WEBSITE DEVELOPMENT FOR HOTEL BOOKINGS AND SERVICES (CASE STUDY OF HYDRO HOTEL)

by

SHUAIBU, Yusuf Billal
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CERTIFICATION

This project titled, Design And Implementation of Result Processing Software (A case study of pgd computer science) by Shuaibu, Yusuf Billal with matriculation No. PGD/MCS/2008/1256, meets the regulations governing the award of   Postgraduate Diploma in Computer Science of Federal University of Technology, Minna.

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Dr Y. M Aiyesimi   Date

Supervisor

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Prof. N. I. Akinwande   Date

Head of Department

DECLARATION

I hereby declare that this project work is my original work and is a record of my research effort. It has not been presented wholly or partially in any previous application for the award of degree, diploma or certificate of any other university or institution of higher learning. All information from published and unpublished works of others has been dully acknowledged by means of reference.

DEDICATION

I am dedicating this project work to the Almighty Allah for his guidance, strength, protection and mercies throughout this programme. Also, I dedicate my project work to my parent Alh. S. I Ahmed and Haj. Rakiya for giving great education.

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I wish to sincerely appreciate Allah for his wisdom, guidance and protection throughout my stay in school. I say all thanks and praises be unto His Name .

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ABSTRACT

The purpose of this project is to harness the power of world wide web for keeping a network that links computer networks all over the world by satellite, routers, switches and even telephones, connecting users with services networks such as email and the World Wide web (WWW). The advent of the Internet has apparently made life a whole lot better and easier as it is now possible for people all over the world to communicate and even make transactions over the Internet.

With the birth of the Internet came web applications. A Web application is a collection of Web pages that have been specifically built and designed to achieve a specific purpose. Web applications built today are used to make booking and reservations Online. It is also used to carry out banking transactions, it is even to used to sell and buy over the internet.

This work was built on these development to create a site (www.queenbook.co.cc) where clients and customers from any location can make reservations online for accommodation with some hotels in Hyro Hotel Limited Minna.

CHAPTER ONE

1.0   INTRODUCTION

An application is a program or a group of programs designed for use by an end user. If the end user interacts with the application via a web browser, the application is web based or a Web application (Valade, 2004). A web application could also be defined as a site that contains pages with purely or entirely undetermined content where the final content of a page is determined only when he visitor request a page from the web server. They are built to address a variety of challenges and problem.

A website is a set of linked document and with shared attributes, such as related topics, a similar design, or a shared purpose. There are site creation and management tools that can be used to create individual documents and complete website. These include Dreamweaver, CoffeeCup, and HotDog and so on. It is a collection of static and dynamic web pages. A static web page is one that does not change when a site visitor request it. The web server sends the page to the requesting web browser without modifying it. In contrast, a dynamic web page is modified by the server before it is sent to the requesting browser. The changing nature of the page is why it's called dynamic

A web server is a software that serves web pages in response to requests from web browsers. A page request is generated when a visitor clicks a link on a web page, selects a bookmark in a browser, or enters a UBL in a browser's address text box. The final content of a static web page is determined by the page designer and doesn't change when page is requested. Every line of the page's HTML code is written by the designer before the page is placed on the server, since the HTML does not change once it's on the server, this kind of page is called a static page. A "static" page may not be static at all. For example, a rollover image or Flash content (a SWF file) can make a static page come alive. However, this literature refers to a page as static if it is sent to the browser without modifications. In general, when the web server receives a request for a static page, the server reads the request, finds the page, and sends it to requesting browser.

When using a web application, certain lines of code are undetermined when the visitor requests the page. These lines must be interpreted by some mechanism before the page can be sent to the browser. When the web server receives a request from a dynamic page, it passes the page to a special piece of software responsible for finishing the page. This special

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software is called an application server. The application server reads the code on the page, finishes the page according to the instructions in the code, and then removes the code from the page. The result is a static page that the application server passes back to the server, which then sends the page to the requesting browser. All the browser gets when the page arrives is pure HTML.

Web applications have many uses for both site visitors and developers, they include the following

- Allowing visitors find information quickly and easily on a content-rich website. The kind of web application gives visitors the ability to search, organize, and navigate content as they see fit.

- Collect, save, and analyze data provided by site visitors. In the past, data entered in HTML forms was sent as e-mail message to employees or CGI applications for processing. A web application can save form data directly into a database and also extract the data and create web-based reports for analysis, Examples include online banking pages, store check-out pages, surveys, user-feedback form and online reservation forms.

- Updating websites that have constantly changing content. A web application frees the web designer from continually updating the site's HTML. Content providers, such as news editors, provide the web application with content, and the web application updates the site automatically.

1.1   BACKGROUND OF STUDY

A hotel is a commercial establishment that provides lodging, food and other services to the public. The hotel business is an important industry in many countries; especially in those attraction a large tourist trade for example Nigeria. Hotels can be classified according to location, facilities and services offered, and clients served.

Since the beginning of time, people have traveled for commerce, religion, family, health, immigration, education and recreation. The evidence for the existence of hotel and the hospitality industry dates as far back as Biblical times when Mary and Joseph arrived in Bethlehem during the census. As the Bible depicts, Mary and Joseph were refused accommodations because these "was no room at the inn." (Luke, 2, 7).

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There's been a surge of hotels in America and the rest of the world with prominent names such as Radisson, Marriot, Kakanfo Inn Hotel – Ibadan, Abuja Sheraton Hotel, Transcorp Hilton – Abuja, Sheraton Lagos Hotel and Towers, Le Meridien Eko Hotel and Suites (Lagos) Protea Hotel (Lagos and Portharcourt, Allseasons Hotel (Imo State) and so on. Hotel as well as other forms of accommodations (Guest inns, brothels) are generally segmented by the services and amenities offered. These two factors, along with location, also have a bearing on the price range.

Budget hotel offer clean albeit simple rooms that provide the basics of place to sleep and shower. Usually budget hotels are designed for travelers looking to maximize their funds and minimize expenses.

Business hotels offers a high standard by providing rooms equipped with what business travelers would consider necessities. Usually found in business-class hotel rooms are high speed Internet connections, alarm clocks, comfortable beds and so on. The facility of a business hotel would also offer an in-house restaurant, bar, exercise room and shuttle service to nearby airports. Limited concierge assistance is often included as well room service, laundry and dry cleaning and wake-up calls.

Luxury hotel are known for their lavish décor and extraordinary service. With superior amenities, accommodations at luxury hotels are designed to thoroughly pamper and impress guests. Luxury hotels frequently offer full-service day spas, five-star restaurant staffed by world-class chefs, lavish pools, golf packages and guest services that are unsurpassed by any other class of hotel. In addition, luxury rooms generally include those amenities fond in business class hotels plus in room safes, goose down comforts and pillows, marble showers and tubs and larger rooms. Price rates vary greatly depending on location and proximity to popular events and attractions.

There are other classifications of hotels; however, most will fall into one of these three or a combination of these three. The lines between business and personal issues is becoming more blurred, as many entrepreneurs and business executives will attend conferences or embark on business trips with their family in tow. Hotels are aware of this common occurrence and have become adept at providing facilities and services for both business and recreational travelers to enjoy.

The idea of going to a hotel on a very busy day couple with the problem of traffic (traffic congestion) to book a room or a hall for a function could be very frustrating especially with a receptionist who is not receptive or rude, couple with the stress one goes through when bargaining for a hall or even getting it booked (frustrating isn't). The application to be built would be used to address these and more as, it will provide customers the opportunity of choosing lodging from several hotels in a couple of minutes at standardized prices in the comfort of their rooms or offices or even cafes.

1.2 AIM AND OBJECTIVES OF STUDY

This application will mainly be used to book the products and services of a hotel with ease.

The following will also be addressed by the application:

- The site will be used to provide information on the nutritional values of certain foods or dishes (cereals, vegetables and so on).
- The provision of a section where customers get to state or input comment(s) and/or complaint(s) about the services of a hotel.
- It will also provide a section to display special offers like bonanzas, discount charges of the hotels to be used for the project.

1.3 SIGNIFICANCE OF STUDY

The Internet makes it easier to compare one hotel from another by way of amenities, cost, halls, bars, restaurant etc. This application makes it easier to compare hotels, it also allows users take virtual tours of the rooms, services of a hotel, this is to allow client make an informed choice of what they want, this is made possible as the pictures of the rooms would included in the site. This application will also offer customers a means to know about the nutritional values of several dishes and the used in preparing them.

The following are the benefit of booking services and products of a hotel on-line:

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a. *Speed*

Booking online allows one to make reservation efficiently as one can find out in seconds whether the dates and types of accommodations one wants are available. If a client had to call the hotel or travel there, he/she may be placed on hold or go through a long conversation.

b. *Convenience*

A client can book online anytime, day or night. An entire vacation or weekends treat could be planned while sitting on a couch in one' s pajamas or at one's desk at work.

c. *Variety*

By booking online, a client can view a variety of lodging option for a particular destination, without having to all around to hotels. The client can also compare pricing options, allowing one make more informed decisions on the may not get to lodge in.

d. *Knowing what One Gets*

The site will have pictures of the options one can choose from. If one calls a hotel, one may get an oral description of what one plan on booking and one may not get to really know what one is booking for.

e. *Confirmation*

While a booking agent will generally give you a confirmation number after you have finished making a reservation, you really have no way of knowing if the reservation was made correctly or if it was made at all. When you book online, you have the satisfaction of knowing the if reservation was made correctly or if it was made at all. When you book online, you have the satisfaction of knowing the reservation was made the way you wanted. You can print out your confirmation, in case there are problems when you get to the hotel.

f. *Price*

While many hotels quote the same price regardless of whether one books online or call a booking agent, they sometimes add a fee for speaking to one of their reservations operators. Booking online will save a client the extra cost.

1.4   SCOPE AND LIMITATION OF STUDY

a.   This application would cover about one major hotels in Minna.

b.   This application would be used to display the services of the hotels and provide   services to students and visitors in Minna.

c.   This project will include a design of the site that would be used to provide these services.

d.   If customer's request for booking has been made, a confirmation will be sent via e-mail and the reservation expires after two (2) weeks to the date of supposed check-in.

1.5   RESEARCH METHODOLOGY

In the course of the project the following research methods would be used:

(a)   Interview: Interview were conducted with the personnel of the hotels to be used; this was eared towards getting information on how booking are made and getting the pictures used in the design stage.

(b)   Observation

(c)   Documents: Several documents were read on the internet and textbooks consulted in the course of the project.

(d)   Questionnaires: In course of the project a questionnaire was designed. This was used to get more information on how bookings are carried out in the various Hotels (Hyro Hotel.)

1.6   DEFINITION OF TERM

I.   Application Server

This is a software that helps a web server process web pages containing server-side scripts or tags. When such a page is request from the server, the web server hands the page off to the application server for processing before sending the page to the browser.

Common application servers include ColdFusion, Macromedia JRun Server, the Microsoft NET Framework, IBM Web Sphere, and Apache Tomcat.

II.   A Database

A collection of data stored in tables. Each row of a table constitutes one record and each column constitutes a field in the record.

III.   A database management system (DBMS, or Database System)

This is a software used to create and manipulate database. Data in a database is stored in a proprietary format. A database driver lets the wed application read and manipulate data that would otherwise be undecipherable (it acts as an interpreter between a web application and the database). Common database system include Microsoft Access, Oracle 11g, and MySQL.

IV.   A database query

This is an operation that extracts a record set from a database. A query consists of search criteria expressed in a database language called SQL (Structured Query Language). For example, a query can specify that only certain columns or only records be included in a record set.

V.   Structured Query Language (SQL)

The Structured Query Language (SQL, pronounced "sequel") is used to build queries. A query is a search statement designed to find and extract specific information from a database. A SQL query can produce a record set that includes only certain columns, only certain records, or a combination of both, it also provides for greater flexibility in designing dynamic pages.

VI.   A server technology

This is a technology that an application server uses to modify dynamic pages at runtime. The following are server technologies:

- Macromedia ® ColdFusion ® from Adobe

- Microsoft ASP. NET
- Microsoft Active Server Pages (ASP)
- Sun Java Server Pages (JSP)
- PHP: Hypertext Preprocessor (PHP)

Dreamweaver coding environment can also be used to develop pages for any other server technology not listed.

VII. A static page

A web that is not modified by an application server before the page is sent to a browser is said to be static.

VIII. A dynamic page

This is a web page customized by and application server before the page is sent to a browser, as the final content of the page varies from request to request based on the visitor's actions.

IX. A web application

This is a website that contains pages with partly or entirely undetermined content in which its final page content is interpreted only when a visitor requests a page form the web server.

X. A web server

This is a software that send out web pages in response to request from web browsers. A page request is generated when a visitor clicks a web page in the browser, selects a bookmark in the browser, or enters a URL in the browser's address text box. Popular web servers include Microsoft Internet Information Server, Microsoft Personal Web Server, Apache HTTP Server, Netscape Enterprise Server, and ONE Web Server.

XI. Site

A site to a local or remote storage location for the documents that belong to a website. A site provides a way to organized and manage web documents, upload a web server, track and maintain links and manage and share files.

XII. HTML forms and Links

This is a form that lets one gather information from users and store it in the server's memory. An HTML form can send the information either as form parameters or as URL parameters. One specifies a value (or values) to be submitted when a user clicks a link – a preference, for example – by appending the value to the URL specified in

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the anchor tag. When a user clicks the link, the browser sends the URL and the appended value to the server .

XIII. **URL (Uniform Resource Locator)**

URL is an address that points to a particular documents or other resource on the Internet, used most frequently on the world Wide Web (WWW). A computer user can visit an Internet document by typing its URL into a Web browser or similar application used to access the Internet.

XIV. **Hypertext Markup Language (HTML)**

This is the standard text-formatting language since 1989 for documents on the interconnected computing network known as the World Wide Web. HTML documents are text files that contain two parts: content that is meant to be rendered on a computer screen; and markup or tags, encoded information that directs the text format on the screen and is generally hidden from the user. Some tags in an HTML document determine the way certain text, such as titles, will be formatted. Other tags cue the computer to respond to the user's actions on the keyboard or mouse. For instance, the user might click on an icon (a picture that represents a specific command), and that action might call another piece of software to display a graphic, play a recording, or run a short movie. In essence the codes that tell the browser on the client computer how to display a Web document correspond to a set of rules called Hypertext Markup Language (HTML).

