

**COMPUTERISATION OF STORE ROUTINE AND PRICING
SYSTEM**

**A CASE STUDY OF TWIN INDUSTRIES LIMITED
KONTAGORA NIGER STATE**

BY

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DEDICATION

This project is dedicated to my Lord Jesus Christ without whom I can do nothing. It is also dedicated to my beloved husband Dr. Olusanya Olufunmilayo and my children David and Victoria Funmilayo

CERTIFICATION

This is to certify that this project work was carried out by Funmilayo Olufunmilayo Iyabo (PGD/MCS/2001/2002/1063) of the Department of Mathematics / Computer Science, Federal University of Technology, Minna, Niger State, Nigeria.

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ABSTRACT

This project comprises development, implementation and maintenance of an application software package on store routine and pricing system of Twin Industries Ltd Kontagora, Niger State.

In this project raw materials in store are treated and the price at which the materials will be issued from store to production department. The Store Routine and Pricing System has been programmed using Visual Basic, which help to facilitate the process rather than the manual process used before.

CHAPTER ONE

1.0. GENERAL INTRODUCTION

Nowadays computer are becoming essential must task being done by the use of computer. It is not surprising than when most organization are now computerizing their operations. This would definitely increase speed, accuracy and lead to efficiency and quick decision being taken at all level of the organization. For example, in a manufacturing company, with the aid of computer have enhance their production ..

According to CHAMBER ENGLISH DICTIONARY (1) computer is a machine or apparatus mechanical electrical or electronic device for carrying out complex calculations, dealing with numerical data or with stored item of other information, also used for controlling manufacturing processes or co-ordinating part of large organization in which store and inventory system is among.

Encyclopedia Americana (3) define Computer as a devices that perform calculations and process data.

The new Encyclopedia Britannica (2) defines Computer as any of various automatic electronic devices that solves problems by processing data according to instruction.

1.1. INTRODUCTION

A computer is essentially an electronic device which processes data supplied through any available input device into information which can be stored in its memory or communicated to the user via any available output device, thus an interface has to exist between the

computer itself and the raw material and to understand the information produced by processing the raw material.

Computer technology has evolved through several generations. Each generation has affected data processing, because it has and will continue to have effect on man Job and the entire society when trying to figure out the various events, discoveries and inventions, which had taken place up the success in the development of a modern day ultra fast computer required on intensive analysis of computational mathematics and other relevant fields of study.

1.11. HISTORY OF COMPUTER

Computer is an electronic machine, which is capable of processing data in a wide Variety of ways with an extremely high degree of speed and accuracy.

However, all the process are hard and extremely difficult to keep an accurate record one of the earliest calculating devices created by man was ABACUS. This was attributed to Chinese around 1642 Edmud Gun then invented a forerunner of slide rule in 1620 which was use for the next two centuries to perform mathematical calculations.

The development of the first real mechanical calculating device was built by a 19 year old French man called Blasé Pascal. He called the machine that could not only add and subtract numbers but can also multiply, divides and calculate square roots of numbers in 1674. This formed the basis of many mechanical calculators. By 1920 electromagnetic devices came to being. Since that time the technology use by the computer manufacturers to produce and design computer has accelerated and influenced by research trends in Artificial

intelligence. Speech recognition, processing parallel architecture pattern recognition and expert system with all these computers are reduced to smaller sizes and has increase memory and storage capacity.

1.12. CLASSIFICATION OF COMPUTER

Computer comes in a wide variety of sizes, ranging from tiny hand held devices to some that are several meters in height and diameter. Here we classify computers by sizes, type of logic they use and purpose.

1.13. CLASSIFICATION BY SIZE

Computer are divided into four categories: -

- (i) Main frame Computers
- (ii) Mini Computers
- (iii) Micro Computers
- (iv) Super Computers

Mainframe Computer: - it is a large computer commonly used in business and industry it is used to solve highly sophisticated problems and it has a large memory capacity and can operate at a very high speed they can support multiple users and multiple functions.

(ii) Mini Computers: This type of computer has many of the capabilities of a mainframe computers. It is generally low price with smaller primary storage though it supports a network of users terminals.

(iii) Micro computer: - This type of computer often found in small business, classrooms and houses, they are less complex execute programs at slower speed.

(iv) Super computer: - They are the most powerful machines available in the mid – 1980. They are very fast and most expensive, it has the capacity to process seismic data generated during crude oil seeking exploration.

1.14. CLASSIFICATION BY LOGIC

Computer's in terms of logic can be classified into three main types:-

- a. Analog Computer
- b. Digital Computer
- c. Hybrid Computer

(a) Analog computer: - this type of computer performs its operation by measuring and comparing or relating physical phenomena.

An analog computer processes data vary continuously an example is a fuel pump.

(b) Digital Computer: - It is the one, which performs arithmetic operations and accesses logical decisions according to instruction coded to it in advance. Example are calculators and micro computers.

(c) Hybrid computer: - this is simply a combination of analog and digital computer systems into one. Hybrid computers are powerful computing devices.

1.15. CLASSIFICATION BY PURPOSE

Computers in terms of purpose are categories into two: -

(a) Special purpose: - This type of computer is designed for only one purpose, that is to perform a specific operation examples, speedometer e.t.c.

(b) General purpose: - This type of computer can perform many operations of any kind. Example is super computer.

1.16. Store means and include not only raw material used in production but all other items held in the store department such as tools components, patterns maintenance materials consumable store. (According to MN ARORA) As substantial amount of company's working capital is invested in stores, the store department need special attention. The store should be under the control of a person who is known as a store keeper and should be a man of undoubted integrity suitable trained and experience and computer literates as regards to store routine system.

Stock consist of materials purchase in different lot at different prices. However, when materials are to be issued to production what price should be charge for costing the material. So issued from store to production department and what should be the value of the remaining unissued stock in hand. Most of these problems will be tackled by method of pricing materials issued from store to the production department.

1.17. DEFINITION OF TERMS

Raw materials: - raw materials refer to all materials before they are placed in production process or all materials that have not undergone production process.

Work In Progress: - Refers to manufactured products that are only partially complete or raw materials still in production process

Finished goods: - Manufactured goods that the production process are completed and ready for sale.

Production process: - it is a process where raw materials are being converted to finished goods.

Stock out: - This is when a particular raw materials is out of stock or not stored.

Under Stocking: - Shortage of materials that may arise at a time when they are urgently needed and production held up. Under stocking leads inevitably to materials running out of stock.

Overstocking: - When more than needed material is held in store. It always locks up capital and causes high storage cost thereby resulting in adverse effect on profit.

Reorder level: - This is the point at which the stock level in the store will be and another requisition or order will be placed.

1.2. STATEMENT OF PROBLEMS

Without the computerization of store picture and method of pricing issues in Twin industries Ltd there are lot of difficulties that would be encounter in store as a result of manually handling of some tasks and some of the problem are discuss below.

Large Documentation: - There will be alot of documentation on the store materials. Where there is a lot of store materials a lot of records will be maintain and the more the number of transactions in store the more the records.

Loss of Data: - Because data on materials in store are recorded on cards i.e. manually, some vital documents or data may be lost, tore damage or stolen in the storage system.

There is the danger of system becoming too complex, misplacement and disposal of documents.

There is also the possibility of ineffective control system.

There is also the problem of promptly determining the price of materials issues from store to production department. As a result of some of the problem above it will result to low productivity and there is therefore the need to design and develop and implement a functional system that can handle stock control and other production activities of the company.

1.3. AIM AND OBJECTIVE OF GOOD STORE KEEPING

A good store keeping should achieve the following objectives.

