

**AUTOMATED STOCK/INVENTORY CONTROL SYSTEM –
A CASE STUDY OF NATIONAL ORIENTATION AGENCY
(NOA), ABUJA**

By

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DEDICATION

To the glory of God. .

To the entire family of Chief and late Mrs. Augustine Ogunkuade.

CERTIFICATION

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

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ACKNOWLEDGEMENT

My utmost gratitude I owe my creator, God Almighty, for seeing me through with this project.

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Lastly I wish to appreciate the support I received from my course mates. They are simply wonderful. I wish you all well.

ABSTRACT

This Project is an attempt to solve the conventional problems associated to the use of the traditional manual stock/inventory control system in the store.

From the study carried out, the following lapses were identified as part of the impediments associated to stores administration. Time wasting in stock record update, possible over invoicing, mutilation or outright loss of documents, pilfering or stealing and duplication of work schedule among personnel in the store.

The problems identified above were critically investigated, and this informed the writer to adequately propose and design a possible solution to the problem using a computer system, which have so many advantages over the manual/conventional system.

The new system designed allows for large volume of operations with an incredible high speed coupled with accuracy thereby improving the job performance greatly.

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CHAPTER ONE

1.0 INTRODUCTION:

A Computer can be defined as a machine that processes or acts upon the data entered into it with the aim of generating an output which is regarded as information.

The machine accepts raw data from input device; perform arithmetic and logical operation in accordance with a pre-defined program or procedure before finally bringing/displaying the output through the screen or any of the output devices.

Before now, the entire job of stock/inventory system was manually handled. Thereby giving room for some avoidable problems to occur and reoccur. These costly mistakes experienced could be attributed to the complex nature of the assignment or deliberate attempts to commit fraud.

With the advent of the computer which has the ability as an Electronic data processing machine to handle both string and variable, retrieving and manipulating large data at a very high speed. Today it has become the best tool in achieving greatness in modern organisational set up. If computer is introduced to National Orientation Agency (NOA) Headquarters, Abuja therefore it will enhance the activities of the office. There will be

effective control of the stock inventory with a minimum degree of error if any.

1.1 HISTORICAL BACKGROUND:

National Orientation Agency (**NOA**) as a scheduled organisation was formally established in August, 1983 to operate as a Parastatal under the Federal Ministry of Information and Culture as it was then called.

The Agency was borne from the Government decision to merge in 1993 the Directorate for Mass Mobilisation and Economic Recovery (**MAMSER**) with some other similar bodies so as to pool together and consolidate all the efforts and resources of the bodies in the areas of public enlightenment, mass mobilisation and value re-orientation. The merger of the Public Enlightenment (**PE**) and the War Against Indiscipline/National Orientation Movement (**WAI/NOM**) Divisions of the Federal Ministry of Information and Culture with **MAMSER** now became National Orientation Agency (**NOA**).

NOA was structured to operate as a three tier organisation for effective dissemination of information to all.

Thus, we have

- a) A National Headquarters in Abuja.

- b) State Directorate in all the State of the Federation and Federal Capital Territory (**FCT**).
- c) Local Government Formations in all Local Government Areas, nationwide.

The Agency was initially challenged with three principal roles on their road to achieving their objective directive. One of these roles is to inform, educate, enlighten and sensitize the people on the policies, programmes, projects and activities of government and all other public issues, in order to gain the public support for government; and contribute their quota in nation building.

In pursuance of its goals and objectives, the public must be adequately informed about government policies/programmes so as to understand and appreciate the effect of these policies on their lives.

Equally the complaints and expectations of the people must be relayed back to the government. This feedback information flow will assist even the government to make prompt policies/decisions that will meet the immediate needs and expectations of the people.

The second role is to sensitize people on value re-orientation because Nigeria belongs to all Nigerians, no other country except our own. Hence we must be loyal and patriotic so as to collectively

light the menace of the society and carry out necessary correction to the benefit of us all.

The third role of the Agency is mobilisation of Nigerian people because mobilisation is a process of pooling together and harnessing the creative energies of the people for national development. These could not but be agreed to by the Political Bureau report which says “To mobilise a people is to increase their level of awareness of certain set objectives with a view to achieving those objectives”.

To achieve the aforementioned, series of programmes, drawing largely on the print, electronic media and oral media were employed as means of communication. These made the Agency have constant and continuous touch with the people through rallies, for a, seminar, workshops, and face to face discussion session.

The Agency has a comprehensive network of structures with grassroots touch as its being adequately monitored from the Headquarters in Abuja.

Objectives:

The main objectives as clearly spelt out in Decree 100 of 1993 are to:

- ensure that government programmes and policies are better understood by the general public;

- mobilise favourable opinion for such programmes and policies;
- encourage informal education through public enlightenment activities and publications;
- establish feedback channel to government on all aspects of Nigerian national life;
- establish appropriate national framework for education, orientating and indoctrinating Nigerians towards developing socially desirable attitudes, values and culture which project individual's national pride and positive image for Nigeria;
- awaken the consciousness of Nigerians to their civic responsibilities to the promotion of national unity, citizen's commitment to their human rights to build a free, just and progressive society;
- develop among Nigerians of all ages and sex, social and cultural values and awareness which will inculcate the spirit of patriotism, nationalism, self discipline and self-reliance;
- encourage the people to take part actively and freely in discussions and decisions on matters affecting their general welfare;
- promote new sets of attitudes and culture for the attainment of the goals and objectives of a united Nigerian state;

- restore and sustain discipline in our national life;
- instil in the populace a sense of absolute loyalty to the fatherland;
- ensure and uphold leadership by example; and
- foster respect for constituted authority.

1.2 STATEMENT OF PROBLEM:

From experience, I found out that due to demands and pressure on the store keepers, the present manual method of inventory/stock control does not adequately measure up with the modern ways of handling stores or warehouse. Hence several lapses including mutilation of document, loss of record deliberate stealing among others are eminent.

The Management should equally consider the trouble of having to take decisions using wrong information due to improper entries. Has the Management considered that “**Material is Money**” and if the organisation’s asset is not in good hands, it could spell doom for such organisation.

Above are some of the observation which is though technical that has to be considered or looked into in a warehouse management.

1.3 OBJECTIVE OF STUDY:

As a result of the various lapses associated with the use of the conventional manual stock/inventory system. The writer of this project is carrying out a research using a computer to automate the stock/inventory control system.

Since the computer has the capacity to store, retrieve and manipulate data's at a very high speed with accuracy, it will assist the management to achieve maximum output in store management in taking a useful and timely decision.

1.4 SIGNIFICANCE OF STUDY:

It will be of immense benefit for **NOA** to have her store/warehouse automated owing to the fact that the demand from the organisation by the entire country is tremendous. To satisfy the need and yearnings of the populace therefore the writer concludes that the automation of the warehouse/store is inevitable.

For the purpose of this research work, the central store of the headquarters in Abuja shall be the main focus; bearing in mind that the headquarter and states offices are interrelated.

1.5 LIMITATIONS:

The initial constraints of the writer were funds. This lack of funds actually delayed my sourcing for adequate information when the research started.

Secondly, the secrecy attached to official informations in Government establishment poses another problem to the researcher.

Against all odds, the researcher was able to assemble all data and information needed for the research work though time consuming.

1.6 DEFINITION OF TERMS

MANUAL SYSTEM:

These are non-automated or non computerized system of operation.

DATA:

These are raw facts collected and collated to form the input for the system where useful informations are produced.

MINIMUM STOCK:

These is a level at which stock should not be allow to fall below. It is the lowest permissible level of stock allowed. Expressed either in unit or amount.

MAXIMUM STOCK:

This is the highest level of stock permissible at a time. It could either be expressed in unit level or cost.

Store - Room (s) where stock are kept.

Stock - Items kept for usage or kept for day to day running of an organisation.

COMPUTER SYSTEM:

This is an integrated electronic machine which accepts data from an input device; perform logical operations in accordance with a predetermined set of rules.

COMPUTERIZATION:

This is the designing and implementation of a computer base data processing system that enhances the efficiency and fast retrieval of records.

CHAPTER TWO

2.0 LITERATURE REVIEW

The whole world as a global village has adopted automation as a modern means of achieving excellent results in their assignment. Nigeria is no exemption, as this is attested to by the recent pronouncement by Government that all stakeholders in Government should be computer literate.

The stock/inventory control system as a modern phenomenon must comply with this global trend if it must achieve excellence. Great scholars in this field have concluded that no organisation can function well without a good stock and inventory control system.

This chapter therefore will attempt to harness the idea of past scholars relating to this topic.

The term inventory control as defined by K S MENON (1993) relates to a set of policies and procedures by which an organisation determines which material it will hold in stock and the quantity of each one of them that it will carry. He further argued this to meet with the demand of ever increasing population explosion yearly, therefore, a speedy and effective operating system must be adopted. This means that the system must be

computerized, to ensure for proper coordination and accurate result.

Lapin L. L. (1981) confirmed in his study that there are two phenomena, which have contributed to improvement in controlling inventories. One was the application of mathematical models and optimization techniques to achieve efficiencies while the second one was the development of the digital computers which has improved information processing and retrieval capabilities.

2.1 NEED FOR INVENTORY CONTROL:

The fundamental need of inventory control is to satisfy the “customer” whether he is outside the organisation or a user of stores within the organisation.

Donnelly J. A. Jr, et al (1987) in his work applying the use of computer to achieve inventory, control, stated the following as good result achieved from the exercise.

- i) The plants were not shut down to take inventory.
- ii) Inventory level increased by 57%.
- iii) Record keeping accuracy increased from 64% to 94%.
- iv) On-time delivery of stocked items to customers was increased from 40% to 99%.

K. S. Menon (1993) stated that in the past managers assumed that just stocking the warehouse was beneficial not minding the

necessity to control them. Today such large stock is termed a grave yard and unnecessary hence this has necessitated the new change and the introduction of automation in the inventory control system. However he was not detailed on the procedural steps to be taken in achieving the good results expected.

In the study conducted by **Alex Morison (1992)**, he stated the following so as the reasons for keeping stock/inventory record.

- i. To indicate the amount of stock of any item at anytime without it being necessary for the stock to be physically counted.
- ii. To establish a link between the physical stock and the stores accounts. At any time the evaluated price should correspond to the value of the balance stock.
- iii. To provide a means of provisioning. That is to determine how much should be ordered to maintain stocks at required level.
- iv. To supply information for stocktaking, whereby the quantities physically counted should correspond with actual balance in the books.
- v. To provide a method of informing the store house staff of the location of goods in the store. This is easily achievable by coding system.

vi. To serve the purpose of a price list.

In designing a system for any particular application he further stated will depend on the extent of the information to be provided and this will be governed by the number of the above purposes which it's expected to serve. Thus introducing a computer into the system he argued will increase the efficiency and the accuracy of stock inventory control system.

Burton J. A. (1981) noted with dismay the distractions while manual system is being used due to mere conversation. This in turn leads to a set back in the process of their activities for example updating the Bin Card. He argued further that the manual methods have now become too slow to meet the speed of information needed by the management. Burton therefore went further to suggest that computers are better management tool which have great flexibility and characterized by their speedy operation and accuracy in the processing of inventory.

2.2 FACTORS INFLUENCING INVENTORY CONTROL:

There are a number of factors that should be considered while the mention of inventory control is made, because they have important bearing on it **MENON, K. S (1993)**.

- a) **Requirements:** Adequate information on the actual stock needed time-wise is very important to avoid unnecessary capital lock up in forms of goods stocked.
- b) **Obsolescence:** Since there are possibilities of design changes or other factors which could make the materials obsolete, hence considerations should be taken to avoid stocking outdated materials.
- c) Rental for space occupied by the stores and taxes payable.
- d) Insurance premium payable on goods.
- e) **Quantities and Qualities of Stock Items:** From the stores, information is obtained about stock balances and unfulfilled purchase orders. In addition, information are gathered about materials that has stayed for a long time in the store which has either reduce in size (**shrink**) or in case of chemicals evaporate which will lead to reduction in volume.

