

COMPUTER APPLICATION IN STOCK CONTROL

A CASE STUDY OF

BAY SPECIALIST HOSPITAL DRUG STORE

BY

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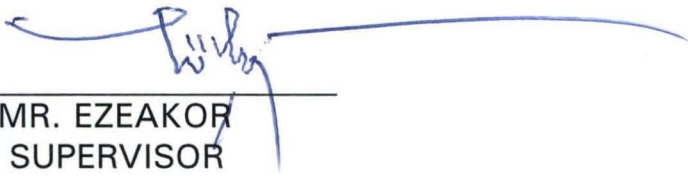
(PGD/MCS/007/96)

**A PROJECT SUBMITTED TO THE DEPARTMENT OF
MATHEMATICS AND COMPUTER SCIENCE IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD
OF POST-GRADUATE DIPLOMA IN COMPUTER SCIENCE
OF THE FEDERAL UNIVERSITY OF TECHNOLOGY,
MINNA.**

MARCH 1998

APPROVAL SHEET

This research project has been examined and found acceptable in partial fulfillment of the requirement for the Post-Graduate Diploma in Computer Science of the Department of Mathematics/Computer Science, Federal University of Technology, Minna.



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DEDICATION

The project is dedicated to my beloved wife MRS IDIAT KIKELOMO LAWAL for her encouragement towards the completion of this course.

ACKNOWLEDGEMENT

I wish to express my profound gratitude to Almighty God for His guidance in the pursuance of my career. My gratitude goes to my project supervisor, Mr L. N. Ezeakor whose willing efforts in criticizing and when necessary correcting mistakes made during the course of this work, has made an appreciable impression not only on this work but on the system as a whole.

I wish to place on record my sincere gratitude and appreciation to the Head of Department of Mathematics/Computer Science Dr. K. R. Adeboye. Worthy of particular note here is our course co-ordinator, Prince Rasheed Badmus, Mr. A. K. Raheem, DR. S. A. Reju, DR. Yomi Aiyesimi, Mr. M. Dogara and Mr. I. K. Adewale and all the members of staff of the Maths/Computer Science department, F.U.T., Minna for their great contributions towards the completion of this project work.

I am indebted to my brother, Dr. A. A. Olatinwo for the support given to my education at various times and under different material condition. My wife and children whose contribution and suggestion have made this work what it is.

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ABSTRACT

A feasibility study was conducted on the effect of application of computer in stock control system with particular reference to Bay Specialist Hospital .

The familiar fact finding techniques - namely Interview and Document inspection were employed in the field work during data collection.

dBASE IV, a classic database management system for microcomputers that allow interaction with data through menu selection was used.

The system is designed to provide management with timely information and ensure proper accountability as a result of timely report to be generated for all transactions in the drug store.

The implementation of the proposed system will ensure improvement in the stock control system in terms of reliability, security, effectiveness and privacy.

CHAPTER ONE

1.0 INTRODUCTION

This project is aimed at achieving a certain level of computerization of the system of Bay Specialist Hospital Store. It must be borne in mind that continuous existence of any organization be it hospital or public is based among other factors, on stock control concept and provision of effective services in the organisation.

The stock control system vary from one organization to another. It depend on factors such as size, nature of the product and complexity of store. Efficient management or stock control system thereby contribute to the profitability of any organization.

This service include buying the materials of right quality at the right place, from the right sources.

Stock control system are designed to answer what level of stock to order, how often should re-order be raised, what quality to order, what minimum stock level to order.

The problem of stock control system as how it affects the Hospital is one that has seen in many store either causing inefficiency. It is in the light of these fact that the researcher becomes interested in this project title in finding out the practices of Bay Specialist Hospital Drugs Store. Emphasis will be laid on the

extent to which the most recent development in that field including the use of computer employed.

An attempt will also be made to suggest alternatives or development to existing system that will result in the hospital achieving a more satisfactory level of stock control policies.

1.1 OVERVIEW OF COMPUTER SYSTEM

The term "computer" could literally be used to identify as a device that calculate. Initially, the computer was designed as a tool to manipulate numbers and solve arithmetic problem. This original use is understandable since most of the early designers and users were mathematicians, scientists and engineers. However, people began to realize that the computer could process symbol (e.g. alphabetic symbol) as well as numbers. Therefore, the literal interpretation of the word computer does more than just carrying out additions, subtraction, multiplication and division. Indeed, computer can read input data, transfer or move data, store and retrieve data test by logical operation and generated output result. In view of the fact that its functions are boarder than just computing, computer is sometimes more descriptively called an Electronic Data Processor (EDP), or an Automatic Data Processor (ADP).

We can broadly view computer as that which includes all equipments components that are interconnected to perform data processing. The equipment includes not only the control processing unit (CPU) but also other devices that handles the input data, the storage of data and output of result. Devices attached to the CPU are sometimes called **peripherals**.

The computer system includes the hardware, software and the people who are an integral part of the computer's effective operation. Hence, we can say that computer is part of the computer system.

1.2 CLASSIFICATION OF COMPUTER SYSTEM

Computer can be broadly classified into analog, hybrid and digital.

(i) ANALOG COMPUTER

This type of computer does not compute directly with numbers rather, it uses continuously varying physical magnitudes (e.g. temperature, voltage, pressure or length) to represent numbers.

(ii) DIGITAL COMPUTER

This type of computer computes with number directly, and handles them discretely and precisely, rather than approximately. Example is microcomputer.

(iii) HYBRID COMPUTER

This combine the festive of both analogue and digital computer.

Computer can also be classified according to their cost which is at least an appropriate index of relative computer power. The five classes are:

- Microcomputer
- Minicomputer
- Small Size Computer
- Medium Size Computer
- Large Size Computer

Sometimes another class is added. Super Computers. But for this study, we will be concerned with the microcomputer.

Most modern computers are modular and compatible. Modularity permits the user to expand, within a given computer line, as need for more computer power arises. Computer can enable the user to switch from one brand of computer Tao another. Both modularity and compatibility ease the burden on the user as the computer needs of the organization changes.

