

A DYNAMIC WEB-BASED INFORMATION SYSTEM

CASE STUDY: FOOTSTEP INTERIORS LTD.KAMPALA, JINJA ROAD.

BY

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**A RESEARCH REPORT SUBMITTED TO THE SCHOOL OF COMPUTER
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AWARD OF THE DEGREE OF BACHELOR OF INFORMATION
TECHNOLOGY OF KAMPALA INTERNATIONAL UNIVERSITY**

SUPERVISOR MR KAMPORORO

DECLARATION

We **Nkajja Moses Simple** and **Muriithi Michael Kariuki** do hereby declare to the best of our knowledge that this graduation project is our original work and that it has never been submitted to any University or any other institution.

Signed:

The block contains two handwritten signatures in blue ink. The first signature is a stylized 'N' followed by 'Kajja'. The second signature is 'Muriithi' followed by 'Kariuki'. Both are written above a dotted line.

Date:

15/05/2010

APPROVAL

This project has been submitted for examination with my approval as the supervisor.

Supervisor Name: Mr. Kampororo

Signature..........Date..........

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DEDICATION

We dedicate this book to our beloved parents Mr. and Mrs. Nkajja and Mr. and Mrs. Muriithi for raising us to be who we are today. For the gift of Education that you have empowered us with, to see us successful as we move in this world, may the good Lord reward you abundantly for your good works.

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LIST OF ACRONYMS

ICT	Information and Communication Technology
SME	Small Medium Enterprises
LTD	Limited
IT	Information Technology
DBMS	Database Management System
ATM	Automated Teller Machine
MIS	Management Information Systems
PHP	Hypertext Preprocessor
ASP	Active Server Pages
OOA	Object-Oriented Analysis
UML	Unified Modeling language
ORM	Object role Modeling
DFD	Data flow Diagrams
HTML	Hypertext Markup Language
WYSIWYG	What You See Is What You Get
HTTP	Hypertext Transfer Protocol
WWW	World Wide Web
OLTP	Online Transaction Processing
CMS	Content Management System

ABSTRACT

Footstep Interiors is a leader in the furnishing industry which aims at developing the use of Information and Communication Technologies (ICT). One of their major avenues where ICT is used is to share and disseminate information in their website about their products. Organizations that have put to use ICT tools are able to sell buy and market their services online which is enabled by their use of dynamic websites. However this is not the case with Footstep Interiors. The existing website is static i.e. it focuses on showing permanent information, where the navigator is limited on the amount of data he/she can access. The users can not interact with this information without interacting with the visited web page; the users can not place their order or buy their items on line, their suppliers have no contact on the way they can deliver requests online neither, can the users be able to support web applications, forums nor, make consultations on line. In view of the foregoing, this study was carried out with the aim of developing a frame work for a dynamic website for Footstep interior. The main aim of this research was to investigate the current system and dissemination of information through ICT in Footstep Interiors LTD, build capacities in ICT use and application, Design a dynamic website to improve on the interaction between customers and state of Footstep interiors. The researchers followed the principles exposed to the waterfall model a sequential software development model. The researchers used system development life cycle (SDLC) to collect and analyze data. The finding of this research as presented emphasizes that Footseps interior needs a dynamic website to help the buying and selling of their product on line locally and globally. The research provides a frame work on how the dynamic website will look like and how it will help Footstep interiors to make transactions online speedy, accurate and meet their entire user needs. This was after examining the requirement of the current system and realized that its drawbacks outweigh the advantages. These therefore calling for alternative ways of solving the problems of the

existing system and hence meeting the organization needs. This study therefore looked at a dynamic website as a way of meeting the curve

CHAPTER ONE

INTRODUCTION

1.0 General Introduction

Information Communication Technology (ICT) is combination of video, telecommunications and computer technologies. It can be seen in the use of computers designed for multimedia applications as well as the services and networks set up for it.

Information Communication Technology (ICT) has proved to be the agent of change of the 21st century and the designing of a dynamic web-based system for Footstep Interiors will help them to have the potential to fundamentally transform and govern the way commerce operates, importing the knowledge and ability of both the higher economical growth and the efficiencies in the operations of both the private and public business sectors. Instructions are dependent on the adoption and effective utilization of ICT.

The prospects of Information communication Technology (ICT) for Ugandan are tremendous. Its utilization in development of Programmes is increasing. The information revolution is creating new opportunities to address social problems and the implementation of policies supporting projects gears to poverty eradication and rural development, disease control and human survival, environmental protection and nature conservation, decentralization and grassroots empowerment. This is the achievement made possible for even rural communities.

Information technology (IT) has become a potent force in transforming social, economic, and political life globally. Without its incorporation into the information age, there is little chance for countries or regions to develop.

1.1 Back Ground of the Study

Elegantly situated in Kampala City Centre Jinja road, Footstep Interiors is a leader in the furnishing industry in Uganda. With 200sq. meters of showroom, workshop and warehouse all under one roof. The company has product and services line that broadly include office furniture which is categorized into office desks, office chairs, steel furniture, filing cabinet, safes, computer tables and reception table coat hangers, conference table and work stations .It also has domestic furniture's which are categorized into dining room furniture, wall units, sofa sets coffee sets and bedroom furniture. They also deal in curtain fabric/blinds and accessories which are categorized into netting upholstery fabric, bed linen, curtain poles, towels, roman blinds, rolled blinds, Venetian blinds, and bamboo blinds. It deals in the retail of top quality office and domestic furniture specializing in upholstery work and custom designed window dressing such as curtains sheer and verticals venation and bamboo blinds .They are also specialist in bedroom, bathroom, table linen and decorative accessories.

Apart from mentioned products Footstep supplies miscellaneous items which include flower pots, office dustbins, doormats, queue-stands, banquet chairs, plastic chairs, folding chairs garden chairs and artificial plants etc.

The existing system website is static i.e. it focuses on showing permanent information, where the navigator is limited on the amount of data he/she can access. The users can neither, interact with this information without interacting with the visited web page nor, can they place their order or buy their items on line. The suppliers do not have customers' contacts with which they can deliver their request online. The customers are not able to support web applications, forums or make consultations on line. In view of the foregoing, this study was carried out with the aim of developing a frame work for a dynamic website for Footstep interiors. One of their major avenues where (ICT) is used is to share and disseminate information in their website about their products

The soft furnishing and accessories department specializing in custom made curtains blinds bedroom and table linen. They handle "Turn key "projects for home and institutional furnishing.

Footstep deals in retail of top quality office and domestic furniture specializing in upholstery work and custom designed window dressing such as curtain. They are also specialist in bedroom, bathroom, table linen and decorative accessories. Footstep Furniture Interiors ltd wholly owned by Mr. Joseph Mukasa and they have over 500 Employees in different Branches where over 300 are Casual Employees and Others Full Time Employees.

1.1.2 Footstep Interiors Design Clientele.

Footstep has evolved into a fine tuned organization that values its customer and understands the industry over ten years of service.* Knowledgeable technical staff and committed management have made use a good team that ensures that job is executed to perfection.

Within a year Footstep has build a loyal client base that include government, embassies multinationals agencies , donor agencies ,large companies and discerning individuals, in Uganda Footstep services a client based both in the city and upcountry. In addition it provides goods and services to clients in Kenya , Tanzania, Rwanda, Burundi and Democratic Republic of Congo.

s 1.2 Problem Statement

The existing website is static; it focuses on showing permanent information, where the navigator is limited on the amount of data he/she can access. The users can not interact with this information without interacting with the visited web page; the users can not place their order or buy their items on line, their suppliers have no contact on the way they can deliver requests online neither, can the users be able to support web applications, forums nor, make consultations on line. In view of the foregoing, this study aims at developing a dynamic website for Footstep interiors which overcomes the problem of current system.

1.3 Objectives

1.3.1 General Objectives

The main aim of this research was to come up with effective dynamic web based system to build capacities in ICT use and application, and expand activities to reach out to everyone in rural areas and globally.

1.3.2 Specific Objectives

- To investigate the current practice of ICT in Footstep Interiors LTD
- To analyze the current system of Footstep interiors LTD
- To design and implement a dynamic web based system for Footstep interiors.

1.4 Scope

1.4.1 Geographical Scope

The study was conducted in Footstep Interiors LTD for Office and Domestic furniture, Blind and Curtain located on plot 26 along Jinja road Kampala district Kampala. The researcher's chose the area because ICT usage and internet connectivity is high in the city. The study covered the period 2009 to date and examined business processes and the current static website in place.

1.4.2 Technological Scope

The study was limited to management, employee of Footstep interiors and their clients. Sale department, accounting department, store department were visited during the study and interviews was carried in the top managements. The study was restricted to ICT use and dissemination of information in Footstep Interiors and among SMES. The focus was on computer use in the office and web site integration in the business to enhance productivity.

1.5 Significance of the Study

It has been recognized that ICT can play an important part in the development of SMES through the use of the internet access and wireless communication which are already of importance to business i.e. small and large. Business transaction consists of many successive processes (information comparison and negotiation) most of which can be carried out more efficiently over the internet, even if the final step of the transaction is done offline. Designing a dynamic website will help Footstep and their client locally and globally access and interact with the web freely without limitation. Clients will be able to order, buy online and Footstep will be able to process their request faster without delay.

Website provides the foundation for online business, to facilitate collaboration with other SMES to procure and supply their goods and service and access other global markets.

In developing countries SMES are the major source of income, a breeding ground for entrepreneurs and a provider of employment.

The Information and Communication Technology utilization framework developed can be used by policy makers in the implementation of ICT project in the country.

Conceptual Framework

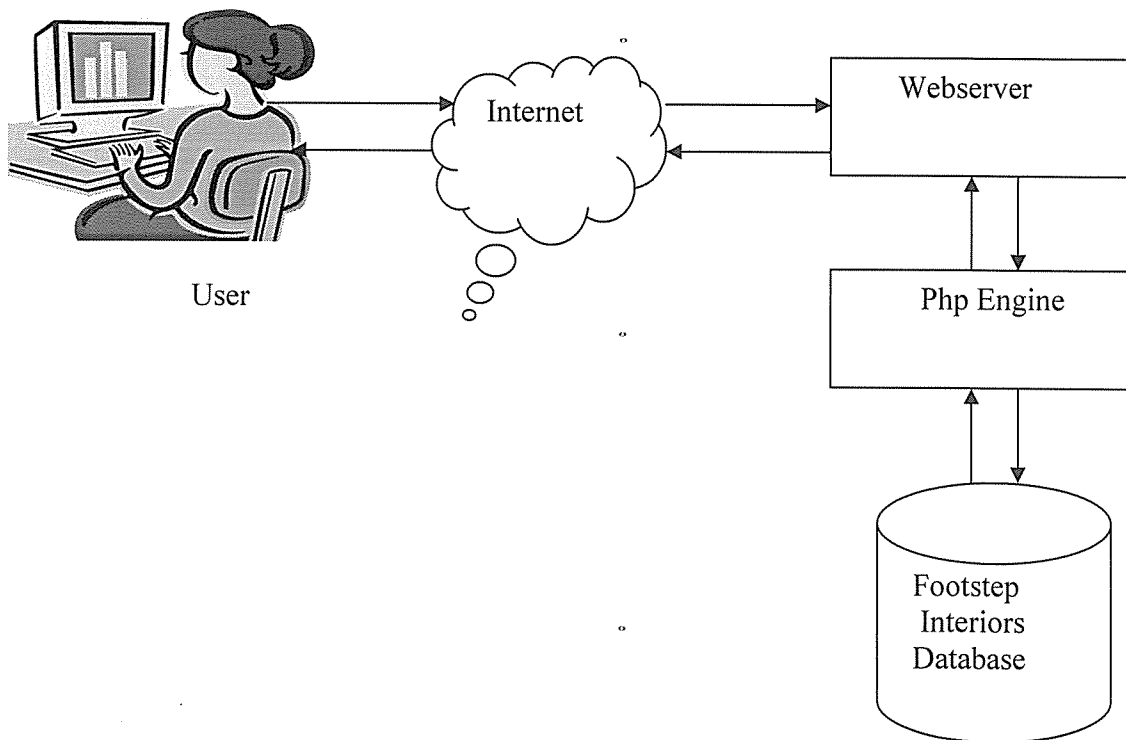


Figure Error! No text of specified style in document.-1 Conceptual Framework

The client makes a request to the web server which searches the information using PHP engine from the Footstep interiors web site database. Then the information is supplied to the web server by PHP engine and the apache web sever displays the information to the user through web browser (internet)

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter literature about related system are reviewed.

2.1 Information Technology (IT)

According to Post and Anderson (2003), IT is a representation of the various types of hardware and software used in an information system, including computers and networking equipment.

Hag, Cummings, McCubbery (2002), refers to any computer-based tool that people use to work with information and support the information and information processing needs of an organization. Hence, according to the authors, organizations use IT in four ways;

- a. Supporting information processing tasks, businesses are using IT to support basic information-processing tasks. These tasks range computing and payroll checks, creating presentations, to setting up websites from which customers can order products.
- b. Decision making tasks, when businesses use IT to process information such as payroll or a sale order, we refer to it as online transaction processing. This involves gathering input information, processing it and updating the existing information to reflect the gathered and processed information. Business also uses IT to support decision-making task.
- c. Supporting shared information through decentralized computing, decentralized computing is an environment in which an organization splits computing power and locates it in functional business area as well as on desktops of knowledge workers This is possible because of the proliferation of less expensive, more powerful, and smaller systems. Shared information is an environment in which

organization's information is organized in one central location, allowing anyone to access and use it as they need to.

- d. Supporting innovation, IT tools not only support the above, they also enable innovation. Organizations are forced to use innovative technology to gain and sustain a competitive advantage over competitors in the same market environment

2.2 The Database Management Approach

The database approach is fundamentally different from the older programming methods (Post and Anderson, 2003). The problems that were created with the old methods are avoided by focusing attention on the data. Whenever someone needs a computer application, the first step is to identify the data that will be needed. Then a Database Management System is used to store the data.

