DEVELOPMENT OF A WEB BASED RECRUITMENT PROCESS SYSTEM FOR INFO-COM LIMITED (KAMPALA)

BY

ERICK OTIENO OWIYO

BCS/16388/71/DF

AND

MBUCHU SELEMAN

BCS/16497/71/DF

A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF COMPUTER STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF
BACHELOR OF COMPUTER SCIENCE
OF
KAMPALA INTERNATIONAL UNIVERSITY

JUNE, 2010

DECLARATION

We, Erick Otieno Owiyo and Mbuchu Seleman declare to the best of our knowledge that this project is ours, original and has never been presented to any institution for any academic award. The literature and other citations from other people's works and textbooks have been only referenced and acknowledged in the footnotes and bibliography.

Erick Otieno Owiyo

Signature: ....

Date............. 1st JULY, 2010 ....

Mbuchu Seleman

Signature:...

Date:........... 01/07/2010 ....

SUPERVISOR APPROVAL

This project report has been forwarded and submitted to the school of Computer Studies for examination under my supervision and approval.

Ms. Onkangi

Signature:..

Date:.........01/07/2010......................................

DEDICATION

We dedicate this work to our Parents for all the love, understanding, encouragement, material and moral support without whom our education would not have been success. To our dear brothers, sisters and friends together with our inspiring supervisors Ms Onkangi, thanks for the encouragement and support during the time our study.

ACKNOWLEDGEMENT

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

ANSI/ISO	American National Standard Institute/International Organization for Standardization.
AOLSever	American Online Sever
ASP	Active Server Pages
CFMX	ColdFusion Markup Language
CSS	Cascading Style Sheet
DB	Database
DBMS	Database Management System
DNS	Domain Name Sever
FTP	File Transfer Protocol
GB	Giga Bytes
HTML	Hypertext Markup Language
HTTP	Hypertext Transfer Protocol
I/O	Input/ Output
iASP	International Active Server Pages
IBM	International Business Machine
IE	Internet Explorer
iNET	International Networking

IP	Internet Protocol
IS	Information System
ISS	Internet Information Server
JSP	Java Server Pages
LAN/WAN	Local Area Network/ Wide Area Network
MB	Mega Bytes
MHZ	Mega Hertz
MS SQL	Microsoft Structured Query Language
NET	Network
ODBC	Open Database Connectivity
PHP	Hypertext Preprocessor
RAM	Random Access Memory
SDLC	System Development Life Cycle
SPSS	Statistical Package for Social Sciences
URL	Uniform Resource Locator
VB	Visual Basic
VPN	Virtual Private network
Windows XP	Windows Expert
WWW	World Wide Web
XAMPP	Cross-platform, Apache HTTP Server, MySQL, PHP, Perl
XML	Extensible Markup Language

ABSTRACT

The objective of this project was to develop a computerized system. According to this scheme a Recruitment system has been developed for Info-Com Limited. In the old process, the information of recruitment system was just stored in file base system. The new system is able to store all the information of recruitment in a database. And also deliver useful reports. In designing the database driven website, the researcher has used Macromedia Dreamweaver 8, PHP language and MySQL server. In the design of the user interfaces, Macromedia Dreamweaver 8 has been used for its support in incorporation of graphics in the process of PHP programming. Various literatures were reviewed in this report. This was done in order to get an overview of what has been done before concerning the problem. An overview of web based systems is given as well as various concepts concerning its implementation.

Developing the system requires a number of information to be gathered, different techniques were adopted in order to collect the required information. Such as, fact finding technique which was conducted interview, observation and analyzing of the existing system. Details of the new system like system specification and Context Model Diagram for the new system are discussed.

Finally the researcher's findings of the study recommended adoption and usage of a web based system developed for the recruitment system, so as to improve on knowledge of manual record keeping of the applicants', to improve application accessibility and help human resource department schedule for interviews automatically as well as managing the applicants files automatic

TABLE OF CONTENTS

CHAPTER ONE
INTRODUCTION

1.0   General Introduction

The recruitment and selection is the major function of the human resource department and recruitment process is the first step forward towards creating the competitive strength and the strategic advantage for the organizations. Recruitment process involves a systematic procedure from sourcing the candidates to arranging and conducting the interviews and requires many resources and time.

A recruitment process begins with the human resource department receiving requisitions for recruitment from every department of the company. These contains post(s) to be filled, number of person, duties to be performed, qualifications required, preparing the job description and person specification, locating and developing the sources of required number and types of employees, short listing and identifying the perspective employee with required characteristics, arranging the interview with selected candidates, and conducting the interview. This researcher therefore designed a recruitment system for Human Resource department of Info-Com Company.

1.1   Background of the Study

Info-Com's roots is traced back to Uganda's Internet pioneers Info-mail which started in 1995 and Star-Com who later merged their Internet activities and formed Info-Com in around 2001. The company market share is comprised of products portfolio like internet, e-mail, IT and data related activities from a single user residential dial up account to corporate leased lines and wireless broadband internet connectivity, and it includes client VPN (Virtual Private Network) implementation to office networking or campus LAN/WAN design and installation including various network maintenance schemes. Info-Com Limited comprises of various departments (System department, Technical Support department, Training (recruitment) department, Customer care, Sales and Marketing department and Accounts department). Many users and companies today depend on computer systems for achieving efficient and reliable goals in the growing industries. The call for automated recruitment process in Info-Com Limited is to enhance efficiently and effectively the internal and external sources of recruitment. These comprised computers, sever, database, personnel, dynamic website and other peripherals

1

networked together to perform the required task. A dynamic website is one that changes or customizes itself frequently and automatically, based on certain criteria.

A website with dynamic content refers to how the development messages, text uploads, document uploads, ima ges and other information are displayed on the web page and more specifically how its content changes at any given moment. A dynamic website operates more effectively, built more efficiently and is easier to maintain, update and expand.

1.2 Problem Statement

Info-Com Limited currently use manual method while recruiting new applicants, promoting existing employees and retiring employees, this can be evidenced by the piled curriculum vitae, promotion and retiring letters in the human resource division. It has been also hard for the company to keep the employees and applicant's records and little critical analysis can be carried out basically because of the nature of the record storage and their bulkiness. No progressive interview and report can be easily made; and the stored records can easily be stolen, lost, misplaced or intentionally vandalized because of the absence proper security mechanism to provide confidentiality and integrity. Corruption was also evidenced, where the recruiting team made the job description to suit the requirements of their favored candidates they wanted to recruit. Lack of a systematic plan was also evidenced; and this lead to chaotic recruitment and a bumper harvest of unqualified applicants. Hence the need for automation recruitment system for Info-Com limited.

1.3 Objectives of the Study

1.3.1 General Objective

The project was aimed at developing a Web-based (automation) Recruitment System for the Info-Com limited that creates vacancies, store applicants data, interview process initiation, schedule interviews, store interview results for the applicant and finally hire the applicant.

1.3.2 Specific Objectives

i. To investigate on the problems that arises from the current system.

ii. To find the approaches on development of web based system for central recruitment process system

iii. To design a web based database driven website for Info-Com limited system basing on the requirements collected from the research.

iv. To test the proposed system for Info-Com limited.

v. To implement the designed website for Info-Com limited.

1.4 Research Questions

i. What are the problems that arise from the current system?

ii. How do the requirements collected from research enable the web based database website design?

iii. What are the approaches that were used in the design of the website?

iv. How do the proposed systems tested?

v. How do the designed website for Info-Com limited implemented?