1.3 OBJECTIVES OF THE STUDY

The objectives of computerizing the stock control can be highlighted as follows:

- a) To minimize the problem of inadequate store item (drugs) and supplier.
- b) To reduce losses resulting from over-stocking of store.
- c) To make available a balance flow of raw materials, drugs, tools, equipment and any other commodities necessary to meet day to day running of the Hospital.
- d) To provide maintenance material, spare part, and general store as required.
- e) To receive and issue work in progress and finished products.
- f) To help the hospital/company in maximizing its profit without tying down capital on unwanted store items.

1.4 SCOPE AND LIMITATION OF STUDY

Stock control system covers so much areas, such as personal, inventory, business, store, school store etc. Hence we will be talking of stock control within a business or hospital particularly hospital drugs stores.

The Hospital is made up of various department, store department, Nursing department, Admission department and Accounting department.

In course of this study, the scope should be limited to only drugs and stock inventory.

The software developed would be limited to the stand alone IBM PC or its compatible, computer that run the 4th generation programming language, that is, the dBASE IV by Borland application package.

1.5

KIND OF STOCK IN THE HOSPITAL

Finished goods are termed durable if they are meant to be used over a comparatively long period of time, examples are automobiles and household appliances. Product or drugs meant to be consumed quickly, such as food, are non durable, goods may also be classified as light or as light or heavy (concise Encyclopedia).

Finished good, are used in either of two ways. Consumer goods (drugs) and used by the purchaser for his own satisfaction and not To further production, while capital goods are used for further production.

1.6

INVENTORY AND STOCK CONTROL

Inventory in business are item of property hold in stock by a firm including finished goods held for sale, goods in the process of production, raw materials, and goods that will be consumed in the process of producing goods to be sold. Inventory appears on a company's balance sheet as an asset. The change in inventory over a given period of time is known as **inventory investments**.

1.7

STOCK CONTROL SYSTEM

Stock control is the operating of continuously arranging receipt and issue to ensure that stock balances are adequate to support the current rate of

consumption with due regard to economy. It involves the related process of provisioning which is the means whereby instructions are given for the placing of order. In some industrial concerns, the production control department may take a large share in provisioning, at least as far as production materials are concerned.

The objective is to have just enough items to meet customer order but not to create excess or unusable items.

1.8 DEFINITION OF KEY TERMS PURCHASED COST

PURCHASE COST

The amount expended on the store item during purchase.

CARRYING COST

These are costs related to the carrying item in stock. These include interest charge on investment, storage cost such as rent rate, insurance, taxes, obsolescence and spoilage costs expenses in holding product in out stock.

LEAD TIME

The time elapsed between the acts of ordering and actual receiving of materials.

RE-ORDER POINT

A term used to describe the quantity in a duckling stock at which a new order of specialized size must be issue if the stock is not to drop below minimum stock. It is the quantity which will last during the lead time for the batch quantity concerned.

SAFETY STOCK

Extra stock held to serve as buffer against possible stock situation.

LOT SIZE

The size of the order that will be purchased to replenish stock out item.

INVOICE

Is a document showing the character, quantity price, details of transaction, terms, company initials and provision for signature of authorizations and other particular of goods sold or of services rendered.

STOCK CHECKING

Is any other check on physical quantities which may be applied either regularly or intermittently.

STOCK TAKING

Is the complete process of verifying the quantity, balance of the entire range of items held in stock.

QUALITY CONTROL

Is the process whereby goods and services are examined to ensure that they conform with pre-determined standard.

ENQUIRY AND QUOTATION

When competitive tenders are required, it is customary to send an enquiry to potential supplier and to receive quotation from suppliers in order to select the most suitable by analysis of tender received.

EXPEDITING

Is the process of ensuring that goods are promptly delivered to the right place and time within the organization. This process may carry through telephone calls, letter writing, telex, personal visit, etc.

DELIVERY OR CONSIGNMENT NOTE

This is a document in which the supplier record all goods being delivered to the buyer, stating the code number, description, quantity and so on.

STORE

Store is a general term describing goods which are held in store houses and store yard. The bulk of these goods is usually intended for use in connection with production or operator activities, but the expression "Stores" also covers finished product awaiting dispatch to customers, scrap and other arisings, and packages held pending return to suppliers.

ACKNOWLEDGEMENT

Acceptance of the order is usually conveyed to the buyer by acknowledging receipt of the order. Some organizations include an additional copy in their purchase order form titled "Acknowledgement".

ISSUE

Is the withdrawal and hand over of stores to user's backed by a properly authorized form signed by the store keeper.

BLANKET ORDER

This is where an order is placed for estimated or actual quantities of designated items for a period of time usually one year. Prices are however agreed upon to the issue of the order.

OBSOLESCENCE

This can be referred to as materials going out of stock but not completely out of stock.

REDUNDANT/SURPLUS

When the quantity of an item in stock is more than as reasonably necessary to provide an adequate service, the excess over the normal holding is said to be redundant/surplus.

CHAPTER TWO

2.0 AN OVERVIEW OF THE HOSPITAL

The hospital was established in May, 1980 and it is situated in Tunga, Minna Niger State. It has 3 permanent doctors, 2 part-times doctors and 14 nursing staff including few nursing aids.