- (i) Protection of materials from losses due to fire, theft evaporation obsolescence e.t.c.

- (ii) Avoiding overstocking and under under stocking of materials
- (iii) Economical use of storage space
- (iv) Up to date store record
- (v) Immediate location of materials required
- (vi) Facilitate perpetual inventory system
- (vii) Speedy receipt and issues of store
- (viii) Securing the store from pilfering
- (ix) Minimize storage cost

1.4. SCOPE OF THE STUDY

This study will focus on determining the quantity that will be economical in terms of cost of purchasing the cost of storage cost damages as a result of long period of storage in the store and the store routine that is the necessary documents that are needed for the purchase of raw material and transferring of work in progress from one department to the other, the inventory system that is stock taking and the method of pricing materials issues from the store to the production department and the computerization of it.

1.5. BRIEF HISTORY OF TWIN INDUSTRIES LIMITED KONTAGORA

Twin Industries limited is a Manufacturing Organization that produce tissue paper. The company was establish six year ago in 1997 by Connel Sanni Bello (Rtd). The tissue paper enjoy wide patronage in Niger state and other part of the country. The aim of this establishment is to create employment opportunities to the Youth and profit making venture which is the sole aim of every manufacturing

organization. The staff strength of the company is about fifty workers and have major distributor of their product within and outside Niger State.

1.6. ORGANIZATION STRUCTURE OF TWIN INDUSTRIES LIMITED.

The organizational structure of Twin industries can be seen in fig 1.1. below where the Managing Director Oversee all the affair of the company. The organization is divided into five departments, which are production, personnel, finance, marketing and store department.

The production department is subdivided into four sections, which are grinding, recycling, cutting and wrapping departments. In the grinding section white waste paper, cool water starch with Hth Granular (chlorine) are been grinded together before passing the work in progress i.e. the grinded materials to the recycling department where water are being separated and dried to form tissue paper. These tissue paper are made in lager wills the work in progress is transfer to the cutting department where the tissue paper are cut into smaller rolls with cone before wrapping with celophine in the wrapping department.

There is the personnel finance and marketing and store department where all materials are kept.

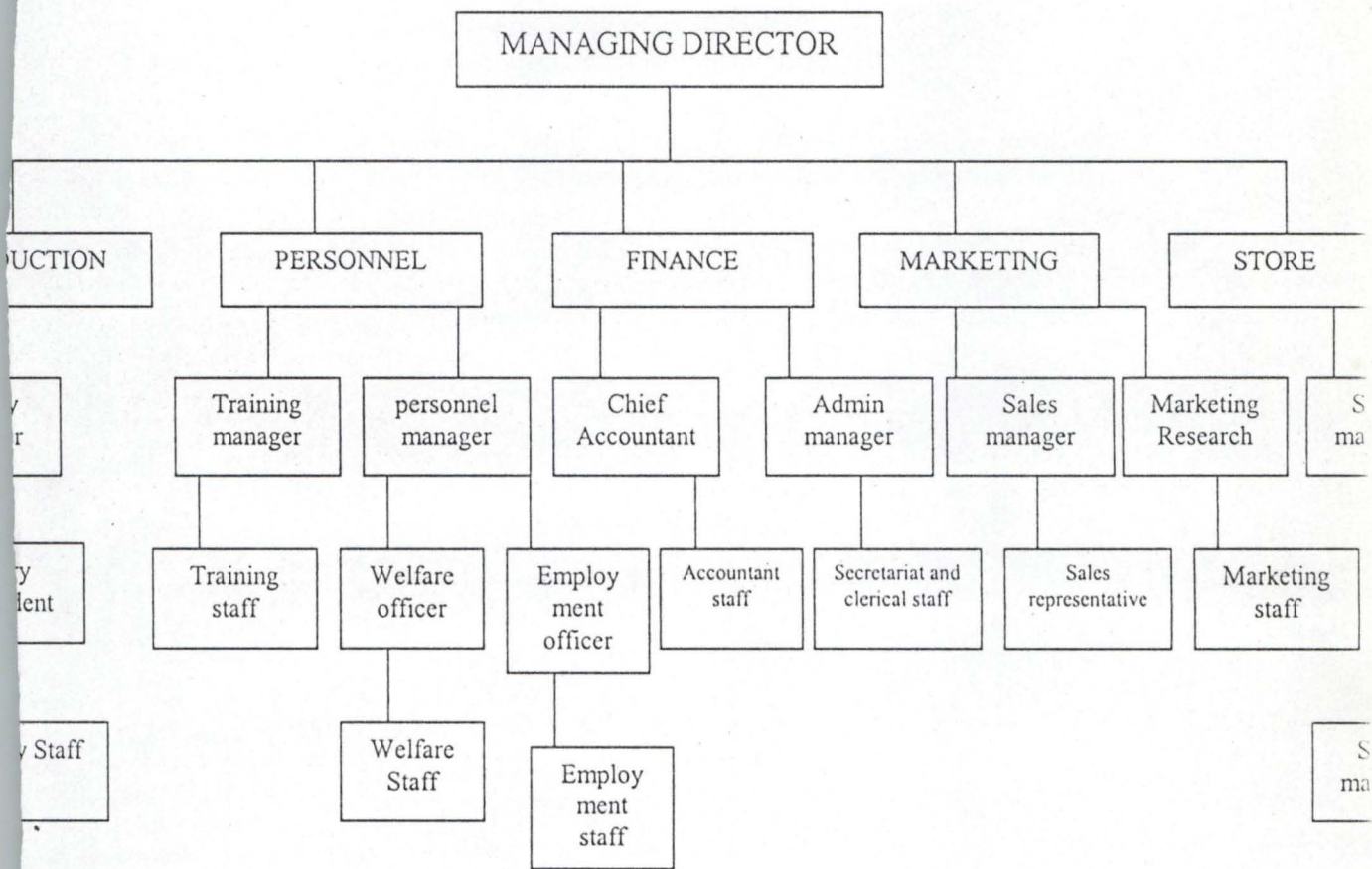
The store items include

- (1) White waste paper
- (2) Cool water starch
- (3) Cones
- (4) Celophines

- (5) Lubricants
- (6) Hth Granular (chlorine)
- (7) Stationeries
- (8) Gas energy
- (9) Metal tool (equipment)
- (10) Fuel station

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ORGANIZATIONAL CHART



CHAPTER TWO

2.0. ORGANISATION AND LOCATION OF STORE

There are two type of stores Organisation, According to M. N. ARORA (5) of Hons Ray College Delhi University, the central stores and departmental sub stores it is ideal to have one central stores for receiving and issuing all materials. In large factories where there are many production department, the location of the central store may not be convenient to all such department therefore it is always advantageous to maintain sub store department

Sub store are always located at the department but the central over all sub store should be centralized and the store keeper of each sub store should be responsible to the chief store keeper. This will ensure a uniform policy of purchasing, storing and issuing materials. It is not always recommended that a particular type of store organization and location should be maintain but the one that will be advantageous to the organisation either central store or sub store or the two are maintain, the advantage of keeping a central store are

- (i) Smaller stocks are required and the over all capital tied up is reduced. A number of departmental store inevitably lead to higher stock holding.
- (ii) Less risk of duplication: - there is not always the risk of over stocking a particular materials
- (iii) Specialize and expert staff can be concentrated in one department, higher quality staff are employed to specialize in various aspect of the store keeping.
- (iv) Close control is possible on the central site stock can be checked with greater care.

- (v) Clerical cost are reduced because of the centralization of store records and some aspect of the paper works may be reduced e.g. purchase requisition and stock taking is facilitated.
- (vi) It results to fewer obsolete articles
- (vii) There is always possible more security from pilferage.