1.5 Scope of the Study

This project covered Info-Com Limited Uganda head office, geographically located on plot 40 Wampewo Avenue in Kampala City. The respondents involved the Training Manager, Interviewee who interfaces with the applicants and some of the employees because they were at the base of the company and extremely affected by current system. The system developed is limited to central recruitment process system for Info-Com limited. Any services to the applicant requested for and not updated in the human resource department database are not included in the project.

1.6 Purpose of the Study

The purpose of this project was to develop a web based recruitment process system that creates vacancies, store applicants and employee's data, initiate Interview process, schedule interview, stores interview results for applicants, and finally hiring of the applicant.

1.7 Significance of the Study

The implemented development of a web-based (automation) recruitment system enabled easy recruitment process of the employees for the Info-Com Limited and as well as storing the employees details in the Human Resource department database .This was done by creating database management system that ensured effective storage of records and avoid file bulkiness.

The system helped to overcome the problem of unauthorized data access by ensuring security and data integrity with the employees' data. This was achieved by creating authenticated usernames and passwords giving access to only those authorized parties to avoid unauthorized data alteration in the system.

The System improved the interview planning and avoids time wasting. This was done because the development of a web based recruitment process system created vacancies, stored applicants and employees data, initiated Interview process, scheduled interview and stored interview results for applicants.

The project helped the researcher to gain practical skills giving the researcher a clear overview of how to design and implement what is studied theoretically in class. The success of this, also contributed to the fulfillment of the requirement of a Bachelors Degree in Computer Science through the application of all the general knowledge taught theoretically in class to real life situation

1.8   Conceptual Framework
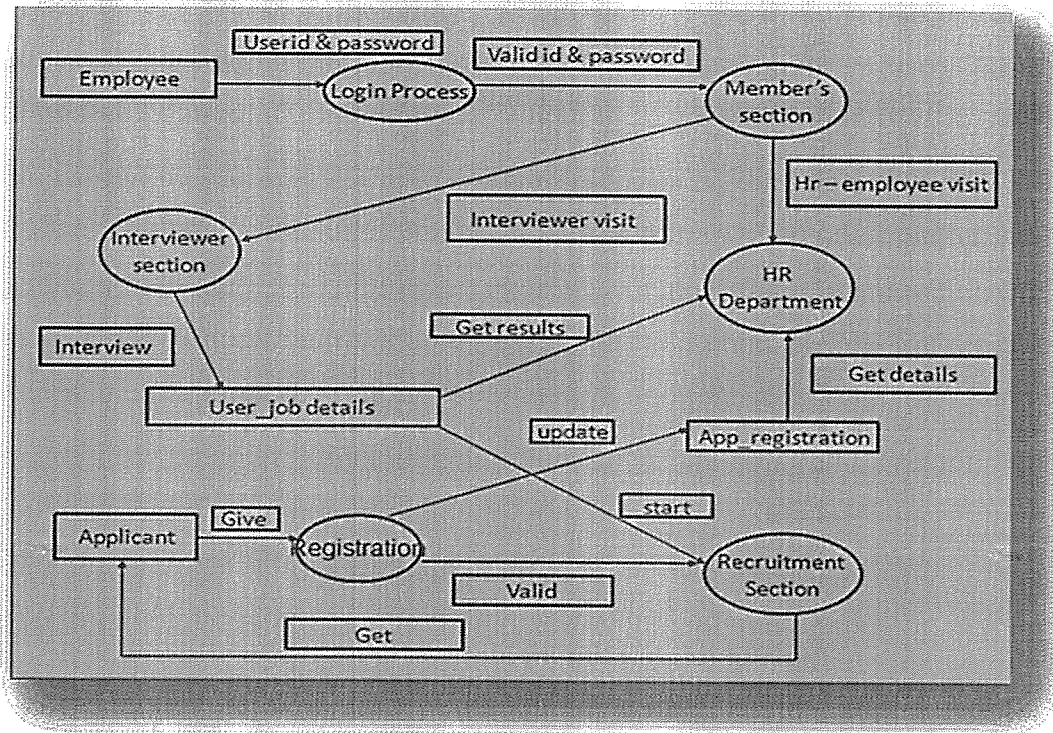
Figure 1:   Conceptual Frame work for the new system

The applicants need a valid username and password to login. The login process verifies both username and password and if valid, the applicant access member section (Info-Com General instructions). The applicants then fill in the required fields which then, are saved into the database. If application is completed successfully, the job details are sent to the provided email address by the applicant and interview process is scheduled. The administrators also need a valid login username and password to access the company's information and manage the applicant's details. The administrator can later generate a report from the system.

CHAPTER TWO
LITERATURE REVIEW

2.0   Introduction

This chapter gave the researcher different ideas which were generated by different scholars, writers and authors related to the web based driven recruitment process system. These ideas gave the researcher a foundation basing on analysis of the new system design. The researcher reviewed on existing work done by different researchers based on recruitment process system, usage, merits and demerits of web based systems and how various requirement stage undergone to develop the design. The sources of information included textbooks, magazines, journals and internet.

2.1   Web Based Systems

A web based application is a software package that can be accessed over the internet through web browser. The software and database reside on a central server rather than being installed on the desktop system and is accessed over a network A Website is a collection of Web pages, images, videos or other digital assets that is hosted on one or several Web server(s), usually accessible via the Internet, cell phone or a LAN. There are basically two types of websites pages that is static/non-dynamic websites pages which is a website that has web pages stored on the server in the same form as the user will view them and dynamic websites which is a website is that has frequently changing information or collates information on the hop each time a page is requested or information is fed or needed from a database Lowery (2006).

A website (alternatively, website or Website) is a collection of Web pages, images, videos or other digital assets that is hosted on one or several Web server(s), usually accessible via the Internet, cell phone or a LAN Cailliau (2007). A Web page is a document which is always accessible via HTTP, a protocol that transfers information from the Web server to display in the user's Web browser. Websites are written in, or dynamically converted to, HTML (Hyper Text Markup Language) and are accessed using a software interface classified as a user agent. Web pages can be viewed or otherwise accessed from a range of computer-based and Internet-enabled devices of various sizes, including desktop computers, laptop computers and cell phones.

After each Web page is created, they are typically linked together using a navigation menu composed of hyperlinks Lowery (2006).

6

Once a web based system is completed, it must be published or uploaded in order to be viewable to the public over the internet. This is done using an FTP client. All publicly accessible websites are seen collectively as constituting the "World Wide Web (WWW)".

The pages of web based systems can usually be accessed from a common root URL called the homepage, and usually reside on the same physical server. The URLs of the pages organize them into a hierarchy, although the hyperlinks between them control how the reader perceives the overall structure and how the traffic flows between the different parts of the sites. Some websites require a subscription to access some or all of their content. A website should focus on a specific subject and provide a variety of information that relates to the subject Lowery (2006). Websites are constrained by architectural limits e.g., the computing power dedicated to the website. There are basically two types of websites that is static/non-dynamic websites which is a website that has web pages stored on the server in the same form as the user will view them and dynamic websites which is a website is that has frequently changing information or collates information on the hop each time a page is requested Ramyalg (2005).