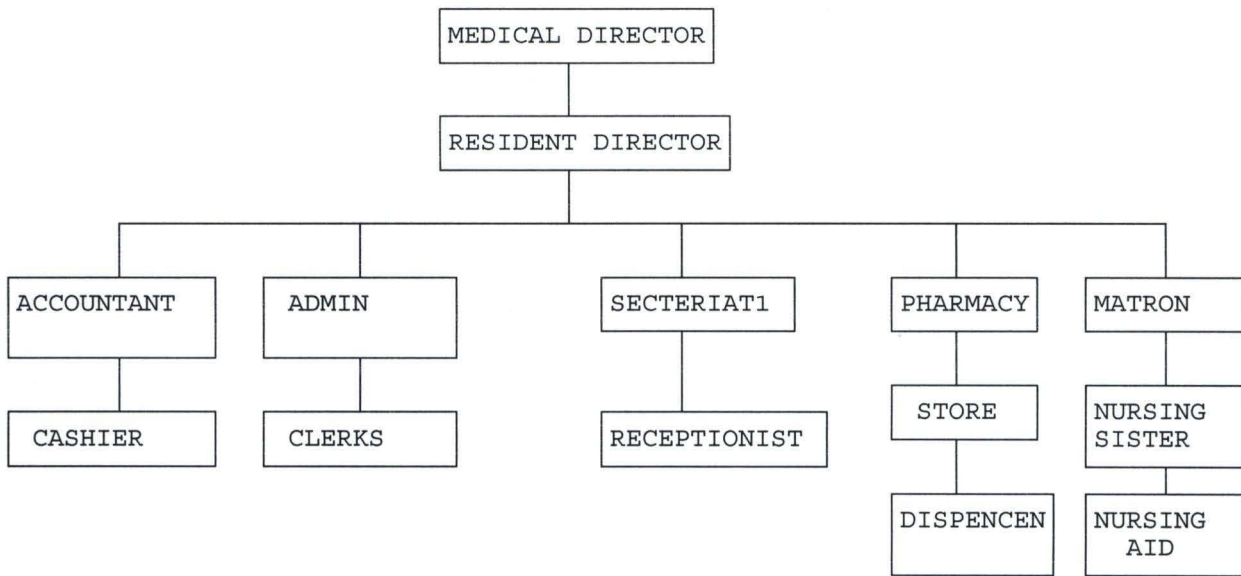
It has 24 beds hospital well equipped theater, (major and minor) laboratory and x-ray services.

The services rendered is as follows:

- a) General surgery, internal median, obstetrics and gynecology and paediatrics. In addition to the broad group about, they offer immunization, family planning services and Ante-natal care delivery.
- b) The facilities available in addition to routine medical facilities to enable than carry out minimum service the have the following facilities.
 - E. C. G. (Electrocardiogram)
 - Ultra-Sound Scanning machine (USS)
 - Incubator services
 - Back up generator.

2.1

ORGANIZATIONAL CHART



2.2

PROBLEM DEFINITION

Application of computer in stock control system, a case study of Bay Specialist Hospital.

2.3

FEASIBILITY STUDY

Feasibility study was done in order to examine the present system of stock control and transaction with respect to the processing operation of the hospital. This study covered the stores handling the stock and finished product.

The study was conducted with the co-operation and assistance of the stores manager and the medical director of Bay Specialist Hospital.

In trying to study the present system it is very important that all the fact are gathered in order to ensure that all the strength and weaknesses of the present system are discovered, thus when a new system is designed as many of the weaknesses as possible are eliminated while retaining the strength.

The method used for the fact finding were, interviewing and document inspection or review.

2.3.1 INTERVIEW

This is a fact finding technique used to collect information from individuals/groups. During interviews, fact about what is happening come to light together with the opinion, of the individual regarding the weakness in the system.

The respondent here are the current users of the existing system and potential users of the proposed system. Interview technique is the most widely used and most productive.

2.3.2 DOCUMENT INSPECTION

This technique enable us to look into the existing records with respect to its organizational chart, policy manual, regulation, standard procedure, statistics and other relevant documents. This provides an introductory knowledge for the Hospital actual operation with the records in existence.

2.4

EXISTING SYSTEM

The store department is charged with the maintenance of the stock control system. Presently they are handling unconvincing drugs for the hospital which is term as fixed stock.

There are four major operational document/book records in the store department. They are Goods Received Note, Requisition Note, Bin Card, and Goods Issuing Note Book.

When drugs are purchased and brought to the hospital by the purchasing manager or the supplier, the supplier is notified that drugs are to be inspected by the authorized official in the hospital. The sample of the drugs supplied will be tested or examined by the pharmacist that will take the drugs to the laboratory for testing the quality, making sure that it is measured to standard. If it is fine then the goods/drugs are taken or the rest will be received and entered in to goods drugs received note book.

The same method are applied to all the caps drugs. It has to go through some series of quality control test in order to make sure or ascertain its fitness for human consumption.

After the test are performed and found to be of acceptable quality then the items will be posted into the stock bin card.

2.5

TRANSFER OF DRUGS/ITEM

Drugs are issued to the dispenser in quantity in the dispensing room. It is the duty of the dispenser to issue out drugs to out patient and the Nurses on duty will collect drugs for the important on admission.

2.6

BAD/UNSERVICABLE/EXPIRE/DRUGS

Whenever any drugs are received in bad condition, the supplier will be notified immediately for replacement. Incase where an item is already in the drugs store discovered bad due to handling or storage method, the authority/Medical Director will be informed.

The same method is applied to expired drugs found. It will be entered into a book and posted out from the Bin Card as expired and recommended for destruction.

2.7

FEASIBILITY REPORT

The existing system may serve as one sources for information for the development of the Application of computerized system. From the finding, it is understood that the system handles the following functions. These are purchase of drugs by the hospital. Issuing of the items to various users, department from the store, keeping the adequate records of item/drugs.

In performing these functions, the hospital management is confronted with the following problems.

1. Administrative problems.
2. Expensive to maintain system.
3. Not feasible to changes
4. Accessing to information is tiring and time consuming
5. Misplacement and host of vital document papers.
6. Large human errors are involved.

2.8 RECOMMENDED COMPUTER SYSTEM

A personal computer is recommended. The operator of this system has only to learn a relatively simple sequence of keyboard operations, since the processing operation are menu driven. But a well competent trained operator is therefore essential in order to ensure improvement and innovation into the system.

2.9 SPECIFICATION OF THE COMPUTER SYSTEM

The specification sited below are regarded as it's recommended system requirement for the new software designed to run properly the following are required.

- A 80386 or 80486 or above micro processor (IBM or Compatible)
- The system must have DOS 4.1 or lighter version, dBASE IV packages
- Hard disk is required
- At least one floppy disk drive
- 10 megabyte of storage space
- At least a VGA monitor
- Printer (a pin dot matrix, at least)
- A standard keyboard.