XV. **Browser**

This is program that enables a computer to locate, download, and display documents containing text, sound, video, graphics, animation, and photographs located on computer networks. The act of viewing and moving about between documents on computer networks is called browsing.

CHAPTER TWO

2.0   LITERATURE REVIEW

2.1   EVOLUTION OF WEB APPLICATION TECHNOLOGIES.

A web application is an application that is accessed via a web browser over a network such as the internet or intranet. The term may also mean a computer software application that is hosted in a browser controlled environment or coded in a browser supported language (such as Java Script, possibly combined with HTML) and reliant on a common web browser to render the application executable. Web applications are popular due to the ubiquitous nature of web browsers and the convenience of using a web browser as a client. The ability to update and maintain web applications without distributing and installing software on a thousand systems is a key reason for its popularity. Common web applications include webmail, online retail sales, online auctions, wikis and many other functions.

Web applications use web documents written in a standard format such as HTML and more recently XHTML which is supported by a variety of browsers. A web page is usually delivered to a client as a static document but the sequence of pages can provide an interactive experience as input is returned through web form elements embedded in the page makeup. During a session, the web browser interprets and displays the pages and acts as the universal client for any web application.

In 1995. Netscape introduced a client side scripting language called JavaScript, it allows users to add some dynamic elements to the user interface that is run on the client side; until then all data had to be sent to the server for processing and the results delivered through static HTML pages are sent back to the client.

In 1995, Macromedia introduced Flash, a vector animation player that could be added to browsers as plug-in to embed animations on the client side with no need to communicate with the server. Also in 1996, the "web application" concept was introduced in the Java language in the served specification version 2.2.

In 2005, the term Ajax was coined and applications like Gmail started to make their client sides more and more interactive. Through Java, JavaScript, XHTML, HTMLO, Flash and other technologies, application specific methods such as drawing on the screen, playing audio, and access to the keyboard and the mouse are all possible. Web developers often use client side scripting to add functionality especially to create an interactive experience that does not require page reloading. Recently, technologies have been developed to coordinate client side scripting with server side technique using a combination of technologies to create a more interactive experience.

Applications are usually broken into logical chunks called tiers, where every tier is assigned a role. Traditional application consist of only one tier; it resides on the client side machine. Web application lend themselves to an n-tier approach by nature. Though many variations are possible, the most common structure is the three tier application. In its most common form the three tiers are called presentation, application and storage in this order. A web browser is the first tier (presentation), an engine using some dynamic web content technology such as ASP, ASP. NET, CGI, ColdFusion, JSP/Java, PHP, Perl, and Python is the middle tier (application) and a database is the third tier (storage). The web browser sends a request to the middle tier which in turn services them by making queries and updating the database and generating a user interface (output).

For a more complex application, a three tier solution may full short and one may need a n-tier approach, where the greatest benefit is breaking the business logic which resides on the application tier into in a more fine-grained model or adding an integration tier that separates the data tier from the rest of the tier by providing an easy to use interface to access the data.

There are some who view a web application to be a "two tier" architecture. This can be a "smart" client that performs the work and queries a "dumb' server or a "dump" client that relies on a "smart" server. The client would handle the presentation tier, the server would have the database (storage tier) and the business logic (application tier) would be on one of them or on both. While this increases the scalability of the application and separates the display and the database, it does not allow for true specification of layers so most

applications would outgrow this model. An emerging strategy for application is to provide web access to software previously

Distributed as local applications. Depending on the type of application, it may require the development of an entirely different browser-based interface or merely adapting an existing application to use different presentation technology. These programs allow the user to pay a monthly or yearly fee for the use of a software application without having to install it on a local hard drive. A company which follows this strategy is known as an application service provider (ASP) and ASPs are currently receiving attention in the software industry.

There are also web application frameworks that facilitate rapid application development by allowing the programmer to define a high-level description of the program. The use of web application frameworks have been able to reduce the number of errors in a program both by making the code simpler and by allowing one team to concentrate just on the framework.

2.2 ONLINE APPLICATIONS AND ONLINE APPLICATION DEVELOPMENT.

Everyone is going nuts about the Web, ever since we started getting creaky old modems installed in our homes and businesses; the Web has become an increasingly dominant part of our lives, with it we explore, shop, diagnose, entertain, communicate, chat and so much more. The Web is no longer a novelty item that a few use to stretch their technical muscles; millions of people al over the world are living their normal lives, with the Web playing a central role. The Web has not only presented a means to develop information-rich resources such as IMDB, Wikipedia, and so on, but the Web also provides a real opportunity to create online applications for doing our everyday things, such as managing contacts, balancing accounts, selling products or services, expressing opinions, chatting, and much more.

An online application is software running on a web platform. The are used to perform many tasks and provide various solutions, it can provide clients and web developers a way of managing projects, sharing and distributing information and performing other task all from one web base platform accessible form anywhere. All that is required is an internet connection.

2.2.1 ONLINE APPLICATION DEVELOPMENT

Online application development can be divided into the client-side covering aspects such the layout and design and then, the server –side coding which covers the website's functionality and backend systems.

2.2.1.0 CLIENT SIDE CODING TOOLS

Client side coding is used because the browser is separate from the server. By including codes within a web page, a number of features can be added to a Web page without the need to send information to the web server which takes time. Tasks done on the client side include data validation, special formatting features that go beyond HTML, controls that take care of page navigation and ad presentation, and more.

The nature of the client-side coding allows one to alter the HTML code on a client system and refresh the pages with updated content (locally). The following are a number of technologies that can be executed on the client side

- Ajax: it provides new methods of using JavaScript, server side language (PHP) and other languages to improve user's experience.
- Flash Adobe flash player is a ubiquitous client side platform ready for RIAs. Flex 2 is also deployed to the flash player (version 9+)
- JavaScript
- Java fx is a software platform for creating and delivering rich web applications that can run across a variety of devices.
- Microsoft Silver light Microsoft's browser plug-in that enables animation "vector graphics and high-definition video playback programmed by XAML and NET programming language.

2.2.1.1 SERVER SIDE CODING TOOLS

Server side coding tools are files that have some commonly used code that can be reused by many pages in a site. A web server can manipulate what is included in a Web page before.

Sending it. When a request is made to a server to send a Web page, the sever can actually execute a program instead. This can be a program written in a variety of languages. The programs running on the Web server are server side codes because they are on the side of the internet that Web server is on. There are a number of types of programming functions that

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can be done on the sever. One of the primary functions is to prepare the code that is to be sent to the Web browser. This includes such tasks as building pages customized for the type of browser that requested a page. It could also include doing tapping into a database to create information for a Web page. The following are some of the server coding tools available:

- ASP (Microsoft proprietary)
- ColdFusion (Adobe proprietary formerly Macromedia)
- CGI and/or Perl (Open Source)
- C server script (Trust Leap G-Wan, Freeware)
- Java
- Lotus Domino
- PHP (Open source)
- Python (Open source)
- Ruby (Open Source)
- Small talk
- SSJS Server-side Java script e.g. Mozilla Rhino
- Webs here (IBM Proprietary)
- Net (Microsoft proprietary)

While there are client and server coding tools there are some others that can be used for both client and server coding. The following coding tools are used for both client and sever sides:

- Google web ToolKit
- Pyjamas
- Tarsus

2.2.1.3 DATABASE TECHNOLOGIES

A good database design is crucial for a high performance application. Having a proper database design is the only way an application will be efficient, flexible, and easy to manage and maintain. The following are database technologies used in the development of online applications:

- Apache

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- DB2 (IBM Proprietary)
- Firebird
- Microsoft Access
- My SQL
- Oracle

2.2.2   PHP AND MySQL

In the development of online application, PHP and MySQL swirl into play. In recent years, MySQL have come these entirely free tools can be used to create functional, stable, enterprise-class Web sites. It should come as no surprise that the technology being used to build most Web application is PHP and MySQL. When put together, PHP and MySQL offer a compelling framework in which one can develop powerful and flexible web applications.

In building this application, the first thing needed is some form of language in which to write dynamic pages and create features to handle dates, process data, connect to resources, manage users, and perform other tasks. PHP steps up to solve this problem as it is an incredibly flexible language with a huge array of functionality for solving common Web development challenges. (Bacon, 2007)

PHP is a popular high-level scripting language used by a range of organizations and developers. It was originally developed as a small perl project by Rasmus lerdorf in late 1995. It was developed as a means to assist in developing his home page, and as such he named it personal Home Page (PHP) Tools. When Lerdorf was contracted to work for the University of Toronto to build a dial-up system for students to access the internet, he had no means of

Connecting web sites to databases. To solve this problem, the enterprising Lerdorf replaced his perl code with a C wrapper that added the capability to connect the Web pages to a MySQL database. As the project grew, he gave away his changes on the Internet as an Open source project and cordially received improvements from other programmers with an interest in PHP. The language was later renamed to the current recursive acronym PHP: Hypertext preprocessor by Zeev Suraski and Andi Gutmans after they rewrote the parser in 1997 (Bacon, 2007). The software continued to develop and now forms the comprehensive PHP platform we know today.

PHP provides a solid and well-defined programming language that includes support for object-orientated programming, conditions, file handling, arithmetic, and more. The language that PHP forms is similar in semantics to that of a shell scrimption language combined with the easier bits of the C language. PHP subscribes to the batteries-included philosophy of programming languages and include files, network sockets, e-mail and more (Bacon, 2007). In addition to PHP's capability as a Web scripting language, PHP also can be used as a shell scripting language. This means that one can use a single language to write Web application and create shell scripts to manage a computer. It can also be used to create desktop applications; although this usage was typically one for the wiry-haired and zany part of the PHP demographic, more and more developers are using it. PHP also includes support for third-party functionary via the PHP Extension and Application Repository (PEAR) library. (Bacon, 2007) PEAR works in a similar fashion to Perl CPAN modules and provies additional functionality that is easily available via a number of independent modules built to solve specific problems. These special modules can be included in an application to access this special functionality easily. For example, if there is a need to send e-mail using a Web application, one can use the special PEAR mail functionality that extends the included PHP mail support could be used. This makes PHP better at supporting third-party extensions and has resulted in a huge number of freely available PEAR modules.

PHP runs on all major operating systems, from UNIX variants including Linux, Solaris, it is a flexible language as it is not limited to just outputting just HTML or other text files, it has a built-in support for generating PDF files, GIF JPG and PNG images and flash movies. (Lerdorf et al 2006).

The second requirement is to have somewhere to store the oodles of data that will be displayed, updated, removed, modified, and otherwise shown off. A solution for this challenge is to use a database, and MySQL provides a reliable and easy-to-use database that is well supported and flexible.

MySQL is a powerful and comprehensive relational database server, which was originally developed by David Axmark, Allan Larsson, and Michael "Monty" Widenius, the commercial company they founded, MySQL AB, develops and markets MySQL and associated products. Although the MySQL software originated as an Open source project, its creators were confident that they could run a business using the product as a base. This

business enables the developers to work full time on the software, which in turn benefits both the open source community and commercial users of MySQL. Both the open and commercial MySQL variants are functionally the same; the only difference in the software is how it is licensed (companies must buy a license if they want to deploy MySQL commercially in a closed source application.) MySQL has enjoyed enormous popularity, and its customers include Yahoo! Finance, MP3. Com, and Motorola and so on. (Bacon, 2007).

MySQL is a full-featured database which uses open standards, such as the ANSISQL 99 standard, for communicating with databases with structured Query Language (SQL). This standard provides a means to insert, update, and query information in the database by using an industry standard language. This standard language is used across database products. And like other products, MySQL is also multi-platfoum; this means that in addition to Linux, MySQL also runs on other operating systems, such as Windows, Mac OSX, or BSD and UNIX variants. The database contains an interactive command-line client, which allows a user to communicate with the server. MySQL supports a number of programming languages to access and query the database they include languages such as PHP, Python, perl, C, C ++, and Java, among others.

During development issues such as data entry, error checking through forms, filtering output and data encryption should be taken into consideration as some pages can be exploited to grant unauthorized access to malicious users who try to gin access to privileged information such as e-mail address passwords, credit card numbers and so on. Some security issues are dependent on the server environment on which the scripting language is running on and therefore

Not necessarily down to the developer to maintain. The stringent testing of online applications before releasing to the public is encouraged to prevent such issues form occurring. Keeping a web server safe from such intrusion is usually called server port hardening. Technologies like secure socket layer encryption (SSL) come into play when it comes to keeping information safe on the internet (Wikipedia, 2009). Lapses are usually found in applications even after testing and launching, security patch updates are frequent for widely used application to secure them, now, the application developers Job is to keep applications up to date as security patches and new security concerns are been discovered.

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2.3 HOW AN ONLINE APPLICATION WORKS?

To fully understand how an online application works, there are several illustrations that will be used to describe how information transmitted between the different parts of the application process is done. Assume that a Web site displays HTML codes (the basic code that a web browser understands) and nothing else, the page contains only a number of information, and there is no interactivity. That is to say a user simply connects to say www. Legal process. Com, and the web site displays the information contained in it. Fig 2 shows the kind of interaction involved with this instance:

```
                ┌──────────────┐
     ┌─────────▶│ HTML         │
     │          │ Website      │
     │          └──────────────┘
     │
     │          ┌──────────────┐              ┌──────────────┐
     └──────────│ A Apache     │─────────────▶│ Client       │
                │ Server       │              │              │
                └──────────────┘              └──────────────┘
```
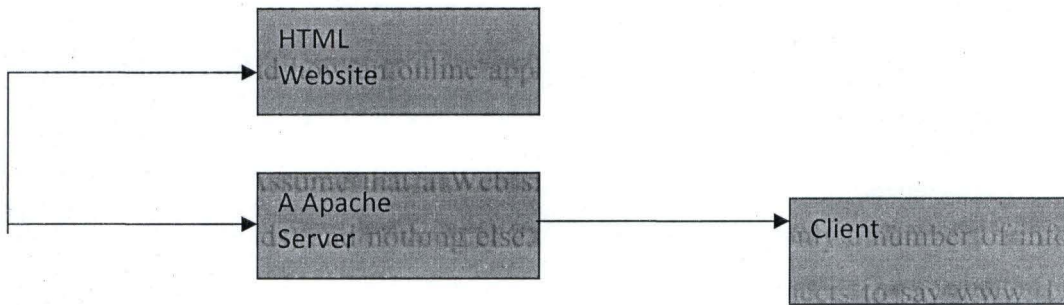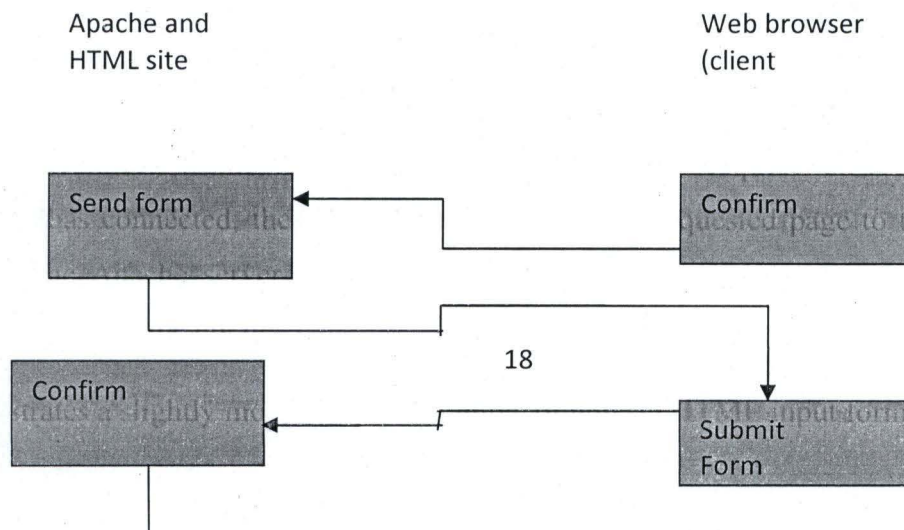
Figure 1 : How AClient Connects To A Website.

