AN INTERACTIVE ON-LINE DISTRIBUTION SYSTEM FOR A CHAIN OF SUPERMARKETS COMPANY: A CASE STUDY OF BASITA SUPERMARKETS, KITINTALE BRANCH, KAMPALA

BY

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DECLARATION

I **Mujuni Rogers**, hereby declare that this is my original work and it's to the best of my knowledge and that it has never been presented by any other person or institution for any academic award in and outside Kampala International University.

Signature:.....

(MUJUNI ROGERS)

Date:29/07/2011

APPROVAL

This research report was conducted under my supervision and is hereby submitted for examination with my approval as the designated University Supervisor.

(ENG KASAWULI FAIK BAWONGA)

Signature.....

Date.....29th July 2011.....

DEDICATION

I dedicated to my parents Mr. Baitwababo Aloysius, Mrs. Baitwababo Leontina and sisters especially Carol Biatwa, who have been very supportive. This is in appreciation of their friendship as well as moral, physical and financial support. I also dedicate this piece of work to my supervisor for his guidance and supervision.

ACKNOWLEDGEMENTS

I feel indebted to many people for the help, advice and support in as far as my education is concerned. Special thanks go to my father, my mother and my sister Carol Buzaare for their continued support.

I also wish to thank the management and staff of Kampala International University for providing most of the information and advice. Special thanks go to my supervisor for his guidance, positive criticism and support in the production of this work.

Lastly to all my friends, within or out of the university, and the entire community at large, who have, in one way or another helped me in my education.

LIST OF ABBREVIATIONS/ACRONYMS

CAD	-	Computer Aided Design
CAM	-	Computer Aided Manufacture
IDEs	-	Integrated Drive Electronics
SDLC	-	Systems Development Life Cycle
DFD	-	Data Flow Diagrams
ERD	-	Entity Relationship Diagrams
HTML	-	Hyper Text Make up Language.

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ABSTRACT/EXECUTIVE SUMMARY

This dissertation is entitled "An interactive On-line distribution system for a chain of supermarkets", it is presented as a result of a research that was carried out at Basita Supermarket at the Kitintale main branch in Kampala, Uganda. The study was carried to indentify the current problems at Basita super market, and then design a better system to improve service delivery and customer care at the supermarket.

CHAPTER ON

INTRODUCTION

1.0 Background of the study

An Interactive on-line distribution system comprises a search server, a data distribution server, a download terminal connected to the search server through the data distribution server, and a personal terminal to which the search server is connectable, the search server including a database for storing a plurality of titles of distribution information.

Title search means for searching the titles stored in the database for a title designated for subscription from the personal terminal, and subscription information storage means for storing the title searched out by the title search means and identification information transmitted from the personal terminal, the data distribution server including distribution information storage means for storing the distribution information.

The download terminal may further include settlement means for performing a settlement in regard to the transmission of the distribution information for the personal terminal. The online distribution system may further comprise a cache server in which part of the distribution information stored in the distribution information storage means of the data distribution server is stored in advance.

In this instance, the download terminal acquires, when the distribution information of the title corresponding to the identification information stored in the subscription information storage means of the search server is stored in the cache server, the distribution information from the cache server, but acquires, when the distribution information is not stored in the cache server, the distribution information from the distribution information storage means of the data distribution server.

Basita supermarket was started in 2000 by Mr. Mwongere Methodius with an aim of providing quality products to Ugandans. Later the supermarket expanded into many other

branches in many parts of Uganda including Mbarara, Gulu, Ibanda, Kabale, Mbale, Soroti and so many other Ares.

Basita super market is situated on Kitintale hill opposite Kitintale market. It was started to offer shopping services to all Ugandans with many branches across the country. Basita super market offers all shopping services with a varsity of quality products at cheap prices including Electronics, Drinks and Wines, Furniture, Clothes, Food stuff, Kids and Toys, And so many other good things.

1.1 Statement of the Problem

Basita supermarket has a problem of having very long queues of people lining up to pay on the counters after they have gotten the items of their choice.

Basita supermarket has a problem of her customers knowing what items they have in stock for before coming to the supermarket physically, this hiders their service to their customers.

Basita supermarket also has a problem of her customers not locating her physical location in different regions where it has branches.

1.2 General objective

The overall objective of this study was to create an interactive online distribution system for Basita chain of supermarkets which would ensure easy and faster shopping services to her customers in all regions where her branches exist. This would be effected by customers logging in on line and getting to know what items Basita supermarket is having in all her specific branches and at what prices before they can physically reach the supermarket.

1.3 Specific objectives

- To study the requirement for the distributed system
- To test the interactive online distributed system
- To give physical locations of Basita supermarkets in all regions
- To develop an interactive online distribution system
- To assess how an interactive distributed online system will solve the problem of long queues at the supermarket

1.4 Research question

- How will an interactive distributed online system operate in Basita supermarkets?
- How will an interactive online distribution system solve the problem of long queues at the supermarket?

1.5 Scope of the study

The study was carried out in Basita Supermarket, Kitintale branch in Kampala, Uganda. This area was chosen because it's near the researcher's residence so the cost of research such as transport was minimal. And secondly, Basita Supermarket experiences long queues of customers at their stores all the time, so the development of an interactive on-line distribution system will be of much help in reducing customer queues.

The study focused on developing an interactive distributed online system which will ensure easy and faster shopping for Basita super market customers in all her branches. The study was carried out in one month.

1.6 Justification of the study

The findings of the study and distributed online system shall improve service delivery at Basita super market through reduction of customer queues at the super market.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter studies and presents the existing literature about interactive on-line distribution systems and how they help in conducting business. It was based on the assessment of various scholars and researchers who have studied this problem before and analyze the activities, achievements and obstacles or challenges of using interactive on-line distribution systems.

2.1 An interactive system

Cornelius. T. Leondes (2002), says an interactive system shares the load of processes data, providing services, and storing data from client/server and 3-tier architectures toward architecture. The responsibilities of data warehousing are shared from a central repository to many computers. It is clear that the advantages of economics and reliability can also be found in the distributed data warehouse.