The disadvantage of maintaining a central store is always the advantages of the sub store and they are

- (1) Transportation cost are increased particularly when department requiring materials are located at a considerable distance from the central store
- (2) Protection stoppage in department is possible because of break down in transport or hold up in the central store.

2.1. CLASSIFICATION AND CODIFICATION OF MATERIALS

In order to avoid length and ambiguity in description and names of materials a symbol may be assign to each item of materials which are known as code.

According to costing by T. Lucey 1995 codification is the procedure of systematic assignment of symbol for each items of store coding is also a system of symbol designed to be applied to a classified set of items to give a brief accurate reference facilitating entry collection and analysis.

Classification of materials refer to grouping of materials according to their nature in a suitable categories. It can also be refer to the arrangement of items in logical group having regard to their nature or purpose. For example Copper, Iron, Aluminium may be classified as metal. Items like soap cotton waste, lubricating oil may be

classified as consumable stores and all form of tools including jigs and fixtures may be classified as tools.

The major advantage derived from these use of classification and codification are as follows.

Ambiguity in description is avoided as a particular code can refer to only one type of item.

The clerical work is reduced as length in description is minimized.

It helps in maintaining secrecy of materials used in production and the coding is essential to mechanised accounting.

Basic principles of coding

In assigning codes some basic principles should be kept in mind and are.

Exclusive: Each code number should relate to only one type of materials and there should be no duplication.

Brief: Code should be brief as long codes takes longer to write and are more subject to error.

Elastic: The code should be in such a way that new materials can be added easily and logically.

Mnemonic: As much as possible code should be easier to remember such as HCW Hard copper wire

System of coding

Numerical: In this method a number is allotted to each item sub group are always indicated by decimal. In a store system the following codes may be assign

Coal	11
Wood	12
Copper	13
Aluminium	14
Bronze	15

Material that have physical characteristics can be indicated in the code by decimal example of copper (13)

Copper Sheet	13.1
Copper Bar	13.2
Copper granules	13.3
Copper Wire	13.4
Copper Tubes	13.5

There can also be subdivision of copper Bar (13.2) into various grades coded as follows

Copper bar Grade 1	13.21
Copper bar Grade 2	13.22
Copper bar Grade 3	13.23

The numerical method allow a wide range

Alphabetical: - each item of store may be denoted by a combination of alphabets as alphabets represent the first sound of description of materials it become easy to remember example as follows

Mild	Copper	Bar	MCB
Cast	Iron	Sheet	CJS
Stainless	Steel	Wire	SSW

Alpha - numerical this is the combination of numerical and alphabetical method example

Mild copper Bar of 6 length	MCB 6
Toughened steel tube of ¾ character	TST34
Brass strips of ¼ thickness	BS14

The code of materials should always appear on all documents relating to the movement and use of materials.

2.2. STORE RECORDS

The store records include the perpetual inventory Record on which is entered the pattern of movement of store receipt and issues and also the balance in store and are Bin card and store ledger while the document are used to authorize movement of materials into and out of stores and these include the Good Received note store Requisition note, Bill of materials, natural Return note e.t.c.

Bin card: They show only basic information relating to physical movements, often maintain a record of quantity of each material. The bin card show the detail of receipt and issues of materials and the balance in stock at any time.

Store Ledger: This record give the same information regarding stores as in bin card and the money value of the materials

Good Received note: When the good are received by the store department they are inspected and checked with the supplier delivery note and a copy of the purchase order. The store department then list the materials received on a good received note.

Purchase order: Requesting the supplier to supply the material listed on the order. A copy of the purchase order is sent to receiving dept for checking.

Store requisition: It is a document which is used to authorize and record the issue of materials from store.

Material return note: When natural issue are in excess of requirement the unused materials are return to store together with a material return note.

2.3. DETERMINING REORDER QUANTITY (ECONOMIC ORDER QUANTITY)

According to M. N. ARORA (4) of Hons Ray College Delhi University, reorder is placed when stock reaches reorder level.

RONALD WHICTON (Managerial Accounting Third Edition) (5). Optimum stock level the major objective of stock control is to establish and maintain the optimum level of investment in all type of stock from Raw material to finished goods.

When establishing optimum stock level it is necessary to ensure that sufficient stock are maintain so that production requirement and customers demand can be met. On the other hand excessive stock are to be avoided since this will result in unnecessary money being tied up in stock that could be use for other profitable purpose. The optimum stock level has somewhere between these two point.

In most large organizations stock records will be kept on computer rather than Bin cards and the store keeper merely press a few key on a visual display unit to obtain detail of a particular stock item. The store keeper will normally be responsible for informing the purchasing department when to purchase various materials. If records are maintain manually the store keeper must examine Bin card to find the item that needed to be reorder.

A computerized system will provide this information at the touch of a key when items of materials have their reorder point. The store keeper make out a purchase requisition requesting the purchasing department to obtain reorder quantity from the appropriate supplier. In a computerize system the computer will automatically print a purchase requisition when stock reach their reorder point.

2.4. INVENTORY SYSTEM

There two type of inventory system periodic inventory and perpetual inventory system.

Periodic Inventory System: - Under this system According to MN ARORA Hon Ray college Delhi University stock taking is undertaken at the end of each accounting year. As stock taking involves verifying the physical quantities of store in hand.

Perpetual Inventory system is define according to Wheldun as the method of recording store balances after each receipt and issue to facilitate regular checking and obviate closing down of stock taking. Under this system current balance of store is always shown in records, any receipt being added to and any issues being deducted from the balance after each transaction.

2.5. PRICING OF MATERIALS ISSUES

When an issue is made from store, the materials requisition would be pass to the cost department to be price and extended for appropriate ledger entries to be made. At the simplest these entries would be, to be able to use some of the pricing system like Fifo, Lifo e.t.c. The stock

reordering system is comprehensive enough not only to record overall quantities and prices but also the number or quantity received in any one batch. According to T. LUCEY.

First in first out (FIFO): - Issues are price at the price of the oldest batch in stock until all unit of the batch have been issued when the price of the next oldest is used and so on. In this method first material purchased are the first material consumed and thus the next material purchase the price of the first batch of material purchased are used for all issues until all materials if fully exhausted the price of the next batch of material purchase becomes the next issues.

Last in first out (LIFO): - Issues are charged out at the price of the most recent batch received and continue to be charge thus until a new batch is received. It is base on the assumption that the last material purchased are the first material issued. Thus the price of the last batch of material purchased is used for all issues until all units from this batch have been issued after, which the price of the previous batch is used.

Simple Average Method: - Simple Average price is calculated by adding all the different prices and dividing by the number of such price.

2.6. INVESTIGATION OF THE EXISTING SYSTEM

The store section work hand in hand with other production department. When ever stock of raw materials is about to be exhausted the store department issues purchase order to replenish their

stock before the necessary recording are writing in the store books which include good received note, Bin cards e.t.c. The analysis of the existing system of store routine and pricing of Twin industries was found to be full of loop holes which will be discuss below in the limitation of the existing system.

2.7. LIMITATION OF THE EXISTING SYSTEM

The following are the limitation of the current system:

- (i) Information are not processed on time since all the processing depend on the clerks and officer concerned.
- (ii) The speed with which data is accessed is very slow since a lot of files have to be checked
- (iii) No responsive service between the stores and the other sections of the company
- (iv) There is always a lot of duplication of information
- (v) The current system encourage loss of material and pilferaging
- (vi) Immediate location of material is not facilitated in the current system

CHAPTER THREE

3.0. SYSTEM ANALYSIS AND DESIGN

The emphasis of system design is to develop a new system that help achieve the goals and objective of the organization and overcome some of the short comings and limitation of the existing system.