The client connects to the Web server (Apache server) and requests an HTML page. When the client has connected, the Apache server returns the requested page to the client. In this example the Apache server acts as a middleman for taking the requests and sending the responses back to the client.

Demonstrates a slightly more complex example of how an HTML input forms works.

Apache and   Web browser
HTML site   (client

```
   ┌──────────────┐              ┌──────────────┐
   │ Send form    │◀─────────────│ Confirm      │
   │              │              │              │
   └──────────────┘              └──────────────┘
          │                             ▲
          │                             │
          │                             │
          ▼                             │
   ┌──────────────┐              ┌──────────────┐
   │ Confirm      │◀─────────────│ Submit       │
   │              │              │ Form         │
   └──────────────┘              └──────────────┘
          │
          │
```

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The diagram shows how a client and server interacts, first the client requests a form (HTML) the server reacts by responding and sending the form back to the browser. Next, the user fills a form and submits it back to the Apache serve. The server then sends a confirmation page back to the client.
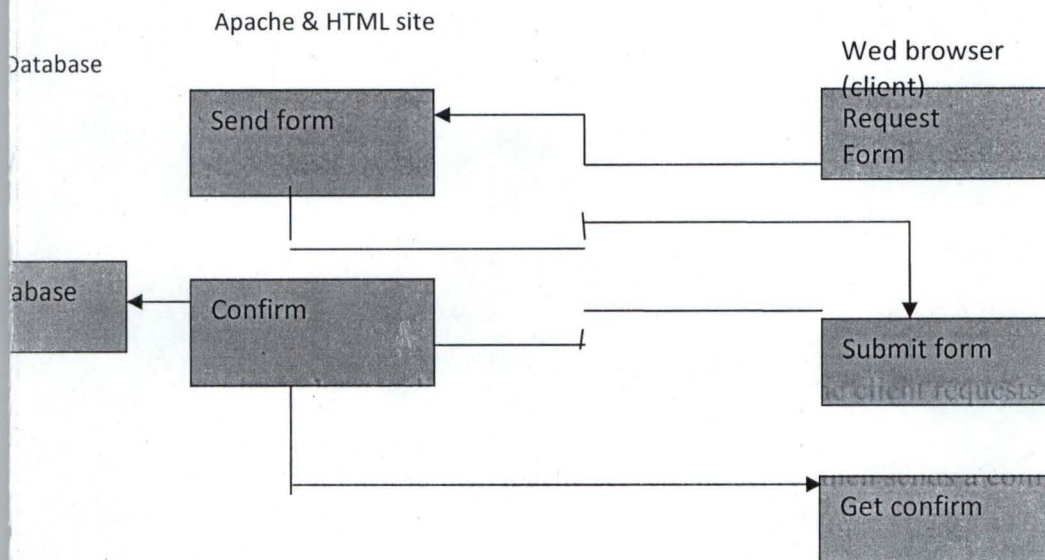

Fig 3: Interaction Between A Client, The Server and A Database.

The diagram demonstrates what happens when a database server is included to the process, in this case, filled forms would probably have to be updated and/or stored, retrieved in a database. For this to happen, one extra step is included when the Web site receives contents of the form. The web site sends out a confirmation page and puts the data in the database. Putting the data in the database is a one –way process, not a two-way arrow as shown in fig; 4. In fig; 4, the client request for a form, fills in the request details and then submits it. The form is then queried for results and then returned to the client.

Fig 4 will be used to further explain in detail how each step works in terms of these components:
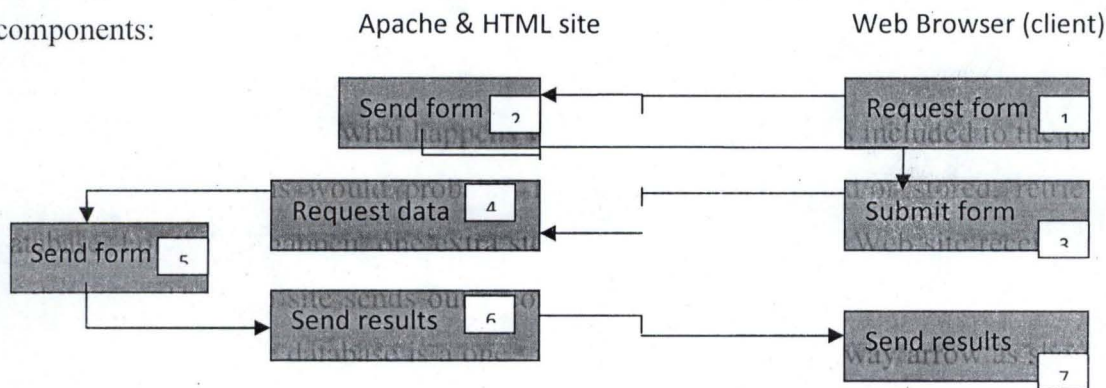

Fig 4: Description of the Interaction Between The Client, server and A Database.

I. The user types a web address in a web browser (the client) to access a site. This connection also requests the HTML form.

II. The browser connects to the server, which has to HTML and PHP files that forms the site. The server services the request by following the rules in its configuration file to find the relevant page and sends to the client a Web page containing the HTML form.

III. The user fills in the form and submits the form to the server.

IV. Ther server receives the submitted form and loads the relevant file to handle the submitted form. The file contains PHP code that is used to connect to the database. This PHP code is passed to the PHP interpreter by the server and run by the interpreter. PHP connects to the MySQL database (which may be on the same computer or another on). When connected to the MySQL database, a request is made for the information by using SQL,

V. The MySQL database receives the SQL request and finds the information. When the information is located, the result is sent back to the PHP script that made the request.

VI. The PHP scrept receives the result from the MySQL server and constructs a HTML page with the results included before sending it back to the Web browser client.

VII. The web browser receives the HTML result of the query an displays it to the user.

A web browser only understands hypertext; it does not understand PHP. All communication to and from the web browse is done in hypertext hence converting the results of the MySQL query to hypertext in stp 6. Also, PHP is tightly linked with Apache on the server, and all database connections/queries are executed by PHP. This tight integration involves the PHP process being closely linked to Apache for high performance. PHP can be thought of as the middle ground for accession databases, files, XML, and so on, and this middle ground sends everything out of the machine via Apache. MySQL can be considered as the equivalent of a hard disk for a computer; a hard disk is useful only if there is software to access it and stare data on it. PHP is the metaphorical equivalent to this "software."

2.4   ONLINE BOOKING SYSTEMS.

The following are applications in which bookings/reservation can be done online:

Air line ticket booking

Airline booking/reservation systems were first introduced in the late 1950s as a relatively simple standalone system to control flogh inventory, maintain flight schedules, seat assignments and aircraft loading. The modern airline reservation system is a comprehensive suite of products to provide a system that assists with a variety of airline management tasks and service customer's needs from the time of initial reservation through completion of the flight. Videcom is an internet based system that provides a complete hosting solution for airlines and their reservation systems (www. Videcom. Com). This system includes flight details such as the originating flight terminal and destination terminal, along with stops in between, number of seats booked/available seats between two destinations. It also includes Client description such as client name, address and phone number. This information may be used for keeping the records of customer for any emergency or for any other kind of information and it includes the reservation description which includes customer code number, flight number, date of booking, date of traveling. The following are sites where flight bookings can be made:

- www. Virginnigeria. Com
- www. Virgin-atlantic. Com

Railway travel ticket booking

Indian has the largest network of railways in the world. The use of railways as a means of transportation provides one of the most convenient and popular mode of transporting man

including goods and services. This system allows clients purchase rail tickets through the use of credit cards (http://www. Irctc. Co.in). an individual can book only six passengers on one requisition form provided all passengers are travelling on the same train and to the same destination. Passengers are requested to quote their passenger's number which is printed on their tickets. The system also allows clients the opportunity to indicate seat number, reservation against cancellation, cancellation of reservation due to late arrival or passenger change of boarding point.

CV Submission

The system offers the opportunity to submit certificates online. This system offers job seekers the means to advertise their qualifications on the internet for interested employers. In Nigeria, is handled by CHAMS (www. Chams. Com). Information open to an employer includes users age, schools attended, certifications written, place of residence and so on. The following are sites where job seekers get to find jobs offers an submit their CVs:

- www. 2nigeria. Com
- www. Getnaijajobs. Com
- www. Jobcentrenigeria. Com

e-Transaction

basically, electronic transaction is the process of buying, transferring, or exchanging products, services, and /or information via computer networks, including the Internet. (Wikipedia, 2009)

E-Business

E-Business can be defined as the utilization of information and communication technologies in support of all activities of business. When organizations go online, the have to decide which e-business best suits their goals. The following is a list of the currently most adopted e-business models; E-shops, E-commerce, E-procurement, E-auctions e.t.c.

E-Banking

E-Banking (or Internet Banking) allows customer to conduct financial transactions on a secure website operated by their retail or virtual bank, credit union or building society. E-Banking solutions have many features and they include the following:

- It is transactional (e.g. performing a financial transaction such as an account to account transfer, paying a bill, wire transfer and applications such as applying for a loan, new account etc)
- Electronic bill presentation and payment (EBPP)
- Funds transfer between a customer's own checking and savings accounts or to another customer's account
- Investment purchase or sale
- Loan applications and transactions such as repayments
- Non-transactional (e.g online statements, chat)
- Bank statements
- Financial institution Administration
- Support of multiple users having varying levels of authority
- Transaction approval process
- Wire transfer

E-Payment

When it comes to payment options, nothing is more convenient than electronic payment. This system erases the system of writing a check, swiping a credit card or handling any paper money: all one needs do is enter some information into the web browser and click the mouse. It's no wonder that more and more people are turning to electronic payment or e-payment as an alternative to sending checks through the mail. (vikipedia, 2009).

A one-time customer-to-vendor payment is commonly used when whopping online at an e-commerce sit, such as Amazon. The site processes the credit card information and sends an e-mail notifying the client about the payment. The vendor authorizes payment through the customer's bank, which then either initiates an electronic funds transfer (EFT) or prints a check and mails it to the vendor.

A recurring customer-to vendor payment when user pays a bill through a regularly scheduled direct debit from checking account or an automatic charge to ones credit card, this type of

payment plan is commonly offered by car insurance companies, phone companies and loan management companies. Some long-term contracts (like those at gyms or fitness centers) require this type of automated payment schedule.

To use automatic bank-to-vendor payment, a bank must offer a service called online bill pay. A user logs on to a bank's Web sit, enters the vendor's information and authorize the bank to electronically transfer money from an account to pay the bill.

Electronic payment is very convenient for the consumer. In most cases, a user only needs to enter their account information such as your credit car number and shipping address once. The information is the stored in a database on the retailer's Web server. When the user comes back to the web site, the user just logs in with the right username and password. Completing a transaction is as simple as clicking your mouse: all that is needed is a confirmation of the transaction and all is settled. Electronic payment lowers cost for businesses. The more payments they can process electronically, the less they spend on paper and postage. Offering electronic payment can also help businesses improve customer retention. A customer is more likely to return to the same e-commerce site where his or her information has already been entered and stored.

This is just to mention a few as online applications come in different forms and with the proliferation of technology, it is expected that more of such applications will be continually developed.

2.5   THE EFFECT OF ONLINE BOOKING APPLICATIONS ON THE TOURISM INDUSTRY

All recently published statistics on internet sales, confirm that online bookings, represents almost 50% of all internet transactions worldwide. Tourism remains the Internet's largest business and it is set to grow even more in future. (www. Simplybooked.co.uk)

There are two main group that use online booking application; the first group is the tourism industry which uses online booking application to manage tickets, accommodations, and other travel services for its clients. This group can include: group organizers, destination management companies, online travel companies, incoming/ outgoing tour operators, domestic/international travel operators, charter companies, retailers, wholesalers and more. All of these group can benefit from the use of online booking applications.

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The other group is made up of the customers and potential customers. By using online booking applications tourism promoter can open up their potential market to anybody who uses the internet. Even if they service internal users, online booking applications let users access their itineraries, documents, and more via any internet access point. It also offers the opportunity to showcase a nation's tourist attractions such as festivals, hotels, landmarks and so on.

This system has had a positive effect on the industry as it offers the customers. By using online booking applications tourism promoters can open up their potential market to anybody who uses the internet. Even if they service internal users, online booking applications let users access their itineraries, documents, and more via any internet access point. It also offers the opportunity to showcase a nation's tourist attractions such as festivals, hotels, landmarks and so on.

This system has had a positive effect on the industry as it offers the customers and potential customers the opportunity to:

- Offer their terms and conditions when it comes to business dealings.
- Lets client book in different currencies.
- Allow users to update products and services availability, prices and information over the internet.
- It allows clients to specify the kind of product (s) the need, in the case of the online booking application, the customer is able to decide and book the kind of room he she wants and the duration of stay online.
- An online booking system seals a deal in just one round of communication. Allowing the client to get on with the rest of their day and the provider to secure the booking and even payment up front.
- It also offers the benefit of storing and sharing information from a central database thereby reducing photocopying, filing, and use of paper. In other words, it creates a paperless and more efficient system.
- Retention of knowledge when an employee leaves the organization.