Interactive systems are computer systems characterized by significant amounts of interaction between humans and the computer. Most users have grown up using Macintosh or Windows computer operating systems, which are prime examples of graphical interactive systems. Editors, CAD-CAM (Computer Aided Design-Computer Aided Manufacture) systems, and data entry systems are all computer systems involving a high degree of human-computer interaction. Games and simulations are interactive systems. Web browsers and Integrated Development Environments (IDEs) are also examples of very complex interactive systems.

Some estimates suggest that as much as 90 percent of computer technology development effort is now devoted to enhancements and innovations in interface and interaction. To improve efficiency and effectiveness of computer software, programmers and designers

not only need a good knowledge of programming languages, but a better understanding of human information processing capabilities as well. They need to know how people perceive screen colors, why and how to construct unambiguous icons, what common patterns or errors occur on the part of users, and how user effectiveness is related to the various mental models of systems people possess.

2.2 Online distribution systems

According to Hugh Anderson (2000), a distributed system is a computer network in which the processing may be distributed amongst the computers. The user may not be aware on which computer the software is actually running. A computer network by contrast has a collection of communicating processors, but each users processing is done on a single computer. Modern networks are often mixed.

These are methods and systems for organizing and growing an online or otherwise dynamically accessible distribution marketplace for goods and services offered either at a particular location, or at a particular time, or available in certain quantity, or exhibiting some or all of the above characteristics.

One such system comprises means for posting in real-time vendor offers to an online database based on the at least one parameter, means for identifying a location of a consumer based on a consumer action at the host site, means for generating relevant offers based on the consumer action or location, wherein the offers are viewed through the host site, means for accepting the offers by the consumer through the host site, means for processing revenue and means for distributing revenue wherein the database dynamically communicates with a plurality of host sites at any given time and generates relevant offers for a plurality of consumers on the plurality of host sites at any given time.

2.3 Interactive on-line distribution system

Larry L Peterson and Bruce. S. Davis (2003), DCE is a set of standards and software for building distributed systems. It was defined by the Open Software Foundation (OSF), a consortium of computer companies that originally included IBM, Digital, and Hewlett-Packard; today OSF goes by the name Open Group. DCE-RPC is the RPC protocol at the core of the DCE system.

This is a process where commercial activity is conducted electronically, over the world-wide computer network known as the Internet, is a relatively recent phenomenon that has nevertheless grown into an important segment of the economy. A shopper or buyer with network access may find information for a product, and submit an order request over the network.

The seller then ships or transports the item, and the buyer pays for the merchandise by standard means (credit card, check, invoice, debit, etc.). The ability to shop for and buy products from any location having network access, including one's home or place of business, has and will continue to revolutionize commerce in the coming years.

However, at present, many systems for conducting such commerce are merely marketing and order-taking systems, with product information available for download by a shopper or buyer, means for a buyer to digitally transmit an order request, possibly including a credit card number or other payment authorization.

Most goods must be delivered by more traditional means, and inventory is independent of the order-taking system. In addition, buyers and shoppers are usually restricted to view product information and purchase goods from one vendor (or provider) of goods at a time.

For example, an Internet site at http://www.viaweb.com/stores/ provides access to a variety of providers of products. By entering the area of a provider, the shopper has

access to product information from that provider only, and may only order products from that provider. The orders are transmitted from the network site to the provider, who actually fills the order and receives payment.

A similar procedure is used at an Internet site at http://www.amazon.com. Books and recorded music are marketed and sold at this site, with the order being transmitted over the Internet, and goods are shipped and payment received. At an Internet site at http://www.ebay.com, items are offered for auction by the public, and information about the item is available for viewing or download. Buyers transmit bids over the Internet, and the system at the site administers the bidding and determines the winning bid. The winning bidder and seller are then put into direct contact to arrange for shipping and payment.

2.4 A chain of supermarkets

According to Philip A. Bernstein (1996) the computing facilities of largescale enterprises are evolving into a utility, much like power and telecommunications. In the vision of an information utility, each knowledge worker has a desktop appliance that connects to the utility. The desktop appliance is a computer or computer-like device, such as a terminal, personal computer, workstation, word processor, or stock trader's station.

A supermarket, a form of grocery store, is a self-service store offering a wide variety of food and household merchandise, organized into departments. It is larger in size and has a wider selection than a traditional grocery store, also selling items typically found in a convenience store, but is smaller and more limited in the range of merchandise than a hypermarket or big-box store.

The supermarket typically comprises meat, fresh produce, dairy, and baked goods departments, along with shelf space reserved for canned and packaged goods as well as for various non-food items such as household cleaners, pharmacy products and pet supplies. Most supermarkets also sell a variety of other household products that are

consumed regularly, such as alcohol (where permitted), medicine, and clothes, and some stores sell a much wider range of non-food products.

2.5 Computer softer ware

According to © 2011 computer software definition powered by 72 class by Alan who? Powered by words press MU,Computer software is a collection of computer programs and related data that provide the instructions telling a computer what to do and how to do it. We can also say software refers to one or more computer programs and data held in the storage of the computer for some purposes. In other words software is a set of programs, procedures, algorithms and its documentation.

Program software performs the function of the program it implements, either by directly providing instructions to the computer hardware or by serving as input to another piece of software. The term was coined to contrast to the old term hardware (meaning physical devices). In contrast to hardware, software is intangible, meaning it "cannot be touched". Software is also sometimes used in a more narrow sense, meaning application software only. Sometimes the term includes data that has not traditionally been associated with computers, such as film, tapes, and records.

Systems Development Life Cycle (SDLC) is a process used by a systems analyst to develop an information system, including requirements, validation, training, and user (stakeholder) ownership. Any SDLC should result in a high quality system that meets or exceeds customer expectations, reaches completion within time and cost estimates, works effectively and efficiently in the current and planned Information Technology infrastructure, and is inexpensive to maintain and cost-effective to enhance

2.6 A system

According to © 2004, 2010 Oracle, a System is an integrated set of interoperable elements, each with explicitly specified and bounded capabilities, working synergistically to perform value-added processing to enable a User to satisfy mission-oriented operational needs in a prescribed operating environment with a specified outcome and probability of success.