Finally, Menon K. S advised that the stock-out should be avoided because it could cause stoppage of production and thereby leading to idle time of machine and labour loss. Consequently causing loss of production, loss of profit and loss of good will from customers.

All the scholars and experts in the field agreed that the automation of stock/inventory control system is a means of

enhancing the efficiency of the store personnel in achieving greater accuracy. This is why the writer is suggesting that National Orientation Agency adopt this modern phenomenon called '**automation**' of the stock/inventory control system.

CHAPTER THREE

SYSTEMS ANALYSIS AND DESIGN

3.0 ANALYSIS OF THE MANUAL SYSTEM:

Typically, the storage system employed in an organisation for the safe keeping of its stock items such as movable assets, materials and consumables entails a lot of record keeping. Considering an organisation such as **NOA** as our case study, it is expected of the store manager to keep adequate records of every new items being brought to the store and also be able to supply an up-to-date information about the state of the stock items usually in terms of quantity and quality especially for items that wear out or that can expire.

Apart from the above, the store, being a service department which is responsible for issuing out the materials required by the other departments is expected to keep adequate record of all its transactions with other departments making requisition. This is mainly for accounting purpose since it is pertinent for an organisation whether a profit making or non profit making organisation to at least be able to account for the materials or stock items expended during a particular accounting period, perhaps a year. It is also important to note that requisitions are treated using

the updated information about the state of the stock items as mentioned above.

Another vital area of store management that requires adequate record keeping is the area of processing of supplies.

This refers to the relationship that exists between the store and the supplier of the materials – that is in a situation of non direct purchase or purchase through a contractor or supplier. It can also be applicable to the relationship between the store and the seller in the market – that is in a situation of direct purchase.

Here it is important to keep records of facts such as the name and addresses of such suppliers or seller's date of supply and the price or the cost of purchase as the case may be, in order to have adequate information for carrying out future purchases.

As it can be seen that the need for adequate record keeping cannot be over-emphasised in a store in order to ensure a proper stock or inventory system and moreso for ease of stock taking. In a manual system, there are designed formats that are used to document all the necessary facts relating to the movement of stock. The Goods Received Note (**GRN**) and the Material Return Note (**MRN**) are the two basic formats used for documenting the movement of goods or materials into the store. The **GRN** is used only when the goods or materials ordered for have been brought in

by the outside supplier while the **MRN** is used whenever an item already issued out perhaps to a department is to be returned to the store.

Moreover, the basic format used to document the movement of items out of the store is known as the **Store Issue Note (SIN)** or the **Store Requisition Note (SRN)**. Another format that should be mentioned is the **Stock Card** which is used to document movement of items both into and out of the store. Each item in the store must have a stock card with which to record its movement.

3.2 DEMERITS OF THE MANUAL SYSTEM:

- i) **Tiredness:** It can easily be inferred from the above that the manual system of stock management is fraught with a lot of paper work which makes it rather cumbersome and tiredness.
- ii) **Loss or destruction of document:** The loss or destruction of any of the record keeping documents – stock card, **GRN**, **SRN** etc. could easily disrupt the normal functioning of the store thereby making stock taking (**both perpetual i.e. contains or carried out whenever an item is received or issued and periodic i.e. taking place at specified period**) rather difficult.
- iii) **Non detection of irregularities:** In the manual system of stock management, it is quite easy to have irregularities such

as incorrect entry of data (**errors**), pilferage of store items or even outright fraud goes undetected. It is possible for criminally minded individuals to outsmart the store manager. It is also possible for such individuals to collude with the store manager thereby getting the organisation defrauded.

- iv) **Delay in Processing:** The manual system of stock management could follow a rather slow process and this may not be desirable especially during peak periods. Also, the fact that the management usually require quick information for guide decision taking needs to be considered.

3.3 JUSTIFICATION FOR AUTOMATION:

Having analysed the manual system on ground and critically studying the demerits with a view to overcoming such demerits and others that are not immediately apparent, it is considered that automating, that is, with the use of the personal computer, the basic operations of the store would go a long way in ensuring an efficient and effective stock management system. Automation or computerisation, contrary to common opinion is not meant to render the store staff jobless, rather, it is meant to enhance the job of the store staff both in terms of efficiency and effectiveness.

Stock taking is a very vital aspect of store operations. It is an inventory control procedure that serves as a check to store

activities. It is also necessary for the purpose of obtaining the worth of all the store items as a basis of drawing up the organisation's Final account. This implies that stock taking (**whether perpetual or periodic**) is a procedure that involves taking even the most minute details into consideration. Obviously the manual process of this procedure cannot be easily carried out to such a detailed level but with an automated system, all details required for proper stock taking are easily acquired. Moreover, the automation or computerisation of the store operations makes the production of detailed reports on the store items very easy. Such reports are indispensable for management decision making.

Finally, it is necessary to mention the fact that introducing a new and automated system through the use of the personal computer to the operations of the store will go a long way in reducing a lot of paper work and also minimise all such irregularities as incorrect data entry, pilferage or outright fraud.

3.4 SYSTEM DESIGN:

The ultimate aim of the automated system being introduced to aid the performance of the stores operation is to generally ensure the effective and efficient control of store inventory or stock items. The automated system is therefore designed following a menu

based structure and each item on the menu being a basic stock or inventory control operation.

Being menu driven, the system is also interactive in that whenever necessary, it prompts user to take specific action before proceeding on the operation being carried out. It is designed on Relational Database Management system Data base IV Application software hence it consists mainly of a number of related data files which are accessed from time to time through program files. The related data files all make up the data base. It should also be pointed out that access to the automated operations is controlled through the use of a password. It is only by typing the password that a user can have access into the main system. This is just to introduce some measure of security to the data base and even the entire automated system in general.

The working of the system is fully described by the flowcharts in appendices 3.1 to – 3.6

3.4.1 USER INTERFACE DESIGN:

As mentioned earlier, the system has a menu-driver user interface. It however starts with the introductory display on the screen which then leads on to the password entry screen. Access to the main menu depends on entering the correct password.

Having entered the correct password, a pop-up menu is displayed showing the following options:

1. Addition of new items.
2. Update/Editing of stock items.
3. Issuance of stock items.
4. Processing supplies.
5. Report Generation
6. Return to Database.
7. Quit Database.

While option numbers 6 and 7 affect the D-base application package on which the system is being run, option No. 1 is like registering a new item to be recognised by the system. Option No. 2 on the menu enables the authorised user to edit or carry out an update operation on the record of any particular stock item. Option No.3 is like a simplified way of processing the Store Issue Note (SIN) or the Store Requisition Note (SRN). It enables the user to issue out store items to requesting department without excessive paper work.

Also, Option No.4 enables the user to transact business with the suppliers of the store items in order to access any particular store item.

It is a rather simplified way of recording the movement of items into the store and without excessive paper work as in the case of the Goods Received Note (GRN).

Finally, option no. 5 on the menu leads to another sub menu which takes care of the production of specified reports about the store items. Three major options of report production are included under this option.

- (i) a report displaying the current stock level of each item in the store;
- (ii) a report showing details of items supplied within specified periods or dates;
- (iii) a report showing details of items issued out and the requesting departments within specified periods or dates.

Apart from being essential for stocktaking activities such reports as these are expected to supply adequate information about the organisation's assets or stock to the management.

3.4.2 **SYSTEM INPUT DESIGN**

The necessity for a quick response from the automated system justifies the need for an on-line type of input. Also, every item of stock which has its records stored in the database is referred through an item

code. This item code is the key for searching through the relational database in order to access any particular store item.

Furthermore in carrying out any of the operations related to option 1 to 4 on the main menu as listed in 3.4.1 above, the system first prompts the user to supply the item code of the stock item concerned and then goes on to search through the database file concerned. It should be noted that several other inputs to the system are taken from the data stored in the files making up the database. Table 3.1 shows the structure of the major file required for running option 1 that is addition of new item.

FIELD NAME	FIELD TYPE	FIELD WIDTH
IT CODE	CHARACTER	6
DESCRIBE	CHARACTER	25
Q STOCK	NUMERIC	4.0

Table 3.1 (Stock file dbf)

Table 3.2 and 3.3 are the structures of the data files which are linked together with data file structured in 3.1 above in order to run option 2 that is update/editing of stock item.

FIELD NAME	FIELD TYPE	FIELD WIDTH
IT CODE	CHARACTER	6
DESCRIBE	CHARACTER	25
ISDEPT	CHARACTER	15
SSDAT	DATE	8
QISSUE	NUMERIC	3.0
BALCE	NUMERIC	3.0

Table 3.2 (Issue – dbf)

FIELD NAME	FIELD TYPE	FIELD WIDTH
IT CODE	CHARACTER	6
DESCRIBE	CHARACTER	25
SUPPLIER	CHARACTER	25
SUPDAT	DATE	8
QTY SUP	NUMERIC	3.0
RATE	NUMERIC	8.2
VALUE	NUMERIC	12.2

Also, the data file structured in table 3.2 is linked together with the data file structured in 3.1 in order to run Option 3 on the main menu to process departmental requests while the data file structured in table 3.3 above is linked together with the data file structured in 3.1 in order process option 4 on the main menu, that is processing supplies.

3.4.2 SYSTEM OUTPUT DESIGN:

Apart from the outputs displayed on the screen while running options 1-4 on the main menu, the only other set of outputs are the reports which are generated using option 5 and they have been outlined in 3.4.1 (i) – (iii) above. The data files structured in tables 3.1 – 3.3 above are also used to generate the report types outlined.

CHAPTER FOUR

SYSTEM IMPLEMENTATION AND EVALUATION

4.1 IMPLEMENTATION REQUIREMENT:

For purpose of simplicity and ease of use, the system is designed to run on any modern personal computer – Pc.

Typically, a 30 Megabyte **RAM (Random Access Memory)** multimedia system with Pentium processor or even an Intel 486 system is quite adequate to run the Inventory Control System.

On the software aspect, the Inventory control system was developed using the D-base IV application package running on MS DOS operating system; a single user operating system. Moreover, D-base IV apart from being a very reliable relational database management system also provides adequate set of commands and functions which are used to write the necessary programs. Generally, D-base IV application package can be considered quite suitable for developing systems such as this for the following reasons:

- i) D-base IV is very good for the development of an interactive system and easily understandable.
- ii) A modular approach is used in the development of the system and D-base IV is very efficient for modular programming.

- iii) The system has a one entrance and one exit structure and this is easily implemented using the D-base IV application package.
- iv) Data management operations such as sorting and searching or traversing and entire data file are easily carried out using D-base IV application.
- v) Programs written in D-base IV are easy to debug, easy to learn and flexible.

4.2 PROCESSING:

Processing of the system starts with the D-base IV command '**DO INTRO**' at the dot prompt. The introduction screen is displayed after which the user authenticity screen is displayed prompting the user for password entry. The user has three chances to enter the correct password failing which the user is disallowed from gaining access into the system.

On entering the correct password (**that is 'OPEN UP'**), the central control screen comes up. This screen displays the **MAIN MENU**. The options already described in the previous chapter make up the main menu. Each of the options on the main menu is technically linked to a separate module apart from the last two options in which the first one is to enable the user to exit from the inventory control system while still remaining in D-base IV

environment dot prompt, and to be able to restart the system again by typing '**DO INTRO**' just as before and the second one is to enable the user exit completely from the D-base IV environment.

4.2.1 Add New Item Module:

Selecting the first option on the main menu starts off this module. The main program in the module is **ADSTOCK PROGRAM**. It prompts the user to supply the code for the new item and then goes on to search through the **STOCKFIL** data file to ensure that such code has not already been given to another item in order to guide against duplication of item code and preserving its uniqueness for use as a key field. It is in this module that new items are entered or registered into the system.