2.10 COST BENEFIT ANALYSIS OF THE PROPOSED SYSTEM

HARDWARE COST	N
Computer system	150,000.00
Operating software	15,000.00
Printer	50,000.00

Total:	251,000.00
	=====

DEVELOPMENT COST	N
Stock control package	30,000.00
System Analysis cost	30,000.00
Labour Analysis cost (4 month N6,000 per month)	24,000.00

	84,000.00
	=====

OPERATING COST OF NEW SYSTEM

	N
Maintenance cost	4,000.00
Labour cost (2,000/month)	6,600.00
Administrative cost/2400/ month) ...	7,200.00

Total ...	17,800. 00
	= = = = =

NOTE:

The total cost of the system in terms of developing and operating the system for the first 3 months is N10,800.00

CHAPTER THREE

3.0 SYSTEM DESIGN AND DEVELOPMENT

The design of the new system is based on the analysis made in the previous chapter of this project which indicates an intensive of the present system. The design of this system is divided into two sections.

- (a) The Physical Design
- (b) The Logical Design.

The physical design entails the design of the input screen, which would be discussed later in this section while the physical design entails the output screen/report design needed in the new system.

The logical design is the design of the proposed system into structures are grouped in modules in a top down approach the logical design of the proposed system is the algorithm to follow when writing the proposing this would be fully discussed in this chapter.

3.1 ITEMS ON PROCESSING STOCK CONTROL SYSTEM

1. Name of Drugs
2. Cost of drugs
3. Type of drugs.
4. Date manufactured: Date Expiration
5. Quantity.

3.2

INPUT DESIGN

DATA INPUT DESIGN

The proposed system is designed in such a way that the input screen are without irregularities, such as redundancy of data item, inconsistency of data and duplication of date. This is considered so that the information derived from this data would be automatic. The user could also enter information freely through the keyboard via the VDU of the computer, to avoid problems such as "blurness VDU" and "getting lost" on the screen. The data input is also checked immediately for validity.

Fig. 1 describes the input screen format.

INPUT SCREEN FORMAT

MACHINERY ENTRY	
NAME OF MACHINE	<input type="text"/>
COST OF PURCHASE	<input type="text"/>
DATE OBTAINED	<input type="text"/>
TYPE OF MACHINE	<input type="text"/>

FIG 1A

STOCK ENTRY	
NAME OF STOCK	<input type="text"/>
COST OF PURCHASE	<input type="text"/>
DATE OBTAINED	<input type="text"/>
TYPE OF STOCK	<input type="text"/>

FIG 1B

RAW MATERIAL ENTRY	
NAME OF RAW MATERIAL	<input type="text"/>
COST OF PURCHASE	<input type="text"/>
DATE OBTAINED	<input type="text"/>
TYPE OF RAW MATERIAL	<input type="text"/>

FIG 1C

3.3 OUTPUT DESIGN

The format of the data is very important because it directly affects the input format, the processing procedure, and the various requirements of the individual subsystems. The output design comes in the form of screen output or hard copy in the form of print-out depending on the users' need. Hard copy report of the stock control system becomes very important for documenting information and management procedures.

While the video display (soft copy) are used for quick information such as the number of drugs available at every point in time. These reports are timely to user. Some other things to be considered in the design of output information is the processing speed required by the users. The output is designed to be clear, concise and easy to use.

3.4 DATABASE FILES

A database is collection of data into files, arranged in such a way that they are independent of any application. A data input design requires the establishment of a good database. The term database describes the total information that are available to the users of the processing stock control system. The general characteristic required of a good database is that it should fit all user's requirements. The database is designed in the following format.

RECEIPT DBF

This is a database file that contain the details of drugs received. It is like a transaction file that contain monthly receipt of drugs. This file is expected to be made empty at the end of each month in order to prepare it for the following year. The structure of this file is as shown below:

stock.

S/NO	FIELD NAME	FIELD DESCRIPTION .	FIELD TYPE	WIDTH
1.	DOD	Date of Delivery	Date	8
2.	DOE	Date of expiration	Date	8
3.	QTY	Quantity	Numeric	6/0
4.	DCODE	Drug Code	Character	5
5.	PRICE	Price	Numeric	9/2

ISSUE DBF

This file is similar to RECEIPT DBF but it is designed to contain the details of drugs issued on monthly basis.

S/NO	FIELD NAME	FIELD DESCRIPTION .	FIELD TYPE	WIDTH
1.	DOI	Drug Issue	Date	8
2.	DOE	Date of Expiration	Date	8
3.	QTY	Quantity	Numeric	6/0
4.	DCODE	Drug Code	Character	5

DRUG DBF

This is a reference file which keeps the details and status of drug available in the hospital.

S/NO	FIELD NAME	FIELD DESCRIPTION .	FIELD TYPE	WIDTH
1.	DECODE	Drug Code	Character	5
2.	DNAME	Drug Name	Character	20
3.	BALANCE.	Stock Balance	Numeric	10

BACKUP FILE

This is the file which is used to support the master file in event the master file lost or destroyed. This is necessary for data security control.

The data of the old system stored in a document form in cabinets are well studied. A database management system is developed so that the organized collection of inter-related data and set of programs to access the data creates an effective environment with efficient and convenient way for retrieving information from stored database of the stock control system.

3.5 DATA PROCESSING DESIGN

There are two types of data processing design techniques namely:

- a) Batch Processing
- b) On-Line Processing

The on-line processing allows update of inputs to be made at the time of processing of the various master files. The on-line data processing design is where data entered are processed immediately. This is needed in stock control system in order to attain its objective.

Batch data processing is not applicable to this design since in the batch processing, various input transaction are collected in groups and are entered into the machine at the same time for processing. In this design, the data are checked for validity. This is to enable only useful data to be processed. The design menu driven,

where the options of creating, deleting and modifying data, as well as generation of reports. This menus are created so that the system would be user friendly.

CHAPTER FOUR

4.0 SYSTEM IMPLEMENTATION

The system implementation has to do with putting into operation all that has been designed in order to carry out the task required to be performed by the new system.

In this work, various programs have been performed and they centers around stock control with various areas taken care of. There are five options in the new system as displayed in the program output in Appendix A.

4.1 INSTALLATION

These aspect of the work involves two things: and are

- a) Hardware installation
- b) Software installation

The hardware installations is done by bringing the various computers hardware (monitor, CPU, keyboard, printer etc) together and connecting them to power in a conducive atmosphere. The hardware must also be tested to see that they are functioning properly.

On the other hand, software installation entails copying the operating system as well as copying the designed program to the hard disk and within the sub-directory of dBASE IV as recommended in the system specification.