CHAPTER THREE
METHODOLOGY

3.0 introduction

This chapter focuses on the methodology the researcher used to carry out the study . The method chosen for data collection of this intended project are a combination and quantitative methods which are always the best and most effective approach for collecting accurate and complete information.

Quantitative methods used for conducting research rely on open –end exploration of peoples' words thoughts actions and intentions they supply detailed and depth information to provide outside audience with an understanding of what a target population may think or fell about specific issues or environments. This method includes interviews, questionnaires and review of documents.

3.1 Interviews

According to interview (2007)_IMDB Steve Buscemi by, an interview is a conversation between an employer and a candidate for both parties to learn more about each other for the purpose of filling a position within a company or organization. You and the interviewer each have a need: you want a job and the interviewer wants to find the right person to fill the job.

If you receive an interview, chances are you have already been "prescreened" and meet all or most of the requirements the employer is looking for in a candidate. Typically this prescreening has been done through an application process and/or resumes review. The interview is an opportunity for further screening.

3.1.1 Types of interview

3.1.2 One-to-one Interview

This is the most common type of Interview. In the One-to-one interview the candidate for employment meets directly with the interviewer.
Doing a one on one interview with a potential candidate has many advantages. Firstly, the candidate or interviewee might feel comfortable in one on one interview and speak more openly and give more information in terms of open-ended questions. One on one interview may provide a relaxing, less formal environment for the candidate so they may feel less self-conscious.

3.1.3 Phone Interview

According to Alison Doyle, about.com Guide. A phone interview is often a type of screening interview. Many times this was done when there is travel involved for a face-to-face interview. For example, an employer might interview ten candidates over the phone and then choose three to fly out for an on-site

There are a number of advantages of conducting employment interviews by telephone: Telephone interviews are simpler to arrange, and the process itself takes much less time than face-to-face interview sessions.

3.1.4 Group interview

In the group interview style, interview are conducted simultaneously with two or three other candidates all vying for the same position. In this interview style one or more applicants may be asked the same question or the pool of applicants can be broken into teams to determine a solution to a problem posed by the interviewer. This style of interviewing is most common in the technology fields or any field where group cohesiveness is of extreme importance.

3.1.5 Questionnaires

According to kogan page publishers,(2008)_Business & Economic, a questionnaire is a research instrument consisting of a series of question and other prompts for the purpose of gathering information from respondents. Although they are often designed for statistical analysis of the responses, this is not always the case.

Questionnaires have advantages over some other types of surveys in that they are cheap, do not require as much effort from the questioner as verbal or telephone surveys, and often have standardized answers that make it simple to compile data. However, such standardized answers may frustrate users. Questionnaires are also sharply limited by the fact that respondents must be able to read the questions and respond to them. Thus, for some demographic groups conducting a survey by questionnaire may not be practical.

3.1.6 On-Site Interview

An interview conducted at the location of the specific company/organization. If the company location is not in the local area, and travel is involved, an on-site interview can be a second-round interview

3.1.7 Off-Site Interview

This is an interview that occurs outside of an organization. An example of this is an interview at a career fair or a career services

3.2 Data analysis

Data analysis is a process of inspecting, cleaning, transforming, and modeling data with the goal of highlighting useful information, suggesting conclusions, and supporting decision making. Data analysis has multiple facets and approaches, encompassing diverse

techniques under a variety of names, in different business, science, and social science domains.

Data mining is a particular data analysis technique that focuses on modeling and knowledge discovery for predictive rather than purely descriptive purposes. Business intelligence covers data analysis that relies heavily on aggregation, focusing on business information. In statistical applications, some people divide data analysis into descriptive statistics, exploratory data analysis, and confirmatory data analysis.

Predictive analytics focuses on application of statistical or structural models for predictive forecasting or classification, while text analytics applies statistical, linguistic, and structural techniques to extract and classify information from textual sources, a species of unstructured data. All are varieties of data analysis.

Data integration is a precursor to data analysis, and data analysis is closely linked to data visualization and data dissemination. The term data analysis is sometimes used as a synonym for data modeling.

3.3 Data Flow Diagrams (DFD) and Entity Relationship Diagrams (ERD)

The above tools were used in the system analysis to construct models, which gave an overview or stress on aspects of the whole system. The DFD was used to describe the information flow in the system and to determine the requirements of the users. ERD model on the other hand was used to highlight the relationship between the entities on the DFD.

3.4 System Development

Tools used included MySQL and PHP languages to build the database. PHP was used to interface Mysql with the browser with which the user interacts with the database. PHP learning curve is also not very steep.

3.5 Testing

This included use of test data to test for the systems requirements design and performance to make sure that faults were reduced.

CHAPTER FOUR

SYSTEM ANALYSIS AND DESIGN

4.0 Introduction

Basita supermarket chain does not have an automated online distribution system. They currently use a manual system where customers have to come to the supermarket premises, move around the stands picking whatever they want then present them at the cashier's counter for billing and payment. This system is operating at Basita supermarket's main branch in Kitintale as well as all the franchise branches countrywide.

This system does not allow customer record keeping and follow-up. The current system is merely a sales registry that only keeps record of the goods purchased and their respective prices, and in this system, every franchise branch generates its own independent sales records. This system does allow for centralized generation of sales records, the records from each branch have to be put together manually in order to create a centralized record system.

4.1 Operation of the current system

The current manual system used in the Basita nationwide chain of supermarkets operates as follows;

The goods sold in the supermarkets are labeled with price tags and arranged in stands. Goods of the same category are put in stands that are in the same location (for example foodstuffs like bread, cakes, cookies and other confectionaries are put in the same location.