2.2.1 The Database

The term **database** originated within the computer industry, though its meaning has been broadened by popular use, such that the European Database Directive (which creates intellectual property rights for databases) includes non-electronic databases within its definition. This is confined to a more technical use of the term; though even amongst computing professionals, some attach a much wider meaning to the word than others. A possible definition is that a database is a collection of records stored in a computer in a systematic way, so that a computer program can consult it to answer questions. For better retrieval and sorting, each record is usually organized as a set data elements. The items retrieved in answer to queries become information that can be used to make decisions. The computer program used to manage and query a database is known as a database management system (DBMS).

The central concept of a database is that of a collection of records, or pieces of knowledge. Typically, for a given database, there is a structural description of the type of facts held in that database: this description is known as a **schema**. The schema describes

the objects that are represented in the database, and the relationships among them. There are a number of different ways of organizing a schema, that is, of modeling the database

structure: known as database models. The model in most common use today is the relational model, which in layman's terms represents all information in the form of multiple related tables each consisting of rows and columns.

The term *database* refers to the collection of related records, and the software should be referred to as the *database management system* or *DBMS*. When the context is unambiguous, however, many database administrators and programmers use the term *database* to cover both meanings.

A computer database relies upon software to organize the storage of data. This software is known as a database management system (DBMS). Database management systems are categorized according to the database model that they support. The model tends to determine the query languages that are available to access the database. A great deal of the internal engineering of a DBMS, however, is independent of the data model, and is concerned with managing factors such as performance, concurrency, integrity, and recovery from hardware failures.

A Database is a structured collection of data which is managed to meet the needs of a community of users. The structure is achieved by organizing the data according to a database model. These models include

2.2.1.1 The Network Model

In the network model, records can participate in any number of named relationships. Each relationship associates a record of one type (called the owner) with multiple records of another type (called the member). These relationships (somewhat confusingly) are called sets. For example a student might be a member of one set whose owner is the course they are studying, and a member of another set whose owner is the college they

belong to. At the same time the student might be the owner of a set of email addresses, and owner of another set containing phone numbers. The main difference between the network model and hierarchical model is that in a network model, a child can have a

number of parents whereas in a hierarchical model, a child can have only one parent. The hierarchical model is therefore a subset of the network model.

Programmatic access to network databases is traditionally by means of a navigational data manipulation language, in which programmers navigate from a current record to other related records using verbs such as find owner, find next, and find prior. The most common example of such an interface is the COBOL-based Data Manipulation Language defined by CODASYL.

Network databases are traditionally implemented by using chains of pointers between related records. These pointers can be node numbers or disk addresses.

The network model became popular because it provided considerable flexibility in modelling complex data relationships, and also offered high performance by virtue of the fact that the access verbs used by programmers mapped directly to pointer-following in the implementation.

However, the model had several disadvantages. Navigational programming proved error-prone as data models became more complex, and small changes to the data structure could require changes to many programs. Also, because of the use of physical pointers, operations such as database loading and restructuring could be very time-consuming

2.2.1.2 The Relational Model

The relational model is the most popular type of database and an extremely powerful tool, not only to store information, but to access it as well. Relational databases are organized as tables. The beauty of a table is that the information can be accessed or added

without reorganizing the tables. A table can have many records and each record can have many fields.

Tables are sometimes called a relation. For instance, a company can have a database called customer orders, within this database will be several different tables or relations all relating to customer orders. Tables can include customer information (name, address, contact, info, customer number, etc) and other tables (relations) such as orders that the

customer previously bought (this can include item number, item description, payment amount, payment method, etc). It should be noted that every record (group of fields) in a relational database has its own primary key. A primary key is a unique field that makes it easy to identify a record.

Relational databases use a program interface called SQL or Standard Query Language. SQL is currently used on practically all relational databases. Relational databases are extremely easy to customize to fit almost any kind of data storage. You can easily create relations for items that you sell, employees that work for your company, etc.

2.2.2 Database Security

Database security denotes the system, processes, and procedures that protect a database from unintended activity. Security is usually enforced through **access control**, **auditing**, and **encryption**.

Access control ensures and restricts who can connect and what can be done to the database.

Auditing logs what action or change has been performed, when and by who.

Encryption: Since security has become a major issue in recent years, many commercial database vendors provide built-in encryption mechanism. Data is encoded natively into the tables and deciphered "on the fly" when a query comes in. Connections can also be secured and encrypted if required using DSA, MD5, SSL or legacy encryption standard.

2.2.3 Applications of Databases

Databases are used in many applications, spanning virtually the entire range of computer software. Databases are the preferred method of storage for large multiuser applications, where coordination between many users is needed. Even individual users find them convenient, and many electronic mail programs and personal organizers are based on standard database technology. Software database drivers are available for most database platforms so that application software can use a common Application Programming Interface to retrieve the information stored in a database. For example suppliers database contains the data relating to suppliers such as;

- a) supplier name
- b) supplier code
- c) supplier address

2.2.4 Advantages and Disadvantages of Database

Due to its centralized nature, the database system can overcome the disadvantages of the file-based system as discussed below.

a) Minimal Data Redundancy

Since the whole data resides in one central database, the various programs in the application can access data in different data files. Hence data present in one file need not be duplicated in another. This reduces data redundancy. However, this does not mean all redundancy can be eliminated. There could be business or technical reasons for having some amount of redundancy. Any such redundancy should be carefully controlled and the DBMS should be aware of it.

b) Data Consistency

Reduced data redundancy leads to better data consistency.

c) Data Integration

Since related data is stored in one single database, enforcing data integrity is much easier. Moreover, the functions in the DBMS can be used to enforce the integrity rules with minimum programming in the application programs.

d) Data Sharing

Related data can be shared across programs since the data is stored in a centralized manner. Even new applications can be developed to operate against the same data.

e) Enforcement of Standards

Enforcing standards in the organization and structure of data files is required and also easy in a Database System, since it is one single set of programs which is always interacting with the data files.

f) Application Development Ease

The application programmer need not build the functions for handling issues like concurrent access, security, data integrity, etc. The programmer only needs to implement the application business rules. This brings in application development ease. Adding additional functional modules is also easier than in file-based systems.

g) Better Controls

Better controls can be achieved due to the centralized nature of the system.

h) Data independence

The architecture of the DBMS can be viewed as a 3-level system comprising the following

- i. The internal or the physical level where the data resides.
- ii. The conceptual level which is the level of the DBMS functions

- iii. The external level which is the level of the application programs or the end user.

Data independence is isolating an upper level from the changes in the organization or structure of a lower level. For example, if changes in the file organization of a data file do not demand for changes in the functions in the DBMS or in the application programs, data independence is achieved. Thus Data Independence can be defined as immunity of applications to change in physical representation and access technique. The provision of data independence is a major objective for database systems.

- i) Reduced Maintenance

Maintenance is less and easy, again, due to the centralized nature of the system.

2.3 Information System

From business perspective, an information system is an organizational and management solution, based on information technology, to a challenge posed by the environment. (Ssebandeke, 2007)

2.3.1 Information Security

It means protecting information and information systems from unauthorized access, use, disclosure, disruption, modification, or destruction. The terms information security, computer security and information assurance are frequently used interchangeably. These fields are interrelated and share the common goals of protecting the confidentiality, integrity and availability of information; however, there are some subtle differences between them. These differences lie primarily in the approach to the subject, the methodologies used, and the areas of concentration. Information security is concerned with the confidentiality, integrity and availability of data regardless of the form the data may take: electronic, print, or other forms.

2.4.2 Basic Principles of Information System

2.3.2.1 Confidentiality

Confidentiality is the property of preventing disclosure of information to unauthorized individuals or systems. For example, a credit card transaction on the Internet requires the credit card number to be transmitted from the buyer to the merchant and from the merchant to a transaction processing network. The system attempts to enforce confidentiality by encrypting the card number during transmission, by limiting the places where it might appear (in databases, log files, backups, printed receipts, and so on), and by restricting access to the places where it is stored. If an unauthorized party obtains the card number in any way, a breach of confidentiality has occurred.

2.3.2.2 Integrity

In information security, integrity means that data cannot be modified without authorization. (This is not the same thing as referential integrity in databases.) Integrity is violated when an employee (accidentally or with malicious intent) deletes important data files, when a computer virus infects a computer, when an employee is able to modify his own salary in a payroll database, when an unauthorized user vandalizes a web site, when someone is able to cast a very large number of votes in an online poll, and so on.

2.3.2.3 Availability

For any information system to serve its purpose, the information must be available when it is needed. This means that the computing systems used to store and process the information, the security controls used to protect it, and the communication channels used to access it must be functioning correctly. High availability systems aim to remain available at all times, preventing service disruptions due to power outages, hardware failures, and system upgrades. Ensuring availability also involves preventing denial-of-service attacks.

2.3.2.4 Authenticity

Adopting a sociotechnical systems perspective help to avoid a purely technological approach to information systems. I.e. the facts that information technology is rapidly declining in 3-cost and growing in power does not necessary or easily translate into productivity enhancement or bottom-line profit.

2.6. Website

According to Wikipedia, a website is a collection of web pages typically common to a particular domain name or subdomain on the world wide web on the internet, A website ma be the work of an individual, a business or others organization and is and is typically dedicated to some particular topic or purpose. A web portal is a site on the world wide web that typically providing a pathway to other content.

Web site are written in or dynamically Converted to HTML (Hyper Text Markup Language) and are accessed using a software program called a Web browser also known

as an HTTP (Hyper Text Transfer Protocol) client. web page can be viewed or otherwise accessed from a range of computer based and internet enabled devices of various sizes, including desktop computers ,laptop computers, PDAs (Personal Digital Assistants) And cell phones.

The main goal if the web is to define ,design ,build and make usable a development methodology and environment for interactive multimedia packages to design , build, and deliver information to the global market in form of advertising and e-business for SMSs

The website is a collection of various electronic files, which contains specific information that is delivered via the internet. The two types of websites available are -Dynamic website and Static website. Both these types of websites differ in their features and usage. Similarly, both types have various merits as well as demerits.

2.6.1 A Static Website

A Static Website is one that has content that is not expected to change frequently and is manually maintained by some person or persons using some type of editor software.

There are three broad categories of editor software used for this purpose which are:

- a. Text editor. Such as Notepad or TextEdit, where the HTML is manipulated directly within the editor program.
- b. WYSIWYG editors. Such as Microsoft FrontPage and Macromedia. Dreamweaver, where the site is edited using a GUI interface and the underlying HTML is generated automatically by the editor software
- c. Template-based editors, such as Rapidweaver and iweb, which allow users to quickly create and upload websites to a web server without having to know anything about HTML, as they just pick a suitable template from a palette and add pictures and text to it in a DTP-like fashion without ever having to see any HTML code.

2.6.2 A Dynamic Website

Dynamic website is one that has frequently changing information or interacts with the user from various methods (HTTP cookies or database variables e.g. previous history, session variables, server side variables e.g. environmental data, etc.) or direct interaction (from elements mouseovers etc. When the web server receives a request for a given page is automatically retrieved from storage by the software in a given page request, thus opening up many possibilities, including for example: a site can be display the current state of a dialogue between users, monitor a changing situation, or provide information in some way personalized to the requirements of the individual user.

Dynamic websites are database based wherein the content is stored separate from the layout. When a web page is requested by the user, the content and layout are merged together and displayed. We make use of the PHP scripting language and associated open source products to develop dynamic websites. PHP is an open source server side scripting language that can be embedded within HTML code to dynamically generate content. (http://www.open-source-development.com/static_dynamic_site.shtml)

A web collection management policy is required to describe the roles and responsibilities of staff involved in the management of web delivered information and content that is published on the SMSs web portal. The publishing process is to make use of a manual or automated Content Management System (CMS) manages content.

A dynamic website is required for content such as online databases, e-business, collaborative content, membership, private areas, knowledge base, a resume or jobs database, online shopping site etc. A dynamic web page is any web page which has content that is changed by a program or script at the time the page is requested. Dynamic website pages are pages that allow a user to set preferences regarding what kind of information will be displayed.

A dynamic website is capable of engaging the visitor and impacting the business more dramatically. Dynamic website is required for content such as e-business, collaborative

content, and member-only. Dynamic pages are most often customized to offer some form of personalization in the response displayed to the end customer.

Dynamic pages are obviously beneficial, and although search engines may be able to index some of them, generally the pure volume alone is an inhibiting factor to most of the major search engines in the process of search engine optimization.

In an entirely dynamic website, all web contents are stored in a database and assembled into a web page when the page is requested. The dynamic site is essential when frequent change in website content is essential and also to reduce maintenance of the site for the users who do not know HTML. In dynamic websites when the content is retrieved it is merged with a template that provides components that are common to the whole site or sub sections of the site and also includes components that control the style of presentation for the user entered data.

A dynamic Web page is a template that displays specific information in response to queries. Most of the page content comes from the database connected to the Web site. Visitors love them since they get quick access to the information they want. These sites are easy for webmasters to update: as product offerings or prices change, just edit your database instead of hundreds of individual Web pages.

Visitors find information in a dynamic site by using a search query. That query can either be typed into a search form by the visitor or already be coded into a link on the home page - making the link a pre-defined search of the site's catalog. In that later case, the portion of the link containing the search parameters is called a 'query string'.

2.6.2.1 Merits of Dynamic Over Static Website

A dynamic website offers many advantages which static websites cannot provide. In a dynamic website, users can interact with the site using various options and search criteria. Your online bank account web page is an example of a dynamic website. Search engines are also dynamic websites with the capabilities to search and present information as per

your need. The information user enters into a dynamic website can be stored in a database such as Oracle or DB2. The dynamic website is developed using various web technologies such as Java, .NET, PHP, and CGI Script. Dynamic website is interactive fun for the surfer. On the contrary, static websites do not provide any options where users can key-in his views or questions. The user needs to go through the entire site to look for the information needed.