4.2.2 Update/Editing Module:

The second option on the main menu sends control of the system to this module. The main program here is **EDSTOCK PROGRAM** and it access the supplies data file (**SUPFIL**), issued items (**ISSUE**) and the main stock file (**STOCKFIL**). It is for carrying out update or editing operations on the records of stock item. It should be noted that access to certain data through this module is restricted to guide against fraud.

4.2.3 Items Issuance Module:

The third option on the main menu sends control to this module. The main program here is **REQUEST PRG** and it accesses both the main stock file (**STOCKFIL**) and the Issued Items File (**ISSUE**). This module keeps the record of all requests made to the store, the requesting department, the items requested for, quantity issued (**if the item is available**), the date of issue and the quantity of item(s) remaining in the store (**if any**).

4.2.4 Supplies Processing Module:

Selecting the fourth option triggers off this module. The main program here is **SUPPLY PRG** and it accesses both the main stock file (**STOCKFIL**) and the supplies data file (**SUPFIL**). It keeps record of data pertaining to supplies such as Name of supplier, Date of supply, quantity supply and the price or rate.

4.2.5 Report Generation Module:

This is a major output circuited module. Selecting the fifth option on the main menu sends control to the module. It however opens to a sub-menu, the Report Destination Menu which gives the user the option of selecting where to send the output, that is whether to produce the hard copy through the printer or just to display the required report to be viewed on the screen.

Moreover, this sub-menu opens to another sub-sub-menu which now displays the choice of reports, 3 in this case, to be

produced. The system is designed to generate three different types of report.

- i) Display of the current stock level.
- ii) Report on supplies within a specific period.
- iii) Report on items issued out within a specific period.

Finally, it should be noted that each module at the completion of its operation returns control back to the main menu thereby preserving the one-entry-one-exit design structure mentioned earlier.

4.3 EVALUATION:

The Stock/Inventory Control System is designed primarily to aid the store manager or officer in the discharge of his duties. The system touches basic record keeping problems that a typical store manager may encounter. It is of course agreed that different corporate organisations may have diverse ways of running their stock system; this automated stock control system can easily form a basis on which to develop an inventory control system to meet the peculiarities of any particular organisation.

Moreover, the interactive nature and the fact that it is menu driven make it easy to train any user on it.

Finally, just like any computerised system, accuracy, reliability, versability and timeliness in the production of necessary

information are qualities which any organisation's management would desire.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1 SUMMARY:

An automated stock management system was developed with the intention of making the job of a store manager or store officer less stressful. The automated stock management is geared towards a more efficient and effective stock management system.

The system addressed the problems relating to the movement of stock items into and out of the store by ensuring that proper and adequate records of such activities are kept mainly for accounting or stock taking purposes. It further goes on to keep records of every transactions carried out with the store by other departments within the organisation and also by outside marketers or suppliers of the stock items.

5.2 CONCLUSION:

Corporate organisation whether profit making or non profit making invest in stock. Even though the extent of individual organisation's investments in stock differ, the ability to monitor and control the movement of stock items and also being able to obtain accurate and adequate information about the stock items at any point in time for decision making purpose is what any management would desire.

The use of computers, as at the end of the twentieth century, can be said to have permeated virtually every facet of human life. As it is today, no corporate organisation can survive within the global economic system without the use of computer or rather without investing in information technology to aid its operations. Suffice to say that any corporate organisation that does not care enough to monitor and control its investment in stock item is merely paving the way for a colossal waste of its resources and the only effective and efficient way, as at the present day, of monitoring and controlling such investment is through the use of a computerised or automated stock/inventory control system.

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intro.prg 03/20/02

```
* main screen
SET STAT OFF
set talk OFF
STORE SPACE(8) TO mpass
clear
@ 0,28 say time()
set color to w+/gb+
@ 6,13 to 19,66 double
@ 1,1 fill to 23,78 color r/gb+
*@ 1,0 fill to 23,39 color r/w
*@ 1,40 fill to 23,79 color r/b
*@ 24,0 fill to 24,79 color gr+/gb

*@ 3,22 say "   W E L C O M E       T O"
@ 10,15 SAY "   K E H I N D E   O G U N K U A D E "
set color to w+/gb+*
@ 13,17 SAY "           P R E S E N T S . . . . . "
@ 16,2 SAY " "
@ 17,15 SAY "           S T O C K / I N V E N T O R Y C O N T R O L S Y S T E M "
SET COLO TO w+/gb
@ 21,3 SAY ' '
wait '           P R E S S   E N T E R   T O   S T A R T '
CLEAR
DO PASS
```

```
set status off
SET DATE BRITISH
SET ESCAPE ON
SET COLO TO W+/GB+
STORE SPACE(7) TO pw
try=0
CLEAR
@ 5,5 SAY ' '
TEXT
```

This is an integrated software package
for

STOCK/INVENTORY CONTROL

A password is however required in order to
access the system

```
ENDTEXT
DO WHILE .T.
  SET COLO TO W+/GB+,N/N
  @ 18,8 SAY "Please enter the password:" GET pw
  READ
  *SET COLO TO
  CLEAR
  SET COLO TO W+/GB+
  IF pw=chr(79)+chr(80)+chr(69)+chr(78)+" "+chr(85)+chr(80)
  *WAIT ' ..... Press ENTER key to start '
  DO MAINS
  * EXIT
  ELSE
  @ 20,8 SAY "Incorrect password "
  WAIT '... press any key to try again'
  try=try+1
  if try>2
  CLEAR
  @ 20,8 say " .....press any key to exit"
  CLEAR
  exit
  else
  CLEAR
  loop
  endif
  ENDIF
  * EXIT
  ENDDO
  *RETURN
```

mains.prg 03/20/02

```
set status off
SET DATE BRITISH
SET ESCAPE ON
SET COLO TO W+/GB+
*STORE SPACE(7) TO pw
*try=0
CLEAR
* @ 1,24 FILL TO 7,66 COLOR B+/R+
  @ 2,25 TO 6,65 DOUBLE
  @ 3,27 SAY "    NATIONAL ORIENTATION AGENCY "
  @ 4,27 SAY "          ABUJA"
  @ 5,27 SAY " STOCK/INVENTORY CONTROL SYSTEM"
*RETURN
DO Main def
ACTIVATE POPUP Mainmenu

PROCEDURE Main_def
  DEFINE POPUP Mainmenu FROM 8,27 TO 18,60;
  MESSAGE;
  " Press first letter of menu choice, or highlight and press <ENTER>"
  DEFINE BAR 1 OF mainmenu PROMPT "    ===== MAIN MENU =====" SKIP
  DEFINE BAR 2 OF mainmenu PROMPT "          ***** Options: *****" SKIP
  DEFINE BAR 3 OF mainmenu PROMPT "    ADDITION OF NEW ITEMS "
  DEFINE BAR 4 OF mainmenu PROMPT "    UPDATE/EDITING OF STOCK ITEMS "
  DEFINE BAR 5 OF mainmenu PROMPT "    ISSUANCE OF STOCK ITEMS "
  DEFINE BAR 6 OF mainmenu PROMPT "    PROCESSING SUPPLIES "
  DEFINE BAR 7 OF mainmenu PROMPT "    REPORT GENERATION "
  DEFINE BAR 8 OF mainmenu PROMPT "    RETURN TO dBASE "
  DEFINE BAR 9 OF mainmenu PROMPT "    QUIT dBASE "
  ON SELECTION POPUP mainmenu Do Main
* DO Title
RETURN

PROCEDURE Main
  DO CASE
    CASE BAR() = 3
      DO ADSTOCK
    CASE BAR() = 4
      DO EDSTOCK
    CASE BAR() = 5
      DO REQUEST
    CASE BAR() = 6
      DO SUPPLY
    CASE BAR() = 7
      DO REDEST
    CASE BAR() = 8
      CLOSE ALL
      set stat on
  * Deactivate Popup
  * EXIT
  CLEAR
  CASE BAR() = 9
    CLOSE ALL
    Quit
  ENDCASE
RETURN
```

adstock.prg 03/20/02

```
set talk off
SET DATE BRIT
set status off
set safety off
  use STOCKFIL
  index on ITCODE to STOCKFIL
  DO WHILE .T.
    on escape exit
    MCODE=SPACE(6)
    STORE SPACE(25) TO MDESC
    *STORE 0.00 TO MRATE,MVAL
    STORE 0 TO MQSTOCK,MPP,MSS
    STORE SPACE(1) TO ANS,decide
  *   STORE CTOD("/ / /") TO MSD
    CLEAR
    @ 2,25 SAY "  NATIONAL ORIENTATION AGENCY"
    @ 3,25 SAY "          STOCK CONTROL SYSTEM"
    @ 4,25 SAY "          FRESH STOCK UPDATE "
    @ 6,3 to 21,78 double
    @ 8,5 SAY "ITEM CODE:"
    @ 8,16 GET MCODE func "!"
    @ 8,23 SAY "Type END to return to the main menu "
    READ
    if MCODE = "END"
      exit
    endif
    GO TOP
    SEEK MCODE
    IF FOUND()
      @ 20,0 SAY " "
      WAIT [ Item Code already exists, duplication not allowed ... Press Enter
      clear
      loop
    ENDIF
    @ 10,5 say "Item Description:          " GET MDESC FUNC "!"
    @ 11,5 say "Current Quantity in stock:" GET MQSTOCK PICT "999"
    *@ 11,33 SAY MQSTOCK
    READ
    @ 22,5 say "Press 'S' to Save, 'C' to Cancel: " get decide func "!" valid
    read
    *WAIT
    IF decide="Y"
  *   MUP=DATE()
      APPEND BLANK
      REPLACE ITCODE WITH MCODE,DESCRIBE WITH MDESC,QSTOCK WITH MQSTOCK
    ENDIF
    @ 24,5 say "Do you want to add more record (Y/N)?" get ans func "!" valid
    *@ 24,45 GET ANS
    READ
    IF ANS="Y"
      loop
    ENDIF
    close all
    Exit
  *Endif
  ENDDO
  CLOSE ALL
  *EXIT
*ENDDO
*ENDDO
```

adstock.prg 03/20/02

CLOSE ALL
DO TITLE
return

edstock.prg 03/20/02

```
set talk off
SET DATE BRIT
set status off
set escape on
set safety off
  SELECT 1
  USE SUPFIL
  INDEX ON ITCODE TO SUPFIL
  SELECT 2
  USE ISSUE
  INDEX ON ITCODE TO ISSUE
  SELECT 3
  use STOCKFIL
  INDEX ON ITCODE TO STOCKFIL
  *index on MEMNO to CSLOANS
DO WHILE .T.
  on escape return && exit
  MCODE=SPACE(6)
  STORE SPACE(25) TO MDESC
  *STORE 0.00 TO MRATE,MVAL
  STORE 0 TO MQSTOCK,MPP,MSS
  STORE SPACE(1) TO ANS,decide
*  STORE CTOD("/ / /") TO MSD
  CLEAR
  @ 2,25 SAY " NATIONAL ORIENTATION AGENCY"
  @ 3,25 SAY "      STOCK CONTROL SYSTEM"
  @ 4,25 SAY "  UPDATE/EDITING OF STOCK FILE"
  @ 6,3 to 21,78 double
  @ 8,5 SAY "ITEM CODE:"
  @ 8,16 GET MCODE func "!"
  @ 8,23 SAY "Type END to return to the main menu "
  READ
  if MCODE = "END"
    exit
  endif
  SELECT 3
  GO TOP
  SEEK MCODE
  IF FOUND()
    MDESC=DESCRIBE
    MQSTOCK=QSTOCK
  SELECT 1
  SUM QTYSUP TO MPP FOR ITCODE=MCODE
  SELECT 2
  SUM QISSUE TO MSS FOR ITCODE=MCODE
  MQSTOCK=MPP-MSS
  @ 10,5 say "Item Description:          " GET MDESC FUNC "!"
  @ 11,5 say "Current Quantity in stock:"
  @ 11,33 SAY MQSTOCK
* READ
  @ 22,5 say "Press 'S' to Save, 'C' to Cancel" get decide func "!" valid re
* read
  *WAIT
  IF decide="S"
    SELECT 3
  *  MUP=DATE()
  REPLACE ITCODE WITH MCODE,DESCRIBE WITH MDESC,QSTOCK WITH MQSTOCK
  ENDIF
  @ 24,5 say "Do you want to edit more record (Y/N)?" get ans func "!" valid
  *@ 24,45 GET ANS
```