The process of collecting and analysing fact in respect of the existing operations or procedure of the prevailing situation so that effective computerized system can be designed and implemented if prove feasible.

Also it is concern with converting the objective of the management as far as information and data are concern into method that can be to process by a computer.

Therefore system analysis and design may be define as the method of determining how best to use computer with other resources to perform task which meet the information need of an organisation. It is basically a problem solving procedures.

The system analyst is an individual who perform the system analysis and design process. They can also be referred to as method individual who can start with a complex problem break it down and identify the reasonable solution. They study the existing system and comes up with superior alternative.

It is the duty of an analyst to study the existing situation in Twin industries limited and comes out with the short comings and limitation of the existing system by investigating and now analysis it before improving on the limitations by designing a new system after which it would be tested and implemented.

3.1. SYSTEM DESIGN

The system design is to develop a new system that help to achieve the goal and objective of Twin industries limited and overcome some of the short coming and limitation of the existing system. If the problem are minor only small modification are required on the other hand major changes or alternative may be suggested. In order to make the design of store routine and pricing system of Twin industries limited a reality we will consider the Data in terms of stock items, interactive design and the General design element in which input design, functional design, output design, process design, file and data base design, personnel and job design and the procedure design will be considered.

Data: - This is the raw materials or input to any data processing system and this will include Bin cards, store ledger, good received notes, purchase order, material requisition note which are records of most of the stock item which include white waste paper, cool water starch cones, celophines lubricants Hth Granular (chlorine), stationeries, gas energy, metal tools and fuel consumption.

Interactive design: - Interactive processing are used in most computer system through computer terminals (Key board and mouse e.t.c.) the computer and user respond to each other in real time mode within seconds or minutes. This design approach includes menu driven system with this system the user or operator simply picks what he or she wants to do by means of mouse or keyboard and the computer provides the menu. Users only respond to question

computer ask and the task will be done. This approach will be use in the propose system because most of the workers in Twin industries do not have extensive computer knowledge.

3.2. GENERAL DESIGN

(a) **Input design:** - it is the data processing functions of obtaining original data and placing it into the data processing system and where consideration would be given to data collection method, which will be through record books, interview, Questionnaire e.t.c. Type of input media available, which are keyboards, scanner, disc and diskette; the volume of the input document and the design of input layout.

(b) **Output Design:** - output is the result of the processed activities. The design form in which the output will be produced in term of sizes, type of paper and the quality to be used. Identification of brief self explanatory titles, vertical spacing, columns e.t.c. The type of output media that will be use, which are printers set up to accommodate different papers the video display unit which is the screen

(c) **Functional Design:** - the proposed system has a top to bottom modular approach. Each module has on entry print and one exit point. The module at the top of the structure makes decisions that directs and control the modules below or at the bottom. Each module performs one general function; such as reaching data, making a computation or outputting result which will meet the organizational requirements.

(d) Process Design: - Processing is the manipulation classification sorting summarizing, calculation and storage of input data to product desired output result to meet the functional requirement of the organization.

1. **Program Design;** - program is a set of instructions used to direct or control the operation of the computer in order to solve a problem or to perform a particular task. Coding is the process of writing instructions in a programming language. A program flow chart is a diagram that uses symbols and interconnecting lines to show logic and sequence of specific program operations.
2. **Designing for Performance:** - There are three common measures of performance response time, through put availability.

Response Time; the time that elapses between the initiation of a programmes and the availability of the result. It is a function of the volume of information processing and the speed capacity of the system.

Though Put: it is the amount of the work the system can process in a unit of time.

(e) FILE AND DATABASE DESIGN

File is a collection of records while Database is a collection of integrated and related master files. The arrangement of database exterminates data redundancy. Access to file is provided by Database management system. Data base management system is a software package that manages and maintain data to facilitates the processing of multiple application.

(i) Database Descriptions

The main database needed for computerization of store routine and pricing system are purchase requisition, purchase order form ,good received notes, Bin cards, store ledger Account, store requisition notes.

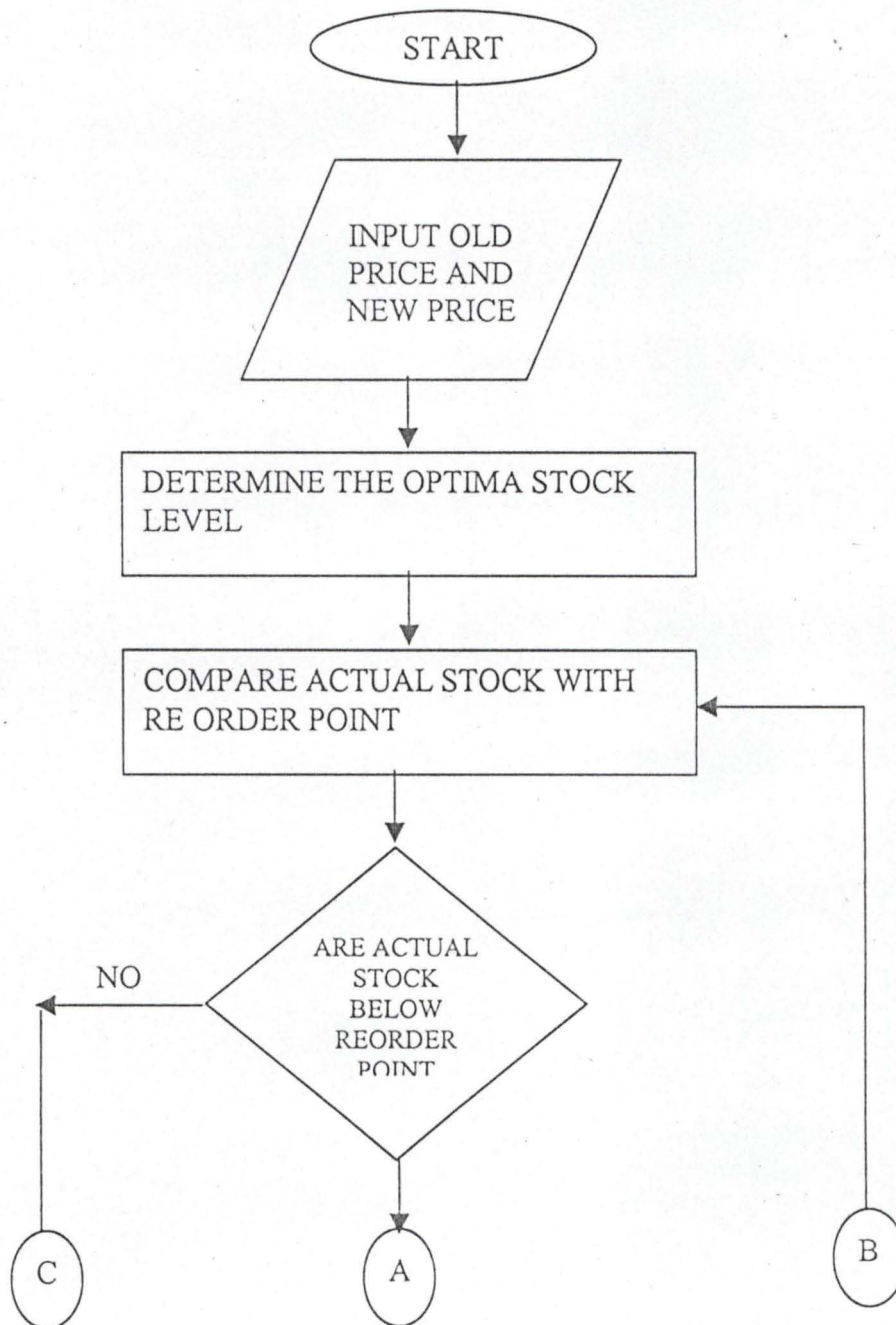
- (a) Store requisition note: - It consist of the requisition number item number, quantity require, quantity supplied
- (b) Purchase requisition: - this is a file for all purchase made. It contains the purchase number quantity ordered, unit cost quantity received balance of the item order issue states, order date purchase number
- (c) Good received note: - This is file that contain all good received when supply is made and it contains Date received, quantity received and the cost.
- (d) Bin Card: - this file contains all records of store items, the quantity of stored items Date of storage, Job numbers.
- (e) Store ledger This is where the value of the store items and their quantity are recorded, quantity, the price, Date Job number, requisitions are contain