2.1.1 WebPages

A web page or webpage is a document or resource of information that is suitable for the World Wide Web and can be accessed through a web browser and displayed on a computer screen. This information is usually in HTML format, and may provide navigation to other WebPages via hypertext links. Webpage may be retrieved from a local computer or from a remote web server. The web server may restrict access only to a private network, e.g. a corporate intranet, or it may publish pages on the World Wide Web. WebPages are requested and served from web servers using Hypertext Transfer Protocol (HTTP). WebPages may consist of files of static text stored within the web server's file system (static WebPages), or the web server may construct the HTML for each webpage when it is requested by a browser (dynamic webpages). Client-side scripting can make webpages more responsive to user input once in the client browser. Webpages usually include information as to the colors of text and backgrounds and very often also contain links to images and sometimes other media to be included in the final view. Layout, typographic and color-scheme information is provided by Cascading Style Sheet (CSS) instructions, which can either be embedded in the HTML or can be provided by a separate file, which is referenced from within the HTML. The latter case is especially relevant where one

7

lengthy style sheet is relevant to a whole website: due to the way HTTP works, the browser will only download it once from the web server and use the cached copy for the whole site. Images are stored on the web server as separate files, but again HTTP allows for the fact that once a webpage is downloaded to a browser, it is quite likely that related files such as images and style sheets will be requested as it is processed. An HTTP web server will maintain a connection with the browser until all related resources have been requested and provided. Web browsers usually render images along with the text and other material on the displayed webpage

2.1.2 Website

Website (also spelled Web site) is a collection of related web pages, images, videos or other digital assets that are addressed relative to a common Uniform Resource Locator (URL), often consisting of only the domain name, or the IP address, and the root path in an Internet Protocol-based network. A web site is hosted on at least one web server, accessible via a network such as the Internet or a private local area network. A web page is a document, typically written in plain text interspersed with formatting instructions of Hypertext Markup Language (HTML). A web page may incorporate elements from other websites with suitable markup anchors.

Web pages are accessed and transported with the Hypertext Transfer Protocol (HTTP), which may optionally employ encryption (HTTP Secure) to provide security and privacy for the user of the web page content. The user's application, often a web browser, renders the page content according to its HTML markup instructions onto a display terminal. All publicly accessible websites collectively constitute the Web. The pages of a website can usually be accessed from a simple Uniform Resource Locator (URL) called the homepage. The URLs of the pages organize them into a hierarchy, although hyper linking between them conveys the reader's perceived site structure and guides the reader's navigation of the site.

Some websites require a subscription to access some or all of their content. Some of these websites send email updates to users. Examples of subscription sites include many business sites, parts of many news sites, academic journal sites, gaming sites, message boards, web-based e-mail, services, social networking websites, and sites providing real-time stock market data. A website is hosted on a computer system known as a web server, also called an HTTP server, and these terms can also refer to the software that runs on these systems and that retrieves and delivers the web pages in response to requests from the website users. Apache is

the most commonly used web server software (according to Net craft statistics) and Microsoft's I nternet Information Server (IIS) is also commonly used.

2.1.3 World Wide Web (WWW)

The World Wide Web, abbreviated as WWW and commonly known as The Web, is a system of interlinked hypertext documents contained on the Internet. With a web browser, one can view WebPages that may contain text, images, videos, and other multimedia and navigate between them by using hyperlinks. Using concepts from earlier hypertext systems, British engineer and computer scientist Sir Tim Berners Lee, (March 1989) he is now the Director of the World Wide Web Consortium, He was later joined by Belgian computer scientist Robert Cailliau while both were working at CERN in Geneva, Switzerland. In 1990, they proposed using Hypertext to link and access information of various kinds as a web of nodes in which the user can browse at will.

The World-Wide Web was developed to be a pool of human knowledge, which would allow collaborators in remote sites to share their ideas and all aspects of a common project. If two projects are independently created, rather than have a central figure make the changes, the two bodies of information could form into one cohesive piece of work.

The terms Internet and World Wide Web are often used in every-day speech without much distinction. However, the Internet and the World Wide Web are not one and the same. The Internet is a global system of interconnected computer networks. In contrast, the Web is one of the services that run on the Internet. It is a collection of interconnected documents and other resources, linked by hyperlinks and URLs. In short, the Web is an application running on the Internet. Viewing a webpage on the World Wide Web normally begins either by typing the URL of the page into a web browser, or by following a hyperlink to that page or resource. The web browser then initiates a series of communication messages, behind the scenes, in order to fetch and display it.

First, the server-name portion of the URL is resolved into an IP address using the global, distributed Internet database known as the domain name system, or DNS. This IP address is necessary to contact the Web server. The browser then requests the resource by sending an HTTP request to the Web server at that particular address. In the case of a typical web page, the HTML text of the page is requested first and parsed immediately by the web browser, which

then makes additional requests for images and any other files that form parts of the page. Statistics measuring a website's popularity is usually based either on the number of page views or associated server 'hits' (file requests) that take place.

While receiving these files from the web server, browsers may progressively render the page onto the screen as specified by its HTML, CSS, and other web languages. Any images and other resources are incorporated to produce the on-screen web page that the user sees. Most web pages will themselves contain hyperlinks to other related pages and perhaps to downloads, source documents, definitions and other web resources. Such a collection of useful, related resources, interconnected via hypertext links, is what was dubbed web of information. Making it available on the Internet created was first called the World Wide Web (in its original Camel Case ,which was subsequently discarded) Tim Berners Lee, (1990).

2.1.4 HTML

HTML stands for Hypertext Markup Language, is the predominant markup language for web pages. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists etc as well as for links, quotes, and other items. It allows images and objects to be embedded and can be used to create interactive forms. It is written in the form of HTML elements consisting of tags surrounded by angle brackets within the web page content. It can include or can load scripts in languages such as JavaScript which affect the behavior of HTML processors like Web browsers; and Cascading Style Sheets (CSS) to define the appearance and layout of text and other material. The maintainer of both HTML and CSS standards encourages the use of CSS over explicit presentational markup.

The first publicly available description of HTML was a document called HTML Tags, It was the first mentioned on the Internet. It describes 20 elements comprising the initial, relatively simple design of HTML, except for the hyperlink tag. HTML is a text and image formatting language used by web browsers to dynamically format web pages. The formatting commands were derived from the commands used by typesetters to manually format documents. However the concept of generalized markup is based on elements (nested annotated ranges with attributes) rather than

merely point effects, and also the separation of structure and processing. HTML has been progressively moved in this direction with CSS Berners Lee (1991).

2.2 Programming Tools for Web-based System

2.2.1 ColdFusion

ColdFusion is a program based on the ColdFusion Markup Language (CFMX) programming language that builds and deploys powerful web applications and services. With proven tag-based methodology, the benefits of ColdFusion's features is that it allows web developers to easily harness the power of the Java Platform to deliver powerful Internet applications to millions of people worldwide Swanson (2004).

ColdFusion is a server side language, which is executed by a ColdFusion application server. It works by executing CFMX templates (which is a mixture of HTML and ColdFusion instructions) to return normal HTML to the requesting browser. The ColdFusion MX Enterprise software suite provides all the necessary software to create large-scale websites, applications, and hosting environments, and is available for either a stand-alone installation for web developers or for industry-level deployment on application servers Downes (2003). ColdFusion MX supports most major databases including Microsoft SQL, Microsoft SQL Server, Oracle, IBM DB, Sybase and IBM Informix. In addition, CFMX can run on most major web servers including IIS, Apache and Sun One. With ColdFusion, you can build and deploy powerful web applications and services with far less training time and fewer lines of code than ASP, PHP, and Java Server Pages (JSP). Macromedia ColdFusion MX supports most operating systems including Windows, UNIX, Linux, and IBM Swanson (2004). The drawbacks of ColdFusion are that it requires experts to use it.