edstock.prg 03/20/02

```
READ
IF ANS="Y"
  loop
ENDIF
close all
Exit
ELSE
  @ 20,0 SAY " "
  WAIT [ Item Code NOT existing, .... Press Enter ]
  clear
  loop
ENDIF
*Endif
ENDDO
CLOSE ALL
*EXIT
*ENDDO
*ENDDO
CLOSE ALL
*return
*CLEAR
do title
return
```



```

set status off
set safety off
SELECT 1
use STOCKFIL
INDEX ON ITCODE TO STOCKFIL
SELECT 2
USE issue
index on ITCODE to issue
DO WHILE .T.
  on escape exit
  MCODE=SPACE(6)
  STORE SPACE(25) TO MDESC
  STORE SPACE(15) TO MSDP
  * STORE 0.00 TO MRATE,MVAL
  STORE 0 TO MQTS,MQTR,MQS
  STORE SPACE(1) TO ANS,decide
  STORE CTOD("/ / /") TO MSDT
  CLEAR
  @ 2,25 SAY " NATIONAL ORIENTATION AGENCY"
  @ 3,25 SAY " STOCK CONTROL SYSTEM"
  @ 4,25 SAY " ISSUANCE OF STOCK ITEMS"
  @ 6,3 to 21,78 double
  @ 8,5 SAY "ITEM CODE:"
  @ 8,16 GET MCODE func "!"
  @ 8,23 SAY "Type END to return to the main menu "
  READ
  if MCODE = "END"
    exit
  endif
  SELECT 1
  GO TOP
  SEEK MCODE
  IF FOUND()
    MDESC=DESCRIBE
  ELSE
    @ 20,0 SAY " "
    WAIT [ Item Code NOT existing, update the stock file first ... Press Ent
    clear
    loop
  ENDIF
  @ 10,5 say "Item Description: "
  @ 10,33 SAY MDESC
  @ 11,5 say "Requesting Department: " GET MSDP func "!"
  @ 12,5 say "Quantity required: " GET MQTR PICT "999"
  READ
  IF MSDP = " "
    @ 14,5 SAY " It is necessary you enter the requesting department "
    @ 15,5 SAY " "
    WAIT ' .... press any key to repeat the process over again'
    CLEAR
    LOOP
  ENDIF
  select 1
  SEEK MCODE
  MQS=QSTOCK
  IF MQS<MQTR
    @ 13,7 SAY "Insufficient quantity in stock....."
    @ 14,7 SAY "...fewer quantity will be issued"

```

request.prg 03/20/02

```
ENDIF
@ 15,5 SAY "Quantity Issued:          " GET MQTS
READ
IF MQTS>MQS
@ 16,5 SAY "You can't issue more than the available quantity"
WAIT [...now press ENTER to try again]
CLEAR
LOOP
ENDIF
@ 16,5 SAY "Date Issued:              " GET MSDT
@ 16,40 say "<== Enter today's date"
READ
IF MSDT = { / / }
@ 18,5 SAY "You have to keep the record of date for any item issued out
@ 19,5 SAY " "
wait { ..... now press any key to repeat the process over again]
CLEAR
LOOP
ENDIF
MQS=MQS-MQTS
@ 17,5 SAY "Quantity now remaining in stock: ="
@ 17,41 say MQS
@ 22,5 say "Press 'S' to Save, 'C' to Cancel: " get decide func "!" valid
read
IF decide="S" .AND. MQTS<>0
SELECT 1
SEEK MCODE
REPLACE QSTOCK WITH MQS
SELECT 2
APPEND BLANK
REPLACE ITCODE WITH MCODE,DESCRIBE WITH MDESC,ISDEPT WITH MSDP,SSDAT WITH
REPLACE QISSUE WITH MQTS,BALCE WITH MQS
ENDIF
@ 24,5 say "Do you want to issue more items (Y/N)?" get ans func "!" valid
READ
IF ANS="Y"
loop
ENDIF
close all
Exit
ENDDO
CLOSE ALL
DO TITLE
return
```

supply.prg 03/20/02

```
set talk off
SET DATE BRIT
set status off
set safety off
SELECT 1
use STOCKFIL
INDEX ON ITCODE TO STOCKFIL
SELECT 2
USE SUPFIL
index on ITCODE to SUPFIL
DO WHILE .T.
  on escape exit
  MCODE=SPACE(6)
  STORE SPACE(25) TO MDESC,MSUP
  STORE 0.00 TO MRATE,MVAL
  STORE 0 TO MQTY,MQS
  STORE SPACE(1) TO ANS,decide
  STORE CTOD("/ / ") TO MSD
  CLEAR
  @ 2,25 SAY " NATIONAL ORIENTATION AGENCY"
  @ 3,25 SAY " STOCK CONTROL SYSTEM"
  @ 4,25 SAY " ADDITION OF NEW SUPPLIES"
  @ 6,3 to 21,78 double
  @ 8,5 SAY "ITEM CODE:"
  @ 8,16 GET MCODE func "!"
  @ 8,23 SAY "Type END to return to the main menu "
  READ
  if MCODE = "END"
    exit
  endif
  SELECT 1
  GO TOP
  SEEK MCODE
  IF FOUND()
    MDESC=DESCRIBE
  ELSE
    @ 20,0 SAY " "
    WAIT [ Item Code NOT existing, update the stock file first ... Press Ent
    clear
    loop
  ENDIF
  @ 10,5 say "Item Description: "
  @ 10,33 SAY MDESC
  @ 11,5 say "Supplier: " GET MSUP func "!"
  @ 12,5 say "Date Supplied: " get MSD && PICT "999999.99"
  @ 13,5 say "Quantity supplied: " GET MQTY PICT "999"
  @ 14,5 SAY "At the rate of: " GET MRATE PICT "99999.99"
  READ
  MVAL=MRATE*MQTY
  @ 15,5 say "Total value of the item: " &&GET MRPRIN PICT "999999.99"
  @ 15,33 SAY MVAL
  @ 22,5 say "Press 'S' to Save, 'C' to Cancel: " get decide func "!" valid
  read
  *WAIT
  IF decide="S"
    select 1
    SEEK MCODE
    MQS=QSTOCK
    MQS=MQS+MQTY
    REPLACE QSTOCK WITH MQS
```

supply.prg 03/20/02

```
SELECT 2
* MUP=DATE()
APPEND BLANK
REPLACE ITCODE WITH MCODE,DESCRIBE WITH MDESC,SUPPLIER WITH MSUP,SUPDAT
REPLACE QTYSUP WITH MQTY,RATE WITH MRATE, VALUE WITH MVAL
ENDIF
@ 24,5 say "Do you want to add more record (Y/N)?" get ans func "!" valid
*@ 24,45 GET ANS
READ
IF ANS="Y"
  loop
ENDIF
close all
Exit
*Endif
ENDDO
CLOSE ALL
*EXIT
*ENDDO
*ENDDO
CLOSE ALL
DO TITLE
return
```

redest.prg 03/20/02

```
set status off
SET TALK OFF
**CLEAR ALL
DO Main_def
DO Title
ACTIVATE POPUP RPTmenu

PROCEDURE Title
  *CLEAR
  @ 2,25 TO 6,65 DOUBLE
  @ 3,27 SAY "      NATIONAL ORIENTATION AGENCY "
  @ 4,27 SAY "      ABUJA"
  @ 5,27 SAY "      STOCK/INVENTORY CONTROL SYSTEM "
RETURN
*DO Main_def
*ACTIVATE POPUP RPTMENU

PROCEDURE Main_def
  DEFINE POPUP RPTmenu FROM 8,29 TO 13,61;
  MESSAGE;
  " Press first letter of menu choice, or highlight and press <ENTER>"
  DEFINE BAR 1 OF RPTmenu PROMPT "  ==REPORT DESTINATION == " SKIP
  DEFINE BAR 2 OF RPTmenu PROMPT "      SEND REPORT TO PRINTER "
  DEFINE BAR 3 OF RPTmenu PROMPT "      SEND REPORT TO SCREEN "
  DEFINE BAR 4 OF RPTmenu PROMPT "      RETURN TO MAIN MENU"
  ON SELECTION POPUP RPTmenu Do Main
RETURN

PROCEDURE Main
  DO CASE
    CASE BAR() = 2
      DO REGY
    CASE BAR() = 3
      DO regy2
    CASE BAR() = 4
      DEACTIVATE POPUP
  ENDCASE
*clear
*DO TITLE
RETURN
```

regy.prg 03/20/02

```
*set status off
set talk on
**CLEAR ALL
*bar_opt=0
*DO PRT_def
*DO Title
DO PRT_DEF
DO TITLE
ACTIVATE POPUP Mainprt
```

PROCEDURE Title

```
CLEAR
  @ 2,25 TO 6,65 DOUBLE
  @ 3,27 SAY " NATIONAL ORIENTATION AGENCY"
  @ 4,27 SAY " HEAD OFFICE, ABUJA"
  @ 5,27 SAY " STOCK/INVENTORY CONTROL SYSTEM"
RETURN
*DO PRT_DEF
*ACTIVATE POPUP MAINPRT
```

PROCEDURE PRT_def

```
DEFINE POPUP Mainprt FROM 8,25 TO 14,65;
MESSAGE;
  " Press first letter of menu choice, or highlight and press <ENTER>"
DEFINE BAR 1 OF Mainprt PROMPT " ===== REPORT MENU =====" SKIP
DEFINE BAR 2 OF Mainprt PROMPT " DISPLAY STOCK LEVEL "
DEFINE BAR 3 OF Mainprt PROMPT " PRINT REPORT ON SUPPLIES "
DEFINE BAR 4 OF Mainprt PROMPT " PRINT REPORT ON ITEMS ISSUED OUT"
DEFINE BAR 5 OF Mainprt PROMPT " RETURN TO REPORT DESTINATION MENU"
ON SELECTION POPUP MAINPRT DO MAIN
RETURN
```