2.6.2.2 Benefits

Dynamic website offer several advantages over the static websites. These include:

Clients can update the website with ease. Content Management Systems integrated with the solution enable users to easily upload, format and organize content appearing on the website.

Database enabled websites make it easier to store and manage large amounts of data that is to be displayed on the website. The data stored in the database can be reused.

Interactive elements and functionalities can be easily incorporated and managed.

The full advantage of the Internet and its power can be obtained through dynamic websites.

2.6.2.3 Features

Some of the features that can be included in dynamic websites include the following:

Interactive Components such as discussion forums, user registration processes, newsletter subscription etc.

Personalized Services to users. User activity in the website can be tracked both implicitly and explicitly (through registration) to generate their preference and offer personalized services the next time they login to the website.

Complex e-commerce based solutions such as online storefronts, ticket and accommodation booking systems etc can be built into dynamic websites.

Image and Banner management functionalities can be built into dynamic websites enabling clients to upload images and banners to the website.

Querying functionalities can be built into the solutions that enable users to search for information available on the website.

Restrictive role based access can be provided in dynamic websites thereby ensuring security of data.

2.7 Online Transaction Processing

Online transaction processing (OLTP) refers to a class of systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval transaction processing.. OLTP has also been used to refer to processing in which the system responds immediately to user requests. An automatic teller machine (ATM) for a bank is an example of a commercial transaction processing application.

The technology is used in a number of industries, including banking, airlines, mailorder, supermarkets, and manufacturing. Applications include electronic banking, order processing, employee time clock systems, e-commerce, and eTrading.

2.7.1 Requirements

Online transaction processing increasingly requires support for transactions that span a network and may include more than one company. For this reason, new OLTP software uses client/server processing and brokering software that allows transactions to run on different computer platforms in a network.

In large applications, efficient OLTP may depend on sophisticated transaction management software (such as CICS) and/or database optimization tactics to facilitate the processing of large numbers of concurrent updates to an OLTP-oriented database.

For even more demanding decentralized database systems, OLTP brokering programs can distribute transaction processing among multiple computers on a network. OLTP is often integrated into SOA service-oriented architecture and Web services.

2.7.2 Benefits

Online Transaction Processing has two key benefits: simplicity and efficiency.

Reduced paper trails and the faster, more accurate forecasts for revenues and expenses are both examples of how OLTP makes things simpler for businesses. It also provides a

concrete foundation for a stable organization because of the timely updating. Another simplicity factor is that of allowing consumers the choice of how they want to pay, making it that much more enticing to make transactions. OLTP is proven efficient because it vastly broadens the consumer base for an organization, the individual processes are faster, and it's available 24/7.

2.7.3 Disadvantages

It is a great tool for any organization, but in using OLTP, there are a few things to be wary of: the security issues and economic costs.

One of the benefits of OLTP is also an attribute to a potential problem. The worldwide availability that this system provides to companies makes their databases that much more susceptible to intruders and hackers.

For B2B transactions, businesses must go offline to complete certain steps of an individual process, causing buyers and suppliers to miss out on some of the efficiency benefits that the system provides. As simple as OLTP is, the simplest disruption in the system has the potential to cause a great deal of problems, causing a waste of both time and money. Another economic cost is the potential for server failures. This can cause delays or even wipe out an immeasurable amount of data

2.7.3 The Benefits of a Business Website

Web transitions website has listed the following to be those instant benefits of having a business website to a given enterprise. Examples

a. Increased Market Size, Productivity and Efficiency

Business website presence broadens the market reach for the business. Local retailers can market/ sell products across the country or the world. It provides organizations with the ability to present a central point of access (single portal URL) to data and organizational

documentation while hosting the application and related data at multiple sites in a distributed network environment.

b. Reduced Information Distribution Costs

Basically every business distributes some sort of information like product sell sheets, technical specifications, catalogs ,order forms, proposals, etc. a business website allows you to provide that information can be used to personalize the content for the user, providing better marketing opportunities.

c. Expanded Availability to Customers

A business website gives customers access to the business 24/7 with every little increase in overhead or employment costs. Having information allows the customers to at least look at their convenience.

d. Increase Sales

If a small business website includes an online shopping cart or e-commerce solution, a business can increase sales with little additional cost.

e. Customers require it

Customers expect every business today to have a website. This expectation requires one to have some sort of interactive, dynamic web presence and to have online ordering enabled. The internet makes it possible to communicate with your customers on their terms within their terms. It makes it possible to automate information dissemination and customer service.

2.8 Web Database Application

According to Valade Janet(2005) an application is a program or a group of programs designed for use by an end user (for example, customers, members, circus acrobats, and

so on). If the end user interacts with the application via a Web browser, the application is a *Web-based* or *Web application*. If the Web application requires the long term storage of

information, using a database, it is a *Web database application*. A Web database application is designed to help a user accomplish a task. It can be a simple application that displays information in a browser window (for example, it displays current job openings when the user selects a job title) or a complicated program with extended functionality (for example, the book-ordering application at Amazon.com or the bidding application at eBay). Not surprisingly, a Web database application consists of a database and an application i.e. The *database* is the long-term memory of your Web database application. The application can't fulfill its purpose without the database. However, the database alone is not enough. The *application* piece is the program or group of programs that performs the tasks. Programs create the display that the user sees in the browser window; they make your application interactive by accepting and processing information that the user types in the browser window and they store information in the database and get information out of the database. (The database is useless unless you can move data in and out.) The Web pages that you've previously created with HTML alone are *static*, meaning the user can't interact with the Web page. All users see the same Web page. *Dynamic* Web pages, on the other hand, allow the user to interact with the Web page. Different users might see different Web pages. For instance, one user looking at a furniture store's online product catalog might choose to view information about the sofas, whereas another user might choose to view information about coffee tables. To create dynamic Web pages, you must use another language in addition to HTML. One language widely used to make Web pages dynamic is JavaScript. JavaScript is useful for several purposes, such as mouseovers (for example, to highlight a navigation button when the user moves the mouse pointer over it) or accepting and validating information that users type into a Web form. However, it's not useful for interacting with a database. You wouldn't use JavaScript to move the information from the Web form into a database. PHP, however, is a language that is particularly well-suited to interacting with databases.

2.9 Macromedia Dreamweaver

Macromedia Dream weaver is a web development tool, created by Macromedia (now Adobe Systems), which is currently in version 8. Initial versions of the application served as simple WYSIWG HTML editors but versions that are more recent have incorporated notable support for many other web technologies such as CSS, JavaScript and various server-side scripting frameworks.

Dreamweaver allows users to preview websites in many browsers, provided that they are installed on their computers. It also has some site management tools, such as the ability to find and replace lines of text or code by whatever parameters specified across the site, and a templization feature for creating multiple pages with similar structures. The behaviors panel also enables use of basic JavaScript without any coding knowledge. With the advent of version MX, Macromedia incorporated dynamic content creation tools into Dreamweaver. In the spirit of HTML WYSIWYG tools, it allows users to connect to databases such as MYSQL to filter and display content using scripting technologies such as Active Server Pages (ASP), ASP.NET, ColdFusion, and JavaServer (JSP), PHP and more without any previous programming experience

2.10 PHP

PHP (Hypertext Preprocessor) is a reflective programming language originally designed for producing dynamic web pages. It is used mainly in server-side scripting, but can be used from a command line interface or in standalone graphical applications. The whole implementation is produced by the PHP Group and released under the PHP license. It is considered free software by the Free Software Foundation.

PHP, a scripting language designed specifically for use on the Web, is your tool for creating dynamic Web pages. Rich in features that make Web design and programming easier, PHP is in use on over 13 million domains (according to the Netcraft survey at www.php.net/usage.php). Its popularity continues to grow, meaning that it must be fulfilling its function pretty well. In its early development by a guy named Rasmus

Lerdorf, it was called *Personal Home Page tools*. When it developed into a full-blown language, the name was changed to be more in line with its expanded functionality.

The PHP language's syntax is similar to the syntax of C, so if you have experience with C, you'll be comfortable with PHP. PHP is actually simpler than C because it doesn't use some of the more difficult concepts of C. PHP also doesn't include the low-level programming capabilities of C because PHP is designed to program Web sites and doesn't require those capabilities.

PHP is particularly strong in its ability to interact with databases. PHP supports pretty much every database you've ever heard of (and some you haven't). PHP handles connecting to the database and communicating with it.

You don't need to know the technical details for connecting to a database or for exchanging messages with it. You tell PHP the name of the database and where it is, and PHP handles the details. It connects to the database, passes your instructions to the database, and returns the database response to you.

2.10.1 Advantages of PHP

The popularity of PHP is growing rapidly because of its many advantages:

- i. **It's fast.** Because it is embedded in HTML code, the response time is short.
- ii. **It's inexpensive — free, in fact.** PHP is proof that free lunches do exist and that you can get more than you paid for.
- iii. **It's easy to use.** PHP contains many special features and functions needed to create dynamic Web pages. The PHP language is designed to be included easily in an HTML file.
- iv. **It can run on many operating systems.** It runs on a wide variety of operating systems: Windows, Linux, Mac OS, and most varieties of Unix.
- v. **Technical support is widely available.** A large base of users provides free support via e-mail discussion lists.
- vi. **It's secure.** The user does not see the PHP code.

- vii. **It's designed to support databases.** PHP includes functionality designed to interact with specific databases. It relieves you of the need to know the technical details required to communicate with a database.
- viii. **It's customizable.** The open source license allows programmers to modify the PHP software, adding or modifying features as needed to fit their own specific environments.

2.10.2 Usage

PHP generally runs on a web server, taking PHP code as its input and creating Web pages as output, however it is also popular for command-line and client-side GUI applications. PHP can be deployed on most web servers and on almost every OS platform free of charge. The PHP group also provides the complete source code for users to build, customize, and extend for their own use.

PHP is an embedded scripting language when used in Web pages. This means that PHP code is embedded in HTML code. You use HTML tags to enclose the PHP language that you embed in your HTML file — the same way that you would use other HTML tags. You create and edit Web pages containing PHP the same way that you create and edit regular HTML pages.

The PHP software works in conjunction with the Web server. The Web server is the software that delivers Web pages to the world. When you type a URL into your Web browser, you're sending a message to the Web server.

URL, asking it to send you an HTML files. The Web server responds by sending the requested file. Your browser reads the HTML file and displays the Web page. You also request the Web server to send you a file when you click a link in a Web page. In addition, the Web server processes a file when you click a Web page button that submits a form.

2.10.3 Server-side Scripting

Originally designed to create dynamic web pages, PHP's principal focus is server-side scripting. While running the PHP parser with a web server and web browser, the PHP model can be compared to other server-side scripting languages such as Microsoft's ASP.NET system, Sun Microsystems JavaServer pages, as they provide dynamic content to the client from a web server. The XAMPP architecture has become popular in web industry as a way of deploying inexpensive, reliable, scalable, secure web applications. PHP is commonly used as the *P* in this bundle alongside Apache, MySQL, FileZillaFTP, and Mercury. PHP can be used with a large number of relational database management systems, runs on all of the most popular web servers, and is available for many different operating systems. This flexibility means that PHP has a wide installation base across the Internet; over 18 million Internet domains are currently hosted on servers with PHP installed.

2.10.4 Syntax

PHP primarily acts as a filter. The PHP program takes input from a file or stream containing text and special PHP instructions and output another stream of data for display. From PHP4, the PHP parser compiles input to produce byte code for processing by the Zend Engine, giving improved performance over its interpreter predecessor.

2.11 MySQL

MySQL is a relational database management system (RDBMS) which has more than 11 million installations. The program runs as a server providing multi-user access to a number of databases.

MySQL is a freely available open source Relational Database Management System [RDBMS], a database engine of sorts that uses Structured Query Language (SQL). SQL is the most popular language for adding, accessing, and processing data in a database, and is most noted for its rapid processing, proven reliability, and ease and flexibility of use. Best mate for PHP, MySQL is part in almost every open source application.

MySQL is a fast, easy-to-use RDBMS used for databases on many Web sites. Speed was the developers' main focus from the beginning. In the interest of speed, they made the decision to offer fewer features than their major competitors (for instance, Oracle and Sybase). However, even though MySQL is less full featured than its commercial competitors, it has all the features needed by the large majority of database developers. It's easier to install and use than its commercial competitors, and the difference in price is strongly in MySQL's favor.

2.11.1 Advantages of MySQL

MySQL is a popular database with Web developers. Its speed and small size make it ideal for a Web site. Add to that the fact that it's open source, which means free, and you have the foundation of its popularity. Here is a rundown of some of its advantages:

- i. **It's fast.** The main goal of the folks who developed MySQL was speed. Consequently, the software was designed from the beginning with speed in mind.
- ii. **It's inexpensive.** MySQL is free under the open source GPL license, and the fee for a commercial license is very reasonable.
- iii. **It's easy to use.** You can build and interact with a MySQL database by using a few simple statements in the SQL language, which is the standard language for communicating with RDBMSs. Check out Chapter 4 for the lowdown on the SQL language.
- iv. **It can run on many operating systems.** MySQL runs on a wide variety of operating systems — Windows, Linux, Mac OS, most varieties of Unix (including Solaris, AIX, and DEC Unix), FreeBSD, OS/2, Irix, and others.
- v. **Technical support is widely available.** A large base of users provides free support via mailing lists. The MySQL developers also participate in the e-mail lists. You can also purchase technical support from MySQL AB for a very small fee.
- vi. **It's secure.** MySQL's flexible system of authorization allows some or all database privileges (for example, the privilege to create a database or delete data) to specific users or groups of users. Passwords are encrypted.