CHAPTER THREE

3.0 MATERIAL AND METHODS

3.1 INTRODUCTION

As the importance of the internet for the hospitality organizations grew and became more broadly accepted, researchers tried to find socio-demographic and behavioral characteristics of online customers. Bonn et al. (1998) argued that individuals who purchased travel online were likely to share socio- demographic characteristics. They investigated differences in the propensity to use the internet based on the subjects' socio-demographic and behavioral characteristics and found that gender did not significantly affect the customer's information search behavior via the internet, but age, income, and education level did. Similarly, weber and Roehl (1999) provided a profile of people who used the internet to search for travel information or to purchase travel arrangements. Their study found that the respondents who searched for travel information or who purchased travel products online reported higher incomes, higher status occupations, and more years of experience with the Internet than those who did not search or purchase online. The findings of these studies suggest that managers of hospitality organizations should understand the differences between socio-demographic and behavioral characteristics between online and no online customers before implementing their promotion strategies.

The purpose of analysis is to determine what information and information procession services are needed to support selected objectives and functions of the existing system. System analysis is the process of collecting and analyzing facts in respect of the existing operations and procedures in the system in order to obtain a full appreciation of the situation prevailing.

3.2 DATA COLLECTION

3.2.1 METHOD OF DATA COLLECTION

In the course of this study three sets of research methods were used in the collection of data they are:

a. Interview
b. Prepared questions for the managers of the Hotels.
c. Observation

Interviews were held with the managers of Hydrol and Shiroro, these are Hotels in Minna.

The information gathered was analyzed to fully identify the problems clients encounter during the booking of services of a hotel and to devise a means of improving the present system by using the proposed system. From the interview and observations carried out, the deliverables of the requirement determination stage were as follows:

- There exists a current computer-based process in a performing booking and reservation; this is done through the use of e-mails in both hotels.
- There exists a manual receipting process.
- They do not have web site: Hyro Hotel's website is still under construction

Problems of existing system

A combination of various factors is responsible for the problems of the existing system. These have prompted the need to embark on this research work. The problems include:

- Difficulty in accession accommodation especially in cases where the client is new in Hydro;
- Delay in processing a booking request;
- Cases of loses encountered by the hotel due to improper booking;
- Delay in accession information in cases of late bookings;
- Cases of double booking and reservation due to uncertainty expressed at the point of enquiry.

The questions asked were aimed at determining how booking were done, the number of rooms in the hotels, the facilities and features of the hotels and the rates of rooms and halls. The questions asked were divided into three sections; they are question dealing with:

a. How often clients visited the hotels.
b. The features and facilities of the hotels.
c. The prices of services rendered and the process of booking a room or hall.

In the course of my visitation, I observed that Hydro Hotel has Ninety (90) rooms, the rooms is between three thousand five hundred naira and six thousand five hundred naira. The halls also had price ranges between thirty thousand naira an forty thousand naira with an average

sitting capacity of three hundred guest. The following are the major facilities available to both hotels:

- Internet Access
- Standby Generators
- African and Intercontinental dishes
- A good security Network
- Rental services

Bonuses are also given to customers during festive periods like Christmas and Sallah. The bonuses include a ten percent discount on the services offered (drinks, rooms, hall).

3.3. DATA ANALYSIS

At this stage of data analysis, various models of the existing system and the proposed system are developed. The models to be described include:

- Process model
- Logic model
- Data model

3.3.0 PROCESS MODELING

Process modeling involves graphically representing the functions or processes which capture, manipulate, store and distribute data between a system and its environment and between components within the system (Hoffer etal. 1999). The process model to be used is the date flow Diagram (DFD). Four symbols will used to represent both the physical and logical information of the system.
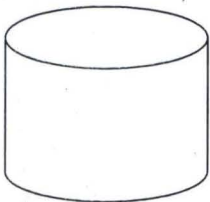
| This represents a process which is the work or actions to be performed on data so that they are transformed. |

| A source/sick which is the origin and/or destination of the data |

| This represents the data flow which is seem as data in motion |
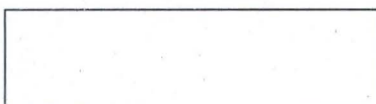
The Data flow diagram given below displays the overview of the system showing the boundaries, external entities that interact with the system and the data flow between the entities and the system. It also shows all the processes that are involved in the booking process of the existing system. The interaction is basically between the system and the client.
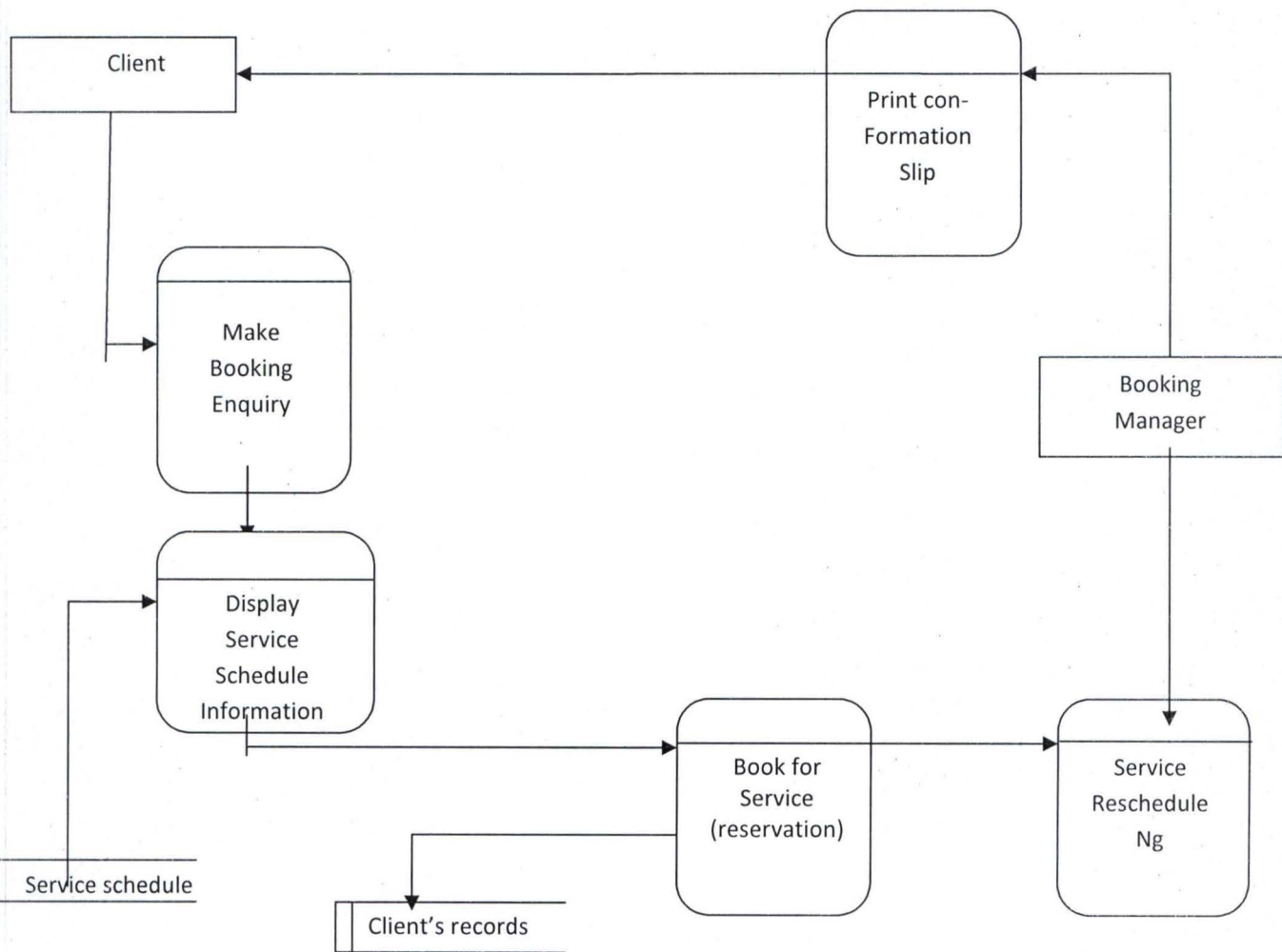

Fig 3.1: overview of the Existing System Using A DFD.

3.3.1 LOGIC MODELING

Logic modeling involves representing the internal structure and functionality of the processes represented in the DFD. Processes must be clearly described before they can be translated into a programming language. This is known as data-to-transformations and decisions. The

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technique used in this section for modeling the system will be the structured English. The whole point of using structured English is to represent processes in a shorthand manner that is relatively easy for users and programmers to read and understand. From the DFD, there exist four (4) processes:

I.   Process service enquiry.
II.   Process booking /reservation.
III. Process service availability and rescheduling.
IV.   Process confirmation slip.

The above processes are presented in structured English to explain the logical flow o processes in the proposed system.

1. PROCESS SERVICE ENQUIRY
   CHECK for service availability
   IF service available
   THEN DISPLAY available service
   ELSE
        Make new request
   AND IF
   END PROCESS

2. PROCESS BOOKING /RESERVATION
   BEGIN PROCESS
   GET   clientName,   phoneNumber,   checkingDate, checkoutDate,
   Service Type, noofpersons
   ASSIGN client details to Database
   AND PROCESS.

3. PROCESS SERVICE A VAILABILITY AND RESCHEDULING
   BEGIN PROCESS
   READ phoneNumber, clientname
   DISPLAY client details
   If service cancellation/reset THEN
   DELETE client from session
   ELSE IF service rescheduling THEN

EDIT client details

UPDATE records

AND IF

AND PROCESS

4. PROCESS CONFIRMATION SLIP.

   BEGIN PROCESS

   READ check-in-date and check-out-date

   If check-in-date is available THEN

   DISPLAY confirmation slip/form

   ELSE

   DISPLAY The reservation is booked. Please pick another date

   END IF

   END PROCESS

3.3.2. DATA MODELING

A data model is simply a diagram that describes the most important "thing" in the business environment from a data-centrice point of view (whitten etal. 2004). The entity relationship diagram is a data modeling tool used in describing the relationship between data in the system. Data modeling is sometimes referred to as database modeling because a data model is eventually implemented as a database. Based on the information gathered about the existing system, the following assertions are made:

1. There is a need to tore data about intending CLIENT, COMMENT, SERVICE TYPE and SERVICE DESCRIPTION

2. The value of the SERVICE TYPE uniquely identifies one and only one need. The value of CLIENT NUMBER (phone number) uniquely identifies one and only one client.

3. Data to be collected for BOOKING include:check-in date, check-out date, client number, client name, service description and service type.

4. Data to be collected for service include: service type (hall or room), service Description (birthday, wedding, seminar e.t.c), number of rooms and number of persons to stay in the room.

5. Data to be collected for CLIENT are Client Number, Client Name, Sex, occupation, address, email address and comment(s) /complaint(s) if any.

The entity Relationship diagram (ERD) depicts data in terms of entities and relationships described by the data. From the assertions above, it is clear that various entities have merged.

ENTITY

An entity is something about which the organization needs to store data (whitten etal. 2004). It could be a class of person, places, objects, events or concepts which data needs to be captured are: CONTACT, BOOKING and COMMENT. For every entity, there is need to know what piece of data we need to store about each instance of the entity. This is the entity's attribute.

ATTRIBUTE

This is the descriptive property or characteristic of an entity (Hoffer etal. 199). An attribute could also be seen as a compound attribute (attributes consisting of another attributes) such as the client Name which may comprise of the surname, middle name and last name. fig 6 represents the Entity Relationship Diagram.
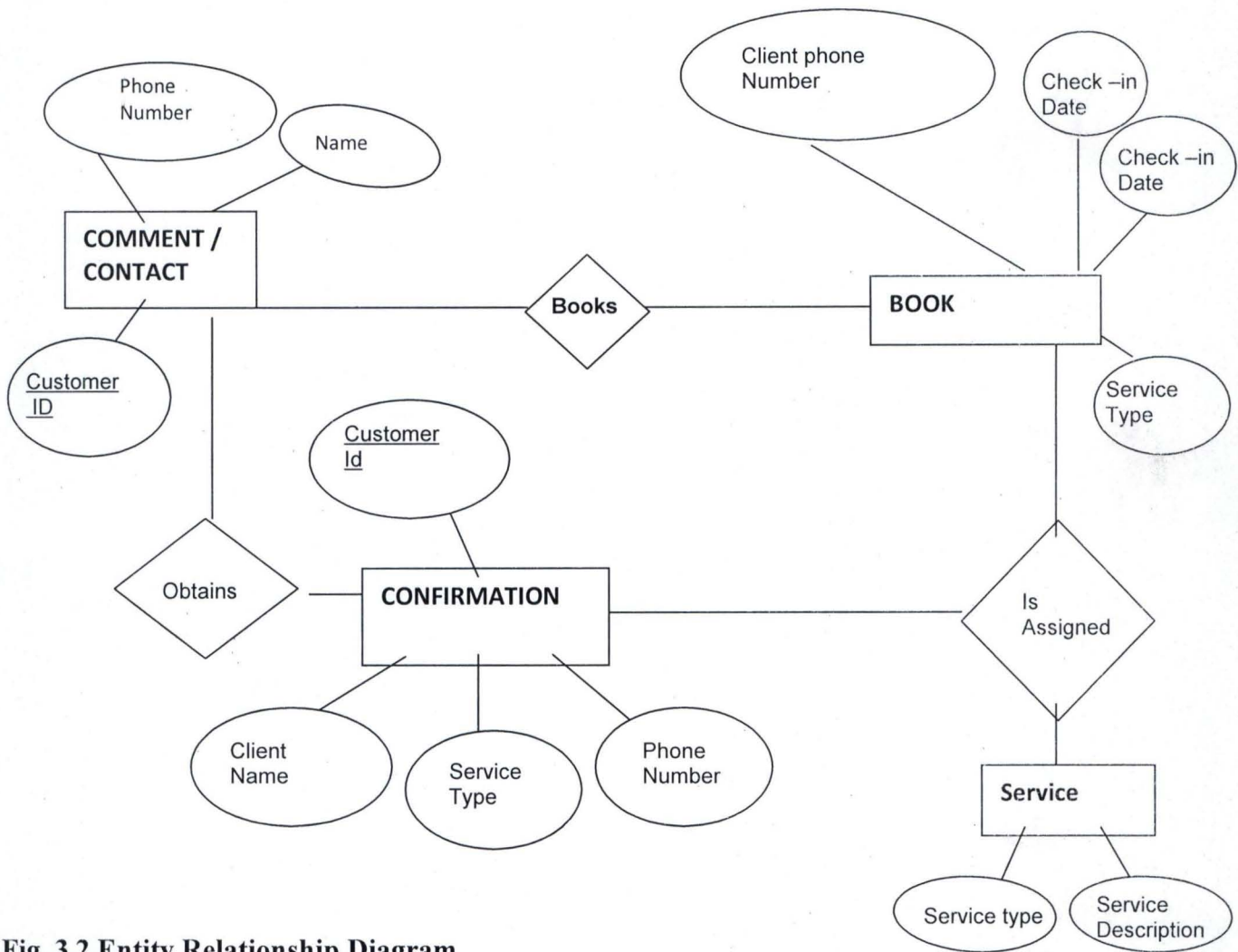
Fig. 3.2 Entity Relationship Diagram

From fig 7, the contents underlined are known as the primary keys, which uniquely identify an entity. With this, the database structures can b drawn.