PROCEDURE Main

```
DO CASE
  CASE BAR() = 2
    DO PSTOCK
  CASE BAR() = 3
    DO PSUP
  CASE BAR() = 4
    DO PREQ
  CASE BAR() = 5
    DEACTIVATE POPUP
ENDCASE
*CLEAR
RETURN
```

```
*set status off
set talk on
**CLEAR ALL
*bar_opt=0
*DO PRT_def
*DO Title
DO PRT_DEF
DO TITLE
ACTIVATE POPUP Mainprt
```

```
PROCEDURE Title
CLEAR
  @ 2,25 TO 6,65 DOUBLE
  @ 3,27 SAY "    NATIONAL ORIENTATION AGENCY"
  @ 4,27 SAY "          ABUJA"
  @ 5,27 SAY " STOCK/INVENTORY CONTROL SYSTEM"
RETURN
*DO PRT_DEF
*ACTIVATE POPUP MAINPRT
```

```
PROCEDURE PRT_def
  DEFINE POPUP Mainprt FROM 8,25 TO 14,65;
  MESSAGE;
  " Press first letter of menu choice, or highlight and press <ENTER>"
  DEFINE BAR 1 OF Mainprt PROMPT "    ==== REPORT MENU ==== " SKIP
  DEFINE BAR 2 OF Mainprt PROMPT "    DISPLAY STOCK LEVEL "
  DEFINE BAR 3 OF Mainprt PROMPT "    DISPLAY REPORT ON SUPPLIES "
  DEFINE BAR 4 OF Mainprt PROMPT "    DISPLAY REPORT ON ITEMS ISSUED OUT"
  DEFINE BAR 5 OF Mainprt PROMPT "    RETURN TO REPORT DESTINATION MENU"
  ON SELECTION POPUP MAINPRT DO MAIN
RETURN
```

```
PROCEDURE Main
DO CASE
  CASE BAR() = 2
    DO SSTOCK
  CASE BAR() = 3
    DO SSUP
  CASE BAR() = 4
    DO SREQ
  CASE BAR() = 5
    DEACTIVATE POPUP
ENDCASE
**CLEAR
RETURN
```

```

SET TALK OFF
SET SCOREBOARD OFF
SET COLOR TO R+/GB+*
@ 10,30 SAY "Hold on Please ! "
SET COLOR TO R+/GB+
@ 12,30 SAY "Printing in Progress"
DO WHILE .T.
SET PRINTER ON
SET DEVICE TO PRINTER
*@ 0,0 SAY CHR(15)
rday=DATE()
cst=SPACE(2)
sr=0
rw=10
pgn=0
USE STOCKFIL
SORT TO ALSTOCK ON ITCODE/A  && order of sorting optional
USE
USE ALSTOCK
GO TOP
*go reco 511
DO WHILE .NOT. EOF()
ON ESCAPE EXIT
pgn=pgn+1
@ 1,1 SAY "Page"
@ 1,7 SAY pgn
@ 2,10 SAY "          " && ORG NAME GLOVR
@ 3,10 SAY "          ***** "
@ 5,10 SAY "          STOCK LEVEL AS AT ==> "
@ 5,60 SAY rday
@ 7,10 SAY " S/N          ITEM CODE          ITEM DESCRIPTION          QUANTITY I
@ 8,10 SAY " ===          =====          =====          =====
DO WHILE .NOT. EOF()
sr=RECNO()
sr=LTRIM(STR(sr))
@ rw,11 SAY sr
@ rw,20 SAY ITCODE
@ rw,33 SAY DESCRIBE
@ rw,71 SAY QSTOCK
rw=rw+2
SKIP
IF rw>59
EJECT
rw=10
EXIT
ENDIF
ENDDO
ENDDO
rw=rw+2
IF rw>59 &&=60
EJECT
pgn=pgn+1
rw=2
ENDIF
CLOSE ALL
EXIT
ENDDO
@ rw,10 SAY "          Total number of items displayed ==>"
@ rw,71 SAY sr
CLOSE ALL

```


pstock.prg 03/20/02

SET PRINTER OFF
SET DEVI TO SCRE
SET COLOR TO W+/GB+
DO TITLE
RETURN

```

psup.pig 05/20/82
SET TALK OFF
SET SCOREBOARD OFF
STORE CTOD(" / / ") TO DT1,DT2
tval=0
CLEAR
@ 10,5 SAY "Report on items supplied between "
@ 10,38 GET DT1
@ 10,48 SAY "and "
@ 10,53 GET DT2
@ 11,34 SAY "(Please enter date limits required)"
READ
SET COLOR TO R+/GB+*
@ 15,30 SAY "Hold on Please ! "
SET COLOR TO R+/GB+
@ 17,30 SAY "Printing in Progress"
DO WHILE .T.
SET PRINTER ON
SET DEVICE TO PRINTER
*@ 0,0 SAY CHR(15)
rday=DATE()
cst=SPACE(2)
sr=0
rw=11
pgn=0
USE SUPFIL
SORT TO ALSUP ON SUPDAT/A FOR SUPDAT>=DT1 .AND. SUPDAT<=DT2  && order of sort
USE
USE ALSUP
GO TOP
*go reco 511
DO WHILE .NOT. EOF()
ON ESCAPE EXIT
pgn=pgn+1
@ 1,1 SAY "Page"
@ 1,7 SAY pgn
@ 2,10 SAY " " && ORG. NAME GLOVR
*@ 3,10 SAY " ***** "
@ 4,10 SAY " REPORT ON ITEMS SUPPLIED BETWEEN "+DTC(DT1)+" AND "+DTC
@ 5,10 SAY " *****"
*@ 5,60 SAY rday
@ 7,1 SAY " ITEM CODE/ DATE
@ 8,1 SAY " S/N ITEM DESCRIPTION SUPPLIER SUPPLI
@ 9,1 SAY " === =====
DO WHILE .NOT. EOF()
sr=RECNO()
sr=LTRIM(STR(sr))
*@ rw,10 SAY sr
@ rw,12 SAY ITCODE
rw=rw+1
@ rw,2 SAY sr
@ rw,8 SAY DESCRIBE
@ rw,35 SAY SUPPLIER
@ rw,61 SAY SUPDAT
@ rw,77 SAY QTYSUP
@ rw,86 SAY RATE
@ rw,100 SAY VALUE
rw=rw+2
SKIP
IF rw>59
EJECT

```

psup.prg 03/20/02

```
rw=10
EXIT
ENDIF
ENDDO
ENDDO
rw=rw+2
IF rw>59 &&=60
EJECT
pgn=pgn+1
rw=2
ENDIF
*CLOSE ALL
EXIT
ENDDO
@ rw,10 SAY "
@ rw,107 SAY sr
rw=rw+2
SUM VALUE TO tval
@ rw,10 SAY "
*@ rw,98 SAY tval
rw=rw+1
@ rw,99 SAY "=====
CLOSE ALL
SET PRINTER OFF
SET DEVI TO SCRE
SET COLOR TO W+/GB+
DO TITLE
RETURN
```

Number of items printed ==>"

Total amount spent on supplies

```

SET TALK OFF
SET SCOREBOARD OFF
STORE CTOD(" / / ") TO DT1,DT2
tval=0
CLEAR
@ 10,5 SAY "Report on items issued out between "
@ 10,40 GET DT1
@ 10,50 SAY "and "
@ 10,55 GET DT2
@ 11,34 SAY "(Please enter date limits required)"
READ
SET COLOR TO R+/GB+*
@ 15,30 SAY "Hold on Please ! "
SET COLOR TO R+/GB+
@ 17,30 SAY "Printing in Progress"
DO WHILE .T.
SET PRINTER ON
SET DEVICE TO PRINTER
*@ 0,0 SAY CHR(15)
rday=DATE()
cst=SPACE(2)
sr=0
rw=11
pgn=0
USE ISSUE
SORT TO ALISS ON SSDAT/A FOR SSDAT>=DT1 .AND. SSDAT<=DT2  && order of sorti
USE
USE ALISS
GO TOP
*go reco 511
DO WHILE .NOT. EOF()
ON ESCAPE EXIT
pgn=pgn+1
@ 1,1 SAY "Page"
@ 1,7 SAY pgn
@ 2,10 SAY "                "    && ORG. NAME GLOVR.
*@ 3,10 SAY "                ***** "
@ 4,10 SAY "                REPORT ON ITEMS ISSUED OUT BETWEEN "+DTC(DT1)+" AND "+DTC(DT2)+"
@ 5,10 SAY "                *****"
*@ 5,60 SAY rday
@ 7,1 SAY "                ITEM CODE/                REQUESTING                DATE
@ 8,1 SAY " S/N                ITEM DESCRIPTION                DEPARTMENT                ISSU
@ 9,1 SAY " ===                =====                =====                ====
DO WHILE .NOT. EOF()
sr=RECNO()
sr=LTRIM(STR(sr))
*@ rw,10 SAY sr
@ rw,12 SAY ITCODE
rw=rw+1
@ rw,2 SAY sr
@ rw,8 SAY DESCRIBE
@ rw,35 SAY ISDEPT
@ rw,61 SAY SSDAT
@ rw,78 SAY QISSUE
@ rw,95 SAY BALCE
rw=rw+2
SKIP
IF rw>59
EJECT
rw=10

```

preq.prg 03/20/02

```
EXIT
ENDIF
ENDDO
ENDDO
rw=rw+2
IF rw>59 &&=60
  EJECT
  pgn=pgn+1
  rw=2
ENDIF
*CLOSE ALL
EXIT
ENDDO
@ rw,10 SAY "
@ rw,90 SAY sr
CLOSE ALL
SET PRINTER OFF
SET DEVI TO SCRE
SET COLOR TO W+/GB+
DO TITLE
RETURN
```

Number of items printed ==>"

```

SET TALK OFF
SET SCOREBOARD OFF
SET STAT OFF
DO WHILE .T.
*SET PRINTER ON
SET DEVICE TO SCREEN
*@ 0,0 SAY CHR(15)
rday=DATE()
cst=SPACE(2)
sr=0
rw=10
pgn=0
USE STOCKFIL
SORT TO ALSTOCK ON ITCODE/A  && order of sorting optional
USE
USE ALSTOCK
GO TOP
DO WHILE .NOT. EOF()
ON ESCAPE EXIT
pgn=pgn+1
@ 1,1 SAY "Page"
@ 1,7 SAY pgn
@ 2,5 SAY " " " && ORG NAME GLOVR
*@ 3,5 SAY " ***** "
@ 5,5 SAY " STOCK LEVEL AS AT ==> "
@ 5,32 SAY rday
@ 7,5 SAY " S/N ITEM CODE ITEM DESCRIPTION QUANTITY IN S
@ 8,5 SAY " === ===== "
DO WHILE .NOT. EOF()
sr=RECNO()
sr=LTRIM(STR(sr))
@ rw,6 SAY sr
@ rw,15 SAY ITCODE
@ rw,28 SAY DESCRIBE
@ rw,66 SAY QSTOCK
rw=rw+2
SKIP
IF rw>22
WAIT
CLEAR && EJECT
rw=10
EXIT
ENDIF
ENDDO
ENDDO
rw=rw+2
IF rw>22
WAIT
CLEAR && EJECT
pgn=pgn+1
rw=2
ENDIF
CLOSE ALL
EXIT
ENDDO
@ rw,5 SAY " Total number of items displayed ==>"
@ rw,66 SAY sr
CLOSE ALL
WAIT
SET DEVI TO SCRE

```

sstock.prg 03/23/02

SET COLOR TO W+/GB+
DO TITLE
RETURN

ssup.prg 03/23/02

```
SET TALK OFF
SET SCOREBOARD OFF
STORE CTOD(" / / ") TO DT1,DT2
tval=0
CLEAR
@ 10,5 SAY "Report on items supplied between "
@ 10,38 GET DT1
@ 10,48 SAY "and "
@ 10,53 GET DT2
@ 11,34 SAY "(Please enter date limits required)"
READ
CLEAR
DO WHILE .T.
*SET PRINTER ON
SET DEVICE TO SCREEN  &&PRINTER
*@ 0,0 SAY CHR(15)
rday=DATE()
cst=SPACE(2)
sr=0
rw=11
pgn=0
USE SUPFIL
SORT TO ALSUP ON SUPDAT/A FOR SUPDAT>=DT1 .AND. SUPDAT<=DT2  && order of sort
USE
USE ALSUP
GO TOP
DO WHILE .NOT. EOF()
ON ESCAPE EXIT
pgn=pgn+1
@ 1,1 SAY "Page"
@ 1,7 SAY pgn
@ 2,5 SAY " " && ORG. NAME GLOVR
*@ 3,10 SAY " ***** "
@ 4,5 SAY " REPORT ON ITEMS SUPPLIED BETWEEN "+DTC(DT1)+" AND "+DTC(DT2)
@ 5,5 SAY " *****"
*@ 5,60 SAY rday
@ 7,1 SAY "          ITEM CODE/          QTY SUPPLIED/          DATE
@ 8,1 SAY " S/N    ITEM DESCRIPTION          SUPPLIER          SUPPLI
@ 9,1 SAY " ===          =====          =====          =====
DO WHILE .NOT. EOF()
sr=RECNO()
sr=LTRIM(STR(sr))
@ rw,12 SAY ITCODE
@ rw,35 SAY QTYSUP
rw=rw+1
@ rw,2 SAY sr
@ rw,8 SAY DESCRIBE
@ rw,35 SAY SUPPLIER
@ rw,61 SAY SUPDAT
*@ rw,77 SAY QTYSUP
*@ rw,86 SAY RATE
*@ rw,100 SAY VALUE
rw=rw+2
SKIP
IF rw>22
WAIT
CLEAR  &&EJECT
rw=10
EXIT
ENDIF
```


ssup.prg 03/23/02

```
ENDDO
ENDDO
rw=rw+2
IF rw>22 &&=60
  WAIT
  CLEAR &&EJECT
  pgn=pgn+1
  rw=2
ENDIF
*CLOSE ALL
EXIT
ENDDO
@ rw,5 SAY "      Number of items printed ==>"
@ rw,40 SAY sr
rw=rw+2
SUM VALUE TO tval
@ rw,5 SAY " Total amount spent on supplies ==> =N="+LTRIM(STR(tval))+".00"
*@ rw,98 SAY tval
rw=rw+1
CLOSE ALL
SET COLOR TO W+/GB+
WAIT
DO TITLE
RETURN
```