The customer goes around the stands by him/herself, picks whatever he/she wants and collects them in a shopping bucket, then after the selection, he/she presents all the picked items at the cashier's counter, where all goods are billed.

The customer is then given the total bill for all the items he/she has collected, and after paying, the items are packed for him/her.

4.2 Information Flow in the Current System

The flow of information in the current system is for the purpose of easing the sales process. The items are labeled price tags and barcodes which are matched with the prices of the respective items, are entered into a computer server, which is connected to every cashier's computer.

The price scanner is programmed to read and interpret the barcode to give the price of each item.

CONTENT DIAGRAM FOR CURRENT SYSTE

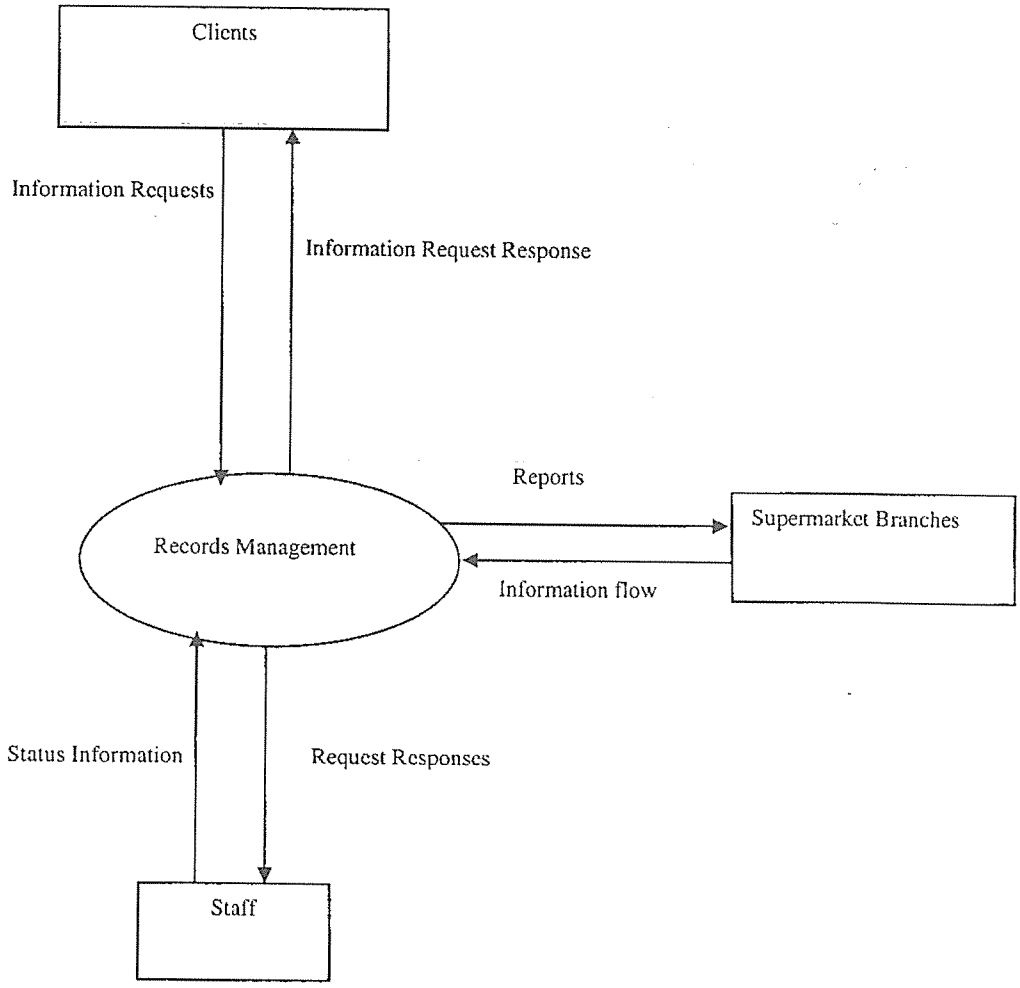


Figure 1:. A context Diagram for the Current system

DATA FLOW DIAGRAM FOR THE CURRENT SYSTEM

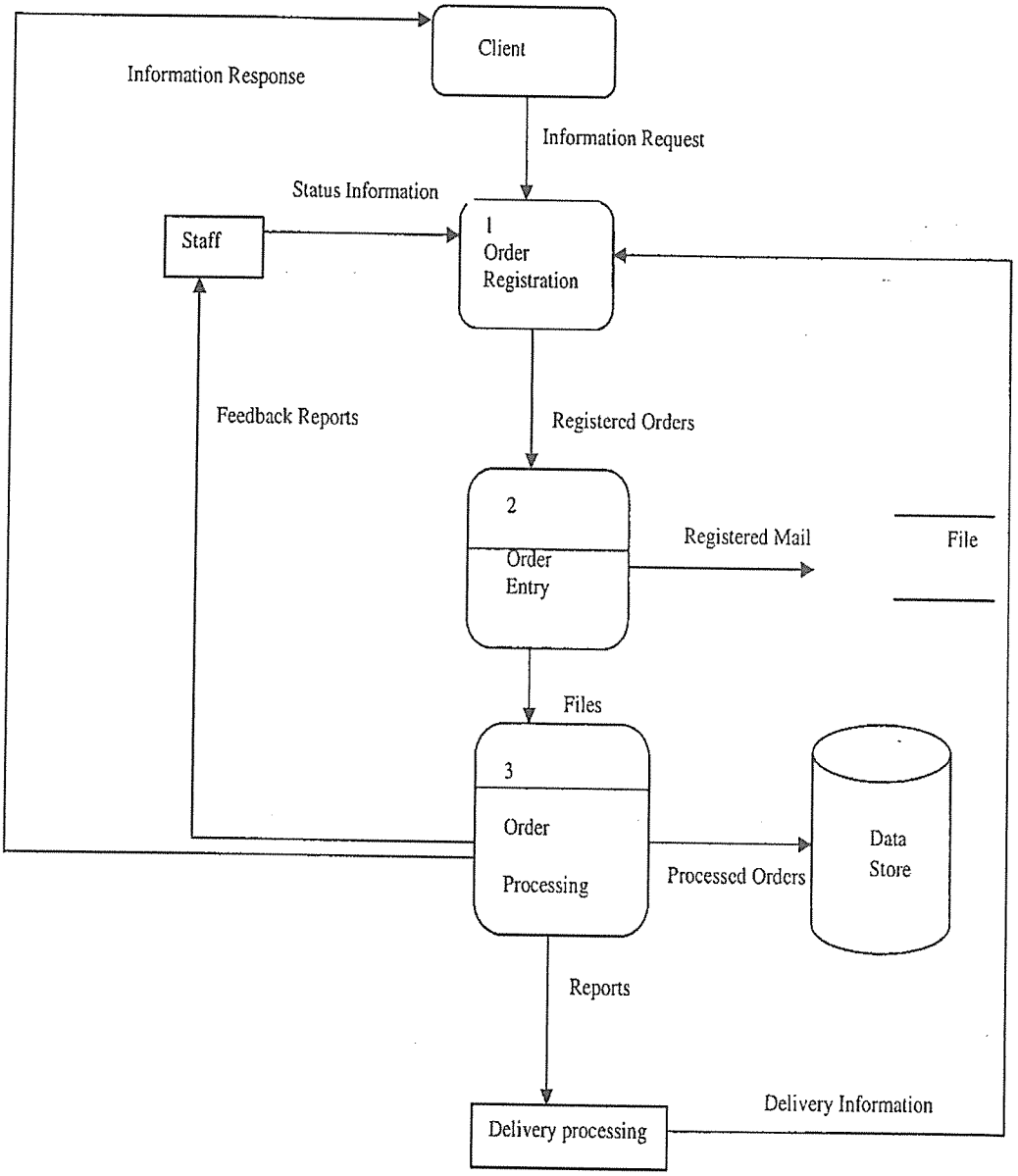


Figure 2:. A data Flow Diagram for the current system

4.3 Problems of the Current System

The findings of the study identified the following constraints in the current system;

1 The system operates in a way that requires the customer to physically visit the supermarket premise in order to carry out shopping. Therefore it's inconvenient to customers who may not get time to go to the supermarket personally.

2 Since the system requires customers to be at the supermarket in person, there is a problem of crowding inside the supermarket if and when there are many people shopping at the same time, which is inconveniencing to many customers.

3 The current system is also inconveniencing in a way that it leads to long queuing in order to pay for items at the counter since all customers are served by the few counters available at the supermarket.

4.4 The Proposed System

The proposed system involves addressing the constraints identified above. The aim of the design was to come up with a database for an interactive online distribution system that would be easily operated everywhere for customers' convenience, enable centralized database interconnection among all the franchise branches of Basita supermarket avail information about the goods in stock and price lists.

4.5 Requirements and desired specifications for the proposed System