4.2

TESTING OF THE PROGRAM

The program needs has been tested to ensure that the installation was successful and functioning properly. During the testing, the result obtained were compared to the one that is obtained manually.

4.3

CHANGEOVER

For the changeover, files were created to take care of all information needed for the system. In this case we created Database files for the Drugs stock and materials. The equipment to be used were also installed. There are the equipment that will be used in running the new system. The site for the computer was also prepared, Essential working materials were brought. For the smooth running of the new system. Air conditioners were installed to make sure that computer are not over heated.

The changeover was a direct cut over from the old to new. The manual system which had been in use is discarded and the system is changed over completely. However, Parallel changeover is recommended since it allows for the two system to be compared.

4.4

STAFF TRAINING

Being that the hospital had been running a manual method of stock control system there is need to train and re-orientate the staff to the new system. The staff to be trained are the computer operator who will handle the computer operation. There are also data entry personnel who are expected to key in data, and do the operations.

4.5

SYSTEM EVALUATION AND MAINTENANCE

The system after installation has to be evaluated or re-examined in order to ensure that it is working or carrying out the task it is intended to perform.

In the evaluation, the following should be considered:

- 1) The users recording unusual or expected events that affects the system.
- 2) How the new system affects or change the operation of the organization in which they are installed. This is done by interviewing the people or by records. The financial gain is also considered.
- 3) Sample of personal idea and opinions about the system. When the evaluation of the system is well taken case be using the above parameter in order to ensure that the system is functioning ;in line with what is expected of it; then it become, imperative that the system should be maintained regular in order to ensure smooth operation.

To ensure a good maintenance culture of the system as well as the program proper identifications of the system features is very important.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

The stock control system of BAY SPECIALIST HOSPITAL no doubt needs to be computerized in order to meet up with speed of operation.

The early part of this project dealt with introduction and the meaning of certain terms that concern the project. We also looked into existing system to see its defect.

The middle part of the project see us in to the input and output specification as well as the program design itself.

The implementation process looked at the installation, staff training, evaluation and maintenance. This work cannot be rounded up without stating that the system is designed to provide the Hospital management with timely information and to ensure proper accountability in Bay Specialist Hospital. The system is improved with a timely report generated for all transactions concerning stock control.

5.2 RECOMMENDATION

For proper execution of the new system, the following recommendations need to be adopted.

- (a) A training arrangement is also recommended for the staff that would be working directly with the computer. Training course on computer Appreciation and operation for a duration of 2 or 3 months is envisaged.

- (b) Furthermore, there is need to install good security measure on access to computer and its usage. Unauthorised persons should not be allowed into the computer room. This is expected to safe-guard the information contained in the system.
- (d) Finally, there should be a strict adherence to the application software required and the hardware configuration in order to achieve the efficient implementation of this newly designed system.

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APPENDIX A (PROGRAM OUTPUT)

COMPUTERISED STOCK CONTROL SYSTEM

BAY SPECIALIST HOSPITAL, MINNA

<u>CODE</u>	<u>TASK</u>
1	DRUG SUPPLIED
2	DRUG ISSUED
3	CODE UPADTE
4	REPORT PRINTING
5	QUITTING

PICK A CODE:

BAY SPECIALIST HOSPITAL, MINNA

DRUG SUPPLY FORM

Enter DELIVERY NOTE (or "9999" To Exit): 0004

NAME OF SUPPLIER: MR. GBENGA LAWAL

DRUG CODE: 0005 DRUG DESCRIPTION: PANADOL EXTRA

DRUG PRICE: # 50.00 QUANTITY: 100

DRUG VALUE: # 5,000.00

PICK (S)AVE OR (A)BANDON

BAY SPECIALIST HOSPITAL, MINNA

DRUG ISSUED FORM

ENTER ITEM CODE (OR "XXXX" TO EXIT): 0003

ITEM DESCRIPTION: KEPLER BLOOD TONIC

	PRICE	QUANTITY	AMOUNT
#	500.00	100	# 50,000.00

PICK (S)AVE OR (A)BANDON

COMPUTERISED STOCK CONTROL SYSTEM

BAY SPECIALIST HOSPITAL, MINNA

CODE

TASK CODE

1	ADD DRUG DETAIL
2	VIEW DRUG DETAIL
3	EDIT DRUG DETAIL
4	DELETE DRUG DETAIL
5	EXIT

PICK A CODE:

BAY SPECIALIST HOSPITAL, MINNA

FILE MAINTENANCE - ADD

ENTER DRUG CODE (OR "XXXX" TO EXIT): 0010

DRUG DESCRIPTION: PROCAINE PENICILLIN

	PRICE	QUANTITY
#	150.00	100

PICK (S)AVE OR (A)BANDON

BAY SPECIALIST HOSPITAL, MINNA

FILE MAINTENANCE - VIEW

ENTER DRUG CODE (OR "XXXX" TO EXIT): 0010

DRUG DESCRIPTION: PROCAINE PENICILLIN

	PRICE	QUANTITY
#	150.00	100

VIEWING DATA RECORD

BAY SPECIALIST HOSPITAL, MINNA

FILE MAINTENANCE - EDIT

ENTER DRUG CODE (OR "XXXX" TO EXIT): 0010

DRUG DESCRIPTION: PROCAINE PENICILLIN

	PRICE	QUANTITY
#	150.00	100

PICK (S)AVE OR (A)BANDON

BAY SPECIALIST HOSPITAL, MINNA

FILE MAINTENANCE - DELETE

ENTER DRUG CODE (OR "XXXX" TO EXIT): 0010

DRUG DESCRIPTION: PROCAINE PENICILLIN

	PRICE	QUANTITY
#	150.00	100

DELETE THIS RECORD (Y/N):

COMPUTERISED STOCK CONTROL SYSTEM

BAY SPECIALIST HOSPITAL, MINNA

CODE

TASK CODE

1	DRUG SUPPLIED REPORT
2	DRUG ISSUED REPORT
3	STOCK BALANCES
4	EXIT

PICK A CODE:

APPENDIX B (PROGRAM DOCUMENTATION)

set bell off

SET TALK OFF

SET STAT OFF

SET SAFE OFF

SET SCOR OFF

SET DATE brit

SET PROC TO BAY

DO WHILE .T.