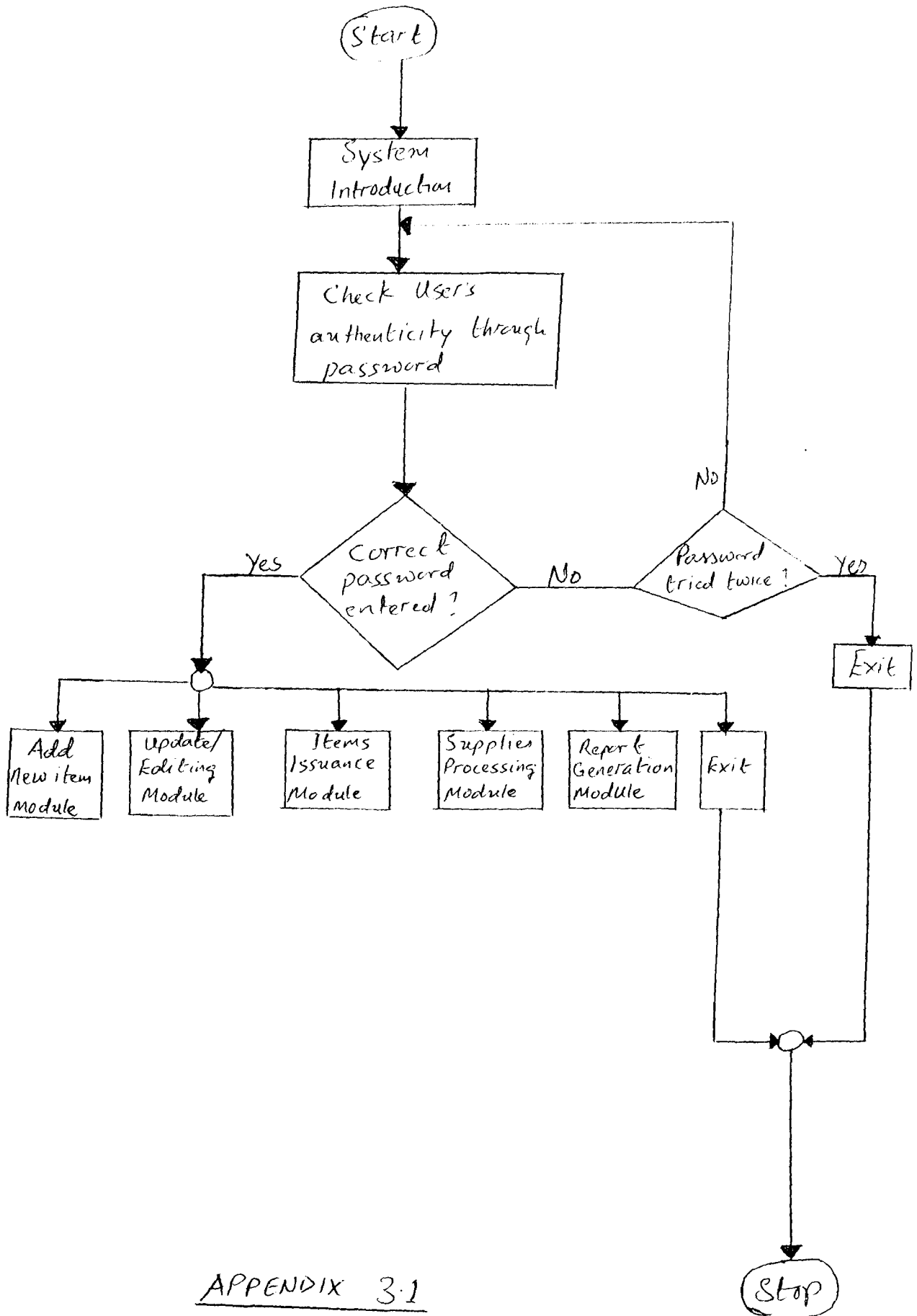
sreq.prg 03/23/02

```
SET TALK OFF
SET SCOREBOARD OFF
STORE CTOD(" / / ") TO DT1,DT2
tval=0
CLEAR
@ 10,5 SAY "Report on items issued out between "
@ 10,40 GET DT1
@ 10,50 SAY "and "
@ 10,55 GET DT2
@ 11,34 SAY "(Please enter date limits required)"
READ
CLEAR
DO WHILE .T.
  rday=DATE()
  cst=SPACE(2)
  sr=0
  rw=11
  pgn=0
  USE ISSUE
  SORT TO ALISS ON SSDAT/A FOR SSDAT>=DT1 .AND. SSDAT<=DT2  && order of sorting
  USE
  USE ALISS
  GO TOP
  DO WHILE .NOT. EOF()
    ON ESCAPE EXIT
    pgn=pgn+1
    @ 1,1 SAY "Page"
    @ 1,7 SAY pgn
    @ 2,10 SAY " " && ORG. NAME GLOVR.
    *@ 3,10 SAY " ***** "
    @ 4,3 SAY " REPORT ON ITEMS ISSUED OUT BETWEEN "+DTC(DT1)+" AND "+DTC(DT2)
    @ 5,3 SAY " *****"
    *@ 5,60 SAY rday
    @ 7,1 SAY " ITEM CODE/ QTY ISSUED/ DATE
    @ 8,1 SAY " S/N ITEM DESCRIPTION DEPARTMENT ISSUED
    @ 9,1 SAY " === =====
    DO WHILE .NOT. EOF()
      sr=RECNO()
      sr=LTRIM(STR(sr))
      *@ rw,10 SAY sr
      @ rw,12 SAY ITCODE
      @ rw,37 SAY QISSUE
      rw=rw+1
      @ rw,2 SAY sr
      @ rw,8 SAY DESCRIBE
      @ rw,35 SAY ISDEPT
      @ rw,61 SAY SSDAT
      *@ rw,78 SAY QISSUE
      *@ rw,95 SAY BALCE
      rw=rw+2
    SKIP
    IF rw>22
      WAIT
      CLEAR &&EJECT
      rw=10
      EXIT
    ENDIF
  ENDDO
  ENDDO
  rw=rw+2
```