SYSTEM FLOWCHART OF THE EXISTING SYSTEM

After the requirement determination stage, fig 8 shows a pictorial representation of the current flow of information in the booking system.
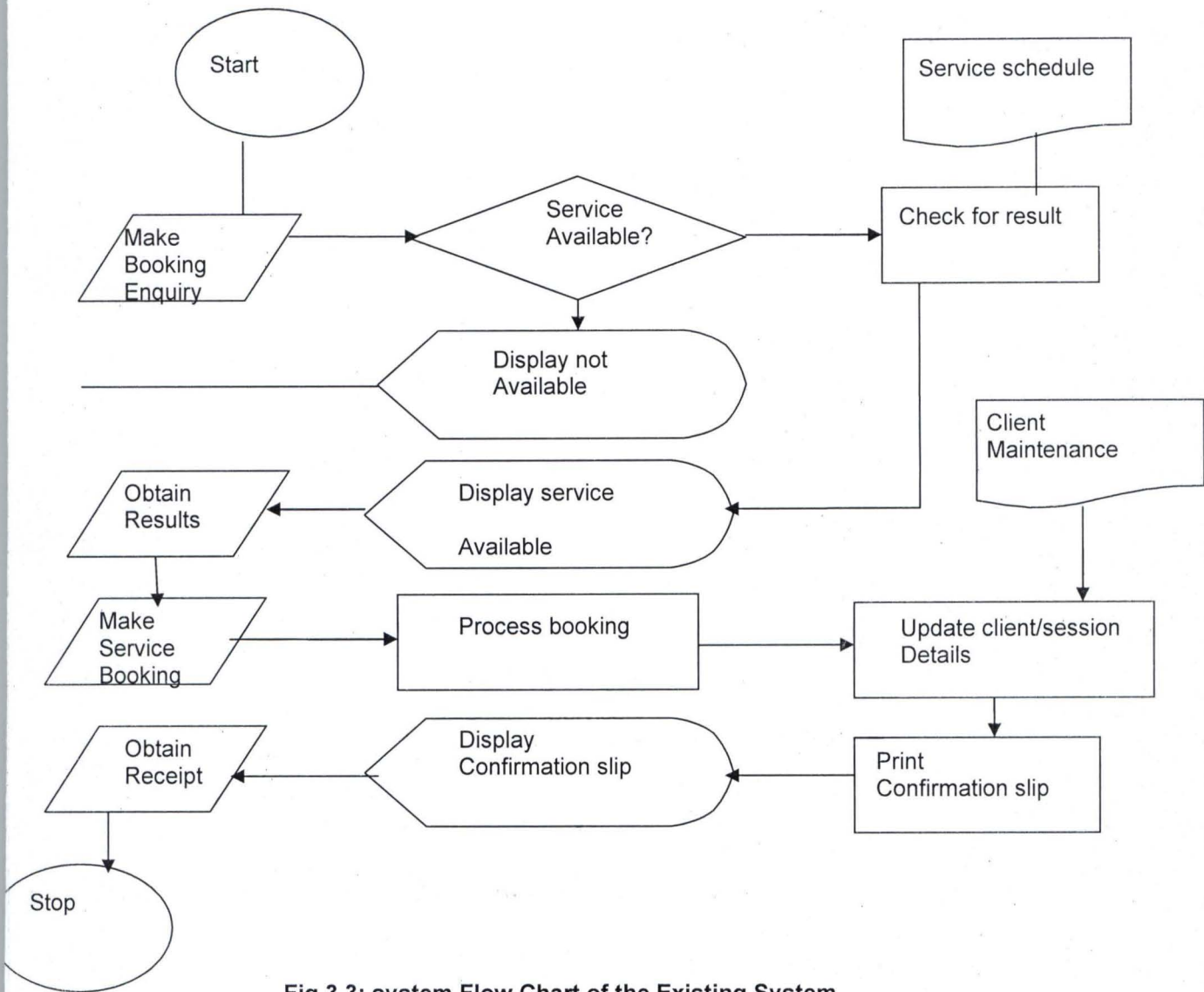
Fig 3.3: system Flow Chart of the Existing System.

The internet is a network that links computer networks all over the world by satellite, routers, switches and even telephones, connecting users with services networks such as email and the World Wide web (WWW). The advent of the Internet has apparently made life a whole lot better and easier as it is now possible for people all over the world to communicate and even make transactions over the Internet.

With the birth of the Internet came web applications. A Web application is a collection of Web pages that have been specifically built and designed to achieve a specific purpose. Web applications built today are used to make booking and reservations Online. It is also used to carry out banking transactions, it is even to used to sell and buy over the internet.

This work was built on these development to create a site (www.queenbook.co.cc) where clients and customers from any location can make reservations online for accommodation with some hotels in Hyro Hotel Minna.

CHAPTER FOUR

4.0 SYSTEM DESIGN, IMPLEMENTATION, TESTING, DEBUGGING AND DOCUMENTATION

4.1 SYSTEM DESIGN USING FLOW CHART DIAGRAM

The design of an information system is the overall plan or model for the system (O'Leary, 2007).

It is like a blue-print considering all the specifications that gives the system its form and structure. The design shows how the system will operate. The proposed system, which is an enhancement to the current system, is a computerized online booking system for booking services of a hotel. The most fundamental requirements for project are: it has to be web base and connected to a Database for data archiving and modification. It will consist of menu with various sub-menu to handle clients information, reservation confirmation, and reservation for available services. It also contains forms for entering the client information and reservation. Security is an issue and so the system is protected with password that only the officer in charge is aware of.

The proposed system will be developed using javascript as a programming tool to react to events, to validate input data and lots more. PHP/MySQL Database will be used to stored information in the Back-End. The Website will be build using Adobe Dreamweaver as the HTML editor. Fig 9 is the flow chart diagram representing the entire system.
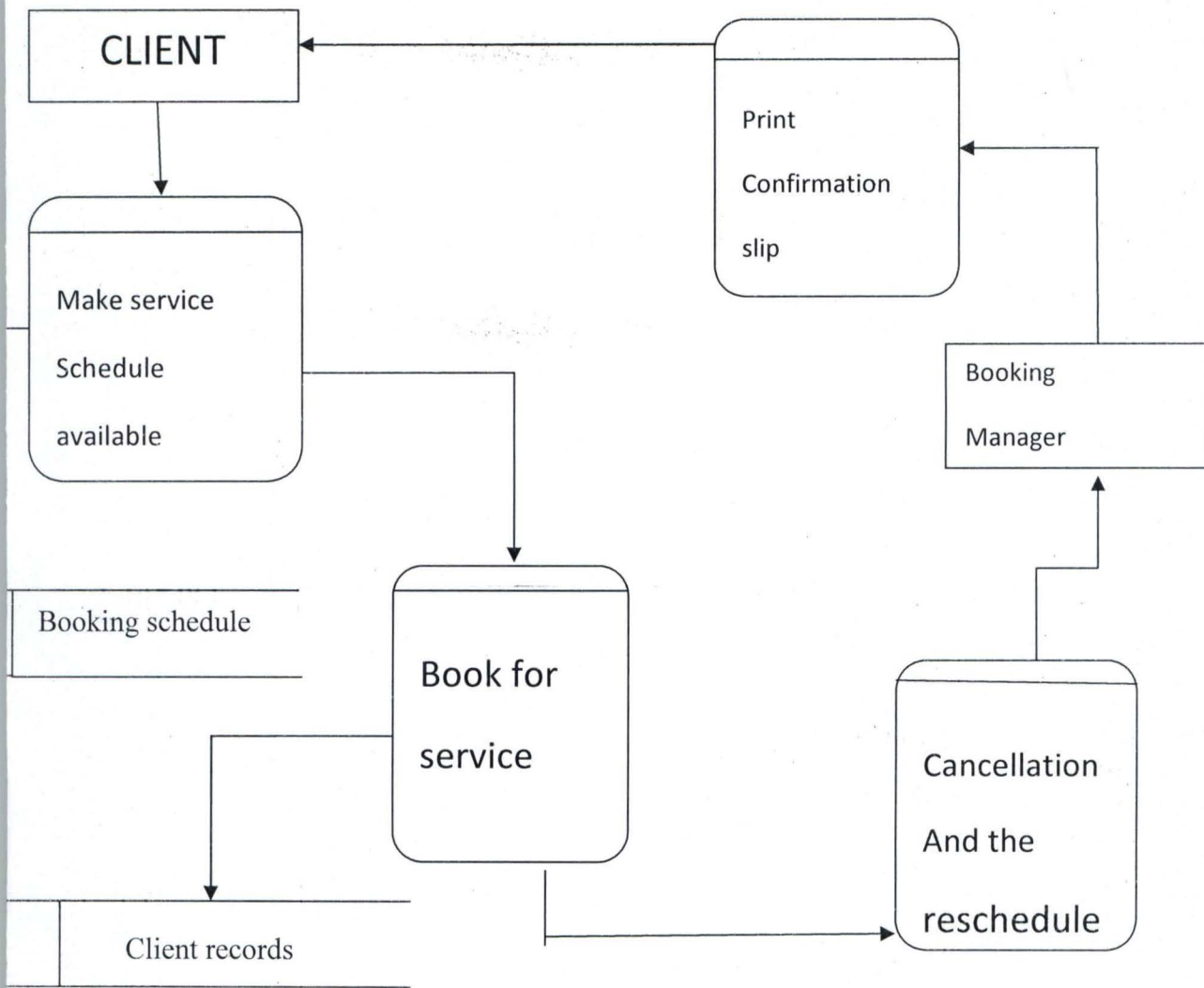
Fig. 4.1 Flow Chart Diagram of The Propsed System.

Start

Obtain hotel

information

No

Is Service

Available?