2.2.2 Java Server Pages (JSP)

Java Server Pages (JSP) is a Java technology that allows software developers to dynamically generate HTML, XML or other types of documents in response to a Web client request. The technology allows Java code and certain pre-defined actions to be embedded into static content Hans (2003).

The JSP syntax adds additional XML-like tags, called JSP actions, to be used to invoke built-in functionality. Additionally, the technology allows for the creation of JSP tag libraries that act as extensions to the standard HTML or XML tags.

Tag libraries provide a platform independent way of extending the capabilities of a Web server. JSPs are compiled into Java Servlets by a JSP compiler. A JSP compiler may generate a servlet in Java code that is then compiled by the Java compiler, or it may generate byte code for the servlet directly. JSPs can also be interpreted on-the-fly reducing the time taken to reload changes Hans (2003).

JSP is a fairly flexible server technology too, as it allows you to extend and enhance its functionality in a similar way to CFML, providing support for third-party extensions, or "tag libraries". Its syntax and usage is also not dissimilar to PHP and JavaScript, as they all have a common inspiration root.

However, whilst both PHP and JSP share a common background of sorts, JSP is much more difficult to learn and less user-friendly than PHP Downes (2003), hence the need for other types like Lasso as explained below.

2.2.3 Perl

Perl is either an abbreviation of ``Practical Extraction and Report Language" or "Pathologically Eclectic Rubbish Lister". In 1987, Larry Wall started to develop Perl Borchert (2002). "Perl provides those features that are required for large projects that are; Object-oriented techniques, arbitrary data structures, a large number of built-in checks by the compiler and at runtime, Modularization and A large number of built-in checks by the compiler and at runtime.

2.2.3.1 Advantages of Perl

   i. Perl and a huge collection of Perl modules are free software (either General Public License or Artistic License).

  ii. Perl runs on all platforms and is far more portable than other environments. Perl applications scripts can be ported between UNIX and Microsoft Windows without any modifications at all.

2.2.3.2 Disadvantages of Perl

i.   It is possible to write completely unreadable and impossible to maintain code.

ii. The language is pretty much overloaded as the designers of Perl never hesitated to add new features. The long historic development of Perl contributes to this.

iii. The syntax of Perl is non-trivial.

2.2.4 Python

Python is powerful object oriented interpreted scripting languages. Python lets you write programs that access, display and update the information in the database with minimal effort Wesley (1995). The various individuals who wrote the Python database modules invented their own interfaces, and the resulting proliferation of different Python modules caused problems: no two of them were exactly alike, so if you decided to switch to a new database product, you had to rewrite all the code that retrieved and inserted data. To solve the problem, a Special Interest Group for databases was formed. After some discussion, the Database special interest group produced a specification for a consistent interface to relational databases. Thanks to this specification, there's only one interface to learn.

Porting code to use a different database product is much simpler, often requiring the change of only a few lines Wesley (1995). Some of the disadvantages of using Python are: More work to install on our server, no smarty, can not reuse old code.

2.2.5 Ruby

Ruby is a Dynamically Typed, Object Oriented Scripting Language, which is very popular in Japan. Until recently, it was only moderately popular in the West, but this seems to be changing that Matz (2003). Ruby is a language of careful balance. Its creator, Yukihiro Matsumoto, blended parts of his favorite languages (Perl, Smalltalk, Eiffel, and Lisp) to form a new language that balanced functional programming with imperative programming. Ruby is seen as a flexible language, since it allows its users to freely alter its parts. Essential parts of Ruby can be removed or redefined, at will. Existing parts can be added upon. Ruby tries not to restrict the coder. In Ruby, everything is an object. Every bit of information and code can be given their own properties and actions. While Ruby often uses very limited punctuation and usually prefers English keywords, some punctuation is used to decorate Ruby. Ruby needs no variable declarations. It uses simple naming conventions to denote the scope of variables Matz (2003).

2.2.6 Hypertext Preprocessor (PHP)

Hypertext Preprocessor (PHP) is one of the most popular server side scripting languages running today. It is used for creating dynamic web pages that interact with the user offering customized information Downes (2003). PHP code is inserted directly into the HTML that makes up a website. When a visitor comes to the website, the code is executed. Because PHP is a server side technology, the user does not need any special browser or plug-ins to see the PHP in action Swanson (2004).

PHP uses a modular system of extensions to interface with a variety of libraries such as graphics, Extensible Markup Language, encryption, among others. In addition, programmers can extend PHP by writing their own extensions and compiling them into the executable or they can create their own executable and load it using PHP dynamic loading mechanism Swanson (2004). PHP has tons of server interfaces, database interfaces and other modules available. Of the server interfaces, PHP can load into Apache, Internet Information Server (IIS), Roxen, and AOLserver. Database interfaces are available for MySQL, MS SQL, Informix, Oracle and plenty of others. If a database is not supported, Open Database Connectivity (ODBC) is an option Swanson (2004). I chose to use PHP because of the following advantages provided by it; it is fast, stable, secure, easy to use, open source (free) and smarty

2.2.7 ASP

Active Server Pages (ASP) is a proprietary technology, based around Microsoft's Internet Information Server. It allows you to combine HTML, Visual Basic Script (VBScript), and JavaScript with reusable ActiveX Components to create dynamic web pages. ASP requires that you purchase a version of Windows that comes with IIS. Windows NT Server, Windows 2000, and Windows XP Professional all come with a version of IIS, but it can prove to be an expensive option when installing a production server of your own. There are alternatives, however, so that ASP pages can be used on other web servers, such as Apache. Amongst these are ChilliSoft and ASP both of which are fairly popular Downes (2003). Though still commercial in nature they do provide a cheaper alternative and do not commit you to the use of a Windows-based web server. ASP has proven to be a popular choice amongst developers, as there are many relatively cheap hosting companies that provide ASP hosting via a shared server, where multiple users and websites exist on the same machine. In such an instance, you are not required to buy any form of Windows, and ASP really does become a viable option Downes (2003).

14

2.2.8 ASP.NET

ASP.NET is a web application framework marketed by Microsoft that programmers can use to build dynamic websites, web applications and web services. It is part of Microsoft's .NET platform and is the successor to Microsoft's Active Server Pages (ASP) technology. ASP.NET is built on the Common Language Runtime, allowing programmers to write ASP.NET code using any Microsoft .NET language. ASP.NET is similar in nature to ASP, in that you must have an appropriate Windows-based operating system and web server to process ASP.NET pages. However, Halcyon Software, the developers of iASP, are currently working on a version of the .NET framework called iNET, for use on alternative web servers. This will ultimately lead to another commercial program, but does open up more possibilities for development. As the popularity of ASP.NET grows, it will undoubtedly become just as viable an option as ASP. As more hosting companies provide ASP.NET support via a shared server, the price of ASP.NET hosting will reduce dramatically Downes (2003). The ASP.NET directory structure can be determined by the developer's preferences.