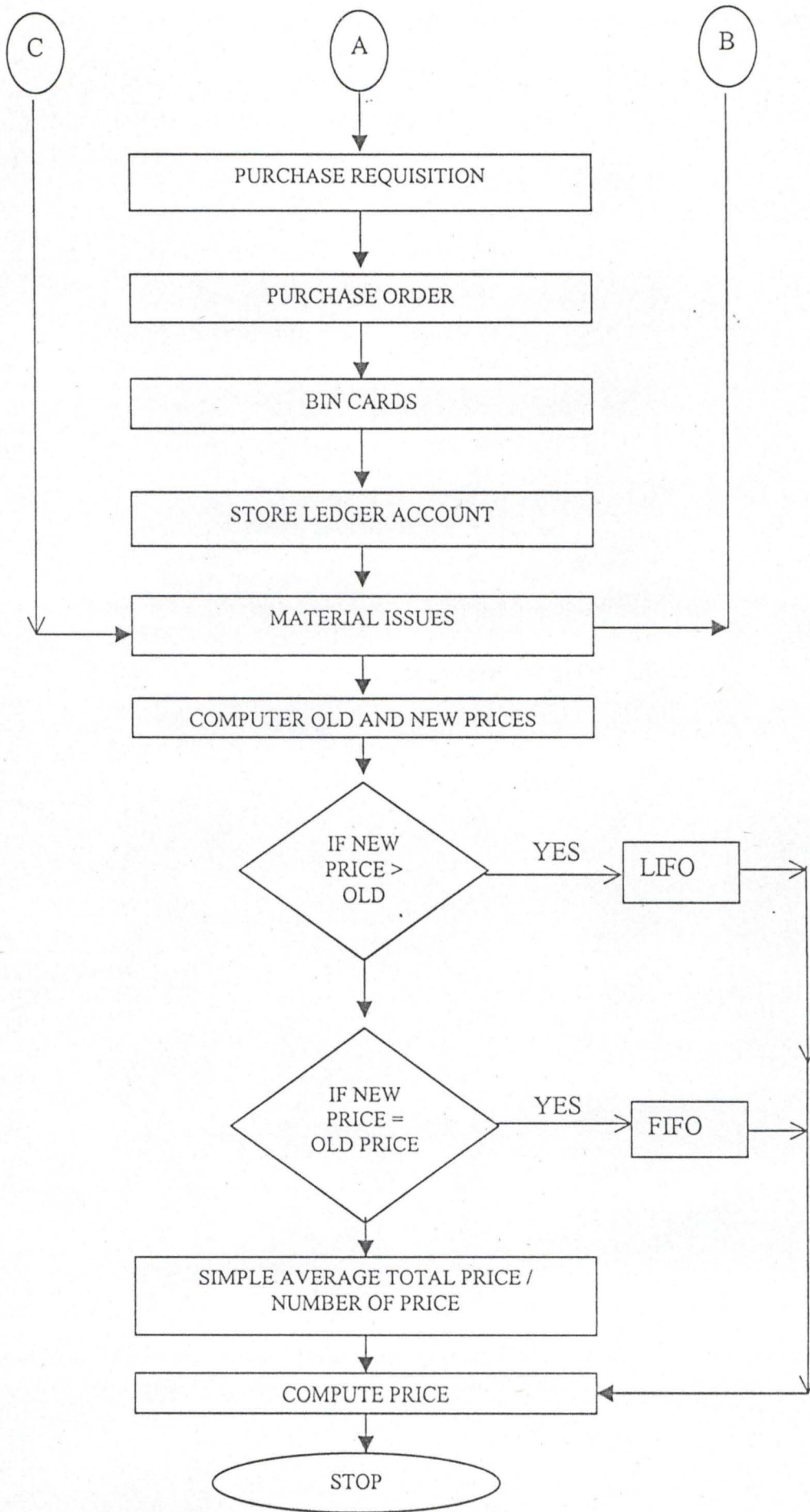
(f) PERSONNEL AND JOB DESIGN

This take into consideration the individual that would be using the system. It also considered the level of expertise and specialization of staff. If a person is not qualified to work with a particular section records the access level would be specified and strictly adhered to.

(g) PROCEDURE DESIGN

These are steps that unify the whole process it links everything together to produce a desired output and could be shown in the flow chart below





3.3. COST AND BENEFIT ANALYSIS

Cost of changing the existing system

Since the existing system is a manual one and the system that will be change to is a computerized one the cost of changing the whole system will be analysis below

Items	Cost
System Analysis	25,000.00
Soft ware acquisition	20,000.00
Cost of computer system	100,000.00
Cost of printer	30,000.00
Installation cost	10,000.00
Computer stationeries (for 12 months supply)	10,000.00
Hiring and training of personnel	30,000.00
Personnel (cost per annum)	90,000.00
Networking system	<u>60,000.00</u>
Total	<u>375,000.00</u>

3.4. BENEFIT OF CHANGING THE EXISTING SYSTEM

The following are the benefit of changing the existing system

- (1) It will reduce the duplication, inconsistency on data
- (2) It will promote share ability of the data and its integrity
- (3) The number of personnel working on stock of materials will be greatly reduced
- (4) Accuracy with which data is processed is increased
- (5) Loss of forms and documents will not course major problems.
- (6) Human error is reduced
- (7) Maintenance cost is cheap
- (8) Auditing is simplified.

3.5. CHOICE OF PROGRAMMING LANGUAGE

Visual basic is the programming language chosen for the proposed work. Visual Basic is the fastest and easiest way to create application for Microsoft windows. It provide a complete set of tools to simplify rapid application development.

The visual part refers to the method used to create the graphical user interface (GUI). Rather than writing numerous lines of code to describe the appearance and location of interface elements, you simply add prebuilt object into place on screen.

The "Basic" part refers to the BASIC (Beginners All-purpose Symbolic Instruction code) language, a language used by more programmers than any other language in the history of computing. Visual Basic has evolved from the original BASIC language and now contains several hundred statements, functions and key words, many of which relate directly to the window GUI.

The Visual Basic programming system Applications Edition included in Microsoft Excel, Microsoft access and many other windows applications uses the same language. The Visual Basic scripting Edition (VB Script) is widely used scripting language and a subset of Visual Basic Language. The investment you make in learning Visual basic will carry over to these other areas.

Whether your goal is to create a small utility for yourself or your work group, a large enterprise wide system or even distributed applications spanning the globe via the internet, Visual Basic has the tools you need.

Data access features allow you to create database, front end applications and scalable server – side components from must popular

database formats including Microsoft SQL server and other enterprise – level database.

Active X[™] technologies allow you to use the functionality provided by other applications such as Microsoft word, Word processor, Microsoft Excel spread sheet and other window applications.

Internet capabilities make it easy to provide access to documents and applications across the internet or internet from within your application or to create internet servers applications.