- vii. **It supports large databases.** MySQL handles databases up to 50 million rows or more. The default file size limit for a table is 4GB, but you can increase this (if your operating system can handle it) to a theoretical limit of 8 million terabytes (TB).
- viii. **It's customizable.** The open source GPL license allows programmers to modify the MySQL software to fit their own specific environments.

2.10.2 Uses

- a. MySQL is a database management system.

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

- b. MySQL is a relational database management system.

A relational database stores data in separate tables rather than putting all the data in one big storeroom. This adds speed and flexibility. The SQL part of “MySQL” stands for “Structured Query Language.” SQL is the most common standardized language used to access databases and is defined by the ANSI/ISO SQL Standard.

- c. MySQL software is Open Source.

Open Source means that it is possible for anyone to use and modify the software. Anybody can download the MySQL software from the Internet and use it without paying anything. If you wish, you may study the source code and change it to suit your needs.

- d. The MySQL Database Server is very fast, reliable, and easy to use.

If that is what you are looking for, you should give it a try. MySQL Server also has a practical set of features developed in close cooperation with our users.

MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years. Although under constant development, MySQL Server today offers a rich and useful set of functions. Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the Internet.

e. MySQL Server works in client/server or embedded systems.

The MySQL Database Software is a client/server system that consists of a multi-threaded SQL server that supports different backends, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs).

f. We also provide MySQL Server as an embedded multi-threaded library that you can link into your application to get a smaller, faster, easier-to-manage standalone product.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The chapter presents the methods and procedures that were used to collect and analyze data. It discusses how respondents were selected, how the data was collected and analyzed.

3.1 Study Area and Population

Elegantly situated in Kampala City Centre plot 26 Jinja road, Footstep Interiors is a leader in the furnishing industry in Uganda. With 200sq. meters of showroom, workshop and warehouse all under one roof. It has over 100 full-time employees and five branches

3.2 Data Collection Tools

The following data collection tools were used in this study:

3.2.1 Interviewing

Interview method was used because it provides an avenue for direct contact with the respondent, free interaction and first hand information. Usually, interviews yield the richest data; provide details, new insights and the opportunity to explore topics in depth. They also afford the ability to experience the affective as well as cognitive aspects of responses. They allow the interviewer to explain or help clarify questions, increasing the likelihood of useful responses and increase the flexibility in administering the interview to particular individuals or circumstances.

Three top managers and five employees for each of the four departments of accounts, sales, procurements and marketing were interviewed.

3.2.2 Observations

Observation was used as an additional method for data collection to enrich the data obtained through the interview and also as a check list for the data provided. Accurate information would be collected on behavior of people and processes through observation it involved systematically watching and recording behavior and characteristics of employees and different business phenomena at Footstep interior designs.

3.3 The Waterfall Model

The waterfall model was used in the development process in which development was seen as flowing steadily downwards through the phases of requirements analysis, design, implementation, testing (validation), integration, and maintenance. Thus the waterfall model maintained that one should move to a phase only when its preceding phase was completed and perfected.(wikipedia.org/wiki/Waterfall_model)

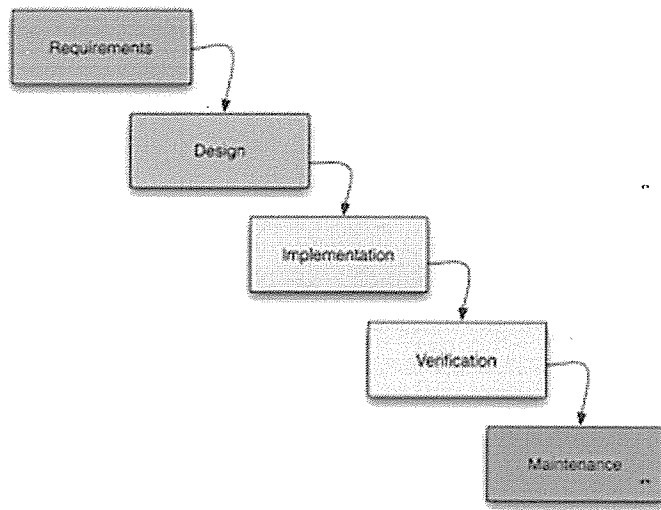


Figure Error! No text of specified style in document.-2 Waterfall Model

3.3.1 Requirement Analysis and Design

Analyst gathered the requirements for the system. This stage included a detailed study of the business needs of the organization. Design focused on high level design like, what programs were needed and how they were going to interact, low-level design (how the individual programs were going to work), interface design (what were the interfaces going to look like) and data design (what data would be required). During these phases, the software's overall structure was defined. The logical system of the product is developed in this phase.

3.3.2 Implementation

In this phase the designs were translated into code. Programming tools like Compilers, Interpreters, and Debuggers were used to generate the code. Different high level programming languages i.e. PHP, MSQL and Macromedia were used for coding

3.3.3 Testing

In this phase the system was tested. Programs were written as a series of individual modules, this subjected to separate and detailed test. The system was tested as a whole and then the separate modules were brought together and tested as a complete system. The system was tested to ensure that interfaces (login) between modules work, the system worked on the intended platform and with the expected volume of data and that the system did what the user required.

CHAPTER FOUR

SYSTEMS ANALYSIS AND DESIGN

4.0 Introduction

In this phase the study the current system was analyzed in details. During the requirement citation phase the researchers determined the requirements of proposed system accurately, understood the system developers deliver a proper system to the end users in limited time and limited budget.

4.1 Footstep Interiors Activities

As discussed in chapter one, Footstep interior is a leader in the furnishing industry in Uganda. With 200sq.meters of showroom, workshop and warehouse all under one roof, the company has a product and service line that broadly includes office furniture, domestic furniture, curtain fabrics\blinds and accessories, miscellanies items.

4.1.1 Purchase of Goods by Footstep Interiors

The entire process of purchasing goods begins when Footstep interiors carry out an inventory/stock taking to find out the available stock that has been sold. This enables them to know the precise number of items on their shelves and storage areas in order to place orders to their suppliers.

Once a particular material is below the set threshold value, Footstep interiors through its purchasing officer makes a purchase requisitions to the manufacturing company, which supplies that given item. Since Footstep interiors suppliers are mainly in Asians countries it contact them by phone and postal mails. On receiving the purchase requisition from Footstep Interiors, the manufacturing company a list of available goods and their corresponding prices, which it transmit to Footstep interiors.

On receiving a list of available goods and their prices, Footstep interiors places a purchase order to the manufacturing company. The orders that Footstep usually makes are in large quantities. When the manufacturing company receives the order, it will have to make sure that it delivers the requested goods on the agreed schedule.

The delivery period of goods from the manufactures usually begins on the day Footstep receives the order confirmation letter and ends on the day goods leave the supplier .incase of later alternations to the order made by Footstep ,which may have an effect on the delivery period begins on the confirmation of the alternation. When the goods are received, the purchasing officer confirms the receipt of the goods and under delivery of ordered goods. At Footstep they are safely stored in their warehouses.

4.1.2 Payment

Once goods are delivered to Footstep's interiors, they come along with the invoice, which will be due within a given period of the agreed time between the two parties. Both the cash and the cheques make payment.

4.1.3 Sale of Goods by Footstep Interiors

Footstep interiors sell its stock directly to its ultimate consumers as per their requirement. Footstep has a loyal client base that includes government, embassies multinationals, multilateral agencies, donor agencies, large companies, discerning individuals and neighboring countries.

Footstep interiors are currently using a manual system to make its business transaction. Government, corporate companies and large institutions initiate the purchase of goods from Footstep interiors by sending requisitions of the goods they want. It then becomes the responsibilities of sales department to draft a quotation of available goods as per the requisitions and then stipulate the current prices of the respective goods, which it transmits back to the given client. When the clients receive the quotation list and it's approved, they place the purchase order. Footstep will immediately service this standing order by delivering goods to the destinations of that client together with an invoice stating the total cost of the goods. The account clerk in the accounting department is notified of

the quantity and price of goods delivered, who in return write an invoice. Some companies/organizations and individuals place their orders with cash.

Clients make their payment to Footstep interiors by both cash and cheques.

Footstep interiors designs deal in a wide variety of furnishing products, which are categorized into office furniture, domestic furniture, curtain fabrics and accessories, miscellaneous.

1. Office Furniture

Office furniture includes:

- A. Modular furniture-, which contains desks, bookshelves and cabinets
- B. Executive furniture-which contains desks, bookshelves and cabinets
- i. Chairs i.e. high backs, medium backs, low backs, secretarial drafting/counter, reception
- ii. -Steel consisting of filing cabinets, flip charts, projects screens and white boards
- iii. Accessories consisting of notice board, flip charts, project screens and white board.

2 .Domestic Furniture

Domestic furniture is categorized into living room, dining room, bed room and garden.

A. living room consists of:

- i. Sofas made of leather, fabric and budget.
- ii. Tables i.e. coffee tables, nest of tables and console tables. all of them made in both wood and grass.
- iii. Entertainment centers consisting of: TV stands in large, small and medium sizes.
- iv. Others which include: bar furniture, dividers and the screens.
- v.

B. Dining Furniture is categorized into:

- i. Table in both glass and the wood(sizes of 12,10,8,6and 4 setters)
- ii. Chairs i.e. side chairs and arm chairs.
- iii. Buffet and hutch/china cabinet
- iv. Sideboard
- v. Food trolley

C. Bedroom Furniture is categorized into

- i. Beds i.e. double, king, single, double-checkers and baby cots
- ii. Overseeing table with mirror and stool
- iii. Wardrobes
- iv. Linen chests
- v. Bedroom chairs
- vi. Bedside table

vii. Children study tables

D. Garden Furniture is categorized into:

- i. Tables
- ii. Chairs
- iii. Umbrellas in singles or in sets

3. Fabrics and Accessories

Under this category of furniture Footstep has fabrics, workshops items, curtain accessories, blinds, lighting, flooring Vases and wall pictures

A. Fabric consists of:

- i. Curtains
- ii. Netting
- iii. Upholstery
- iv. Lining
- v. Plastics

B. Workshop items consist of:

- i. Stiff
- ii. Lampshade
- iii. Glue(It, stick- roll, stick-melt)
- iv. Staples
- v. Brass pins, webbing, springs, foam chips, foam and pillow fiber

C. Curtain accessory consists of:

- i. Hooks
- ii. Runners
- iii. Rails
- iv. End stoppers, ext wires, screw hooks, screw eyes, rings, pins
hook, poles

- v. And extension tracks.
- vi. Curtain tape including; 3 “pencil pleat, 3 pinch pleat, French pleat goblet, 1” tape and eyelet tape.
- vii. Tie backs and tie backs hooks

D. Blinds i.e. Venetian, wooden, bamboo, roller and roman.

E. lighting i.e. Shades, table lamps, standing lamps, wall light, ceiling lights and garden lights.

F. Flooring includes; doormats, carpet rugs, and wall to wall carpet.

G. Décor includes: artificial flowers, artificial trees, feather, marbles, crystals, and flower Vases and wall pictures.

4. Domestic Appliances

Footstep interiors supplies domestic appliances which include:

- i. Fridges
- ii. Cookers
- iii. Kettles etc

Outlines of Activities Carried on When a Client Places an Order

- i. Client makes requisition
- ii. Footstep transmits a quotation of goods/services available
- iii. Client places a purchase of orders of requested goods
- iv. Goods are delivered with a delivery note and the invoice.
- v. Clients acknowledge receipt of goods.

4.2 Description of the existing system

4.2.1 A Static Website

Footstep interiors are currently using a Static web site which is mainly focused on showing permanent information, where the navigators are limited by it to obtain the data.

It can not interact with information, without interacting with the visited web page. This web is not able to support web applications as intelligent data base managers, forums, consultations on line, intelligent e-mails. It just offers a description of its enterprise, like, who we are, where we are, our services. It is ideal to those who just want to inform their clients about their products and about the profile of the company.

This Footstep website has content that are not expected to change frequently and is manually maintained by some person or persons using some type of editor software ie Text editor WYSIWYG editors ,and Template-based editors.

4.2.2 Problems of the Current System

- i. Enormous paper work: Footstep interiors send and receive most of their businesses transactions report by post.
- ii. More time consuming: it takes a lot of time to compare company periodical reports since it is cumbersome to handle all the papers and prepare the consolidated reports required by the top management.
- iii. Wastage of space due the large volumes used to make different transactions in various departments more usual files are needed which end up taking a lot of space, hence makes it hard to search for the required records.
- iv. Improper compilation: due to the tedious process of handling huge volumes of paper, the compilation could go wrong on different occasions.
- v. Delays in correspondence: due to the postal delays to and from the clients and suppliers, usually compiled client orders and transactions don't reflect correct information

4.2.3 Possible Solutions to the Current Systems

The drawbacks of the current system can be addressed by putting in place online computerized system. This will provide greater accuracy and more flexibility in the types

of information and reports that can be generated by the program that can be obtained with a manual inventory system. Other advantages of computerized system include:

- i. Elimination of paper work: little or no paper work will be involved in the transaction of the business online; this will therefore ensures efficiency in the whole system.
- ii. Less time consuming: query facility is possible-i.e. in the computerized system ,so it takes less time in accessing the computerized system to know the status of the different business clients and suppliers
- iii. Accurate compilation: reduces unnecessary file work and computerized reports
- iv. Globally accessible: web based system so that can be accessed thought the world, it is accessible only to the permitted users and provide easy access with query facility.