CLEAR

@ 2,15 TO 23,64 DOUBLE

@ 3,23 SAY "COMPUTERISED STOCK CONTROL SYSTEM"

@ 4,23 TO 4,55 DOUBLE

@ 6,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"

@ 7,25 TO 7,54 DOUBLE

@ 9,20 SAY "CODE"

@ 9,42 SAY "TASK"

@ 10,20 TO 10,23 DOUB

@ 10,42 TO 10,47 DOUB

@ 11,21 SAY "1"

@ 11,40 SAY "DRUG SUPPLIED"

@ 13,21 SAY "2"

@ 13,40 SAY "DRUG ISSUED"

@ 15,21 SAY "3"

@ 15,40 SAY "CODE UPADTE"

@ 17,21 SAY "4"

```
@ 17,40 SAY "REPORT PRINTING"  
@ 19,21 SAY "5"  
@ 19,40 SAY "QUITTING"  
@ 21,16 TO 21,63 DOUB  
@ 22,33 SAY "PICK A CODE:"  
DO WHILE .T.  
CHOICE = SPACE(1)  
@ 22,46 GET CHOICE PICT '!'  
READ  
IF CHOICE $ '12345'  
EXIT  
ENDIF  
ENDDO  
DO CASE  
CASE CHOICE = '1'  
DO SUPPLY  
CASE CHOICE = '2'  
DO SALES  
CASE CHOICE = '3'  
DO MAINT  
CASE CHOICE = '4'  
DO REPORT  
OTHERWISE  
EXIT  
ENDCASE  
ENDDO  
CLEAR
```

RETURN

PROC SUPPLY

SELE A

USE Supply

SELE B

USE DRUG

mdate = date()

DO WHILE .T.

STOR SPACE(4) TO MDCODE,MICODE

MNAME = SPACE(30)

STORE 0 TO MPRICE,MQTY

CLEAR

@ 2,10 TO 21,69 DOUBLE

@ 18,11 TO 18,68 DOUBLE

@ 3,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"

@ 4,25 TO 4,54 DOUBLE

@ 6,32 SAY 'DRUG SUPPLY FORM'

@ 7,32 TO 7,47 DOUBLE

@ 9,13 SAY 'Enter DELIVERY NOTE (or "9999" To Exit):' get mdcode pict
'@!'

read

if mdcode = '9999'

 exit

endi

@ 11,13 SAY 'NAME OF SUPPLIER:' GET MNAME

```
@ 13,13 SAY 'DRUG CODE:'
@ 13,30 SAY 'DRUG DESCRIPTION:'
@ 15,13 SAY 'DRUG PRICE: #'
@ 15,39 SAY "QUANTITY:"
@ 17,30 SAY 'DRUG VALUE: #'
@ 13,24 GET MICODE
READ
SELE B
GO TOP
LOCATE FOR MICODE = ICODE
MIDESC = IDESC
@ 13,48 GET MIDESC
CLEAR GETS
@ 15,26 GET MPRICE PICT '99,999.99'
@ 15,49 GET MQTY PICT '999999'
read
mvalue = mqty*mprice
@ 17,43 get mvalue pict '9,999,999.99'
@ 20,26 SAY "PICK (S)AVE OR (A)BANDON"
DO WHILE .T.
C = SPACE(1)
@ 20,52 GET C PICT '!'
READ
IF C = 'S' .OR. C = 'A'
EXIT
ENDIF
ENDDO
```



```
SELE A
IF C = 'S'
APPEND BLANK
REPL DATE WITH MDATE
REPL ICODE WITH MICODE
REPL DNOTE WITH MDCODE
REPL QTY WITH MQTY
REPL DESC WITH MDESC
repl value with mvalue
ENDIF
ENDDO
CLOSE ALL
CLEAR
RETURN
```

```
PROC SALES
SELE A
USE SALES
SELE B
USE drug
mdate = date()
DO WHILE .T.
MICODE = SpACE(4)
CLEAR
@ 3,10 TO 21,69 DOUBLE
@ 17,11 TO 17,68 DOUBLE
```

```
@ 4,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"  
@ 5,25 TO 5,54 DOUBLE  
@ 7,32 SAY 'DRUG ISSUED FORM'  
@ 8,32 TO 8,47 DOUBLE  
@ 10,13 SAY 'ENTER ITEM CODE (OR "XXXX" TO EXIT):' get micode pict  
'@!'  
read  
if micode = 'XXXX'  
    exit  
endi  
SELE B  
GO TOP  
LOCATE FOR MICODE = ICODE  
IF .NOT. FOUND()  
@ 19,22 SAY "ITEM CODE NOT FOUND"  
WAIT  
LOOP  
ENDIF  
MPRICE = PRICE  
MIDESC = IDESC  
@ 12,13 SAY "ITEM DESCRIPTION:" GET MIDESC  
@ 14,18 SAY "PRICE"  
@ 14,36 SAY "QUANTITY"  
@ 14,50 SAY "AMOUNT"  
MQTY = 0  
MAMT = 0  
@ 15,15 SAY '#'
```

```
@ 15,16 GET MPRICE PICT '99,999,999.99'  
CLEAR GETS  
@ 15,38 GET MQTY PICT '9999'  
READ  
MAMT = MPRICE * MQTY  
@ 15,48 SAY "#"  
@ 15,49 GET MAMT PICT '9,999,999.99'  
CLEAR GETS  
@ 19,26 SAY "PICK (S)AVE OR (A)BANDON"  
DO WHILE .T.  
C = SPACE(1)  
@ 19,52 GET C PICT '!'  
READ  
IF C = 'S' .OR. C = 'A'  
EXIT  
ENDIF  
ENDDO  
SELE A  
IF C = 'S'  
APPEND BLANK  
REPL DATE WITH MDATE  
REPL ICODE WITH MICODE  
REPL IDESC WITH MIDESC  
REPL PRICE WITH MPRICE  
REPL QTY WITH MQTY  
REPL AMT WITH MAMT  
ENDIF
```

ENDDO
CLOSE ALL
CLEAR
RETURN

PROC MAINT

DO WHILE .T.

