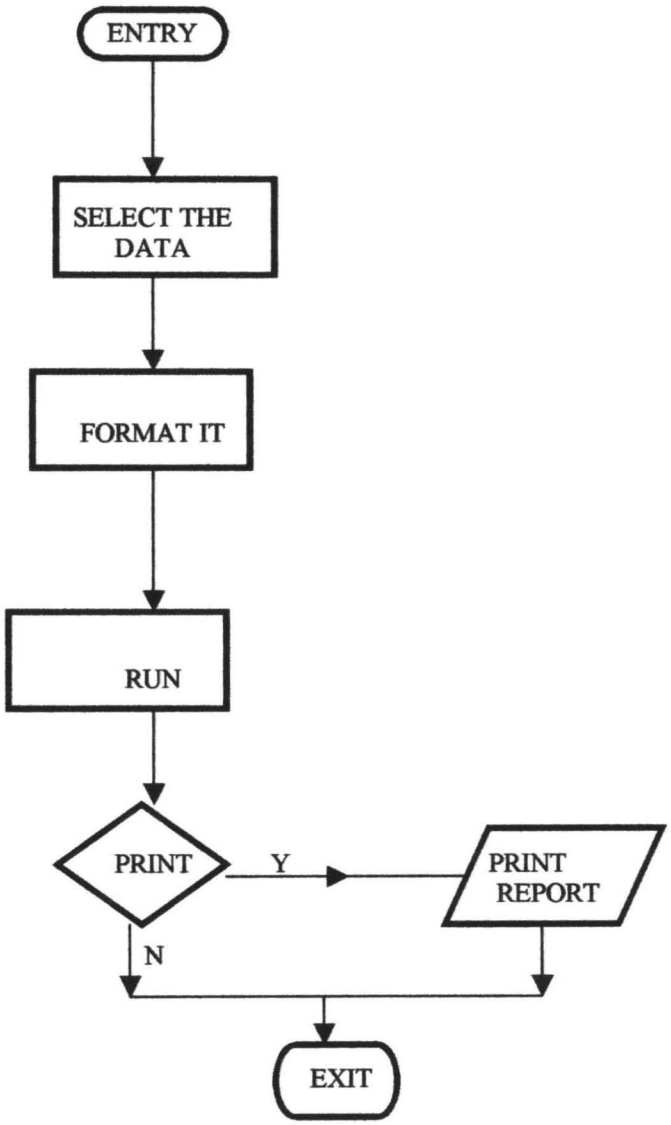
RECEIVED ARCHIVE FORM



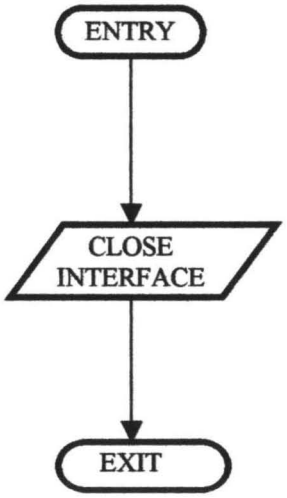
SUPPLIER'S FORM



GENERAL REPORT



EXIT MODULE



CHAPTER FIVE

5.1 Practical operation of the system

All users that are suppose to run the stock control system will have a shortcut on their desktop which they will double click to get to the interface level. Refer to the interface on page 13 of this documentation.

There are five sub modules on the interface which are explained below:

6. Maintenance module
7. Data capture
8. Archiving
9. Report and
10. Exit

Maintenance

All the data that are captured once and later referenced for other uses are captured at this level and stored in the database. Amendments to such data can also be done at this point.

Data capture

Data that will be captured on regular basis and amendment to such data are taken care of in this module.

Archiving

The system is designed in such a way that the issuing and receiving data files will continue to grow and as such there is the need for archiving and periodic system clear down. This module therefore, periodically will take archive of the two files to their respective history files thereby making reference into the past possible if the need arises.

Report

Just as the name suggests, all necessary reports are produced at this level.

Exit

Clicking exit here will close the interface and return the user to the desktop level.

5.2 Conclusion and Recommendation

From the above discussion, it can be seen that the computerized system will solve the problems of the existing system, which among others includes:

- Capital tied down as a result of fixed time re-ordering method
- The delayed process of information retrieval
- The limitations of report that can be generated from the manual system
- Improper record keeping
- Delay in decision-making

In view of the above advantages of the computerized system, I recommend that the computerized system be considered.

5.3 References

The following Internet sites were visited:

- http//www.nnpc-nigeria.com
- http//www.nigerianoil-gas.com
- http//www.oracle-univerity.com
- http//www.inevtory.mtds.com
- http//www.igo-sock-control.com

5.3 Appendix

Appendix I

The bin card

NIGERIAN NATIONAL PETROLEUM CORPORATION

CORPORATE HEADQUARTER'S STORE

BIN CARD

✓

(S)TOCK ITEM ________________ UNIT OF ISSUE ________________

(L)EDGER FOLIO ________________ PACK ________________ MINIMUM STOCK [illegible]

(S.R.)V. DATE												
(S.R.)V. Unit Price ₦												

(DA)TE	S. I. V. No. or S. R. V. No.	MOVEMENT	QUANTITY RECEIVED	QUANTITY ISSUED	QUANTITY BALANCE	VALUE ₦ RECEIVED	VALUE ₦ ISSUED	VALUE ₦ BALANCE	SIGNATURE
	Store receive no	Vendor or	Qty rec		✓				
	S/R req	User		QTY	Subtracted				
	Requisition				from				
	[illegible]				bal				
	Serial								
	no								

Appendix II

The issuing form

NIGERIAN NATIONAL PETROLEUM CORPORATION

COMBINED REQUISITION AND ISSUE NOTE

STORES REQUISITION FORM

STORE'S COPY

ASE SUPPLY THE UNDERMENTIONED STORES TO BE COMPLETED BY STORES)

_____ DEPT _____ ISSUED NOTE NUMBER _____

CATION _____ TYPE OF TRANSACTION: _____ FOR STORE USE ONLY

No.	DESCRIPTION	UNIT	QUANTITY REQUIRED	ALLOCATION	CODE	QUANTITY ISSUED	UNIT PRICE		VALUE		DELIVERY/FORWARDING DETAIL	STOCK BALANCE
							N	K	N	K		
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												
							TOTAL					

_____ _____

GNATURE/NAME OF REQUISITIONER SIGNATURE OF ISSUING CLERK

ESIGNATION:_____ NAME OF ISSUING CLERK_____ ISSUE POSTED BY:_____

_____ DATE: _____ DATE: _____

GNATURE/NAME OFAPPROVING OFFICER (ADMIN) REMARKS:_____

ESIGNATION:_____

_____ _____

AME AND SIGNATURE OF RECEIVING OFFICER O/C CENTRAL STORE