The proposed new system should be able to provide a dynamic and flexible way of way of searching for the goods in stock and their respective prices, as well as offer a channel for online shopping. The information displayed should be able to show at-least the type of product, various brands from different manufacturers, the price of each brand and the delivery details for the case of online customers.

And for the transaction details, the system should be able to show the franchise branch where the purchase was done, date of transaction, the items purchased, the total cost of per purchase and the customer address details to facilitate home delivery for in the case of online purchases. The requirements of the system should be able to meet the following needs according to the various categories;

4.5.1 User Requirements

1 Be able to connect all the various franchise branches in one centralized database server.

2 Provide information on the goods in stock, including the various available brands of the same good from different manufacturers as well as the price of each.

3 Be able to receive and adequately capture the details of the customers who order on line, including delivery details.

4 Enable accurate and timely information by improving on the capture, storage and retrieval of information on all transactions.

5 Be able to identify the officer who recorded the transaction by name, identification number, desk number and initials, and also deny access to unauthorized users.

4.5.2 Functional Requirements

The system should:

6 Allow information sharing among all the computer units connected to the system, and enable working in a networked environment.

7 Permit customized searching of records such as those of the previous transactions by item, date, branch or price.

8 Maintain integrity of records as created (all related data that comprise a record of a business transaction can be accessed, displayed, and managed as a unit).

4.5.3 Non functional Requirements

The system specifications should flexible enough to be used by individuals without specialized (minimal) computer skills.

4.6 System Design

Identified Entities

The following entities and their relationships were considered in the design of the database;

Entity	Relation	Entity	Cardinality
Items in stock	• Brand • Manufacturer	Price	1:M
Purchase type	• Physically on counter • Online	Delivery details/customer address	1:1
Staff	Identification and desk number	Transaction type and amount	1:M