CLEAR

@ 2,15 TO 23,64 DOUBLE

@ 3,23 SAY "COMPUTERISED STOCK CONTROL SYSTEM"

@ 4,23 TO 4,55 DOUBLE

@ 6,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"

@ 7,25 TO 7,54 DOUBLE

@ 9,20 SAY "CODE"

@ 9,42 SAY "TASK CODE"

@ 10,20 TO 10,23

@ 10,42 TO 10,50

@ 12,21 SAY "1"

@ 12,40 SAY "ADD DRUG DETAIL"

@ 14,21 SAY "2"

@ 14,40 SAY "VIEW DRUG DETAIL"

@ 16,21 SAY "3"

@ 16,40 SAY "EDIT DRUG DETAIL"

@ 18,21 SAY "4"

@ 18,40 SAY "DELETE DRUG DETAIL"

@ 20,21 SAY "5"

```
@ 20,40 SAY "EXIT"  
@ 21,16 TO 21,63 DOUBLE  
@ 22,33 SAY "PICK A CODE:"  
DO WHILE .T.  
C = SPACE(1)  
@ 22,46 GET C PICT '!'  
READ  
IF C='1' .OR. C='2' .OR. C='3' .OR. C='4' .OR. C='5'  
EXIT  
ENDIF  
ENDDO  
DO CASE  
CASE C = '1'  
DO ADD  
CASE C='2'  
DO VIEW  
CASE C='3'  
DO EDIT  
CASE C='4'  
DO DELETE  
OTHERWISE  
EXIT  
ENDCASE  
ENDDO  
CLEAR  
RETURN
```

```

PROC ADD
USE DRUG
DO WHILE .T.
MICODE = SpACE(4)
CLEAR
@ 3,10 TO 21,69 DOUBLE
@ 17,11 TO 17,68 DOUBLE
@ 4,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"
@ 5,25 TO 5,54 DOUBLE
@ 7,29 SAY 'FILE MAINTENANCE - ADD'
@ 8,29 TO 8,50 DOUBLE
@ 10,13 SAY 'ENTER DRUG CODE (OR "XXXX" TO EXIT):' get micode pict
'@!'
read
if micode = 'XXXX'
    exit
endi
GO TOP
LOCATE FOR MICODE = ICODE
IF FOUND()
@ 19,22 SAY "DRUG CODE ALREADY EXIST"
WAIT
LOOP
ENDIF
MIDESC = SPACE(20)
STOR 0 TO MPRICE,MQTY
@ 12,13 SAY "DRUG DESCRIPTION:" GET MIDESC

```

```
@ 14,18 SAY "PRICE"  
@ 14,36 SAY "QUANTITY"  
@ 15,15 SAY '#'  
@ 15,16 GET MPRICE PICT '99,999,999.99'  
@ 15,38 GET MQTY PICT '9999'  
READ  
@ 19,26 SAY "PICK (S)AVE OR (A)BANDON"  
DO WHILE .T.  
C = SPACE(1)  
@ 19,52 GET C PICT '!'  
READ  
IF C = 'S' .OR. C = 'A'  
EXIT  
ENDIF  
ENDDO  
IF C = 'S'  
APPEND BLANK  
REPL DATE WITH MDATE  
REPL ICODE WITH MICODE  
REPL IDESC WITH MIDESC  
REPL PRICE WITH MPRICE  
REPL QTY WITH MQTY  
ENDIF  
ENDDO  
CLOSE ALL  
CLEAR  
RETURN
```

```

PROC EDIT
USE DRUG
mdate = date()
DO WHILE .T.
MICODE = SpACE(4)
CLEAR
@ 3,10 TO 21,69
@ 17,11 TO 17,68
@ 4,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"
@ 5,25 TO 5,54 DOUB
@ 7,28 SAY 'FILE MAINTENANCE - EDIT'
@ 8,28 TO 8,50
@ 10,13 SAY 'ENTER DRUG CODE (OR "XXXX" TO EXIT):' get micode pict
'@!'
read
if micode = 'XXXX'
    exit
endi
GO TOP
LOCATE FOR MICODE = ICODE
IF .NOT. FOUND()
@ 19,22 SAY "DRUG CODE DOES NOT EXIST"
WAIT
LOOP
ENDIF
MIDESC = IDESC

```



```
MPRICE = PRICE
MQTY = QTY
@ 12,13 SAY "DRUG DESCRIPTION:" GET MIDESC
@ 14,18 SAY "PRICE"
@ 14,36 SAY 'QUANTITY'
@ 15,15 SAY '#
@ 15,16 GET MPRICE PICT '99,999,999.99'
@ 15,38 GET MQTY PICT '9999'
READ
@ 19,26 SAY "PICK (S)AVE OR (A)BANDON"
DO WHILE .T.
C = SPACE(1)
@ 19,52 GET C PICT '!
READ
IF C = 'S' .OR. C = 'A'
EXIT
ENDIF
ENDDO
IF C = 'S'
REPL DATE WITH MDATE
REPL ICODE WITH MICODE
REPL IDESC WITH MIDESC
REPL PRICE WITH MPRICE
REPL QTY WITH MQTY
ENDIF
ENDDO
CLOSE ALL
```

```
CLEAR  
RETURN
```

```
PROC VIEW  
USE DRUG
```

```
mdate = date()
```

```
DO WHILE .T.
```

```
MICODE = SPACE(4)
```

```
CLEAR
```

```
@ 3,10 TO 21,69
```

```
@ 17,11 TO 17,68
```

```
@ 4,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"
```

```
@ 5,25 TO 5,54 DOUB
```

```
@ 7,28 SAY 'FILE MAINTENANCE - VIEW'
```

```
@ 8,28 TO 8,50
```

```
@ 10,13 SAY 'ENTER DRUG CODE (OR "XXXX" TO EXIT):' get micode pict  
'@!'
```

```
read
```

```
if micode = 'XXXX'
```

```
  exit
```

```
endi
```

```
GO TOP
```

```
LOCATE FOR MICODE = ICODE
```

```
IF .NOT. FOUND()
```

```
@ 19,22 SAY "DRUG CODE DOES NOT EXIST"
```

```
WAIT
```

```
LOOP
ENDIF
MIDESC = IDESC
MPRICE = PRICE
MQTY = QTY
@ 12,13 SAY "DRUG DESCRIPTION:" GET MIDESC
@ 14,18 SAY "PRICE"
@ 14,36 SAY "QUANTITY"
@ 15,15 SAY '#'
@ 15,16 GET MPRICE PICT '99,999,999.99'
@ 15,38 GET MQTY PICT '9999'
CLEA GETS
@ 19,30 SAY "VIEWING DATA RECORD"
SET CONS OFF
WAIT
SET CONS ON
ENDDO
CLOSE ALL
CLEAR
RETURN
```

```
PROC DELETE
USE DRUG
mdate = date()
DO WHILE .T.
MICODE = SpACE(4)
```

```

CLEAR
@ 3,10 TO 21,69
@ 17,11 TO 17,68
@ 4,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"
@ 5,25 TO 5,54 DOUB
@ 7,27 SAY 'FILE MAINTENANCE - DELETE'
@ 8,28 TO 8,50
@ 10,13 SAY 'ENTER DRUG CODE (OR "XXXX" TO EXIT):' get micode pict
'@!'
read
if micode = 'XXXX'
    exit
endi
GO TOP
LOCATE FOR MICODE = ICODE
IF .NOT. FOUND()
@ 19,22 SAY "DRUG CODE DOES NOT EXIST"
WAIT
LOOP
ENDIF
MIDESC = IDESC
MPRICE = PRICE
MQTY = QTY
@ 12,13 SAY "DRUG DESCRIPTION:" GET MIDESC
@ 14,18 SAY "PRICE"
@ 14,34 SAY 'QUANTITY'
@ 15,15 SAY '#'