Pick Another

date

Type in

Necessary

details

Yes

Another

Service

Enquiry

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Stop

Fig. 4.2 making booking request

Start

Enter client
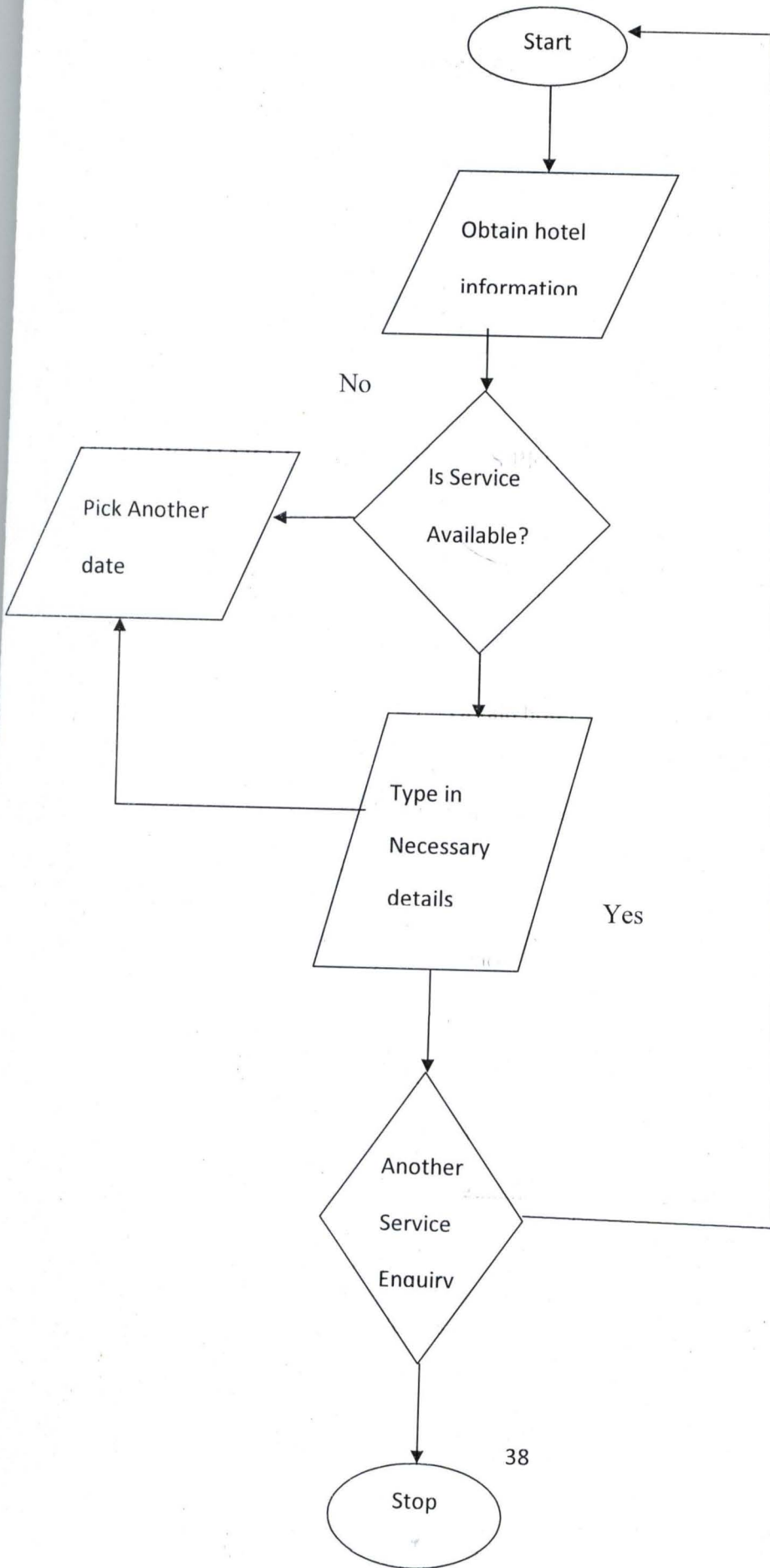Information on
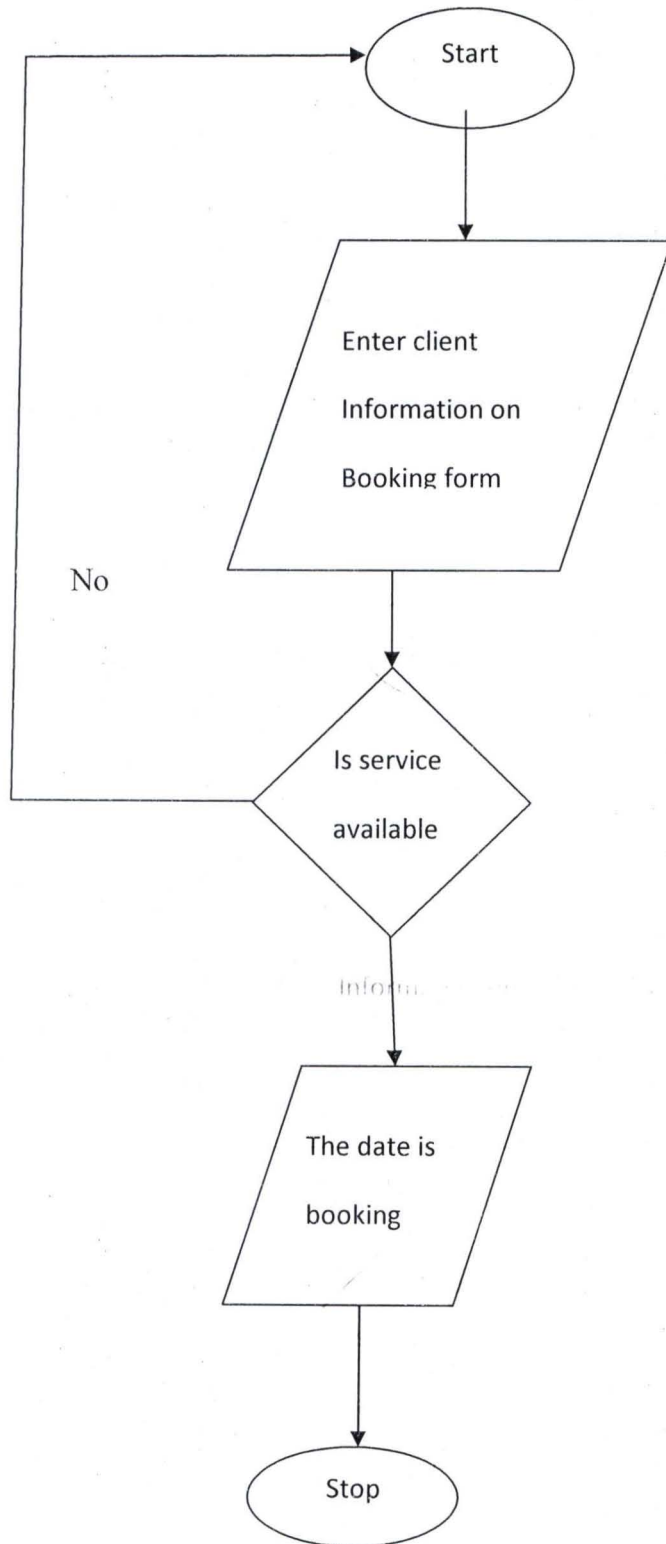Booking form

No

Is service
available

Inform

The date is
booking

Stop

Fig. 4.3 Booking for a service.
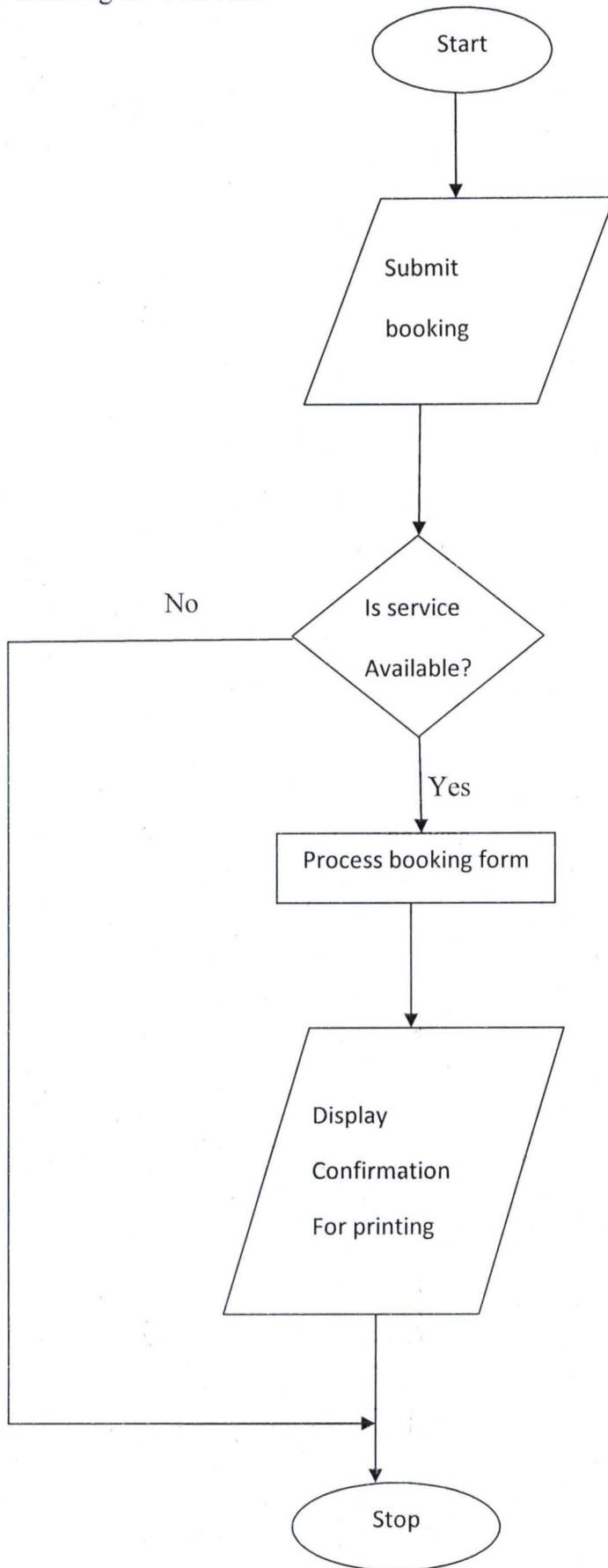
Fig, 4.4 Print out confirmation.

4.1.1 INPUT DESIGN

The design has to do with the customer; this is where the customer fills forms to be used by Booking and the hotels.

The input design is divided into three forms; they are:

- Customer contact form
- Customer comment form and the
- Customer booking form.

They all following a similar format. Fig. 13 gives the flow chart diagram of the input forms.

4.1.2   DATABASE DESIGN

The Database which is a collection of related records or files will be examined because of its central in the design of the proposed system. The records or file in this are the client records (comments, details etc.) and booking information which are imputed into the various tables created for this purpose.

The relational database model will be used in the design of the table.

RELATION DATABASE STRUCTURE

The relational database model uses tables to represent the structure of the database being designed. The tables below the various fields and their data types, their sizes/formats

BOOKME DATABASE TABLE

Fields	Description	Data Type	Format/size

Customer contact/sign in table	Identifies uniquely a customer	Text	25
Booking	Specifies a type of services required	text	25
Comment	Represents field containing enquiries, sugestionsof the customer	text	25

BOOKING DATABASE TABLE

Fields	Description	Data Type	Format/size
Customer_id (primary key)	uniquely Identifies a particular customer	Text	25
Services	uniquely Identifies a particular service type	text	25
Check in date	Identifies a particular month of the year e.g 03-11-2010	Date	Short date
Check out date	Identifies a particular date	Date	Short date
	Represents field containing enquiries, sugestionsof the customer		

4.2   SYSTEM IMPLEMENTATION

This section specifies tools used in the design of the application. This will be subdivided into two (2): they are:

a. Hardware Configuration.
b. Software Configuration and features.

4.2.1   HAREWARE CONFIGURATION

This involves the list of hardware to be used in the implementation of this project. Computer hardware consists of the components that can be physically handled. (Encarta, 2009). In most cases personal computers with either Linux or Windows as operating system are used to build web applications (Valade, 2004). The advantage of windows over Linux is

- It is easier to use because it is widely used.
- Issues arising are easily resolved as most people develop web applications on windows operating system.
- Most systems already have windows OS installed in them than with Linux.

The advantages of Linux over Windows OS are:

- Mac computers and
- UNIX based systems.

Of importance also is the processor: if the processor: if the processor is fairly tight, then increasing RAM is the next priority, a RAM size of 512MB is easily sufficient for all but the most high-volume sites, or sites with the largest database, which are usually cached in RAM by NySQL for speed of access. For sites that principally serve static pages or files, then RAM is more important than processor speed.

4.3 SYSTEM DOCUMENTATION

The system documentation will include the codes used in the design: this will be divided into Three:

- PHP

- MySQL

The code below represents the codes used to validate the client or visitor contact form. It allows users fill in all mandatory.
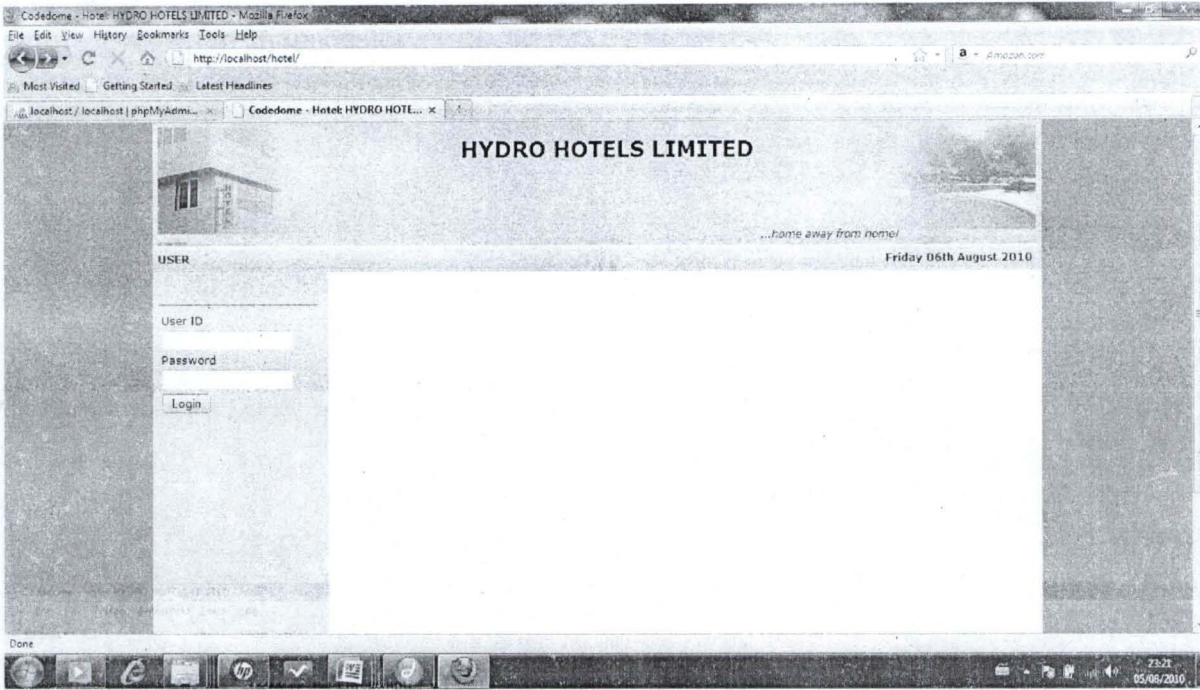
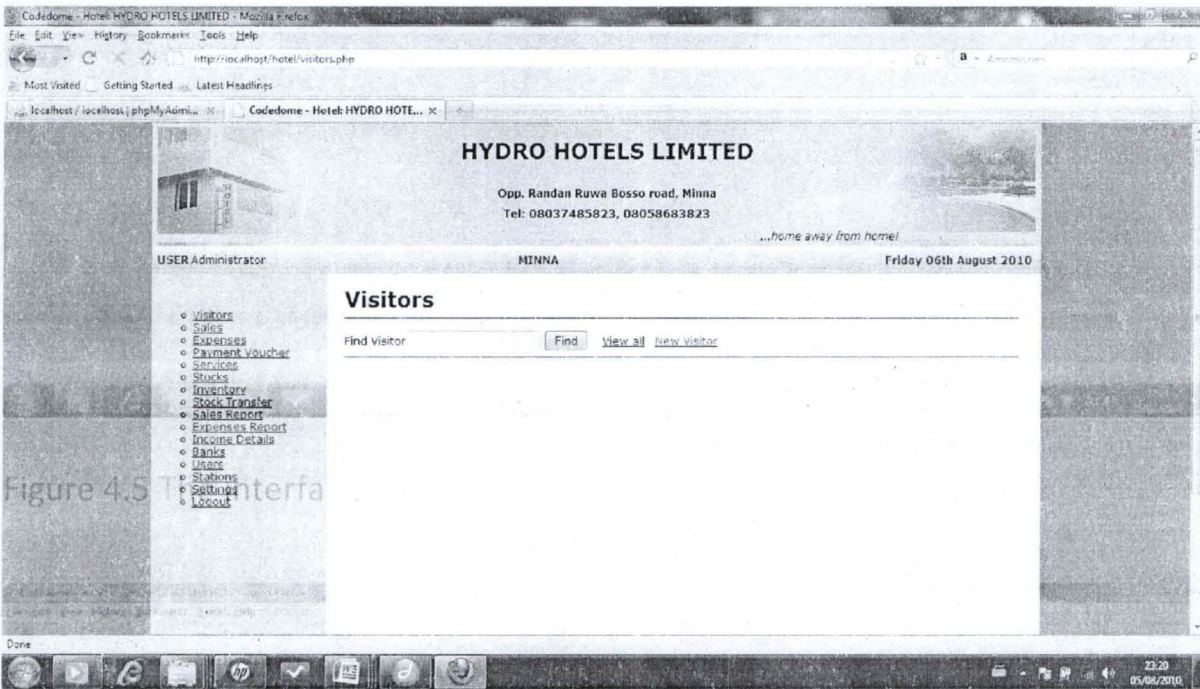Figure 4.5 The interface design of the home page