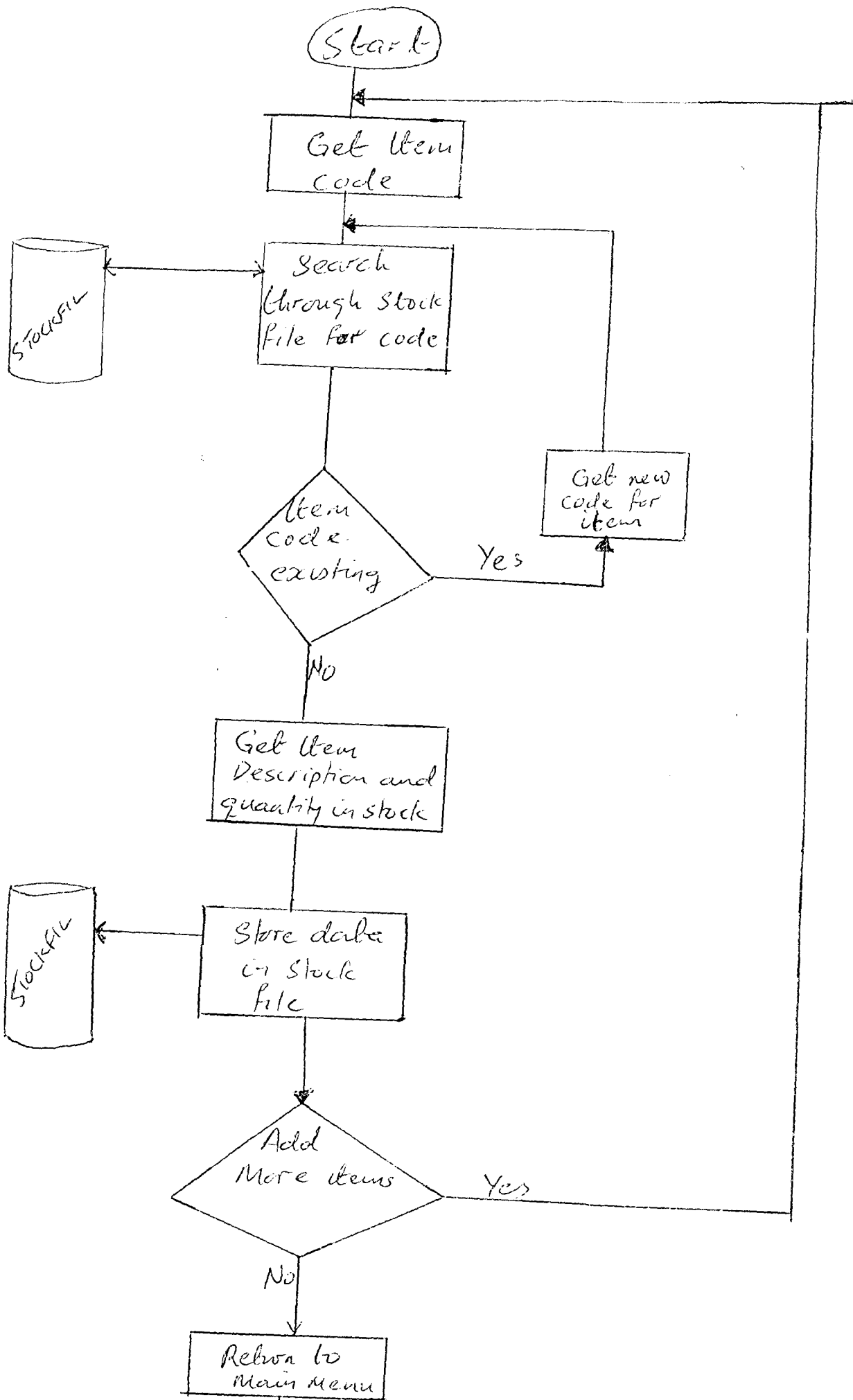
sreq.prg 03/23/02

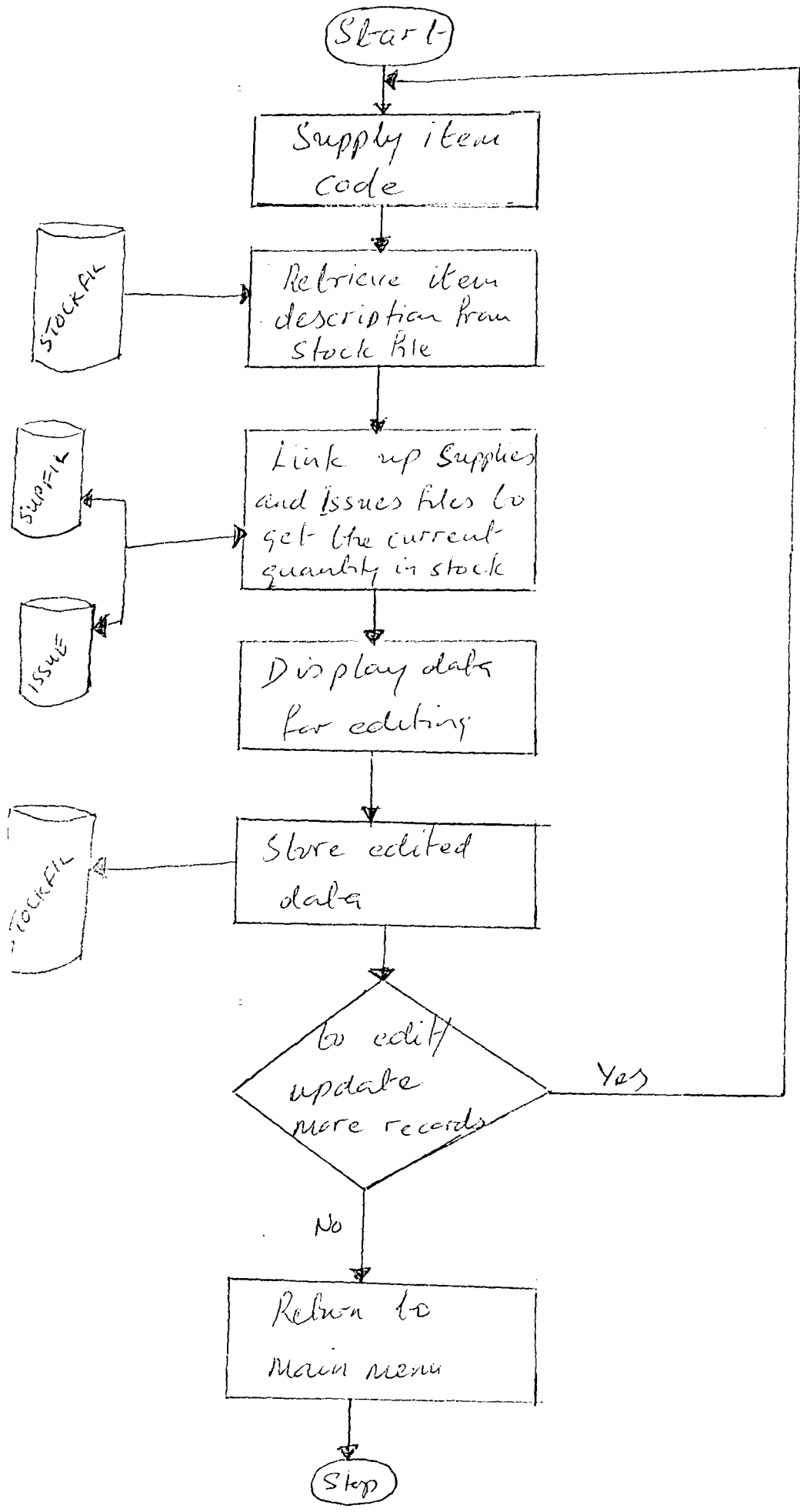
```
IF rw>22 &&=60
  WAIT
  CLEAR && EJECT
  pgn=pgn+1
  rw=2
ENDIF
*CLOSE ALL
EXIT
ENDDO
@ rw,5 SAY " Number of items printed ==>"
@ rw,35 SAY sr
CLOSE ALL
*SET PRINTER OFF
*SET DEVI TO SCRE
SET COLOR TO W+/GB+
WAIT
DO TITLE
RETURN
```