4.3 The Proposed System

The proposed system is intended to help Footstep interiors to make transaction online speedy, accurate and meet their entire user and company needs as much as minimize cost

and maximize profits. That is, due to the fact that clients will have to browse the Footstep interiors website at a low cost, get to know about the company, find out the prices of specialties, know the specialties, and even order online without incurring much cost and labor

4.3.1 Requirements of the Proposed System

4.3.1.1 Functional and Non Functional Requirements

Once a new system is put in place, it is expected to do the following:

- i. The system is supposed to process a price inquiry sheet according to the purchase requisitions, and should transmit the price inquiry sheets to their corresponding clients
- ii. The system should transmit quotations to the buyer server according to the said received price inquiry sheets.
- iii. The system expected to capture customer order information.
- iv. The system is supposed to process delivery arrangements for the purchasing organizations(client)

- v. The system put in the place should transmit a requisition form to the supplier if the goods in the ware houses go below the threshold point.
- vi. The system is expected to offer fast and efficient work to accomplish all the business transactions locally and internationally.
- vii. The system should offer enough authentication and security so that the database information is not corrupted.
- viii. The system shall provide appropriate access to the users to search for results and other information

4.4.1.2 Software Requirements

The following are software requirement for Footstep interiors information systems

- i. Mysql database software
- ii. PHP
- iii. Apache server
- iv. Dreamweaver

4.3.1.3 Hardware Requirement:

Footstep interiors should acquire the following hardware devices in order to achieve the fastest and most reliable system:

Five (45 personal desktop computers in different branches having the following features:

- i. Pentium 4 CPUs at speed of 2.0-3.06 GHz
- ii. System RAM: there should be minimum amount of RAM, with 256-1 GB
- iii. Hard Drive. With a Minimum of not less than 40 GB hard drive .
- iv. Video card. For 3D applications should pick a good name brand AGP graphics card with 16MB or greater of video memory.
- v. Network adapter : An active LAN adapter (Ethernet or token ring, installed and configured)
- vi. Computer case. ATX mid-tower or tower case (with at least a couple of free drive bays) with power supply.

- vii. 17" Monitor display.
- viii. UPS in case Power logs off.

4.4 Logical Design

This covers what the system will do, describe the functional requirements and also conceptualize what the system will do to solve problems that were identified in the analysis.

Data Flow Diagram for Footstep Interior System

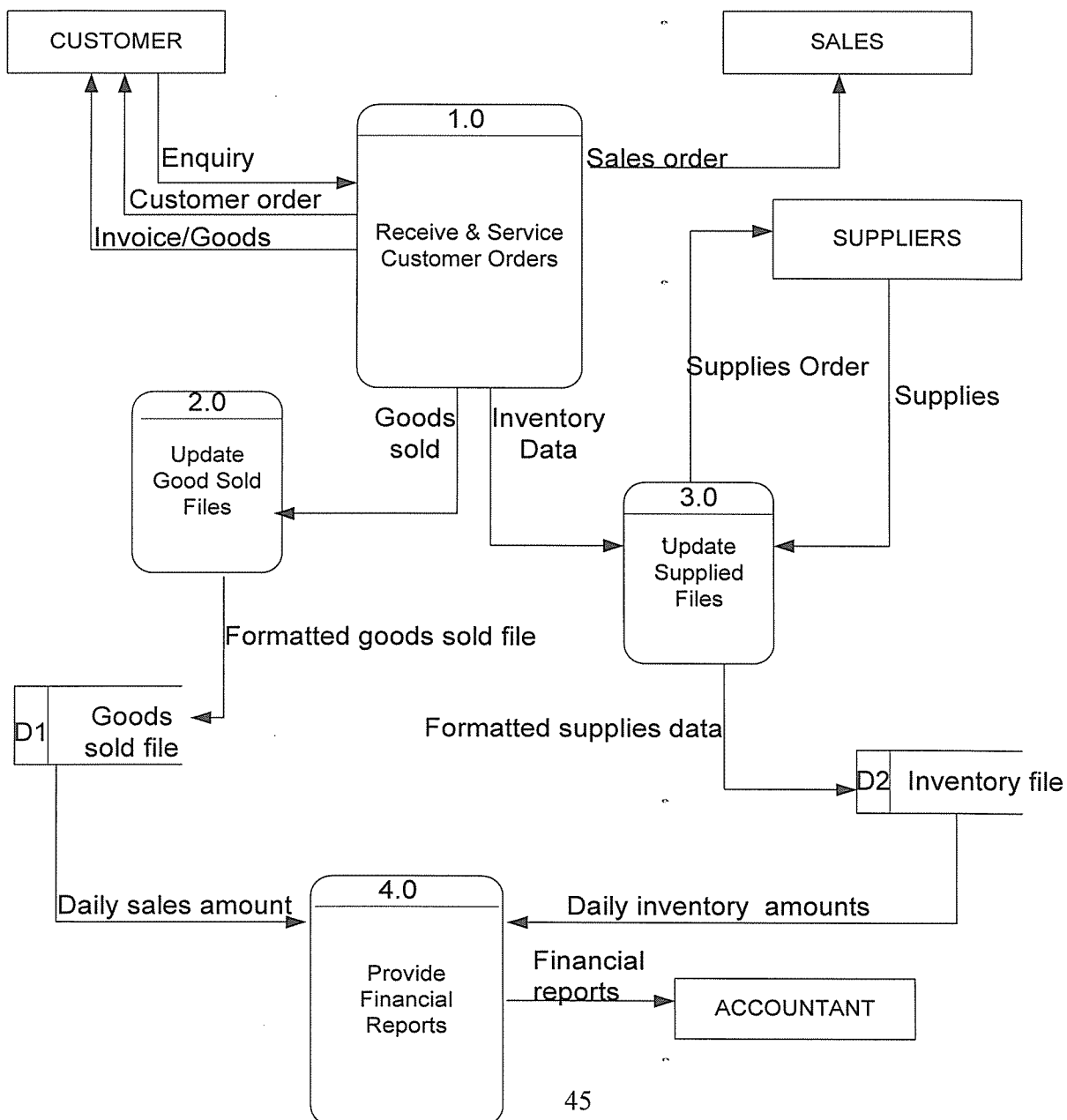
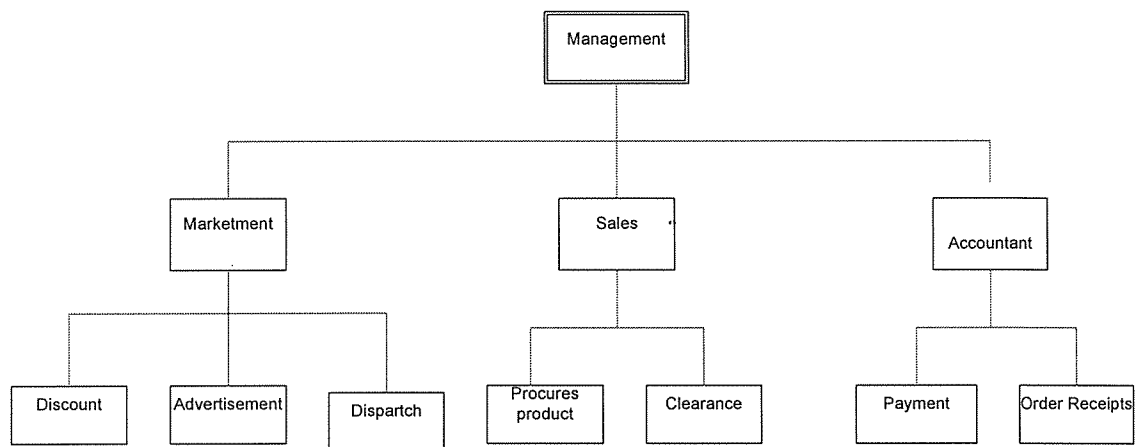


Figure Data flow Diagram for Footstep Interiors

4.5 Design Physical

Figure Error! No text of specified style in document.-3 Data flow Diagram for Footstep Interiors System



Interface Design

4.5.1.1 Input Design

Proceed to contacts

The screenshot displays the contact information form for Footstep Interiors form for placing orders.

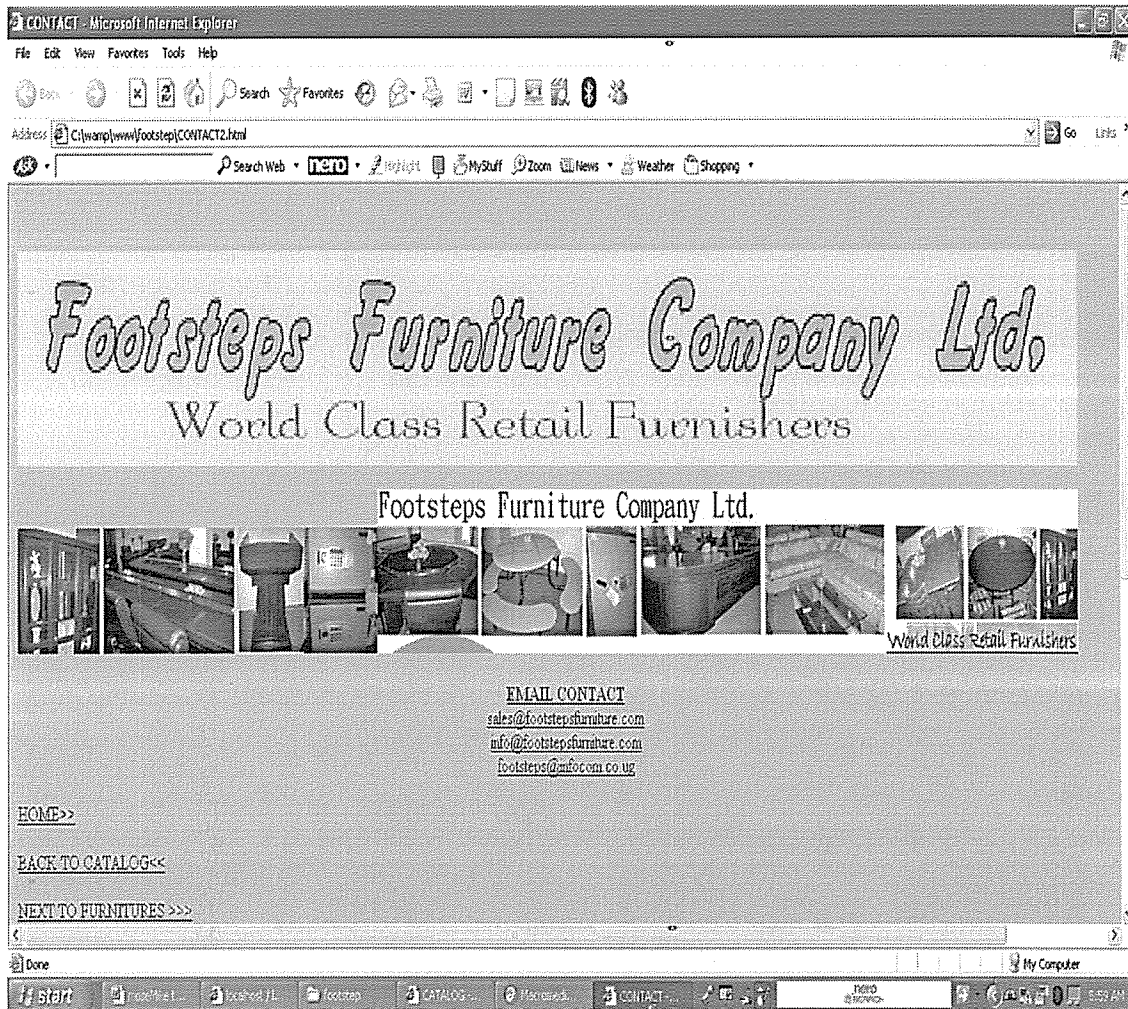
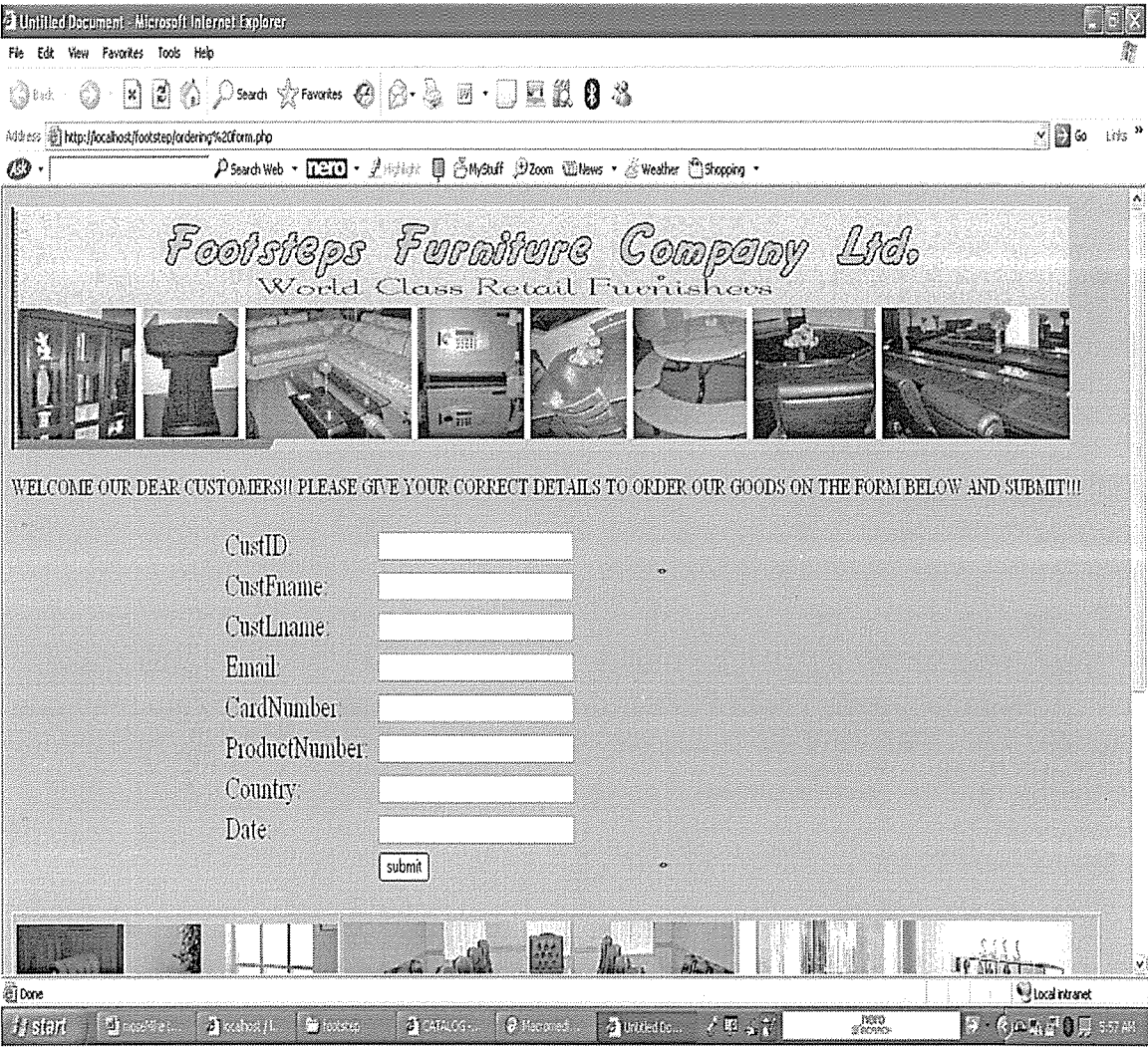


Figure -4 A screenshot for a Creating New Product Form

This screenshot displays a form used to create new form for Footstep Interiors system.