Fig. 4.6 Visitors Area

```php
<?php

    include('connect.php');


    session_start();


    $qry = "select * from settings";

    $res = mysql_query($qry);


    $row = mysql_fetch_array($res);

    $hotelname1 = $row[0];

    $hotelname = "<h1>" . $row[0] . "</h1>";

    $slogan = "<i>" . $row[4] . "</i>";

    //functions*********************************************************
```

45

```php
function getTokens(){

        for($i=0; $i<=12; $i++){

                $token .= mt_rand(0,9);

        }

        return $token;

}



function getStations($privstations){

        $pstation = explode("-",$privstations);

        for($i=0; $i<sizeof($pstation);$i++){

                $pstations .= "<option>$pstation[$i]</option>";

        }



        return $pstations;

}



function getMenu($validity, $privs){

        $umnu[0] = "<li><a href='visitors.php'>Visitors</a></li>";

        $umnu[1] = "<li><a href='sales.php'>Sales</a></li>";

        $umnu[2] = "<li><a href='expenses.php'>Expenses</a></li>";

        $umnu[3]    =    "<li><a    href='paymentvoucher.php'>Payment
Voucher</a></li>";

        $umnu[4] = "<li><a href='services.php'>Services</a></li>";
```
46

```php
$umnu[5] = "<li><a href='stocks.php'>Stocks</a></li>";

$umnu[6] = "<li><a href='inventory.php'>Inventory</a></li>";

$umnu[7] = "<li><a href='transfer.php'>Stock Transfer</a></li>";

$umnu[8] = "<li><a href='salesreport.php'>Sales Report</a></li>";

$umnu[9] = "<li><a href='expensesreport.php'>Expenses Report</a></li>";

$umnu[10] = "<li><a href='incomedetails.php'>Income Details</a></li>";

$umnu[11] = "<li><a href='banks.php'>Banks</a></li>";

$umnu[12] = "<li><a href='users.php'>Users</a></li>";

$umnu[13] = "<li><a href='stations.php'>Stations</a></li>";

$umnu[14] = "<li><a href='settings.php'>Settings</a></li>";


if($validity==1){

    $privileges = explode("-", $privs);


    $mnulist = "<ul type='circle'>";

    for($i=0; $i<sizeof($privileges);$i++){

        $mnulist .= $umnu[$privileges[$i]];

    }

    $mnulist .= "<li><a href='logout.php'>Logout</a></li>";
```

```php
                    $mnulist .= "</ul>";

            }else{

                    $mnulist       =        "<table><form       action='index.php'
method='post'>";

                    $mnulist .= "<tr><td>User ID</td></tr>";

                    $mnulist       .=        "<tr><td><input       type='text'
name='userid'></td></tr>";

                    $mnulist .= "<tr><td>Password</td></tr>";

                    $mnulist       .=        "<tr><td><input       type='password'
name='password'></td></tr>";

                    $mnulist       .=        "<tr><td><input       type='submit'
value='Login'></td></tr>";

                    $mnulist .= "</form></table>";

            }


            return $mnulist;

    }

                          $mnulist

    function getServices($station){

            $qry = "select service from $station";

            $res = mysql_query($qry);


            $optservices = "";

            if(mysql_num_rows($res)>0){
```
48

```php
            while($row=mysql_fetch_array($res)){

                $optservices .= "<option>$row[0]</option>";

            }

        }

        return $optservices;

    }


    function getCategory($station){

        $qry = "select category from categories where station = '$station'";

        $res = mysql_query($qry);


        $optcategory = "";

        if(mysql_num_rows($res)>0){

            while($row=mysql_fetch_array($res)){

                $optcategory .= "<option>$row[0]</option>";

            }

        }


        return $optcategory;

    }

//*********************************************************
```

```php
if(isset($_SESSION['userid']) && isset($_SESSION['ontoken'])){

        $userid = strtoupper($_SESSION['userid']);

        $ontoken = $_SESSION['ontoken'];


        //get stations option***************

        if($userid=='admin'){

                $qry = "SELECT * FROM stations";

                $res = mysql_query($qry);

                if(mysql_num_rows($res)>0){

                        $j = 0;

                        while($row=mysql_fetch_array($res)){

                                $optstation            .=            "<option
value='$row[0]'>$row[0]</option>";

                                $ps[$j] = $row[0];

                                $j += 1;

                        }

                }

        }else{

                $prevstation = explode("-",$prevstations);

                $j = 0;

                for($i=0; $i<= sizeof($prevstation) -1; $i++){
```

```php
                    $optstation                  .=                      "<option
value='$prevstation[$i]'>$prevstation[$i]</option>";

                    $ps[$j] = $prevstation[$i];

                    $j += 1;

                }

            }


        if($userid=='ADMIN'){

            $qry = "SELECT * FROM users";

            $res = mysql_query($qry);

            if(mysql_num_rows($res)>0){

                while($row=mysql_fetch_array($res)){

                    $optusers                    .=                      "<option
value='$row[0]'>$row[0]</option>";

                }

            }

        }else{

            $prevstation = explode("-",$prevstations);

            for($i=0; $i<= sizeof($prevstation) -1; $i++){

                $qry     =     "select    *    from    users    where
current_station='$prevstation[$i]'";

                $res = mysql_query($qry);

                while($row = mysql_fetch_array($res)){
```

51

```php
                    $optusers                    .=                    "<option
value='$row[0]'>$row[0]</option>";

                }

            }

        }


//**************************************

    function getTime($s){

        switch($s){

            case "h":

                    $climit = 24;

            break;


            case "m":

                    $climit = 59;

            break;


            case "s":

                    $climit = 59;

            break;

        }


        for($i=1; $i<=$climit; $i++){
```

```php
        if($i<10){

                $si = "0" . $i;

        }else{

                $si = $i;

        }

        $timeselect .= "<option>$si</option>";

    }

    return $timeselect;

}


function getCal($p){

    switch($p){

        case "d":

                $climit = 31;

        break;


        case "m":

                $climit = 12;

        break;

    }


    for($i=1; $i<=$climit; $i++){
```

```php
                        if($i<10){

                                $si = "0" . $i;

                        }else{

                                $si = $i;

                        }

                        $dayselect .= "<option>$si</option>";

                }

                return $dayselect;

        }

        //***************************************


        $qry = "select * from users where userid = '$userid' and ontoken
='$ontoken' and online_status = 1";

        $res = mysql_query($qry);

        if(mysql_num_rows($res)>0){

                $row = mysql_fetch_array($res);

                $prev = $row[3];

                $prevstations = $row[5];

                $currentstation = $row[4];

                $username = $row[2];


                $qry = "select * from stations where station = '$currentstation'";

                $res = mysql_query($qry);
```

```php
$row = mysql_fetch_array($res);

$address = $row[1];

$phone = $row[2];


$addressphone = "<b>$address</b>";

$phone = "<b>Tel: $phone</b>";


$optstation = getStations($prevstations);


$mnu = getMenu(1, $prev);


$lbstation = $currentstation;


$msg = "<font size='5'><b>Visitors</b></font><hr/>";

//**************************************************

$msg .= "<p><form action='visitors.php' method='post'>Find
Visitor <input type='text' name='visitor'> <input type='submit' value = 'Find'
name='op'>           <a        href='visitors.php?op=findall'>View
all</a>   <a                    href='visitors.php?op=addnew'><font
color='red'>New Visitor</font></a></form></p><hr>";

$msg4rep = "<p>Visitors Users</p>";

$reptitle = $facetitle . " - " . $subtitle;
```

```php
        $repkey                    =                    "<a
href='reports.php?msg=$msg4rep&reptitle=$reptitle'                target='blank'><font
color='#FFFFCC'>Report</font></a>";


        //**********************************

        if(isset($_REQUEST['op'])){

            $op = $_REQUEST['op'];

            $user = $_REQUEST['user'];


            if($op=='addnew'){

                /*$qry = "select vsn from settings";

                $res = mysql_query($qry);

                $row = mysql_fetch_array($res);

                $vsn = $row[0] + 1;

                $qry = "update settings set vsn=$vsn";

                mysql_query($qry);*/


                $msg    .=    "<h3><font    color='red'>New
Visitor</font></h3>";

                $msg    .=    "<table><form    action='visitors.php'
method='post'>";

                $msg                 .=                 "<tr><td
colspan='2'><h3>Reservation</h3></td></tr>";
```

```
$msg .= "<tr><td>Last    Name</td><td><input
type='text' name='lastname'></td></tr>";

$msg .= "<tr><td>First    Name</td><td><input
type='text' name='firstname'></td></tr>";

$msg .= "<tr><td>Address</td><td><textarea
name='address' cols='30' rows='3'></textarea></td></tr>";

$date = date('d-m-Y');

$curdate = explode("-", $date);


$dayopt = getCal("d");

$monthopt = getCal("m");



$msg .= "<tr><td>Date of Arrival</td><td><select
name='dayarrive'><option>$curdate[0]</option>$dayopt</select><select
name='montharrive'><option>$curdate[1]</option>$monthopt</select><select
name='yeararrive'><option>$curdate[2]</option><option>2010</option><option>2011
</option></select></td></tr>";



$hropt = getTime("h");

$mopt = getTime("m");

$sopt = getTime("s");



$msg .= "<tr><td>Time of Arrival</td><td><select
name='hrarrive'><option>00</option>$hropt</select><select
name='minarrive'><option>00</option>$mopt</select><select
name='secarrive'><option>00</option>$sopt</select></td></tr>";
```

```php
                        $msg .= "<tr><td>Departure Date</td><td><select
name='daydept'><option>00</option>$dayopt</select><select
name='monthdept'><option>00</option>$monthopt</select><select
name='yeardept'><option>0000</option><option>2010</option><option>2011</option
></select></td></tr>";

                        $msg .= "<tr><td>Number in Party</td><td><input
type='text' name='numinparty' size='3'></td></tr>";


                        $qry = "select * from categories where service =
'Accommodation' and station = '$currentstation'";

                        $res = mysql_query($qry);


                        $optservices = "";

                        if(mysql_num_rows($res)>0){

                                while($row=mysql_fetch_array($res)){

                                        $optservices                    .=
"<option>$row[0]</option>";

                                }

                        }


                        $msg            .=              "<tr><td>Type            of
Accommodation</td><td><select
name='acctype'><option>Select</option>$optservices</select></td></tr>";

                        $msg .= "<tr><td>Place of function</td><td><input
type='text' name='placefn'></td></tr>";
```
58

```php
$msg .= "<tr><td>Payment Mode</td><td><select name='paymode'><option>Cash</option><option>Cheque</option></select></td></tr>";

$msg .= "<tr><td>Reservation by</td><td><select name='resby'><option>Letter</option><option>Phone</option><option>Personal</option><option>Online</option></select></td></tr>";

$msg .= "<tr><td colspan='2'><hr/></td></tr>";

$msg .= "<tr><td colspan='2'><h3>Other Information</h3></td></tr>";

$msg .= "<tr><td>Contact Address</td><td><textarea name='contactaddress' cols='30' rows='3'></textarea></td></tr>";

$msg .= "<tr><td>State</td><td><select name='state'><option>Select</option><option>Abia</option><option>Adamawa</option><option>Abuja</option></select></td></tr>";

$msg .= "<tr><td>Nationality</td><td><input type='text' name='nationality'></td></tr>";

$msg .= "<tr><td>Phone Number</td><td><input type='text' name='phone'></td></tr>";

$msg .= "<tr><td>Resident Permit</td><td><input type='text' name='respermit'></td></tr>";

$msg .= "<tr><td>Passport Number</td><td><input type='text' name='passport'></td></tr>";

$msg .= "<tr><td>Car Registration No.</td><td><input type='text' name='carregno'></td></tr>";
```

```php
                        $msg    .=    "<tr><td>Profession</td><td><input
type='text' name='profession'></td></tr>";

                        $msg .= "<tr><td>Travelling from</td><td><input
type='text' name='from'></td></tr>";

                        $msg .= "<tr><td>To</td><td><input type='text'
name='to'></td></tr>";

                        $msg .= "<tr><td>Nature of Visit</td><td><select
name='visitnature'><option>Select</option><option>Business</option><option>Pleasu
re</option></select></td></tr>";

                        $msg    .=    "<tr><td>Status</td><td><select
name='status'><option>Checked                    In</option><option>Checked
Out</option><option>Pending</option></select></td></tr>";



                        $msg                                        .=
"<tr><td> </td><td> </td></tr>";

                        $msg .= "<tr><td align='center' colspan='2'><input
type='submit' value='Submit' name='op'></td></tr></form></table>";

            }



            if($op=='Submit'){

                $lastname = $_POST['lastname'];

                $firstname = $_POST['firstname'];

                $address = $_POST['address'];

                $dayarrive = $_POST['dayarrive'];
```

```php
$montharrive = $_POST['montharrive'];

$yeararrive = $_POST['yeararrive'];

$datearrive   =   $yeararrive   .   $montharrive   .
$dayarrive;


$hrarrive = $_POST['hrarrive'];

$minarrive = $_POST['minarrive'];

$secarrive = $_POST['secarrive'];

$timearrive = $hrarrive . ":" . $minarrive . ":" .
$secarrive;


$daydept = $_POST['daydept'];

$monthdept = $_POST['monthdept'];

$yeardept = $_POST['yeardept'];

$datedept = $yeardept . $monthdept . $daydept;


$numinparty = $_POST['numinparty'];

$acctype = $_POST['acctype'];

$placefn = $_POST['placefn'];

$paymode = $_POST['paymode'];

$resby = $_POST['resby'];

$contactaddress = $_POST['contactaddress'];

$state = $_POST['state'];

$nationality = $_POST['nationality'];
```

```php
$phone = $_POST['phone'];

$respermit = $_POST['respermit'];

$carregno = $_POST['carregno'];

$profession = $_POST['profession'];

$from = $_POST['from'];

$to = $_POST['to'];

$visitnature = $_POST['visitnature'];

$status = $_POST['status'];


$qry = "select vsn from settings";

$res = mysql_query($qry);

$row = mysql_fetch_array($res);

$visitorid = $row[0] + 1;

$qry = "update settings set vsn=$visitorid";

mysql_query($qry) or die(mysql_error());


$qry = "insert into visitors (last_name, first_name,
address, date_arrive, time_arrive, date_dept, num_in_party, acc_type, place_fn,
pay_mode, res_by, contact_address, state, nationality, phone, res_permit, car_reg_no,
profession, desfrom, desto, visit_nature, status, visitorid) values ('$lastname',
'$firstname', '$address', $datearrive, '$timearrive', $datedept, $numinparty, '$acctype',
'$placefn', '$paymode', '$resby', '$contactaddress', '$state', '$nationality', '$phone',
'$respermit', '$carregno', '$profession', '$from', '$to', '$visitnature', '$status',
'$visitorid')";

mysql_query($qry) or die(mysql_error());
```
62

```php
                    $msg .= "<p>Visitor Added successfully with ID: <a
href='visitors.php?op=menu&visitorid=$visitorid'>$visitorid</a></p>";

            }


                if($op=='menu'){

                    $visitorid = $_REQUEST['visitorid'];

                    $qry = "select last_name, first_name from visitors
where visitorid = '$visitorid'";

                    $res = mysql_query($qry) or die(mysql_error());

                    $row = mysql_fetch_array($res);


                    $visitor = $row[0] . " " . $row[1];


                    $msg                .=              "<p>Visitor($visitorid):
<b>$visitor</b><hr/><ul><li>View      Details</li><li>View      Services</li><li>View
Bills/Payments</li></ul> </p>";

                }


                if($op=='findall'){

                    $qry = "select * from users order by userid asc";

                    $res = mysql_query($qry);


                    if(mysql_num_rows($res) > 0){
```
63

```php
$msg .= "<table width='100%'><tr
bgcolor='#cccccc'><td><b>User ID</b></td><td><b>Full
Name</b></td><td><b>Station</b></td><td><b>Status</b></td></tr>";

$rowcolor = "#ffffff";

while($row = mysql_fetch_array($res)){

    if($rowcolor=="#FFFFFF"){

        $rowcolor="#CCCCff";

    }else{

        $rowcolor="#FFFFFF";

    }


    $msg .= "<tr
bgcolor='$rowcolor'><td><a
href='users.php?op=Find&user=$row[0]'>$row[0]</a></td><td>$row[2]</td><td>$ro
w[4]</td><td>$row[6]</td></tr>";

}

$msg .= "</table>";

}else{

    $msg .= "<h5><font color='red'>User does
not exist.</font></h5>";

}

}


if($op=='Delete'){
```