LOGICAL DESIGN

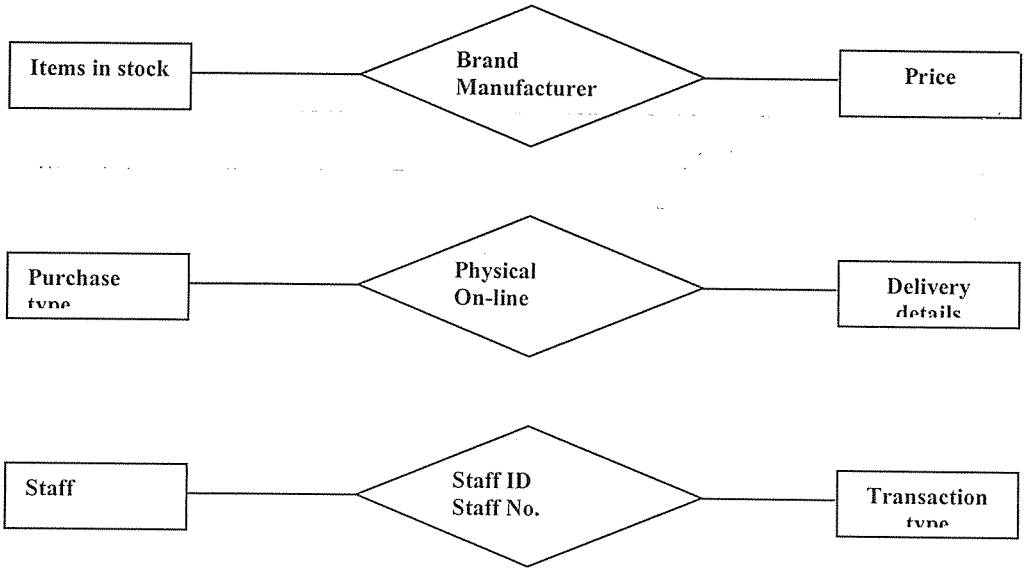


Figure 3: Defines the relations between entities

ENTITY RELATIONSHIP DIAGRAM

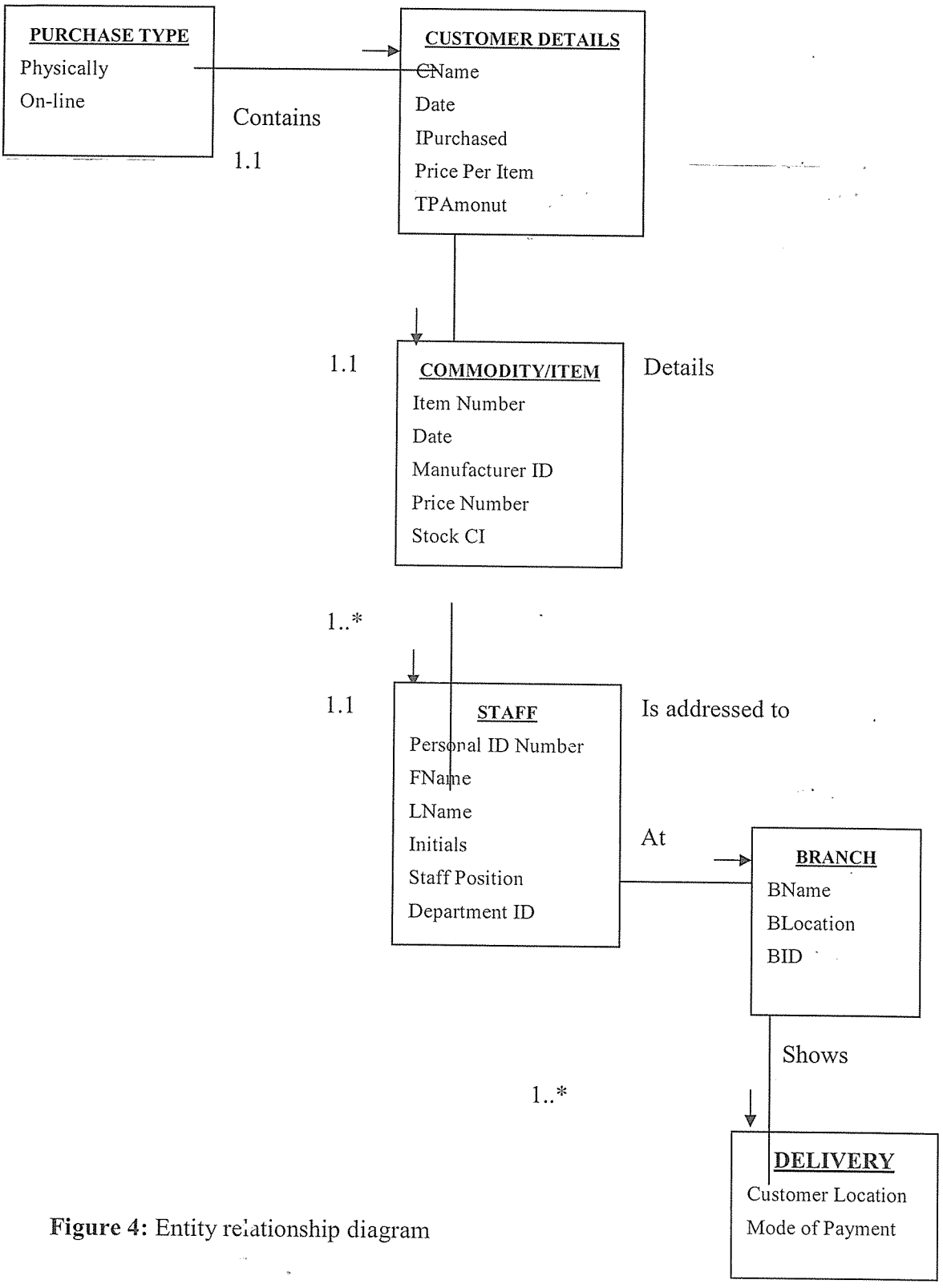


Figure 4: Entity relationship diagram

Design of database structures

Table 1: Customer Details

ATTRIBUTE	DATA TYPE	DESCRIPTION
CName	Varchar	Customer name
Date	Date	Date Of Purchase Order
IPurchased	Varchar	Items Purchased
PPI	Varchar	Price Per Item
TPA	Varchar	Total Purchase Amount

Table 2: Commodities/Items

ATTRIBUTE	DATA TYPE	DESCRIPTION
Item NO	Varchar	Item Identification Number
Date	Date	Date Received
Manufacturer	Varchar	Manufacturer's Identification Number
Price	Varchar	Item Price Number
Stock CI	Varchar	Stock Classification Index

Table 3: Staff

ATTRIBUTE	DATA TYPE	DESCRIPTION
PINO	Varchar	Personal Identification Number
FirstName	Varchar	Staff First Name
LastName	Varchar	Staff Last Name
Initials	Varchar	Staff Name Initials
Position	Varchar	Staff Position
Department ID	Varchar	Department Identification Number

Table 4: Branches

ATTRIBUTE	DATA TYPE	DESCRIPTION
BName	Varchar	Branch Name
BLocation	Varchar	Branch Location
BID	Varchar	Branch Identification Number

Table 5: Delivery details

ATTRIBUTE	DATA TYPE	DESCRIPTION
CLocation	Varchar	Customer Location
MOP	Varchar	Mode of Payment

CHAPTER FIVE
IMPLEMENTATION

5.0 Design objectives

During the drawing of the new system design, strong emphasis was placed on ensuring the following;

1 The new system design emphasized the importance of security by making provisions to protect the system against unauthorized access, malicious, and alteration of content through use of password access so that the activities of all those in the system are monitored and identified.