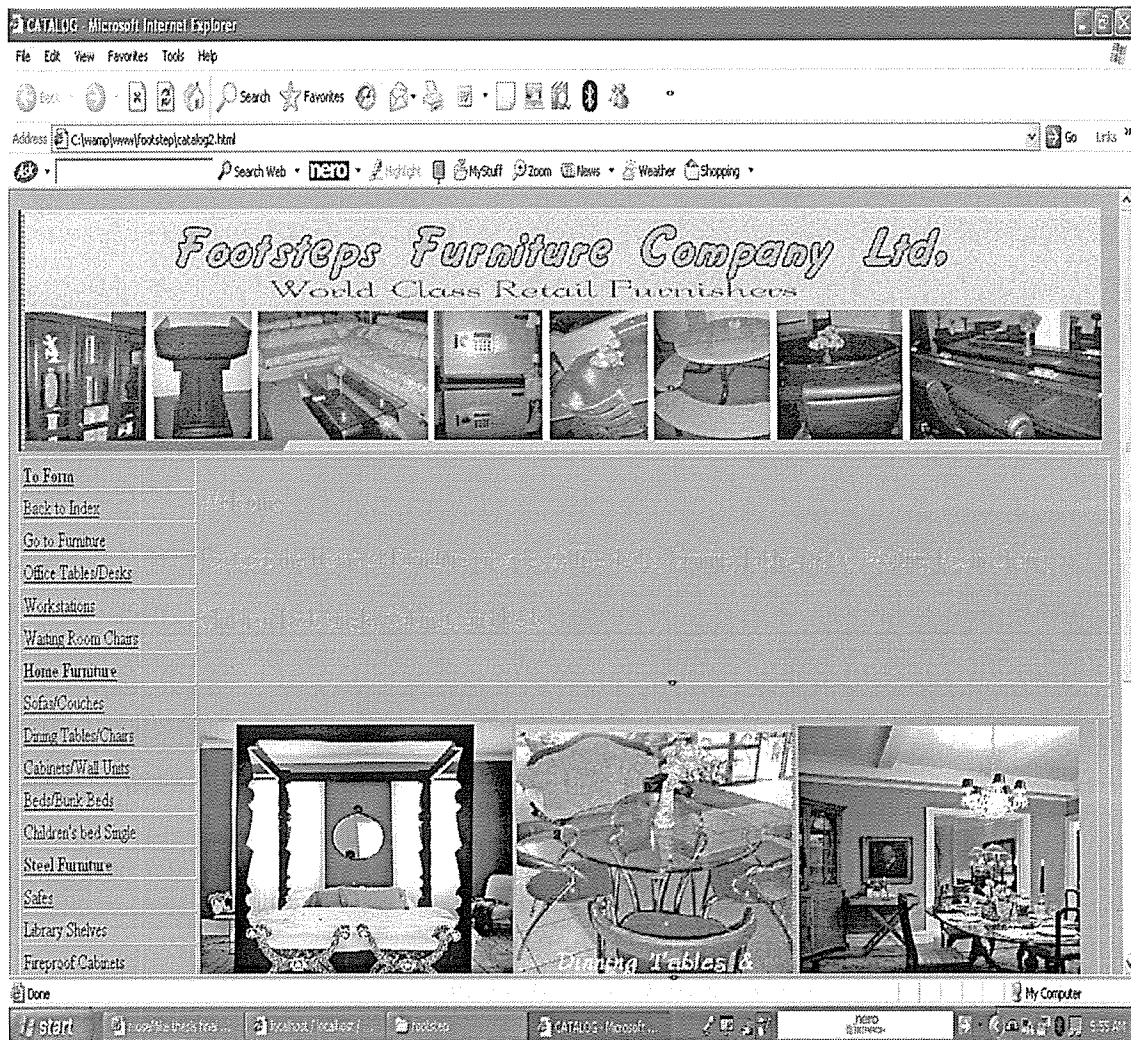


Figur-5 A screenshot of the Home Page of the Footstep Interiors Website



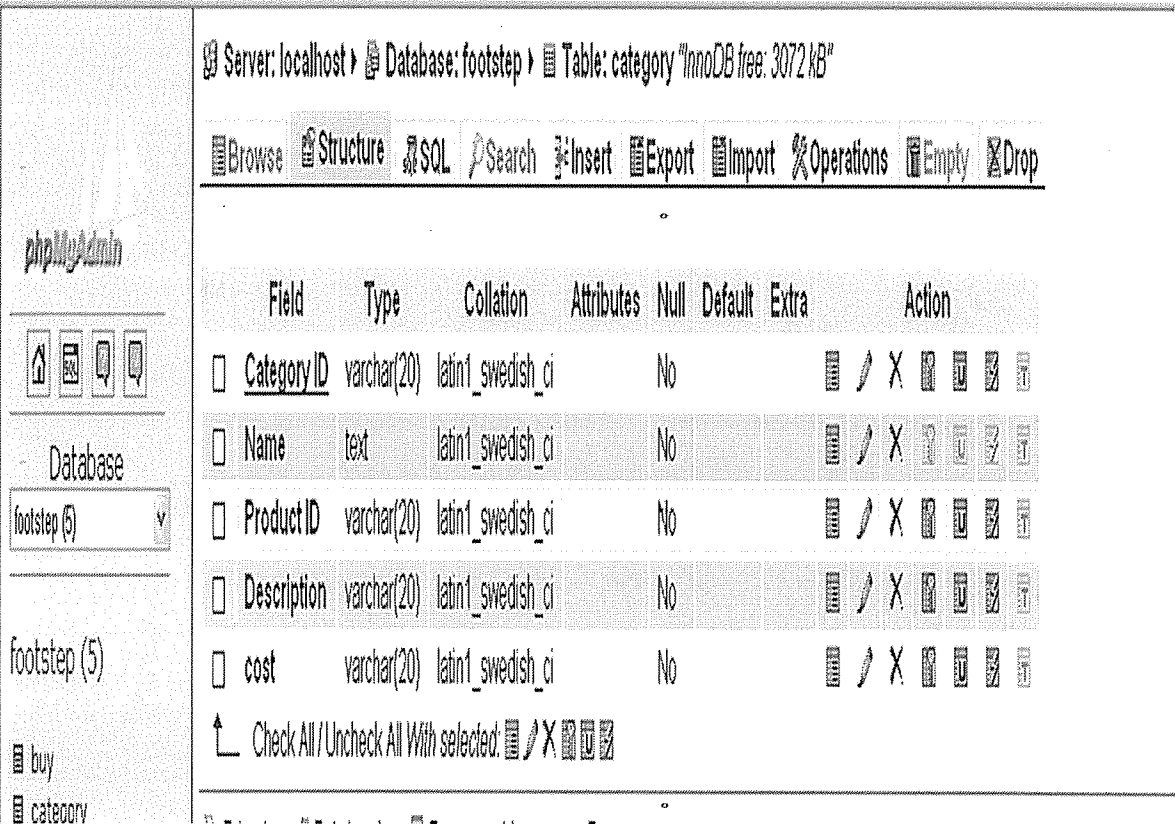
The screenshot above shows the different windows to be viewed on the Footstep Interiors Furniture LTD home page.

Figure A screenshot of Footstep Interiors Products Catalog



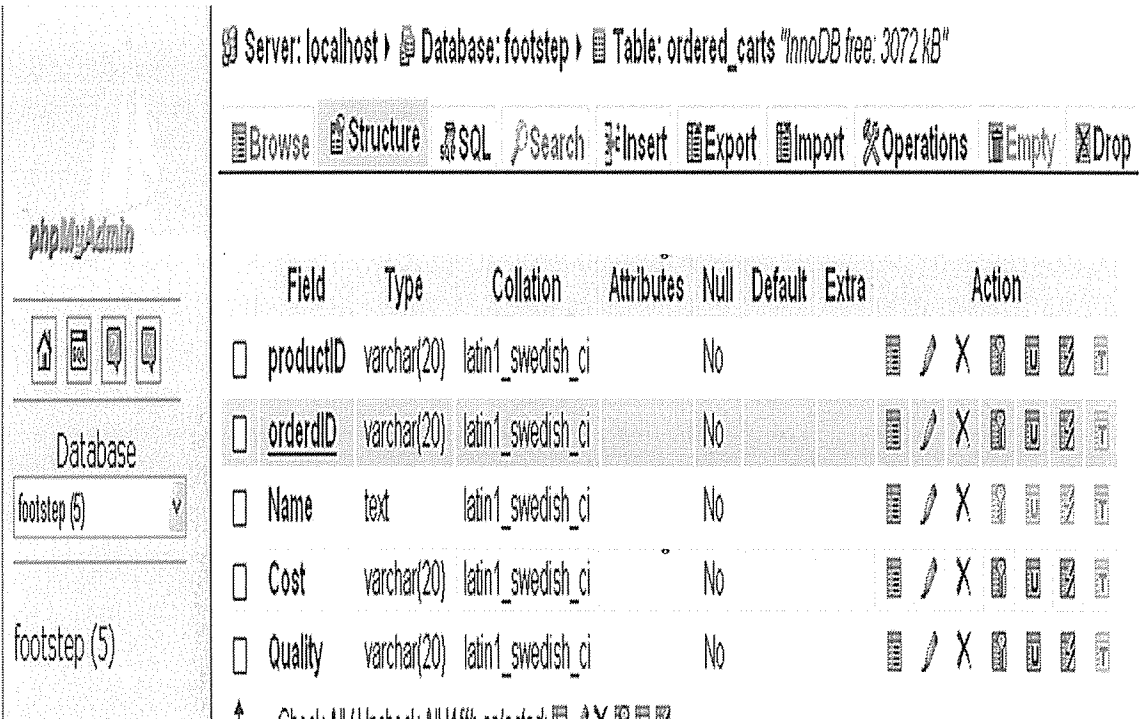
The screenshot above shows an output of different windows products to be viewed on the Footstep interiors LTD. It is the products windows where the client selects the items they require.

Figure-6 A Screenshot of the Mysql Database Creation for Categories



The above screenshot shows the creation of database contact form using MySQL and Php my admin.

Figure 7 A screenshot of the MySQL Database Creation for Order_cart

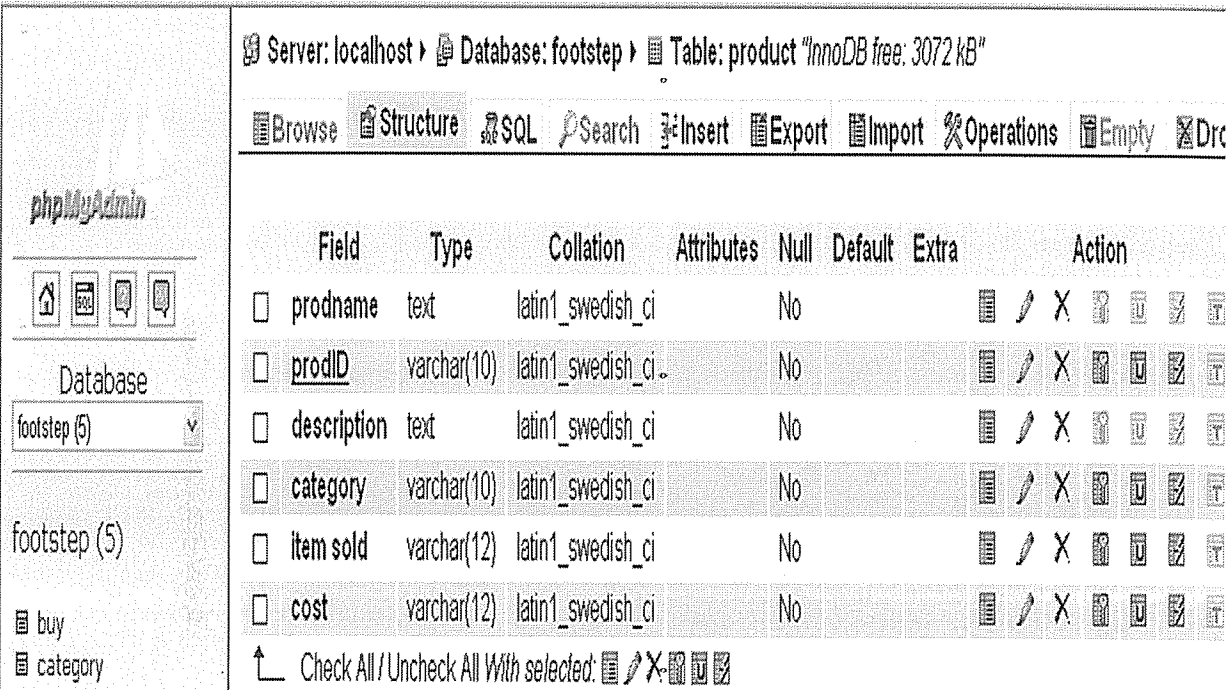


The above screenshot shows the creation of database contact form using MySQL and Php my admin.