```

```
@ 15,16 GET MPRICE PICT '99,999,999.99'  
@ 15,38 GET MQTY PICT '9999'  
CLEA GETS  
@ 19,27 SAY "DELETE THIS RECORD (Y/N):"  
DO WHILE .T.  
C = SPACE(1)  
@ 19,52 GET C PICT '!'  
READ  
IF C = 'Y' .OR. C = 'N'  
EXIT  
ENDIF  
ENDDO  
IF C = 'Y'  
DELETE  
PACK  
ENDIF  
ENDDO  
CLOSE ALL  
CLEAR  
RETURN  
  
PROC REPORT  
DO WHILE .T.  
CLEAR  
@ 2,15 TO 21,64 DOUBLE  
@ 3,23 SAY "COMPUTERISED STOCK CONTROL SYSTEM"
```

```
@ 4,23 TO 4,55 DOUBLE
@ 6,25 SAY "BAY SPECIALIST HOSPITAL, MINNA"
@ 7,25 TO 7,54 DOUBLE
@ 9,20 SAY "CODE"
@ 9,42 SAY "TASK CODE"
@ 10,20 TO 10,23
@ 10,42 TO 10,50
@ 12,21 SAY "1"
@ 12,37 SAY "DRUG SUPPLIED REPORT"
@ 14,21 SAY "2"
@ 14,37 SAY "DRUG ISSUED REPORT"
@ 16,21 SAY "3"
@ 16,37 SAY 'STOCK BALANCES'
@ 18,21 SAY "4"
@ 18,37 SAY "EXIT"
@ 19,16 TO 19,63 DOUBLE
@ 20,33 SAY "PICK A CODE:"
DO WHILE .T.
  C = SPACE(1)
  @ 20,46 GET C PICT '!'
  READ
  IF C='1' .OR. C='2' .OR. C='3' .OR. C='4'
  EXIT
ENDIF
ENDDO
DO CASE
  CASE C = '1'
```

```
DO report1
CASE C = '2'
DO report2
CASE C = '3'
DO report3
OTHERWISE
EXIT
ENDCASE
ENDDO
CLEAR
RETURN
```

```
PROC REPORT1
```

```
CLEA
```

```
USE SALES
```

```
mdate = date()
```

```
@ 0,24 SAY 'DRUG ISSUED REPORT FOR ' + DTOC(MDATE)
```

```
@ 1,24 SAY REPL('=',31)
```

```
@ 3,10 SAY REPL('-',60)
```

```
@ 4,10 SAY 'S/NO|DRUG CODE| DRUG DESCRIPTION'
```

```
@ 4,45 SAY '|QUANTITY SOLD| AMOUNT'
```

```
@ 5,10 SAY REPL('-',60)
```

```
R=5
```

```
S=0
```

```
DO WHILE .NOT. EOF()
```

```
S=S+1
```

```
R=R+1
MICODE = ICODE
MIDESC = IDESC
MQTY = QTY
MAMT = AMT
@ R,10 SAY S PICT '9999'
@ R,14 SAY '|'
@ R,17 SAY MICODE
@ R,24 SAY '|'
@ R,25 SAY MIDESC
@ R,45 SAY '|'
@ R,50 SAY MQTY PICT '9999'
@ R,59 SAY '|'
@ R,60 SAY MAMT PICT '9,999,999.99'
SKIP
ENDDO
WAIT
CLOSE ALL
CLEAR
RETURN
```

```
PROC REPORT2
```

```
CLEA
```

```
USE DRUG
```

```
mdate = date()
```

```
@ 0,22 SAY 'DRUG SUPPLIED REPORT AS AT ' + DTOC(MDATE)
```



```
@ 1,22 SAY REPL('=',35)
@ 3,18 SAY REPL('-',44)
@ 4,18 SAY 'S/NO|DRUG CODE| DRUG DESCRIPTION'
@ 4,53 SAY '|QUANTITY'
@ 5,18 SAY REPL('-',44)
R=5
S=0
DO WHILE .NOT. EOF()
S=S+1
R=R+1
MICODE = ICODE
MIDESC = IDESC
MQTY = QTY
@ R,18 SAY S PICT '9999'
@ R,22 SAY '|'
@ R,25 SAY MICODE
@ R,32 SAY '|'
@ R,33 SAY MIDESC
@ R,53 SAY '|'
@ R,54 SAY MQTY PICT '99999999'
SKIP
ENDDO
WAIT
CLOSE ALL
CLEAR
RETURN
```