64

```php
                    $qry = "delete from users where userid = '$user'";

                    mysql_query($qry) or die(mysql_error());

                    $msg .= "<h5>User: $user deleted.</h5>";

                }

            }

            //********************************


            /*$qry = "select * from messages where userid = '$userid' order by
sn desc";

            $res = mysql_query($qry);

            if(mysql_num_rows($res)>0){

                    $row = mysql_fetch_array($res);

                    $notice .= "<p>$row[2]</p>";

            }*/

            //*************************************************


        }else{

            $mnu = getMenu(0, "");

        }

    }else{

        $mnu = getMenu(0, "");

    }
```

```
?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />

<title>Codedome - Hotel: <?php echo $hotelname1;?></title>

<style type="text/css">

<!--

body,td,th {

        font-family: Verdana, Arial, Helvetica, sans-serif;

        font-size: 12px;

}

.style1 {        color: #999999;

        font-size: 10px;

}

.hname{

        color:#006699;

        font-family:Georgia, "Times New Roman", Times, serif;

}


body {

        margin-top: 0px;
```

```
      margin-bottom: 0px;

      background-color: #709CBF;

}

.style3 {font-size: 10}

-->

</style></head>


<body>

<center>

<table     bgcolor="#FFFFFF"     width="1005"     border="0"     cellpadding="0"
cellspacing="0">

 <!--DWLayoutTable-->

 <tr>

  <td            height="129"            colspan="4"            valign="top"><table
background="images/bannabg.jpg"    width="100%"    border="0"    cellpadding="0"
cellspacing="0">

   <!--DWLayoutTable-->

   <tr>

    <td width="13" height="13"></td>

    <td width="155"></td>

    <td width="15"></td>

    <td    width="662"    rowspan="2"    align="center"    valign="bottom"><h1
class="hname"><?php echo $hotelname; ?></h1></td>

    <td width="160"></td>
```

```html
  </tr>


<tr>

 <td height="39"></td>

 <td rowspan="4" valign="top"><!--DWLayoutEmptyCell--> </td>

 <td></td>

 <td></td>

 </tr>

<tr>

 <td height="33"></td>

 <td></td>

 <td align="center" valign="middle"><?php echo $addressphone; ?></td>

 <td></td>

</tr>



<tr>

 <td height="20"></td>

 <td></td>

 <td align="center" valign="top"><?php echo $phone; ?></td>

 <td></td>

</tr>

<tr>
```

```html
<td height="24"></td>

<td></td>

<td align="right" valign="middle"><?php echo $slogan; ?></td>

<td></td>

</tr>


</table>    </td>

</tr>

<tr>

<td height="30" colspan="4" valign="top"><table background="images/upbg.jpg"
width="100%" border="0" cellpadding="0" cellspacing="0">

<!--DWLayoutTable-->

<tr>

<td width="6" height="30"> </td>

<td        width="39"        align="left"       valign="middle"><strong><font
color='blue'>USER</font></strong></td>

<td        width="311"       align="left"       valign="middle"><?php        echo
$username;?> </td>

<td width="58"> </td>

<td     width="305"    align="left"    valign="middle"><?php     echo     "<font
color='blue'><b>" . $lbstation . "</b></font>"; ?></td>

<td width="57"> </td>

<td     width="223"    align="right"    valign="middle"><?php     echo     "<font
color='blue'><b>" . date('l dS F Y') . "</b></font>"; ?> </td>
```

69

```html
<td width="6"> </td>

</tr>

</table>  </td>

</tr>

<tr>

<td width="199" height="600" valign="top"><table width="100%" border="0"
cellpadding="0" cellspacing="0" bgcolor="#D1E4EA">

<!--DWLayoutTable-->

<tr>

<td width="7" height="28"> </td>

<td width="182"> </td>

<td width="10"> </td>

</tr>

<tr>

<td height="548"> </td>

<td align="left" valign="top"><?php echo $mnu;?> </td>

<td> </td>

</tr>

<tr>

<td height="24"> </td>

<td> </td>

<td> </td>

</tr
```

```
</table></td>

<td width="9"> </td>

<td width="783" valign="top"><table width="100%" border="0" cellpadding="0"
cellspacing="0">

  <!--DWLayoutTable-->

  <tr>

    <td width="10" height="15"></td>

    <td width="763"></td>

    <td width="10"></td>

  </tr>

  <tr>

    <td height="507"></td>

    <td align="left" valign="top"><?php echo $msg;?> </td>

    <td></td>

  </tr>

  <tr>

    <td height="13"></td>

    <td></td>

    <td></td>

  </tr>
```

```html
<tr>
    <td height="41" colspan="3" valign="top"><table width="100%" border="0"
cellpadding="0" cellspacing="0">

    <!--DWLayoutTable-->

    <tr>

    <td    width="783"    height="41"    align="center"    valign="bottom"><p
class="style1"><hr   size="1"   color="#CCCCFF"/>                          <span
class="style1"> <a   href="http://www.codedome.net">&copy;2009   Codedome
Computer Enterprises </a></span></td>

    </tr>

    </table>      </td>

    </tr>

  </table></td>

  <td width="14"> </td>

 </tr>

</table>

</center>

</body>

</html>
```

4.3 System Testing

The scripts are saved in the Wamp directory folder named www in the hard drive of the computer. When the server has been put on. The outputs of the scripts are viewed by launching a browser and entering http:/local host/ into the URL bar of the browser, then click enter. It outputs the interface shown in figure 9.
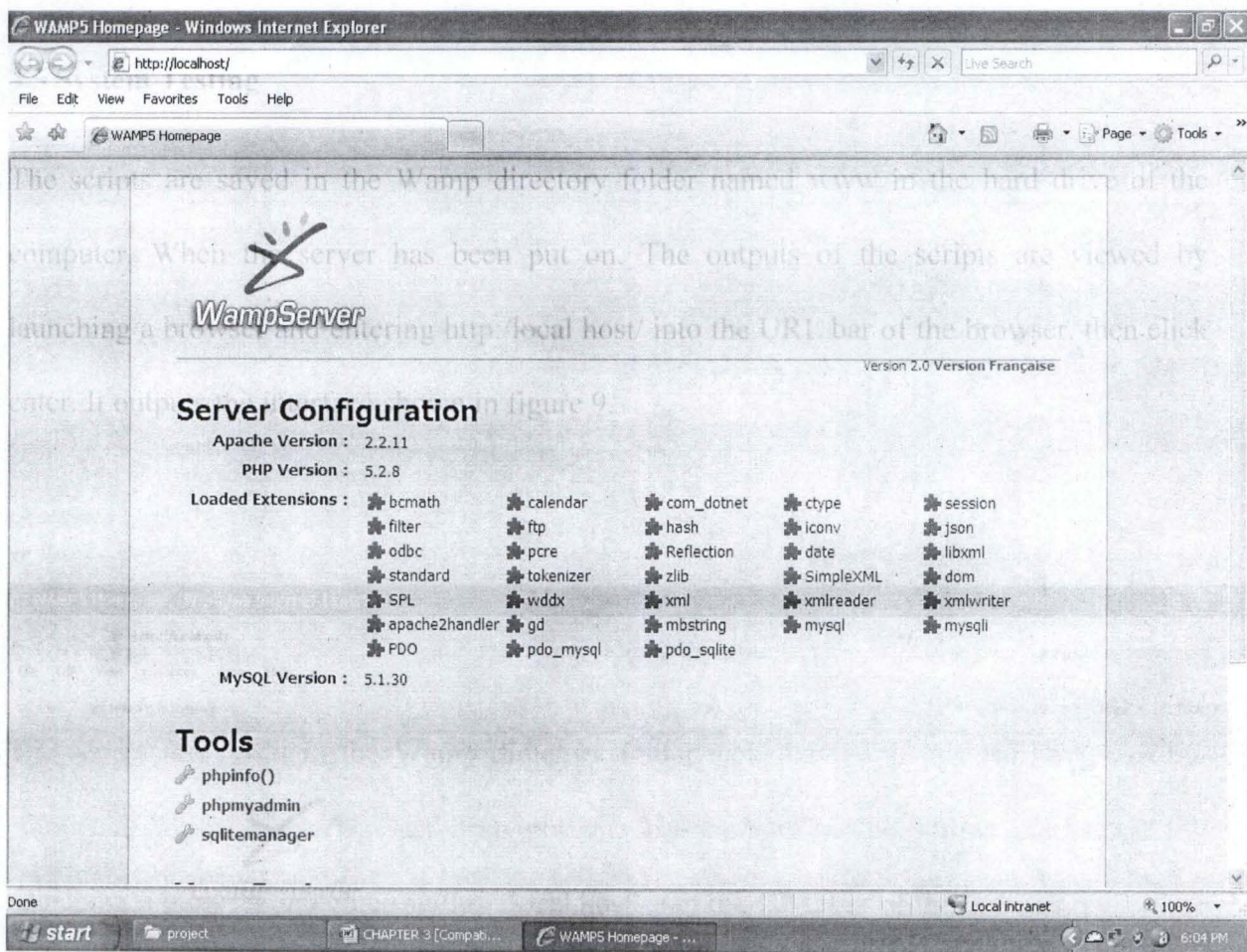

Figure : The WAMP server projects

The project folders saved in the server are listed and the folder for this particular project is clicked, and it leads to the page that list all the scripts present in the project folder.

list all th

CHAPTER FIVE

5.0 CONCLUSION, SUMARY, RECOMMENDATION

5.1 CONCLUSION

The application has been built and designed for customer of Hydro Hotel Limited Minna to book make reservasions online. Service provided include booking of accommodation(rooms) and halls. Like every other project or ideal booking online has got its advantage and disadvantages. The are disadvantages of using an online booking site and booking online:

- Though online booking sites provide pictures of rooms in Hotel but like it is said "seing is believing " The client/customer do not really have a view of the entire surrounding.

- Some online could be hosted to swindle potential Clients/Customers of their money, so, if a booking site must be used it should be trusted, popular and have a lot of experience i.e it should have handled booking for a period of time.

The following are the advantages why an online booking site should be used to make bookings and reservations:

- It is convenient and easy to use as booking could be done anywhere anytime.

- Its offer a variety of hotels from which one can choose from. This site provides clients/customers two hotels to choose hotel.

- It provides customers with securityas the room the rooms that booked will be reserved for the customer.

SUMMARY

Web application is a tool well harnessed, can be used to improve the economy as the design web applications could be an avenue where youths try their hands on being creative and dependent.

Over the years, web development tools have evolved leaving a variety tools that could be used to develop fantastic sites. Such tools include LAMP (Lionux, Apache MySQL and PHP), Coldfusion (cf), ASP anf NET (Microsoft proprietary). Available also are web development software also termed What You See Is What You Get (WYSIWYG) they include Webdev, Adobe Dreanweaver CS3, Netbeans or Microsoft expression Studio. These packages have contributed to the increase of web development.

In recent years, PHP and MySQL have come together to form a unique and awesome atform used in the development of web applications. This is made possible as :

- They are free.
- They are web-oriented: - They were both designed specifically for use on the web and they both have features that are focused on building dynamic web sites.
- They are easy to use.
- They are fast as they were designed with speed as a major goal.
- They communicate well with each other:- this is possible as PHP built-in features for communicating with MySQL.
- They both have a wide base of support as they used often together.
- They are customizable as they are both open source, thus allowing programmers modify

RECOMMENDATIONS

Building and designing a web application is one challenging brain tasking and interesting aspect of the computing that if well tapped would provide job opportunities to the rising population of unemployed who roam the streets of Nigeria daily.

In light of this, I would recommend that programming languages such as PHP, Coldfusion and SQL be included in the curriculum especially for the incoming final year students as this could help in sharpening their minds and making them independent and a course on graphics be included as graphics (drawings, the use of pictures and a sense of color combinations) is necessary in the design of a web site.

Finally, I would recommend that students be encouraged to practice these languages, as it is said, "practice makes perfect". It is also recommended that further research be done on this project, this is with respect to adding more Hotels to the number of participating hotels.

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