Apart from a few reserved directory names, the site can span any number of directories. The structure is typically reflected directly in the URLs. Although ASP.NET provides means for intercepting the request at any point during processing, the developer is not forced to funnel requests through a central application or front controller. ASP.NET aims for performance benefits over other script-based technologies (including Classic ASP) by compiling the server-side code to one or more files on the web server.

This compilation happens automatically the first time a page is requested (which means the developer need not perform a separate compilation step for pages).

This feature provides the ease of development offered by scripting languages with the performance benefits of a compiled binary. However, the compilation might cause a noticeable delay to the web user when the newly-edited page is first requested from the web server Walther (2007). The ASP (an html file format used to create Web form pages) and other resource files are placed in a virtual host on an Internet Information Services The first time a client requests a page, the .NET framework parses and compiles the file(s) into a .NET assembly and sends the response; subsequent requests are served from the files. By default ASP.NET will compile the entire site in batches of 1000 files upon first request. If the compilation delay is causing

problems, the batch size or the compilation strategy may be tweaked. Developers can also choose to pre-compile their code before deployment, eliminating the need for just-in-time compilation in a production environment Walther (2007).

ASP.NET uses a visited composites rendering technique. During compilation the template (.asp) file is compiled into initialization code which will build a control tree (the composite) representing the original (static) template. Literal text goes into instances of the Literal control class, server controls are represented by instances of a specific control class. The initialization code is combined with user-written code (usually by the assembly of multiple partial classes) and results in a class specific for the page. The page doubles as the root of the control tree Walther (2007). Actual requests for the page are processed through a number of steps. First, during the initialization steps, an instance of the page class is created and the initialization code is executed. This produces the initial control tree which is now typically manipulated by the methods of the page in the following steps. As each node in the tree is a control represented as an instance of a class, the code may change the tree structure as well as manipulate the properties/methods of the individual nodes. Finally, during the rendering step a visitor is used to visit every node in the tree, asking each node to render itself using the methods of the visitor. The resulting HTML code is sent to the client.

Their suggestions can be generalized as awareness whereby senior management should be aware of the urgency of the problem and the associated financial and technical impacts like the absolute deadline.

Turban et al. (2000, p.20) information technology (IT) in its narrow definition refers to the technological side of an information system (IS). It can be viewed as a sub system of information systems

2.3   Planning and Development of Web Based Systems

2.3.1   Development Cycle
The research project follows the fundamental phases of the system development life cycle (SDLC) namely investigation and planning, analysis, design and implementation Dalton (1997).

In the investigation and planning phase, the researcher will identify the value of order processing system, conduct a feasibility analysis, and plan the project. The analysis phase will involve the

development of an analysis strategy; gather information, and building a set of analysis models. In the design phase, the researcher will develop the physical, interface, program designs, and database (DB) and file specifications. Finally, in the implementation phase, a prototype of the system will be constructed and tested to ensure it performs as designed.

One of the most common types of dynamic web pages is the database driven type. This means that you have a web page that grabs information from a database (the web page is connected to the database by programming,) and inserts that information into the web page each time it is loaded. If the information stored in the database changes, the web page connected to the database will also change accordingly and automatically that is without human intervention Stefan,(2000). Using a database in conjunction with your web pages allows you to deliver text, images and other web content based on specific requests for information from people viewing your site. So rather than static pages which always deliver the same information, you can offer dynamically generated pages which could better serve your site's visitors Gianni, (2002). In the database driven website all information is stored in table format of databases on the server. Usually database driven websites have admin panel with user-friendly interface where you can manage the site content, i.e. add, edit, or delete information by yourself, create new pages or delete old ones. You can update your site easily each time you need it Ramyalg (2005).According to Gianni (2002) three languages that are commonly used for interacting with databases on the Web are ColdFusion (a proprietary solution developed by Macromedia), Active Server Pages (also called ASP - a proprietary language developed by Microsoft) and PHP (Hypertext Preprocessor) an open source solution not "owned" by any company). In project I have chosen to use PHP. PHP has a lot of advantages such as, it is fast, stable, secure (PHP offers many levels of security to prevent malicious attacks), easy to use, open source and it has connective abilities that it uses a modular system of extensions to interface with a variety of libraries such as graphics, XML, encryption. In addition, programmers can extend PHP by writing their own extensions and compiling them into the executable or they can create their own executable and load it using PHP dynamic loading mechanism plus it integrates well across many platforms and with various software programs.

HOME	INSTRUCTIONS	ABOUT US	HUMAN RESOURCE DEPT	CONTACT US

Figure 2: Layout Design for the Web Pages

In the development of the system database, the researcher used PHP and MySQL which is a database manipulation language for it supports relational databases, data storage in multiple tables, its efficient and available. In addition, MySQL can run on different platforms like Windows, UNIX among others. It is also embedded with SQL which enables querying of databases hence real time report generation.

2.3.2 XAMPP

XAMPP is a free, cross-platform web server, consisting mainly of the Apache HTTP Server, MySQL database, and interpreters for scripts written in the PHP and Perl programming languages. It also comes with a number of other modules, including php MyAdmin. XAMPP is released under the General Public License and it is mainly used for web development projects (to develop dynamic websites). XAMPP can be installed on computers with the following operating systems; Microsoft Windows, Linux and Sun Solaris. XAMPP only requires one zip, tar or exe file (zip, tar and exe are types of file formats) to be downloaded and run, and very little configuration of the various components that make up the web server is required. Installing XAMPP takes less time than installing every installation contained in the package as a separate install. XAMPP provides support for creating and manipulating databases in MySQL. XAMPP is a development tool that allows website designers and programmers to test their work on their own computers without any access to the Internet. It is sometimes used to actually serve web pages on the World Wide Web. A special tool is provided to password-protect the most important parts of the XAMPP package. For the project, the researcher used XAMPP to create the database for the Info-Com limited site and to test the site without uploading it on the Internet.

2.3.3 Macromedia Dreamweaver 8

Macromedia Dreamweaver 8 is software that enables rapid and easy development of web applications. Dreamweaver gives you the tools to fashion a wide variety of Web applications without ever looking at, much less enhancing the code.

Dreamweaver supports different technologies that enable the creation of a database-enabled web site. These are; Active Server Pages (ASP), Java Server Pages (JSP), Cold Fusion and Hypertext Preprocessor (PHP). The researcher will use Macromedia Dreamweaver Version 8 together with PHP to develop the website which is database enabled. Macromedia Dreamweaver 8 is a full-

featured web page design software application that enables you to create, edit, and publish web pages.

With Dreamweaver 8, managing multiple websites is a breeze, and improved interface features like collapsible code, page zoom, and a ruler make the program super versatile. A new feature in Dreamweaver 8 lets you zoom in on a page, up to 6,000+ percent. This is helpful when you need a much closer look at something, or want to make sure your design elements are matched up perfectly. The Dreamweaver 8 design also features rulers which will help you manage elements and place them in the perfect position, without error. The webpage rendering engine is also improved, and will show you a more realistic version of how the page will actually be displayed in web browsers. This helps with design differences between Internet Explorer (IE) and Mozilla Firefox, as each browser displays some elements a little differently.