3.6. FEATURES OF PROGRAMMING LANGUAGES

Visual Basic is available in three versions, each geared to meet a specific set of development requirements

The Visual basic learning edition allow programmers to easily create powerful application of Microsoft window and window NT. It includes all intrinsic controls, plus grid, tab and data bound controls. Documentation provided with this edition includes the learn VB now CD plus the Microsoft Developer Network (MSDN[™]) Library CDs containing full online documentation.

The professional edition provides computer professionals with a full-featured set of tools for developing solutions for others. It includes all the features of the learning edition, plus additional Active X controls, the internet information server. Application Designer, Integrated visual database tools and Data Environment, Active Data objects and the Dynamic HTML page Designer, documentation provide with the professional edition includes the visual studio professional features book plus Microsoft Developer Network CDs containing full on line documentation.

The Enterprises edition allows professionals to create robust distributed applications in a team setting. It includes all features of the professional edition, plus Back office tool such as SQL server, Microsoft Transaction server, Internet Information server, visual source safe, SNA server and more. Printed documentation provided with the Enterprise edition.

Visual basic provides the tools that you all need to get the Job done right and it includes:

CREATING A USER INTERFACE

In – depth coverage of interface styles, forms, menu, tool bar and more

Using visual basic standard controls

Covers Visual basic intrinsic controls and how you can use them.

More about programming

A discussion of more about programming concepts techniques and additional tool available in visual basic.

Programming with objects

In – depth coverage of object, including creating classes and using Active X Designers.

Programming with components

Covers techniques for using active X components in your own applications.

Responding to mouse and keyboard events

A discussion of processing user input, including dray and drop

Working with Text and Graphics

Explain how to use Visual basic's text and graphics method for display and printing.

Debugging your code and handling errors

Explain what to do when something doesn't work as planned, either at design time or runtime

Processing Drives, folders and files

Techniques for working with the file system

Designing for performance and computibility

Optimization techniques to make your applications faster or smaller

International issues

A discussion of considerations for multilingual and multicultural applications

Distributing your application

Explain how to use the package and deployment wizard to create installation programs.

CHAPTER FOUR

4.0. SYSTEM IMPLEMENTATION

This involves coordinating and controlling all that is involved in putting the new system into operation and it involves:

4.1. SOFTWARE DEVELOPMENT

In a computer base system it will require computer programs to operate when implementing. Software may be combination of software packages and internally developed programs that is software is been developed within the company. The application software for computerizing the store routine and pricing system of Twin Industries Limited Kontagora was developed after the technical operations and economic feasibility of it has been considered.

4.2. HARDWARE ACQUISITION

If the new system will need additional hardware it is the duty of the system analyst to evaluate hardware alternatives and to prepare that physical site for the new equipments software development step will dictate the hardware acquisition and he must request proposal from different maker and evaluate them. Before the arrival of this new equipment he must determine the site and prepare it. Some of the hardware equipment that will be acquired in Twin industries are the central processing system, uninterrupted power supply, printer, the keyboard and the necessary furniture.

4.3. SITE PREPARATION

For the preparation of the actual location for the new data processing system, the account office, store office and the conference room are utilized. The rearrangement of furniture, placement of air condition system and implementation of new security measures are necessary for the preparation.

4.4. DATA PREPARATION

All files are converted to computer files. Three data entry operators are hired and two of their clerks are show how to convert ordinary data to computer files which will be managed later by the clerks.

4.5. HIRING AND TRAINING OF STAFF

Training is necessary so that the worker will understand their responsibility in making the system work. In the training exercise two group of people will need to be trained the technical personnel who will need to be trained. The technical personnel who will develop operate and maintain the system. The user and their manager.

Since Twin Industries Limited Kontagora is a big company about three data processing personnel are hired and three of their clerks are trained on how to use the computer and the application packages since they would be using the system and it success depends on them the fear and apprehension of the staff is reduced during the training.

Some training can begin early to increase the involvement of users in the new system to lessen the shock of adjustment and maintain support between the two groups.

4.6. SYSTEM INSTALLATION

This is the physical placement of the computer equipment on the site and making it operational by installing the necessary operational programmes. The system is tested to ensure that it is working normally. The software programme developed can be installed from the disc to the computer hard disk.

This is also the process of transferring the developed programme from floppy disk to the computer hard disk.

However, due to vast improvement in operating system the installation is a very simple operation. The procedure is as follows

STEP	PROCEDURE	RESULT
1. Go to Start	Click	Start popup menu is displayed
2. Run Submenu	Click	Run dialog box displayed
3. Insert name diskette into A	—	—
4. Type the source drive (A:\)	Browse	Counter of A:\ displayed
5. Select Setup	Double click	Installation begins
6. Follow the instruction that follow		
7. Destination	—	Software installation (:\) successfully

Brining the software from dos environment (C:\) to window sub menu program and the operation is as follows

Steps	Procedures	Result
1. go to start	Click	
2. setting submenu	Click	Task bar dialog box displayed
3. Choose task bar and start menu	Click	
4. Select start	Click	
5. browse to select name of software	Double click	
6. select folder	Click	
7. Destination	Click	New software copies into program submenu successfully

At the end of the installation the floppy diskette become a backup and should be well protected to guard against any damages because it might still be good for future use.

4.7. SYSTEM TESTING

Testing consist of feeding dummy or made up data into the system following it as it is converted to information and evaluating the results. The system analysts monitor this activity with the programmer and make what ever modification are needed.

This will take about a month considering the size and the complexity of the system involve.

Testing begins after installation of hardware and software. Not only the equipment and programmes are tested but also the operating procedures.

During the shake down phase, software hardware and procedures are each tested separately and then combined and tested as a group.

4.8. SYSTEM CHANGEOVER

The changeover from the old to the new system make take place when

- (a) The system has been proved to the satisfactory of the system analyst and other implementation activities has been completed.
- (b) The schedule date for change over is due and the conversion can be in this form
 - (i) Direct Conversion; - This consist of completely discontinuing the old way of operations and immediately implementing the new one
 - (ii) Parallel conversion: - In this method the old and new systems are operated side by side until the new one has shown its reliability and every one has confidence in it. The old one is then discontinued.
 - (iii) Pilot Conversion: - only a part of the organisation tries out the new system. One part may act as a test site before the new system is implemented through out the organization it must prove itself at the test site
 - (iv) Phase conversion: - in the phase conversion, a new system is implemented over a period at time gradually replacing the old.

4.9. MAINTENANCE

This process includes the periodic checking of the computer system to make sure everything is operating as intended and taking corrective action when necessary. In addition to hardware, software is also maintained.

The purpose of this stage therefore is to monitor and evaluate the current operations of the system and to modify it when necessary.

Some modification may arise from sudden unexpected problems and quick evaluation and changes will be required. Some may be brought about because of less dramatic gradual changes which may be difficult to identify but whose in the long run will reduce system efficiency.

4.10. OBSERVATION

The proposed system that is being implemented in Twin industries ltd has been observed and working according to plan.

All necessary documents are now in the new system the old system of which is through manual files have now been change over to computer files.

Output description

The output of the store routine and pricing system is in form of screens display and reports. The screen are visible on the computer terminal where as report can either be printed directly from the computer via a printer that is attached or spoiled to files and viewed.

These reports keep the user in control of the store records and some of key report include.

- (A) Report on requisition of items: - This list for each stock item the requisition number, requisition states, item number issues status job, number Quantity Required, Quantity supplied and Balance.