2 The system also emphasized efficiency as its expected to provide relevant information in the different forms as would/may most likely be desired with minimum delay.

3 The system was also designed to maximize user friendliness or ease of use of the new system. This would mean that the users would not need special computer skills in order to be able to manipulate the system.

5.1 Efficiency

The design was aimed at ensuring the implementation of a system that would be capable of addressing all possible forms of details that users would require especially in the areas of commodity display, available stock, pricing, online purchase orders and payments. All this effected efficiency.

5.2 Security

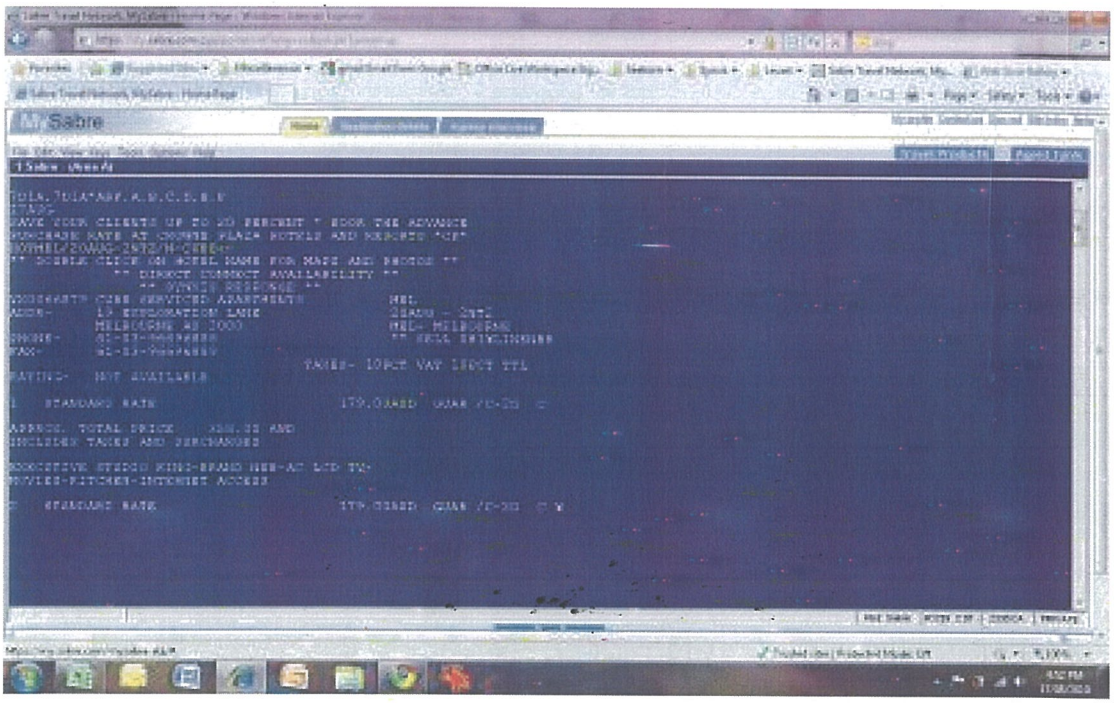
To ensure the security of the system, a user password, administrator password and authentication dialogue boxes in different areas were implemented as shown in figure 5.1. Only authorized users at every level would be granted access to the system and all their activities would be monitored and recorded accordingly.

5.3 Data Input and Validation

The system is designed in a way that it does not accept improper entry of data, for example, the field for date of birth cannot accept anything else except as provided for. This was to ensure that data is properly entered, appropriately interpreted and records stored.