Dreamweaver System Requirements are as follows; in order to run Dreamweaver 8 on the Windows platform, you need the following minimum system: 800 MHz Intel Pentium processor or equivalent, Windows 2000 or Windows XP, 256 MB RAM (1 GB recommended to run Studio products), 1024 x 768, 16-bit display (Macromedia recommends 32-bit), 650 MB available disk space (More if you plan on storing your Web pages on the hard drive). Macintosh Dreamweaver System Requirements are as follows; in order to run Dreamweaver 8 on a Macintosh, you need the following minimum system 600 MHz Power PC G3 processor or later, Mac OS X 10.3 and later, 256 MB computer RAM (1 GB recommended to run Studio products), 1024 x 768, thousands of colors display (Macromedia recommends millions of colors), 300 MB available disk space (More if you plan on storing your Web pages on the hard drive). Downes (2003) states that there are two major technologies that are used in database driven websites which are:

2.4 Technologies in Data base driven Website

2.4.1 Client-side Scripting
Here the pages rely on the ability of the website visitor's own computer to manifest their effects. The web pages are sent via the web server to the visitor's web browser, and once loaded the scripts begin to work. Because the code that generates these interactions is sent directly to the browser it is open to public scrutiny, and is therefore not the best choice in all situations. A user authentication system, for example, becomes ineffective because the code that handles the login

process is completely visible, and therefore insecure. An example is a dynamic page created with JavaScript.

2.4.2 Server-side Scripting

Here the code is "pre-processed" by an interpreter, and the results of this processing are passed back to the web server and on to the visitor's web browser. As only the results of the processing are sent to the browser, the code that generated them remains hidden, and is therefore much more secure.

2.5 Components of Web Based Systems

2.5.1 MySQL

MySQL is an SQL (Structured Query Language) Database Server. A server is a piece of software that runs in the background on a computer. It is built to keep running and executing specific tasks Downes (2003). The advantages of MySQL include; MySQL is very fast that is efficient fairly well featured, MySQL is can handle large amounts of data, MySQL is very inexpensive to free, and it's easy to learn and quick to implement. The Disadvantages of MySQL is that's MySQL cannot handle complex relational issues such as sub selects (sub queries), transactions and commit/rollback are not directly supported, commercial sites with online ordering capabilities will find this lack of transaction support disappointing, MySQL also has a weak support for foreign keys and referential integrity and lastly it has no stored procedures and triggers.

2.5.2   Microsoft Access

Microsoft Access is a relational database management system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software development tools. Access can use data stored in Access/Jet, Microsoft SQL Server, Oracle, or any ODBC-compliant data container (including MySQL and PostgreSQL). Skilled software developers and data architects use it to develop application software. Relatively unskilled programmers and non-programmer "power users" can use it to build simple applications. It supports some object-oriented techniques but falls short of being a fully object-oriented development tool. The advantages of Microsoft Access include; Microsoft Access being very inexpensive to free, Microsoft

Access is easy to learn and it's also quick to implement while the disadvantages include it being limited in what it can do with respect to real database manipulations that is those contained in SQL Microsoft Access does not handle large amounts of data well and it is less reliable.

2.5.3 SQL Server

Microsoft SQL Server is a relational database management system produced by Microsoft. Its primary query language is Transact-SQL, an implementation of the ANSI/ISO standard Structured Query Language (SQL) used by both Microsoft and Sybase. The architecture of Microsoft SQL Server is broadly divided into three components: SQL operating system which implements the basic services required by SQL Server, including thread scheduling, memory management and I/O management; the Relational Engine, which implements the relational database components including support for databases, tables, queries and stored procedures as well as implementing the type system; and the Protocol Layer which exposes the SQL Server functionality Delaney (2007).

SQL Server also includes an assortment of add-on services. While these are not essential for the operation for the database system, these provide value added services on top of the core database management system. These services either run as a part of some SQL Server component or out-of-process as Windows Service and presents control and interact with them Delaney (2007). The advantages of SQL Server is that it supports very large databases and its support for triggers, stored procedures, and other database analysis tools while the disadvantages of SQL Server is that it is expensive and relatively difficult to learn.

2.5.4 Database

A database is a single organized collection of structured data, stored with minimum duplication of data items so as to provide a consistent and controlled pool of data which is common to all users of the system and is independent of programs that use that data. Independency of the database and programs using it means that one can be changed without changing the other French (1992). A database relies upon software to organize the storage of the data and to enable a person or program to extract desired information. The term "database" refers to the collection of related records and the software is database management system (DBMS); this is sometimes shortened to database manager or database system. According to Jewett (2008) the earliest known use of the term data base was in November 1963, when the System Development Corporation sponsored a symposium under the title Development and Management of a Computer-centered Data Base. Database as a single word became common in Europe in the early 1970s and by the end of the decade it was being used in major American newspapers. The abbreviation DB, however, survived.

The first database management systems were developed in the 1960s. A pioneer in the field was Charles Bachman. Bachman's early papers show that his aim was to make more effective use of the new direct access storage devices becoming available: until then, data processing had been based on punched cards and magnetic tape, so that serial processing was the dominant activity. Two key data models arose at this time: CODASYL developed the network model based on Bachman's ideas, and independently the hierarchical model was used in a system developed by North American Rockwell later ad opted by IBM as the cornerstone of their product. High visibility databases were developed in the 1960s, several others were also born in that decade, some of which have been significantly installed today Jewett (2008). To satisfy the requirements of functionality, flexibility, and usability in a large sites which changes frequently one should create a central repository for the creation, retrieval, and searching of test cases (database). Therefore very large sites and sites which change frequently are best managed if they run off a database Chen, P. P, Zvieli, (1986).

2.6 Information System Application Areas

i. Flight reservation systems in air where a new system was designed so that schedulers can use "what if" scenarios to see if a new flight would be more profitable with a smaller or bigger airplane.

ii. Computerized parts inventory systems like Seattle mariners using technology for profitability and inventory control.

iii. In Internet applications like electronic mail, browsing and participating in newsgroups and chart rooms as noted by James, O'Brien, (2003, p.129).

iv. Online banking sites; where you can log in (by entering your user name and password) and check out your bank account balance. Your bank account information is stored in a database and has been connected to the web page with programming thus enabling you to see your banking information Stefan (2000) .

v. E-Commerce; Database driven website is the key technology behind e-commerce. It has enabled businesses to be conduct through the internet and has made a variety of products to be easily available (just a click away) to the customer.

vi. Online publishing; many newsgroup centers such as nation media group and standard are making use of dynamic website to publish and archive their papers and magazines.

vii. Computerized library system like squeezing out more efficiency for Dell Computer Corporation which is one of the world's largest manufacturers of personal computers.

viii.   Automated teller machines.

After the request has been processed, the instance of the page class is discarded and with it the entire control tree Walther (2007). Database driven website have used in various way on the internet to obtain information a, to do business and shop. Dalton (1997), with Seddon (1998) suggested approaches for the airline and construction industries towards solving typical computer problems.

CHAPTER THREE
METHODOLOGY

3.0 Introduction

This chapter gave a description of how the automation recruitment system was developed. The chapter also focused on the description of research methods, designs and instruments that were employed in implementing the project. Various methods employed based on the purpose and intended scope of study including the collecting of all necessary information on the operation of the current system and identifying problems that associated with its operations. The methodology also adopted from several existing methodologies for different applications especially in the field of knowledge engineering, computer science and software engineering. This web based system for recruitment process resulted of integration of these techniques.

3.1 Area of Study

The project covered Info-Com Limited Uganda head office, geographically located on plot 40 Wampewo Avenue in Kampala City. The respondents involved the Training Manager, Interviewee both from human resource department. Other employees were also involved in the project because they are at the base of the company and extremely affected by current system.