FLOWCHART SHOWING THE MAIN SYSTEM BREAKDOWN



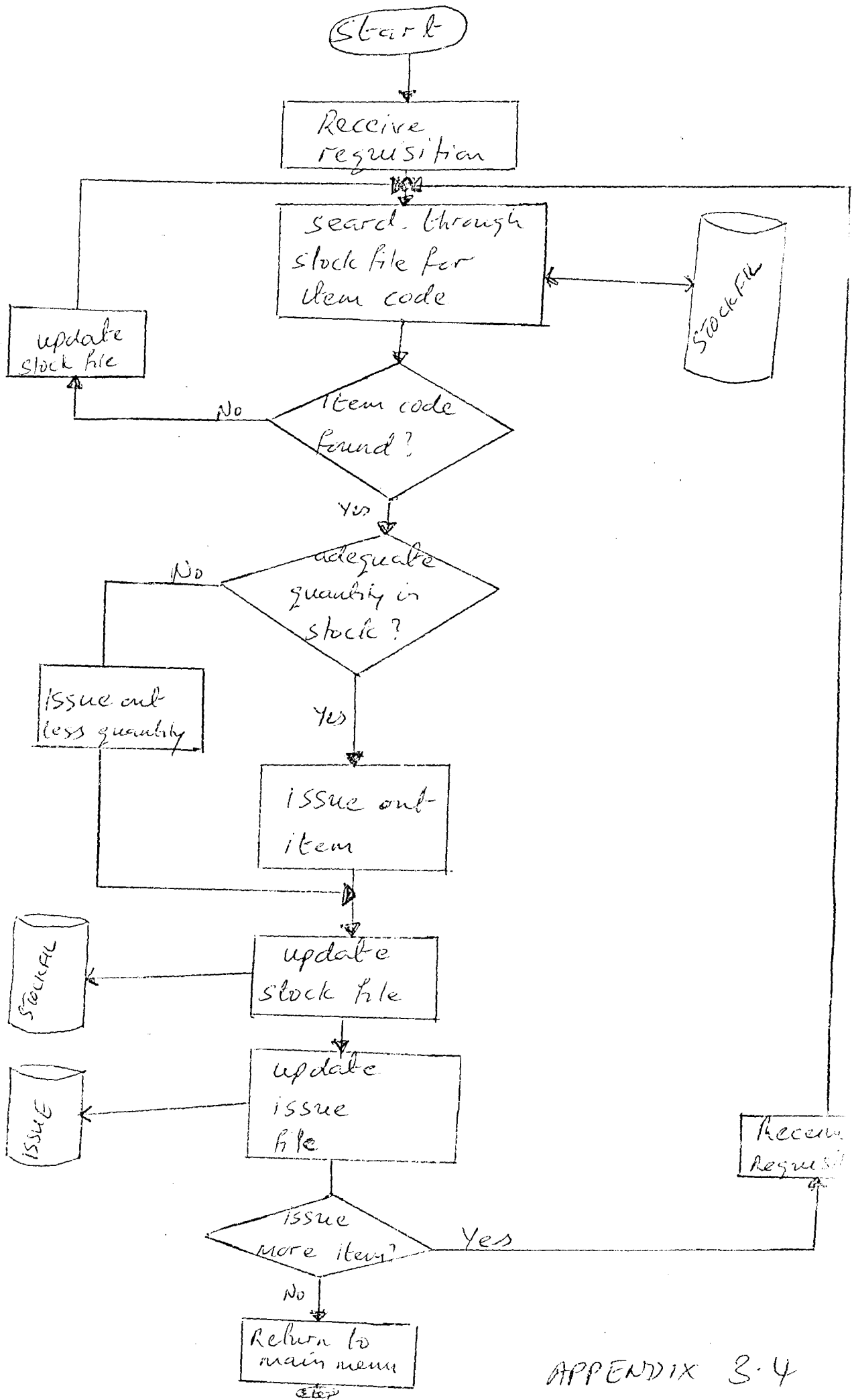
APPENDIX 3.1

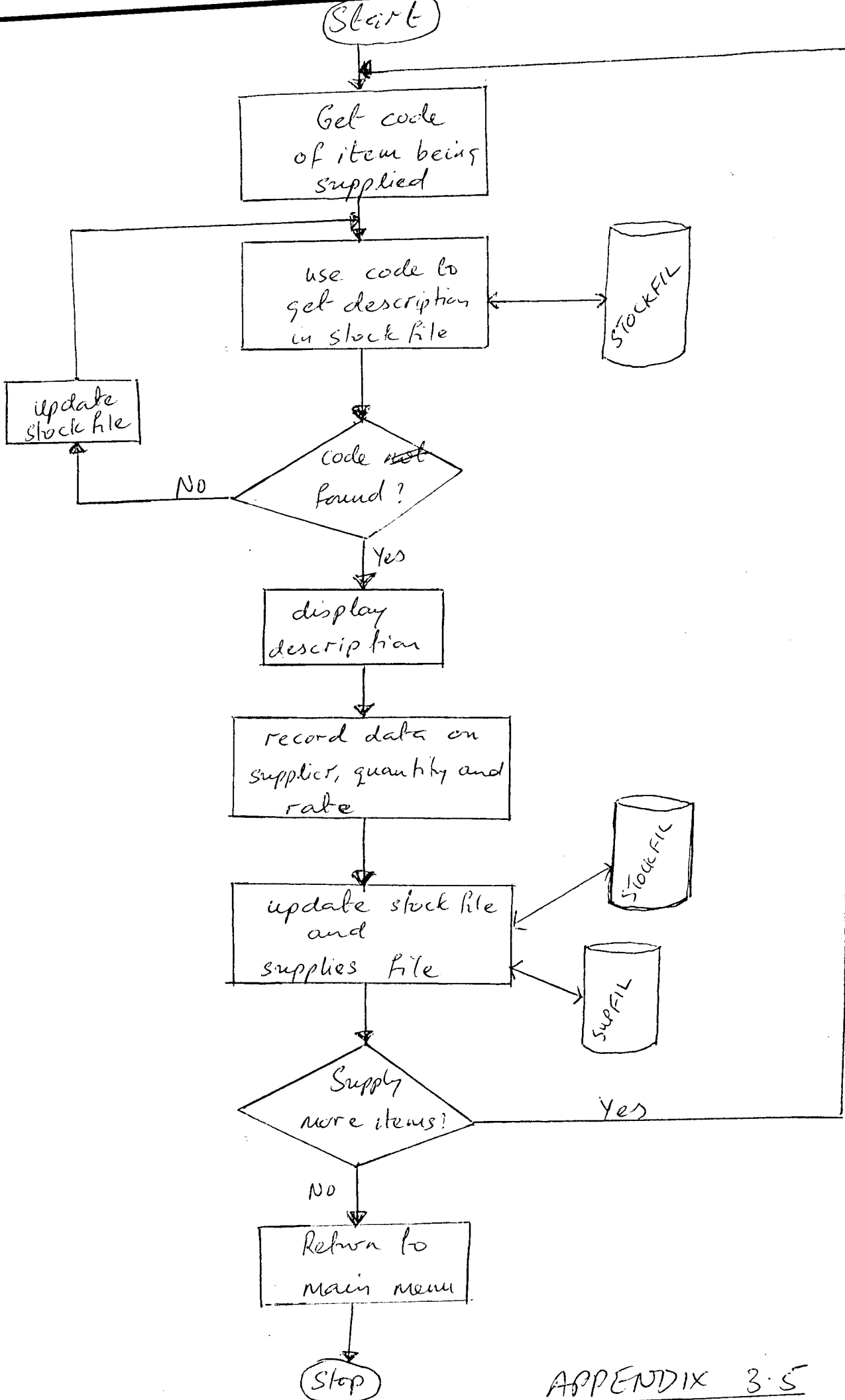




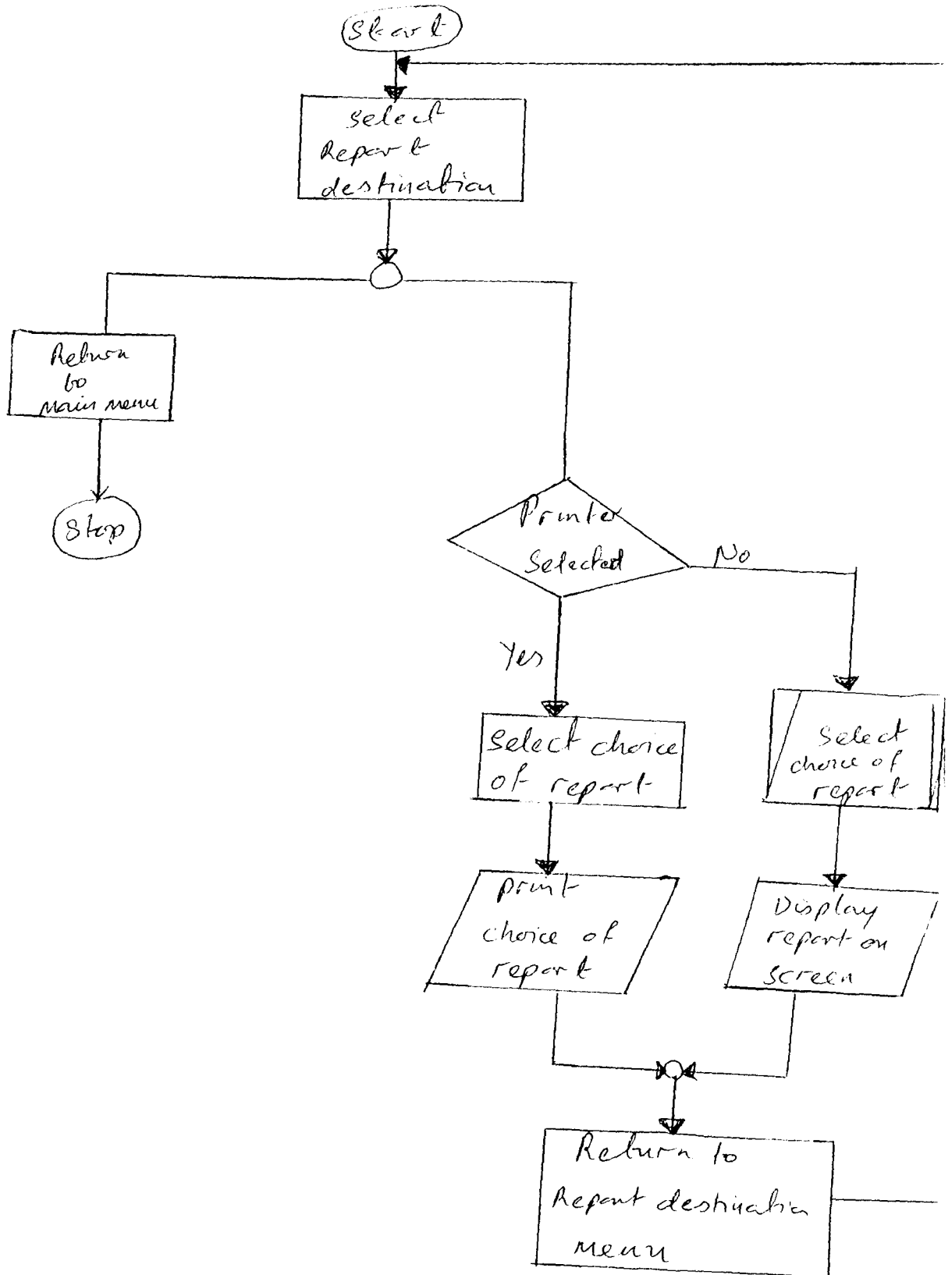
APPENDIX 3.3

REQUISITION PROCESSING





FLOWCHART FOR REPORT GENERATION MODULE



APPENDIX 3.6

STOCK LEVEL AS AT ==>

05/03/02

S/N	ITEM CODE	ITEM DESCRIPTION	QUANTITY IN STOCK
1	CS/001	PRINTOUT PAPER, 132 COL	0
2	CS/002	PRINTOUT PAPER, 80 COL	0
3	CS/006	FLOPPY DISKETTE 5.25"	0
4	CS/007	FLOPPY DISKETTE 3.5"	47
5	CS/009	LASER JET TONER CARTRIDGE	40
6	CS/011	PRINTER RIBBON (B & W)	20
7	CS/012	PRINTER RIBBON (COLOR)	20
8	CS/014	A4 TRANSPARENCIES	0
9	CS/031	RING BINDERS	0
10	EL/001	FLOURESCENT TUBE	33
11	EL/002	TUNGSTEN BULB	0
12	EL/005	ADAPTOR	43
13	EL/011	AIR CONDITIONER	6
14	EL/012	REFRIDGERATOR	5
15	EL/023	FLEXIBLE WIRE	0
16	FN/012	ROTATING CHAIR	10
17	FN/013	WOODEN CHAIR	5
18	FN/023	OFFICE TABLE	10
19	FN/025	BOOK SHELF	0
20	MC/001	ELECTRONIC TYPEWRITER	10
21	MC/002	MANUAL TYPEWRITER	0
22	MC/012	POCKET CALCULATOR	62
23	MC/017	VACUUM CLEANER	0
24	MC/025	ADDING MACHINE	42
25	ST/001	A4 PHOTOCOPYING PAPER	5

STOCK LEVEL AS AT ==> 05/03/02			
LN#	ITEM CODE	ITEM DESCRIPTION	QUANTITY IN STOCK
==	=====	=====	=====
26	ST/002	PACKET OF BIRD	45
27	ST/003	STAPLE MACHINE	62
28	ST/004	PACKET OF PAPER CLIPS	0
29	ST/005	PACKET OF OFFICE PINS	120
30	ST/006	PENCILS	0
31	ST/021	ENVELOPES	0
32	ST/023	GUM	3
33	ST/051	TYPEWRITER RIBBON	25

Total number of items displayed ==> 33

REPORT ON ITEMS ISSUED OUT BETWEEN 01/07/95 AND 31/12/95

S/N	ITEM CODE/ ITEM DESCRIPTION	REQUESTING DEPARTMENT	DATE ISSUED	QUANTITY ISSUED	QUANTITY REMAINING IN STOCK
===	=====	=====	=====	=====	=====
1	EL/011 AIR CONDITIONER	MAINTENANCE	10/10/95	6	10
2	EL/005 ADAPTOR	ADMIN	13/12/95	4	43

Number of items printed ==>

2

REPORT ON ITEMS ISSUED OUT BETWEEN 01/01/95 AND 30/06/95

S/N	ITEM CODE/ ITEM DESCRIPTION	REQUESTING DEPARTMENT	DATE ISSUED	QUANTITY ISSUED	QUANTITY REMAINING IN STOCK
===	=====	=====	=====	=====	=====
1	CS/009 LASER JET TONER CARTRIDGE	COMPUTER	03/03/95	2	43
2	ST/002 PACKET OF BIRO	ACCOUNTS	05/05/95	2	45

Number of items printed ==> 2

REPORT ON ITEMS ISSUED OUT BETWEEN 01/01/96 AND 31/12/96

ITEM CODE/ ITEM DESCRIPTION =====	REQUESTING DEPARTMENT =====	DATE ISSUED =====	QUANTITY ISSUED =====	QUANTITY REMAINING IN STOCK =====
EL/005 ADAPTOR	MAINTENANCE	01/02/96	3	47
EL/011 AIR CONDITIONER	ADMINISTRATION	12/03/96	3	5
EL/011 AIR CONDITIONER	COMPUTER	03/05/96	3	2
EL/001 FLOURESCENT TUBE	FINANCE	05/06/96	12	23
MC/025 ADDING MACHINE	ACCOUNTS	05/06/96	4	42
CS/007 FLOPPY DISKETTE 3.5"	COMPUTER	06/07/96	3	47
FN/013 WOODEN CHAIR	ADMIN	06/07/96	2	5
EL/011 AIR CONDITIONER	ADMINISTRATION	12/12/96	2	8
ST/001 A4 PHOTOCOPYING PAPER	ADMINISTRATION	12/12/96	85	5

Number of items printed ==>

9

REPORT ON ITEMS SUPPLIED BETWEEN 01/01/96 AND 31/12/96

S/N	ITEM CODE/ ITEM DESCRIPTION	SUPPLIER	DATE SUPPLIED	QUANTITY SUPPLIED	RATE (=N=)	TOTAL VALUE (=N=)
===	=====	=====	=====	=====	=====	=====
1	ST/001 A4 PHOTOCOPYING PAPER	FEJFEJMW	02/02/96	40	450.00	18000.00
2	ST/003 STAPLE MACHINE	MANDRAS CO. LTD	12/03/96	63	945.50	59566.50
3	CS/009 LASER JET TONER CATRIDGE	NEWMAN COMPUTERS	16/04/96	20	8000.00	160000.00
4	FN/012 ROTATING CHAIR	MADAKI FURNITURES	02/05/96	10	2500.00	25000.00
5	FN/023 OFFICE TABLE	MADAKI FURNITURES	03/05/96	10	5000.00	50000.00
6	CS/011 PRINTER RIBBON (B & W)	ABC CO LTD.	03/05/96	20	600.00	12000.00
7	CS/007 FLOPPY DISKETTE 3.5"	ABC CO. LTD	21/05/96	50	550.00	27500.00
8	CS/012 PRINTER RIBBON (COLOR)	ABC CO. LTD.	30/05/96	20	750.00	15000.00
9	EL/011 AIR CONDITIONER	THERMOCOOL AGENTS	15/11/96	5	10000.00	50000.00
10	MC/012 POCKET CALCULATOR	LABANBA ENTERPRISES	02/12/96	62	850.33	52720.46
11	MC/025 ADDING MACHINE	LABANBA ENTERPRISES	02/12/96	46	425.60	19577.60
12	ST/051 TYPEWRITER RIBBON	LONGMAN NIG. LTD.	03/12/96	25	350.00	8750.00
13	EL/011 AIR CONDITIONER	THERMOCOOL NIG. LTD.	12/12/96	6	35000.00	210000.00
14	EL/011 AIR CONDITIONER	ADEBOWALE ELECTRICALS	24/12/96	4	32500.00	130000.00

Number of items printed ==>

14

Total amount spent on supplies ==>

=N=838115.00
=====

REPORT ON ITEMS SUPPLIED BETWEEN 01/07/94 AND 31/03/95

ITEM CODE/ ITEM DESCRIPTION =====	SUPPLIER =====	DATE SUPPLIED =====	QUANTITY SUPPLIED =====	RATE (=N=) =====	TOTAL VALUE (=N=) =====
EL/011 AIR CONDITIONER	ADEWALE ELECTRIC COMPANY	12/11/94	3	20000.00	60000.00
EL/005 ADAPTOR	TK ELECTRONICS	15/02/95	50	250.00	12500.00

Number of items printed ==> 2

Total amount spent on supplies ==> =N=72500.00
 =====

REPORT ON ITEMS SUPPLIED BETWEEN 01/01/95 AND 31/12/95

S/N	ITEM CODE/ ITEM DESCRIPTION =====	SUPPLIER =====	DATE SUPPLIED =====	QUANTITY SUPPLIED =====	RATE (=N=) =====	TOTAL VALUE (=N=) =====
1	ST/005 ACAPTION	TK ELECTRONICS	15/02/95	50	250.00	12500.00
2	ST/001 FLUORESCENT TUBE	K & K NIG. LTD.	06/06/95	10	150.00	1500.00
3	ST/005 PACKET OF OFFICE PINS	MANDRAS CO. LTD	12/06/95	120	150.00	18000.00
4	ST/013 WOODEN CHAIR	MALALI FURNITURES	15/10/95	7	635.50	4448.50
5	ST/001 A4 PHOTOCOPIING PAPER	ABC NIG. LTD	15/12/95	50	500.00	25000.00
Number of items printed ==>						5
Total amount spent on supplies ==>						=N=61440.00 =====