- (B) Report o Store Ledger; - it provides information on group of stock items, description, code number of item, quantity in store and the Amount
- (C) Report on purchase: - it list information on order Date, purchase number, item number, ,quantity Required, unit cost, total order receipt date total record.
- (D) Report on issues: - list information on Tequisition number, issues Date, issue number, issue type Description

4.11. DOCUMENTATION

Documentation is very important for a programme to be understood by the end user of the program and programmer at a later stage.

The program itself contain comments or remarks stating exactly what various part of the program are to do.

The technical documentation is of utmost importance to the programmer and other programmers that will update or make some amendment on the program. Incase of damage in the nearest feature.

The output of the program are shown in the next page.

Menu : Form

Purchase Requisition	LIFO Store Ledger Acct.
Purchase Order	Simple Average Store Ledger Acct.
Good Receive Note	FIFO Store Ledger Acct.
Bin Card	Stores Ledger Account
⌂	

Record: 14 of 1

PURCHASE REQUISITION



No	1	Pur. Order Number	001
Department	Requisition Department	Supplier	King Nig Ltd
To be Delivered at	30, Bello, Kontangora	Delivery Date	06/02/03
Date	01/02/03	Requisition By	Mr. Gims Abobby
Date Required	06/02/03	Approved By	Mr. James Abobby

SUB TABLE.....

Item No.	Quantity	Description and code no	Purpose
▶ 1	300	HTH Granular	Production
2	400	White Waste Paper	Production
3	500	Gas Energy	Production
* (AutoNumber)			

Record: 14 | 1 | 1 | of 3

Record: 14 | 1 | 1 | of 1

PURCHASE ORDER



Please supply the following subject to the terms and conditions given on reverse side of this purchase order:

No: Chief Buyer:
Supplier:
Date:
Place Of Delivery:
Date Of Delivery:

SUB TABLE OF PURCHASE ORDER

	Id	Quantity	Description	Unit Price	Amount
▶		300	HTH Granular	250	75,000
		2 400	White Waste Paper	200	80,000
		3 500	Gas Energy	650	325,000
*	(AutoNumber)				

Record: 14 | 1 | | ▶ | ◀ | ▶ | ▶ | of 3

Record: 14 | 1 | | ▶ | ◀ | ▶ | ▶ | of 1

GOOD RECEIVED NOTE



No: Quantity Rejected:
 Supplier: Reason For Rejection:
 Advice Note No: Inspected By:
 Purchase Order No: Date:
 Quantity Passed: Received By:

SUBMENU GOOD RECEIVED NOTE

	Gid	Quantity	Description	No of Packages	Gross Weight
		1 300	HTH Granular	2	250
		2 400	W.W. Paper	2	64
		3 500	Gas Energy	1	300

* (AutoNumber)

Record: of 3

Record: of 1

Report Template For Bin Card..

Bin No... 1 Re-order Qty 800

Description HTH Granular Code No.

Minimum Level 300 Unit

Re-order Level 300 Store Lg. Folio

		Receipt		Issues		Balance
Date	Ref. No.	Quantity	Ref. No.	Quantity	Quantity	
1 July '97	-	-	-	-	500	
4 July '97	GRN 574	400	-	-	900	
6 July '97	-	-	SRN 251	600	300	
8 July '97	GRN 578	800	-	-	1100	
9 July '97	-	-	SRN 258	500	600	
13 July '97	-	-	SRN 262	300	300	
24 July '97	GRN 584	500	-	-	800	
28 July '97	-	-	SRN 269	400	400	

Report Template For Stores Ledger Account

date	Receipts			Issues			Balance				
	Ref	Qty(kg)	Rate(=N=)	Amt(=N=)	Ref.	Qty.(kg)	Rate(=N=)	Amt(=N=)	Qty(kg)	Rate(=N=)	Amt(=N=)
1 July '97	-	-	-	-	-	-	-	-	500	20	10000
4 July '97	GRN574	400	21	8400	-	-	-	-	500	20	1000
-	-	-	-	-	-	-	-	-	400	21	8400
6 July '97	-	-	-	-	SR25	500	20	10000	-	-	-
-	-	-	-	-	-	100	21	2100	-	-	-
-	-	-	-	-	-	-	-	-	300	21	6300
8 July '97	GRN578	800	24	19200	-	-	-	-	300	21	6300
-	-	-	-	-	-	-	-	-	800	24	19200
9 July '97	-	-	-	-	SR25	300	21	6300	-	-	-
-	-	-	-	-	-	200	24	4800	600	24	14400
13 July '97	-	-	-	-	SR26	300	24	7200	300	24	7200
24 July '97	GRN584	500	25	12500	-	-	-	-	300	24	12500
-	-	-	-	-	-	-	-	-	500	25	7200
28 July '97	-	-	-	-	SR26	300	24	7200	400	25	10000
-	-	-	-	-	-	100	25	2500	-	-	-

Report Template For FIFO Stores Ledger Account

date	Receipts				Issues				Balance		
	Rref.	Qty.	Rate(=N=)	Amt(=N=)	Ref.	Qty.	Rate(=N=)	Amt(=N=)	Qty.	Rate(=N=)	Amt(=N=)
1 July '97	-	-	-	-	-	-	-	-	500	20	10000
4 July '97	GRN 574	400	21	8400	-	-	-	-	500	20	1000
-	-	-	-	-	-	-	-	-	400	21	8400
6 July '97	-	-	-	-	SR251	500	20	10000	-	-	-
-	-	-	-	-	-	100	21	2100	-	-	-
-	-	-	-	-	-	-	-	-	300	21	6300
8 July '97	GRN578	800	24	19200	-	-	-	-	300	21	6300
-	-	-	-	-	-	-	-	-	800	24	19200
9 July '97	-	-	-	-	SR258	300	21	6300	-	-	-
-	-	-	-	-	-	200	24	4800	600	24	14400
13 July '97	-	-	-	-	SR262	300	24	7200	300	24	7200
24 July '97	GRN584	500	25	12500	-	-	-	-	300	24	12500
-	-	-	-	-	-	-	-	-	500	25	7200
28 July '97	-	-	-	-	SR269	300	24	7200	400	25	10000
-	-	-	-	-	-	100	25	2500	-	-	-

Report Template For LIFO Stores Ledger Account

Receipts					Issues				Balance		
Date	Ref.	Qty.	Rate(=N=)	Amt(=N=)	Ref.	IQty	Rate(=N=)	Amt(=N=)	Qty	Rate(=N=)	Amt(=N=)
1 July '97	-	-	-	-	-	-	-	-	500	20	10000
4 July '97	GRN 574	400	21	8400	-	-	-	-	500	20	1000
-	-	-	-	-	-	-	-	-	400	21	8400
6 July '97	-	-	-	-	SR251	400	21	8400	300	20	6000
-	-	-	-	-	-	200	20	4000	-	-	-
8 July '97	GRN578	800	24	19200	-	-	-	-	300	20	6000
-	-	-	-	-	-	-	-	-	800	24	19200
9 July '97	-	-	-	-	SR258	500	24	12000	300	20	6000
-	-	-	-	-	-	-	-	-	300	24	7200
13 July '97	-	-	-	-	SR262	300	24	7200	300	20	6000
24 July '97	GRN584	500	25	12500	-	-	-	-	300	20	6000
-	-	-	-	-	-	-	-	-	500	25	12500
28 July '97	-	-	-	-	SR269	400	25	10000	300	20	6000
-	-	-	-	-	-	-	-	-	100	25	2500

Report Template For Simple Average Stores Ledger Account.