Figure -8 A Screenshot of the MySql Database Creation for Product

MySql database creation for product

The above screenshot shows the creation of database contact form using MySQL and Php admin.



4.6 File and Database Design

PRODUCTS

Field	Data type	Length
Product-ID	Int	10
Category	Int	12
Name	Varchar	20
Description	Text	30
Item sold	varchar	12
cost	float	12

Table 1 Product Data Table

ORDERED-CARTS

Field	Data type	Length
Product -ID	varchar	20
Order ID	varchar	20
Name	text	30
cost	varchar	20
Quality	varchar	20

Table 2 Order-Carts

CATEGORY

Field	Data type	Length
Category ID	varchar	20
name	text	30
Cost	varchar	20
productID	VARCHAR	20
Description	varchar	30

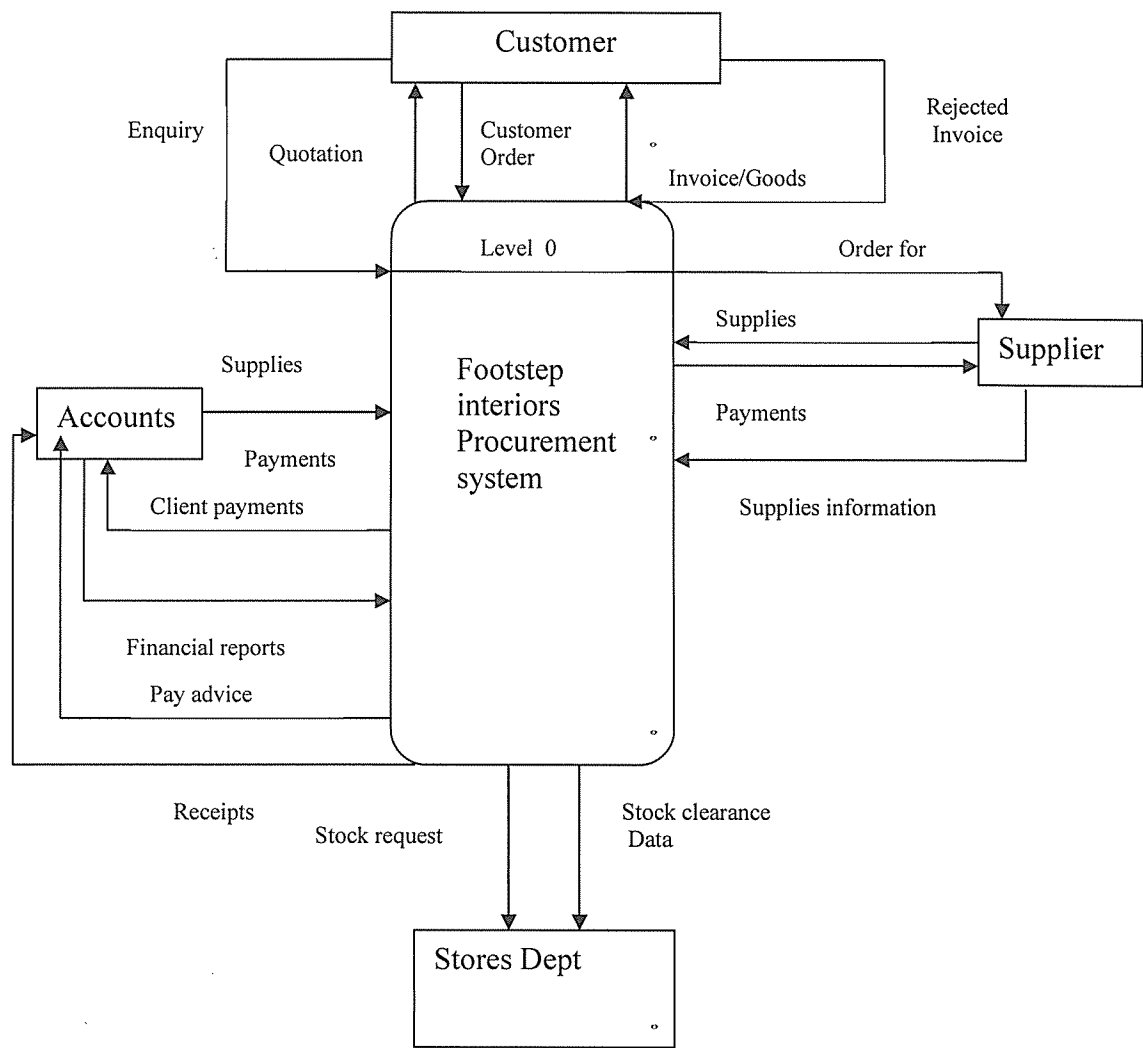
Table 3 Category Data Table

ORDERS

Field	Data type	Length
CustFname	Varchar	30
CustLname	Varchar	30
email	Varchar	30
country	Varchar	30
productnumber	Varchar	30
date	Date/time	30
CustID	Varchar	30

Table 4 Order Data Table

4.7 Context Level Diagram



The context level diagram above models the system as one process box, which represent the scope of the system. It still identifies external entities and related inputs and outputs

Figure Error! No text of specified style in document.-9 Context Level Diagram

Figure -10 Entity Relationship Model used to Design the Database

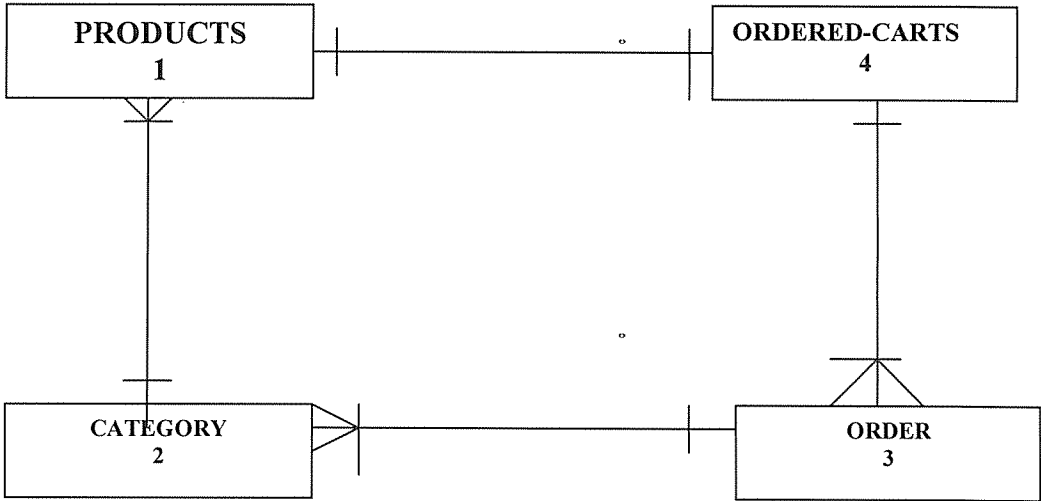
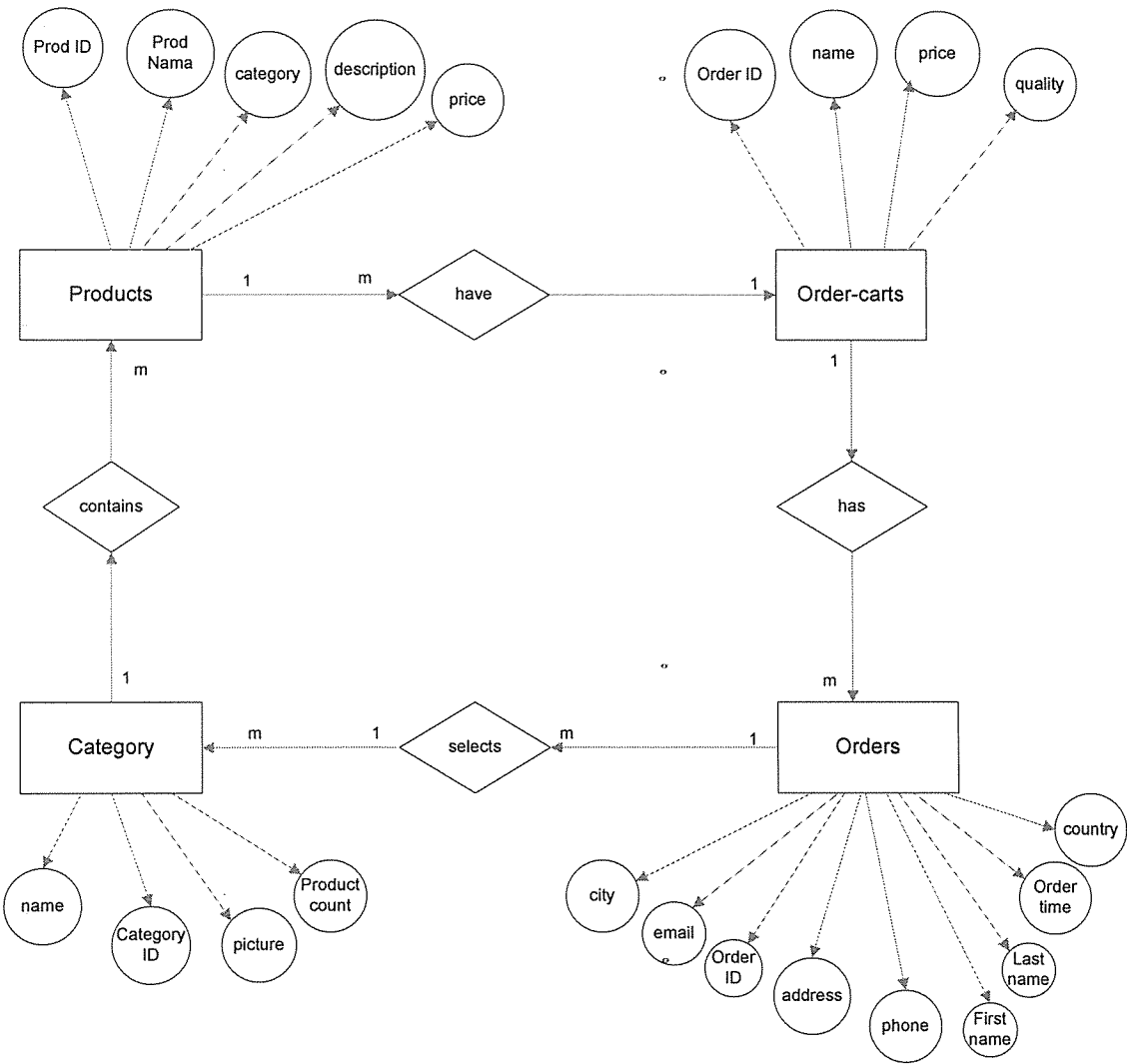


Figure 11 Entity Relationship Diagram for Footstep Interiors System

This diagram shows the system entities, their attribute and how they interact.



Entity Relation Diagram for Footstep Interior system

CHAPTER FIVE

SYSTEM IMPLEMENTATION AND EVALUATION

5.0 Introduction

This chapter involves translating the design into executable program that meets the user requirements outlined in the requirement capture. It also gives the user guide manual for training and maintenance and Programme installation.

5.1 Program Design

The program was designed using: **Macromedia Dream weaver, MySQL and PHP.**

5.1.1 Macromedia Dream weaver

Dream weaver was used to allow users to preview websites in many browsers. It also has some site management tools, such as the ability to find and replace lines of text or code by whatever parameters specified across the site, and a templatization feature for creating multiple pages with similar structures. It allows users to connect to databases such as MYSQL to filter and display content using scripting technologies such as Active Server Pages (ASP), PHP and more without any previous programming experience.

5.1.2 MySQL

MySQL was used because of its freely available open source Relational Database Management System [RDBMS], a database engine of sorts that uses Structured Query Language (SQL). The program runs as a server providing multi-user access to a number of databases.

5.1.3 PHP

PHP (Hypertext Preprocessor) was used as a reflective programming language for designing and for producing dynamic web pages. PHP also doesn't include the low-level programming capabilities of C because PHP is designed to program Web sites and doesn't require those capabilities. PHP was chosen particularly because of its ability to interact with databases. You don't need to know the technical details for connecting to a database or for exchanging messages with it. You tell PHP the name of the database and where it is, and PHP handles the details. It connects to the database, passes your instructions to the database, and returns the database response to you.

5.1.2 Feature of Modules

The module on welcoming page included **home page, about us, price list, shipping and delivery**. The users will be interacting with these modules to view what they need to know from the system.

5.1.3 Workability

The system will run by interacting with modules. The modules include home, about us price list and shipping and delivery. For example select about us and screenshot about Footstep Interiors ltd will appear.

5.1.4 Programme testing

In this phase the system modules were tested separately to ensure they work correctly. The system modules were then brought together and tested as a complete system. The system was tested to ensure that interfaces (login) between modules work, the system worked on the intended platform and with the expected volume of data and that the system did what the user required.

5.2 System Implementation

5.2.1 Installation

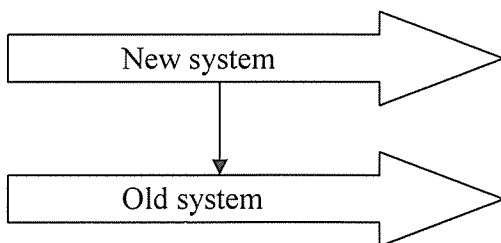
The system is installed by opening my computer, click on local disc C, click on program files, click on easy PHP, open on MySQL, click on data to open. When file data open go to shop data file, copy it and paste it to a folder data. Then go back to local disc ,open Programme files / easy PHP ,click on WWW to open it go to folder called Footstep copy it and paste to the new computer where the system is to be implemented.