3.2 Target Population

The respondents involved the Training Manager, Interviewee both from human resource department because they interface with the applicants and the current system most. The employees fraternity at all levels of Info-Com limited that involves around 200 employees were also targeted. The reason for choosing them was because they are directly affected by the current system, for example their promotions and transfer are not done in line with qualifications and merits. Another reason is because employees are directly associated with daily operations and work in the company.

3.3 Sampling Size

The researcher chose a big sampling size which was seen to be more accurate than the small sampling size. The sampling size involved 54 respondents from the human resource department, management and general employees at Info-Com Limited. The respondents were later served with the questionnaires.

3.4 Research Design

The project took both quantitative and qualitative approaches where a non experimental survey design was employed and a cross section paradigm was used to collect data during the study that was important in the system development.

3.5 Sampling Techniques

Stratified sampling method was used in which samples of respondents in the departments were randomly selected; sampling size was equivalent 54 respondents. Each applicant was selected basing on both probabilities and non-probabilities.

3.6 Data Collection Methods

3.6.1 Self Administered Questionnaire

The researcher carried out questionnaire that was self designed by the researcher. This study book contained standard questions that were answered by the respondents in order to get information from them. The researcher printed out the questionnaires and distributed them randomly to the beneficiaries, and also to the staff members who were in the field. The sample questions are in appendix A. The reason for choosing questionnaire method was because of the following: The questions were easy to answer because they were short and simple; it saved time since the group was large, it ensured privacy and confidentiality, it enabled the respondents to give objectives thought through the information based on their various field of experience. A number of 200 questionnaires were distributed

3.6.2 Observation

Observation was by recording the behavioral patterns of people, objects and events in a systematic manner. Observational methods were as follows; structured or unstructured, disguised or undisguised, natural or contrived, personal, mechanical, non-participant, participant. The researcher used natural and participant method to study the routine functions and their operations, accessibility, efficiency and current system manipulation methodologies that were examined. This helped to better understand what the problem really was; its scope was to obtain the best solution to the problem. The researcher used Observation as a method of data collection due to the following reasons: The information gathered was reliable; this is because most of the time the method was used to check the validity of data obtained from others, Observation was also relatively cheaper compared to other techniques, and that reduced the cost of the study.

3.6.2.1 Work Sampling

This involved a large number of observations taken at random intervals. The observation period was not continuous. The researcher needed to predefine the operations of the job observed.

3.6.3 Document Review

The researcher reviewed the previous study, existing literature and documentations. This helped the researcher to get to the background of the problem. It also provided a good starting point and helped in obtaining the requirements for the system. This method familiarized the researcher with the operations performed within the company. This approach was used mainly because it was less expensive compared to other forms of fact finding. It provided opportunity for study of trends of events over time, data collected was highly qualified, valid, available and reliable, it was used to find out the historical trends of events that seem impossible with other data collection methods, it provided a strong base to build a question such as a reference.

CHAPTER FOUR
SYSTEM ANALYSIS AND DESIGN

4.0   Introduction

System analysis and design describes in details the design issues of the new system and the current system. With thorough insight into the operations and analysis of all the output requirements of the system, ensures a good design, which is a major step to successful system development. System analysis is a problem-solving technique that decomposes a system into its component pieces for the purpose of studying how well those component parts work and interact to accomplish their purpose.

4.1   Analysis of the Current System

The investigation analysis was carried out to establish how the existing system functions and what its problems were. This led to a definition of a set of options from which the users could choose their required system. In carrying out this, information about the current system was collected by recording the problems and requirements described by the users of the current system; a picture of the required system was then built.

The major problems identified with the current system were as follows: It was hard for the company to keep the employees and applicant's records and little critical analysis could be carried out basically because of the nature of the record storage and their bulkiness. No progressive interview and report could be easily made; and the stored records could easily be stolen, lost, misplaced or intentionally vandalized because of the absent proper security mechanism to provide confidentiality and integrity. Corruption was also evidenced, where the recruiting team could make the job description to suit the requirements of their favored candidates they wanted to be recruited. Lack of a systematic plan was also evidenced; and this could lead to chaotic recruitment and a bumper harvest of unqualified applicant ns.

The working environment was not conducive for the human resource department due to the many file cabinets that occupied a lot of space causing congestion. Paper documents could be easily destroyed or misplaced and in most cases there was normally no backup for the documents which meant that there was risk for loss of important information.

28

3.7   Data Analysis

This was used to identify and define the requirements of the new system based on their findings during the analysis activities on the existing system. The user data or requirement study was done through establishing data flow of the current system operations, questionnaire different users that provided an overview of what and how the new system was to work.

The data analysis was done using both Microsoft Excel and SPSS applications. The researcher represented the data collected using bar chart. The bar chart had the number of members who gave information on the y-axis (in percentage), and the number of days which data was collected on the x-axis.
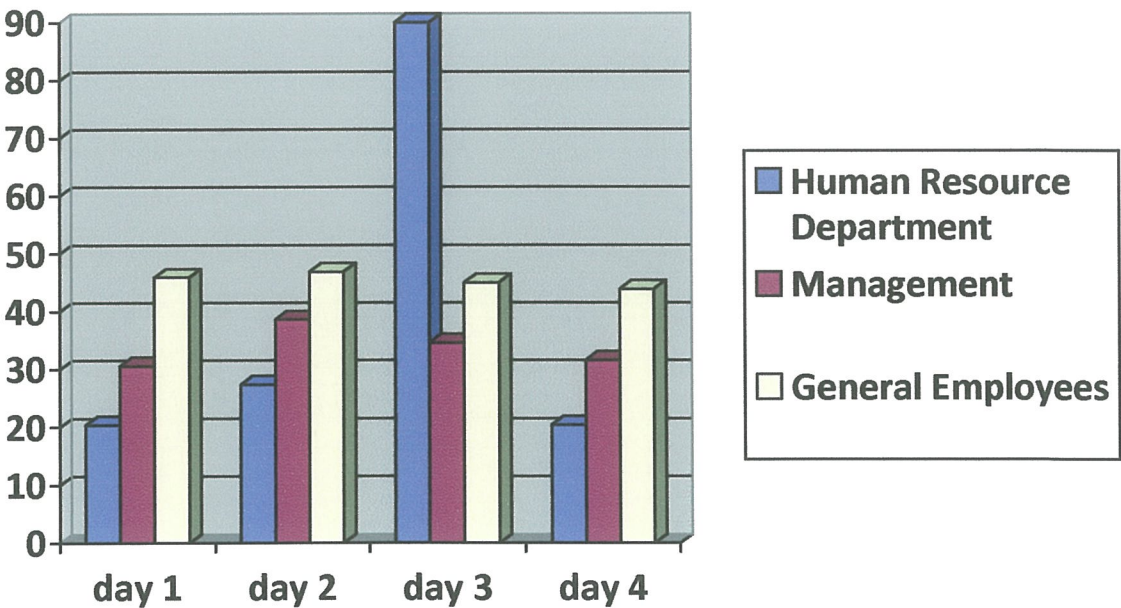
Figure 3: Bar charts showing Data Collected

4.2 Description of the New System

After analyzing the current system, considerations of implementing a new automated recruitment system was made. It needed a well established website to enable application of new applicants and the employees to update their details. This was done to improve the company's data dictionary, data integrity and security, quality of services and utilization of resources that includes people, access to management information and reduction of expenditure and much time consumed for conducting interviews. The authorized user is required to login by inserting correct user name and password. If valid, the applicant has the ability to access member section (Info-Com Limited General instructions) and the available application forms by filling in required fields. If application is completed successfully, the job details are sent to the provided email address by the applicant and interview process is scheduled. The administrators also need a valid login username and password to access the company's information. The administrator can view and manage the applicant's details. The administrator can later generate a report from the system.