Date	Ref.	Receipts				Issues				Balance			
		Qty		Rate(=N=)	Amt(=N=)	Ref	Qty		Rate(=N=)	Amt(=N=)	Qty	Rate(=N=)	Amt(=N=)
		Actual	Cum.				Actual	Cum					
1 July97	-	500	500	20	1000	-	-	-	-	-	500	20	10000
4 July97	GRN 574	400	900	21	8400	-	-	-	-	-	900	-	18400
6 July97	-	-	-	-	-	SR251	600	600	20.5	12300	300	-	6100
8 July97	GRN 578	800	1700	24	19200	-	-	-	-	-	1100	-	25300
9 July97	-	-	-	-	-	SR258	500	1100	22.50	11250	600	-	14050
13 July97	-	-	-	-	-	SR262	300	1400	24.00	7200	300	-	6850
24 July97	GRN584	500	2200	25	12500	-	-	-	-	-	800	-	19350
28 July97	-	-	-	-	-	SR269	400	1800	24.50	9800	400	-	9550

CHAPTER FIVE

5.0. CONCLUSION AND RECOMMENDATION

5.1. CONCLUSION

The store routine and pricing system of Twin industries has been computerized. The program has been carefully done with the need of the organization. Interactive processing which brings new opportunities for good and effective design in menu driven system has been successfully installed program has been tested and debugged.

The system has some advantage that make it a useful tool and are:

the system is designed to provide management with timely information

The system is ease to use

There is now high level of operating efficiency.

The implementation of the system will result in improvement in terms of accuracy security, effectiveness and reliability of store routine and pricing system of Twin industries limited Kontagora.

5.2. RECOMMENDATION

The store routine and pricing system package has been tested and found working very effectively.

However, for the system to perform effectively on real time and on line environment Pentium 2 2 3 compatible system with at least 640MB. Hard disk storage capacity and a processor speed of at least 66MH₂ is recommended because of large document to be manipulated.

In addition the clerical staff in the store section of the industries should be sent for a month or two training on computer basis and data entry.

There should be periodic evaluation and monitoring of the new system.

Adequate security should be provide for the new system.

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Resume Exit_Command2_Click

End Sub

Private Sub Command3_Click()

On Error GoTo Err_Command3_Click

Dim stDocName As String

stDocName = "BinC1"

DoCmd.OpenReport stDocName, acPreview

Exit_Command3_Click:

Exit Sub

Err_Command3_Click:

MsgBox Err.Description

Resume Exit_Command3_Click

End Sub

Private Sub Command4_Click()

On Error GoTo Err_Command4_Click

Dim stDocName As String

stDocName = "SLAcct"

DoCmd.OpenReport stDocName, acPreview

Exit_Command4_Click:

Exit Sub

Err_Command4_Click:

MsgBox Err.Description

Resume Exit_Command4_Click

End Sub

Private Sub Command5_Click()

On Error GoTo Err_Command5_Click

Dim stDocName As String

stDocName = "SAvSLActt"

DoCmd.OpenReport stDocName, acPreview

Exit_Command5_Click:

Exit Sub

Err_Command5_Click:

MsgBox Err.Description

Resume Exit_Command5_Click

```
End Sub
Private Sub Command6_Click()
On Error GoTo Err_Command6_Click
```

```
Dim stDocName As String
```

```
stDocName = "FiFoSLAcct"
DoCmd.OpenReport stDocName, acPreview
```

```
Exit_Command6_Click:
Exit Sub
```

```
Err_Command6_Click:
MsgBox Err.Description
Resume Exit_Command6_Click
```

```
End Sub
Private Sub Command7_Click()
On Error GoTo Err_Command7_Click
```

```
Dim stDocName As String
```

```
stDocName = "LifoSLAcct"
DoCmd.OpenReport stDocName, acPreview
```

```
Exit_Command7_Click:
Exit Sub
```

```
Err_Command7_Click:
MsgBox Err.Description
Resume Exit_Command7_Click
```

```
End Sub
Private Sub Command8_Click()
On Error GoTo Err_Command8_Click
```

```
DoCmd.Close
```

```
Exit_Command8_Click:
Exit Sub
```

```
Err_Command8_Click:
MsgBox Err.Description
Resume Exit_Command8_Click
```

```
End Sub
```

```
Option Compare Database
```

```
Private Sub Command0_Click()
```

```
Dim stDocName As String
```

```
stDocName = "FiFoSLAcct"  
DoCmd.OpenReport stDocName, acPreview
```

```
Exit_Command6_Click:
```

```
Exit Sub
```

```
Err_Command6_Click:
```

```
MsgBox Err.Description  
Resume Exit_Command6_Click
```

```
End Sub
```

```
Private Sub Command7_Click()
```

```
On Error GoTo Err_Command7_Click
```

```
Dim stDocName As String
```

```
stDocName = "LifoSLAcct"  
DoCmd.OpenReport stDocName, acPreview
```

```
Exit_Command7_Click:
```

```
Exit Sub
```

```
Err_Command7_Click:
```

```
MsgBox Err.Description  
Resume Exit_Command7_Click
```

```
End Sub
```

```
Private Sub Command8_Click()
```

```
On Error GoTo Err_Command8_Click
```

```
DoCmd.Close
```

```
Exit_Command8_Click:
```

```
Exit Sub
```

```
Err_Command8_Click:
```

```
MsgBox Err.Description  
Resume Exit_Cmd8_Click
```

```
End Sub
```

On Error GoTo Err_Command0_Click

Dim stDocName As String
Dim stLinkCriteria As String

stDocName = "PurRq1"
DoCmd.OpenForm stDocName, , , stLinkCriteria

Exit_Command0_Click:
Exit Sub

Err_Command0_Click:
MsgBox Err.Description
Resume Exit_Command0_Click

End Sub

Private Sub Command1_Click()
On Error GoTo Err_Command1_Click

Dim stDocName As String
Dim stLinkCriteria As String

stDocName = "POrder1"
DoCmd.OpenForm stDocName, , , stLinkCriteria

Exit_Command1_Click:
Exit Sub

Err_Command1_Click:
MsgBox Err.Description
Resume Exit_Command1_Click

End Sub

Private Sub Command2_Click()
On Error GoTo Err_Command2_Click

Dim stDocName As String
Dim stLinkCriteria As String

stDocName = "GReN1"
DoCmd.OpenForm stDocName, , , stLinkCriteria

Exit_Command2_Click:
Exit Sub

Err_Command2_Click:
MsgBox Err.Description
Resume Exit_Command2_Click

End Sub

```
Private Sub Command3_Click()  
On Error GoTo Err_Command3_Click
```

```
Dim stDocName As String *
```

```
stDocName = "BinC1"  
DoCmd.OpenReport stDocName, acPreview
```

```
Exit_Command3_Click:  
Exit Sub
```

```
Err_Command3_Click:  
MsgBox Err.Description  
Resume Exit_Command3_Click
```

```
End Sub  
Private Sub Command4_Click()  
On Error GoTo Err_Command4_Click
```

```
Dim stDocName As String  
  
stDocName = "SLAcct"  
DoCmd.OpenReport stDocName, acPreview
```

```
Exit_Command4_Click:  
Exit Sub
```

```
Err_Command4_Click:  
MsgBox Err.Description  
Resume Exit_Command4_Click
```

```
End Sub  
Private Sub Command5_Click()  
On Error GoTo Err_Command5_Click
```

```
Dim stDocName As String  
  
stDocName = "SAvSLActt"  
DoCmd.OpenReport stDocName, acPreview
```

```
Exit_Command5_Click:  
Exit Sub
```

```
Err_Command5_Click:  
MsgBox Err.Description  
Resume Exit_Command5_Click
```

```
End Sub  
Private Sub Command6_Click()  
On Error GoTo Err_Command6_Click
```