The following conversions were included during installation

- Hardware conversion. A new computer was installed and other hardware devices were installed such scanners and printers.
- Software conversion. The new system program was installed and configured on the computer system.
- File and data conversion. Old file that were in a large files was entered into a data base tables without loss of accuracy.

5.2.2 Change over Methods

A parallel method was recommended. The old system and new system are operated side by side until the new system shows reliability then old system will be abandoned. The figure below shows parallel methods.



5.2.3 Users Manual

5.2.3.1 Administrator

Double click easy PHP/right click and select local web to display Footstep station .click on Footstep. The welcoming page will be displayed .on address menu type http//station Footstep /admin.PHP and enter. The log in box will appear asking for user name and password. Enter users name admin and password 1234 to log you on to administrative tool page which displayed which catalog, order and configuration. I.e. the user is free to choose whatever he /she want to view. To add on Footstep products select catalog and category and product list will be displayed to add an item on a product select the product category ie office product /add product and product form will be displayed /then follow the instructions.

Footstep Station Screenshot

The form shows Footstep station whereby the administrator select on Footstep and welcoming page will appear.

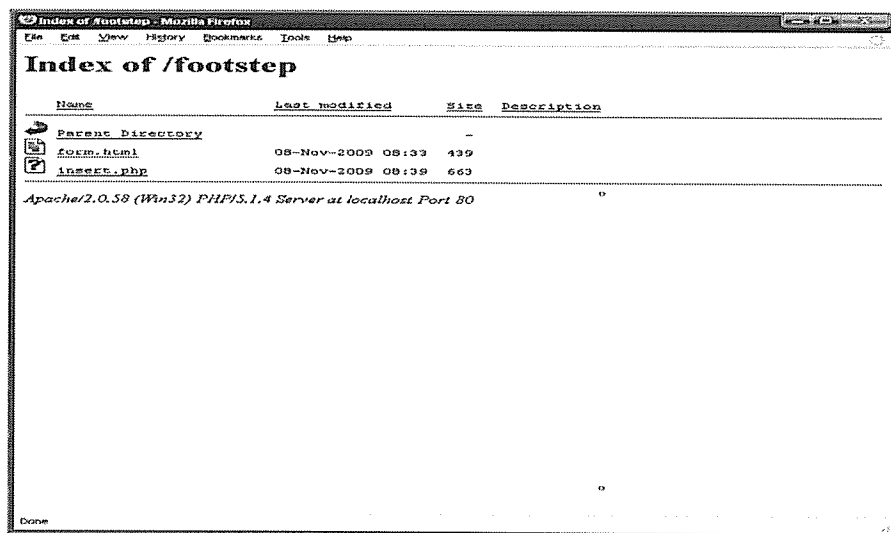


Figure -12 Footstep Station Screenshot

Log in Menu

The log in menu take you to order form if only the users name and password are entered

The screenshot shows a Microsoft Internet Explorer window titled "login page - Microsoft Internet Explorer". The address bar displays "http://localhost/footstep/login.php". The page features a header with the company name "Footsteps Furniture Company Ltd." and the tagline "World Class Retail Furnishers", accompanied by a row of seven small images showing various furniture items. Below the header, a message reads: "AFTER LOGIN YOU WILL BECOME OUR MEMBER AND YOU CAN BE ABLE TO ACCESS MORE ABOUT US!!". The login form consists of two input fields labeled "Username" and "Password", followed by a "SUBMIT" button. At the bottom of the form area, another message says: "PLEASE LOGIN ON THE FORM FOR US TO REGISTER YOU AS OUR CUSTOMER !! THANK YOU!!!". A link labeled "BACK TO HOME" is positioned below the messages. The browser's status bar at the bottom shows "Done" and "Local intranet". The Windows taskbar at the very bottom includes the Start button and several open applications: "explore...", "cmd.exe /...", "footstep", "C:\ATALOG...", "Harcovek...", "login page...", and "FIREFOX STOPPED". The system clock indicates the time is 6:03 AM.

login page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address http://localhost/footstep/login.php Go Links

Search Web nero Highlight MyStuff Zoom News Weather Shopping

Footsteps Furniture Company Ltd.
World Class Retail Furnishers

AFTER LOGIN YOU WILL BECOME OUR MEMBER AND YOU CAN BE ABLE TO ACCESS MORE ABOUT US!!

Username

Password

SUBMIT

PLEASE LOGIN ON THE FORM FOR US TO REGISTER YOU AS OUR CUSTOMER !! THANK YOU!!!

[BACK TO HOME](#)

Done Local intranet

start explore... cmd.exe /... footstep C:\ATALOG... Harcovek... login page... FIREFOX STOPPED 6:03 AM

Figure-13 Log in Menu

If wrong users name or password is entered will take you back to the home page

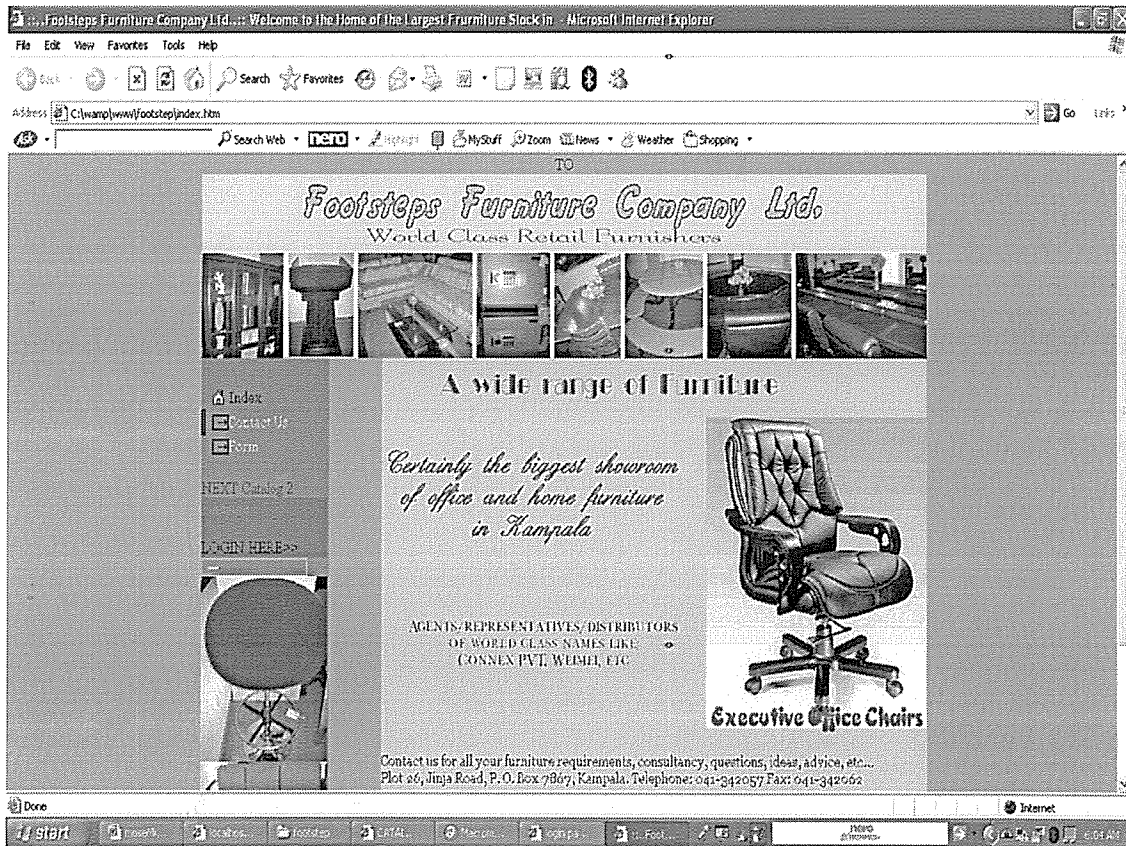


Figure Error! No text of specified style in document.-14 Invalid sign in Menu

5.2.3.2 Client Menu

Footstep Client

Go to Footstep interiors .com .ug .org and log on. The welcome page will be displayed which contain Home about us shipping cart and all the products that Footstep offers. Select the product of your desire from category list ie office and all office furniture will be displayed and there prices. choose the type of furniture you require and click on it /add to cart and the shopping cart will be displayed. Proceed to checkout and the checkout contact information form will appear. Fill the form and click on place order and the page for thank you for your order will be displayed.

Ordering Information Form

The figure shows the contact information form which will be used to place order to Footstep interiors ltd by their client by filling in their contact

The screenshot shows a web browser window titled "ORDER FORM - Microsoft Internet Explorer". The address bar displays "http://localhost/footstep/ordering%20form.php". The browser's menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The toolbar contains icons for "Back", "Forward", "Home", "Search", "Favorites", "Print", "Stop", "Reload", "Zoom", "News", "Weather", and "Shopping".

The main content area features the company logo "Footsteps Furniture Company Ltd." with the tagline "World Class Retail Furnishers" below it. A horizontal strip of eight small images shows various furniture items, including a bookshelf, a lamp, a desk, a chair, a table, a sofa, and a bed.

Below the images, a welcome message reads: "WELCOME OUR DEAR CUSTOMERS!! PLEASE GIVE YOUR CORRECT DETAILS TO ORDER OUR GOODS ON THE FORM BELOW AND SUBMIT!!!".

The form contains the following fields, each with a text input box:

- CustID:
- CustName:
- CustLname:
- Email:
- CardNumber:
- ProductNumber:
- Country:
- Date:

A "submit" button is located below the "Date" field.

The browser's status bar at the bottom shows "Done" and "Local intranet". The Windows taskbar at the very bottom includes the "Start" button, several open application windows (e.g., "model...", "local...", "footstep", "CATAL...", "Macrom...", "open D...", "ORDER..."), and a system clock showing "6:03 AM".

Figure-15 Ordering Information Screenshot Form

5.3 Evaluation of Dynamic and Static Website

A dynamic website offers many advantages which static websites cannot provide. In a dynamic website, users can interact with the site using various options and search criteria. Your online bank account web page is an example of a dynamic website. Search engines are also dynamic websites with the capabilities to search and present information as per your need. The information user enters into a dynamic website can be stored in a database such as Oracle or DB2. The dynamic website is developed using various web technologies such as Java, .NET, PHP, and CGI Script. Dynamic website is interactive fun for the surfer. On the contrary, static websites do not provide any options where users can key-in his views or questions. The user needs to go through the entire site to look for the information needed.

CHAPTER SIX

DISCUSSION, CONCLUSION AND RECOMMEDATION

6.0 Introduction

The finding of this study as presented in the previous chapters emphasizes that Footstep interior needs a dynamic website to help the buying and selling of their product on line locally and globally.

6.1 Discussion

Online transaction processing system is an important asset for organization to maintain efficiency, profitability and competitive advantage. (Sempebwa Ronald 2006), Designing a dynamic website for Footstep interiors will increase buying and selling of their product online increasing their sales and make their transaction speed and accuracy.

Delays in correspondence due to the postal, from the clients and suppliers, usually compiled client orders and transactions don't reflect correct information.

6.2 Recommendation

The drawbacks of the current system can be addressed by putting in place online computerized system. This provided greater accuracy and more flexibility in the types of information and reports that were generated by the program that was obtained with a manual inventory system and static website.

Once a new system is put in place, it is projected to do the following:

- i. The system is supposed to process a price inquiry sheet according to the purchase requisitions, and should transmit the price inquiry sheets to their corresponding clients
- ii. The system should transmit quotations to the buyer server according to the said received price inquiry sheets.
- iii. It is expected to capture customer order information.
- iv. The system is supposed to process delivery arrangements for the purchasing organizations(client)

- v. The system put in the place should transmit a requisition form to the supplier if the goods in the ware houses go below the threshold point.
- vi. The system is expected to offer fast and efficient work to accomplish all the business transactions locally and internationally.
- vii. The system should offer enough authentication and security so that the database information is not corrupted.
- viii. The user requires a system that will minimize the wastage of space and redundancy of information
- ix. It is supposed to facilitate communication among individuals and departments (e.g. quickly transmit message or documents that require review or editing
- x. It is supposed to minimize the data inconsistency, apparently in the current system.
- xi. The system should help the users generate many types of useful reports for management to make decisions.
- xii. The system should be able to offer the user-friendly interface for the employees and the clients to work with.
- xiii. Accurate compilation: reduces unnecessary file work and computerized reports
- xiv. Globally accessible: web based system so that can be accessed thought the world, it is accessible only to the permitted users and provide easy access with query facility.

6.3 Conclusion

In this study a dynamic website was designed to help Footstep interiors to make transaction online speedy, accurate and meet their entire user needs. This was after examining the requirement of the current system and realized that its drawbacks outweigh the advantages. This therefore calling for alternative ways of solving the problems of the existing static website and hence meeting the organization needs .The study therefore. looked at dynamic website as a way of meeting the current user needs.

6.4 Area of Future Research

The area constraint of time and desire to deliver a meaningful conclusion, has led to many areas of this study being truncated. We came up with a dynamic website as the

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solution to solve some problem in Footstep Interiors LTD in future the study proposes the same work can be done using other languages like Java script and ASP to meet the areas which were not completed.

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Appendix

Questions.

Interview Guide.

1. What products do you sell?
2. What type of information system are you using in your company?
3. How do you handle client orders?
4. How do your clients make their orders?
5. How do you transact business with your client?
6. How do you deliver the client request?
7. How are the transaction made between you and your client.
8. Are you connected to the internet?
9. What are the benefits of your current website?
10. What are the benefit and disadvantages of the current system?
11. Who is the owner of Footstep Interiors ltd?
12. How big is the Business area of Operation?
13. How many Years have you been in service?