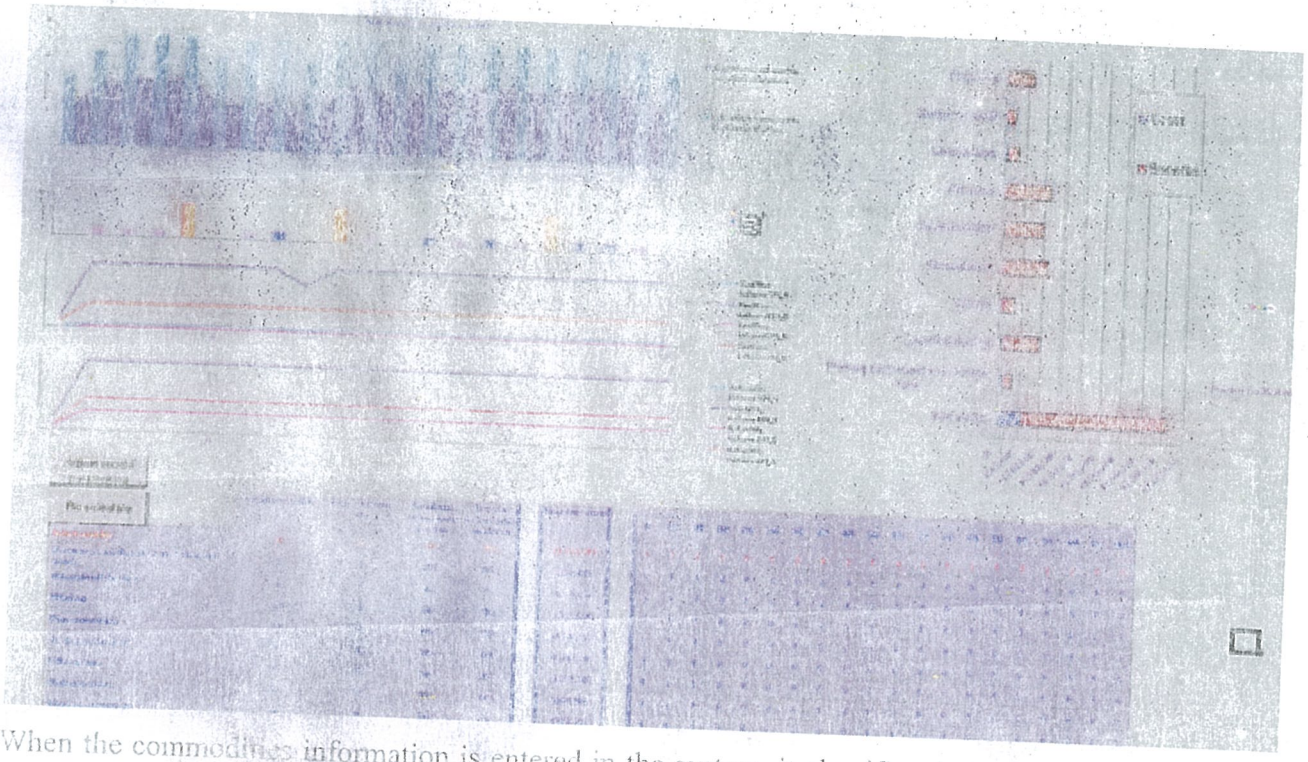
Implementation Screens

Figure 5: Commodity capture and specification Screen



When the items (in their various brands and quantities) are entered, the system converts the information to show it in respective categories for easy understanding by the users

Figure 6: Display Screen for the classification of items according to the manufacturers' brands



When the commodities information is entered in the system, it classifies them according to the manufacturer and their various brands plus the quantities

CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter basically discusses the achievements of the project and suggests key areas that require more research on this project.

6.2 Conclusion

The new system as described in Chapter Five solves the problems that were experienced using the old system as described in Chapter Four. The new system provides for quick commodity search that saves time, the security of the system is catered for through password access keys at different administrator levels. The system also generates reports which can be used in following-up and assessment in the business, for improved decision making and it does not require much computer skills.

The new system successfully implemented the objectives of the study already stated by reflecting the current system procedures, the database system is in place, and interfaces for data manipulation are also in place.

Therefore, if the database is implemented and enhanced, there will be improvements in customer service, customer care and follow-up, prevent long queuing by customers and save time, hence it can be described as a timely and accurate intervention that will significantly change the operations of Basita Supermarket chain countrywide.

6.3 Recommendations

There should be automation at the goods reception points, so that all goods or commodities received shall be entered directly into the system in order to avoid the trouble caused by double entry. Later on, the system will need to be enhanced to accommodate the retirement and retention schedules of records.

The management of Basita Supermarket chain should ensure a fast and reliable internet connection in order to facilitate easy sharing of information and in this way, it will be possible to maintain a centralized database for all branches countrywide.

The computers that were in place at Kitintale main branch were quite inefficient, thus the new system will require an overhaul upgrade of all computers in order to ensure appropriate system speed and reliability.

Other supermarket chains and all other chains of businesses in the country can emulate and adopt the database since they use similar standards in their operations and records management.

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APPENDIX I

Questionnaires for selected respondents

Dear Respondent

This questionnaire is designed to seek information from you in a research on Interactive on-line distribution systems. It is carried as a partial fulfillment of the requirements for the award of a Diploma in Computer Science of Kampala International University. Your contribution, opinions and experience will be highly appreciated.

Thank you,

Please tick ( ) in the bracket in front of the most appropriate response and where explanation is required, use the space provided.

1. Gender: ( ) Male
   ( ) Female

2. Age: ( ) 15 – 30
   ( ) 31 – 40
   ( ) 41 – 50
   ( ) 51 and above

3. Marital status: ( ) Single
   ( ) Married
   ( ) Widowed

4. Education level: ( ) Secondary Level
   ( ) Bachelors degree
   ( ) Masters degree

Any other (please specify)_____

5. Where do you reside?

( ) Within Kampala city

( ) Outside Kampala city

6. How long have you worked at Basita Supermarket?

( ) Less than one year

( ) 1 – 5 years

( ) Over five years

7. What is your current employment status?

( ) Manager

( ) Customer care attendant

( ) Counter attendant

( ) Store guide

Any other (please specify)_____

8. What are the various commodities sold in Basita supermarkets?

_____

_____

_____

9. What challenges do you face in trying to ensure effective customer service in Basita supermarkets?

( ) Long customer queues

( ) Lack of appropriate pricing information by customers

( ) Difficulty in following up with customers

10. What will be the advantages of having an interactive on-line distribution system in Basita supermarkets?

( ) Reduced customer queues

( ) Availability of pricing information to customers

( ) Better customer care

( ) More effective customer follow up and feedback

Any other (please specify)_____

APPENDIX II

Budget estimates for proposal and report writing

ITEM	AMOUNT
PAPERS	10,000/=
A LAP TOP	1,500,000/=
FLASH DISK	30,000/=
TRANSPORT	100,000/=
PENS	5,000/=
PRINTING	20,000/=
INTERNET COST	70,000/=
GRAND TOTAL	**1,735,000/=**

APPENDIX III

Research Time Frame

MAY	JUNE	JULY
2nd to 18th Data collection	1st Project design	1st to 10th Summary of project design
20th to 27th Purchase of equipment	15th Designing continues	11th to 22nd Report writing
28th to 31st Setting up hard ware installation of software	28th Design continues	23rd to 31 Summarizing and conclusion of report

APPENDIX IV

NECESSARY REQUIREMENTS

Hardware requirements

The following hard ware needs have been identified

A personal computer with following minimum specification

- At least 2.4 GHZ Pentium IV Processor
- 256MB Radom access memory

Software requirements

The following software will be needed

- Windows XP operating system
- Microsoft word for word processing
- Microsoft internet explorer

Required skills

The following personal skills will be of paramount importance.

- Coding using (HTML) Hyper Text Make up Language.
- Website analysis and design
- Use of visual basic
- Use of web design applications such as HTML editors, graphics