4.3 Advantages of the New System

The new system led to the following advantages to human resource department and Info-Com in general:

i.   Saves on the amount of storage space due to the introduced electronic filing of applications.

ii. Easy backups for cases where records are damaged.

iii. Easy report generation.

iv. Utilization of human resources and time.

v.   Proper maintenance of records for future reference.

vi. The system is not prone to manipulations and alterations.

vii. It improves data security and integrity.

viii. The proper utilization of the data.

ix. Do the work more efficiently, accurately and quickly.

x.   Less documentation.

4.4   Feasibility Study of the New System

4.4.1   Technical Feasibility

Technical feasibility means the proposed solution can be implemented with the available hardware, software and technical resource. The existing resources are: A personal computer with 2 Giga bytes hard disk and 256 Mega bytes of RAM (Random Access Memory), System software are Windows 95/98/XP with MS-Office, MS-SQL Server, Oracle database system, Java, ASP, JSP, Servlets, and Java Script.

4.4.2   Operational Feasibility

The recruitment System is easy to use. The user does not need any costly training to operate this system. However the new users must have computer operation knowledge especially on Windows platform. As is common for any new software at the beginning things may appear a little unfamiliar. But the system is gradually used it will be found quiet easy to operate. And the user will become skilled in it automatically. That's why this is operational feasible too.

4.4.3   Economical Feasibility

Item	Quantity	Per unit Cost	Total
Software	3	40,000	120,000
Hardware	1	1,500,000	1,500,000
Photocopying	400	100	40,000
Printing and Binding	400	100	40,000
Flash disk	1	30,000	30,000
Rewritable CDs	20	500	10,000
Total Cost			1,740,000

Table 1: New System Budget

4.4.4 Schedule Feasibility

Number	Task	December	January	February	March	April	May
1	Problem analysis	███					
2	Design the program		███	███			
3	Coding				███		
4	Testing and debugging					███	███
5	Maintaining the program						

███ COMPLETED TASKS

☐ INCOMPLETE TASKS

Table 2: Time Frame

4.5 System Requirement Specification

After data collection and analyzing, the researcher came up with the requirements of the new system. The system, after completion was expected to:

   i.   Expedite the processing of applications through improved data capture technol ogy.

   ii.   Reduce response time by attending to applications as soon as they come in.

   iii.   Secure and ensure that only authorized people gain access to the system.

   iv.   Keep all records on all applicants both presently and in future.

   v.   Update, edit or amend records of the applicants

4.5.1 Hardware Requirements

Pentium 3 and above, Random access memory (RAM) of 512 megabytes (MB) and above, Hard disk space of 3 gigabytes (GB) and Internet connection.

4.5.2 Software Requirements

Windows operating system, Web server with hypertext markup language, Antivirus software and graphical browser installed and MySQL server.

4.6 System Design

Having obtained the new system requirements, the next task was to design a system that meets the specified user requirements. System design involved the specification and design of a technical, computer based solution for the requirement process identified during system analysis. It was driven by the technical concerns of the system designer. System design was looked at from Logical Design, Physical Design and Database Design.

Macromedia Dream weaver version 8 was used by the researcher to develop the website, the researcher started by defining a site for the project. A site definition is the essential starting point to the development of any website. With the information that is provided in the site definition, Dream weaver is able to accurately track the directory structure of the site, keep a watchful eye over all the internal and external hyperlinks, maintain a list of all images and external files and to provide one with a preview of what the page will probably look like without even uploading it to the server. Dream weaver employs two methods for defining sites that is the Basic method, which employs a step-by-step Wizard that guides you through the Site Definition process, and there is an Advanced Definition process, which gives you complete control over every aspect of our site's definition. To define the projects site, the researcher used the Advanced Definition process as shown below:
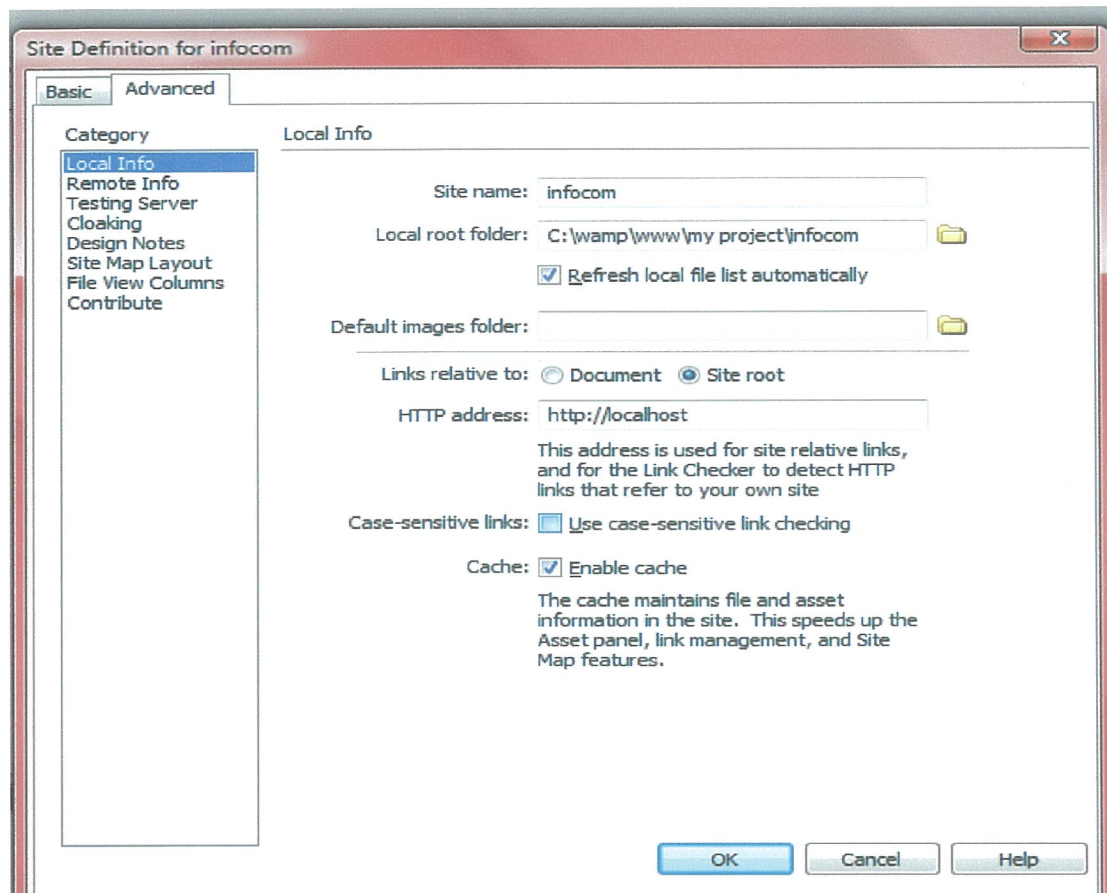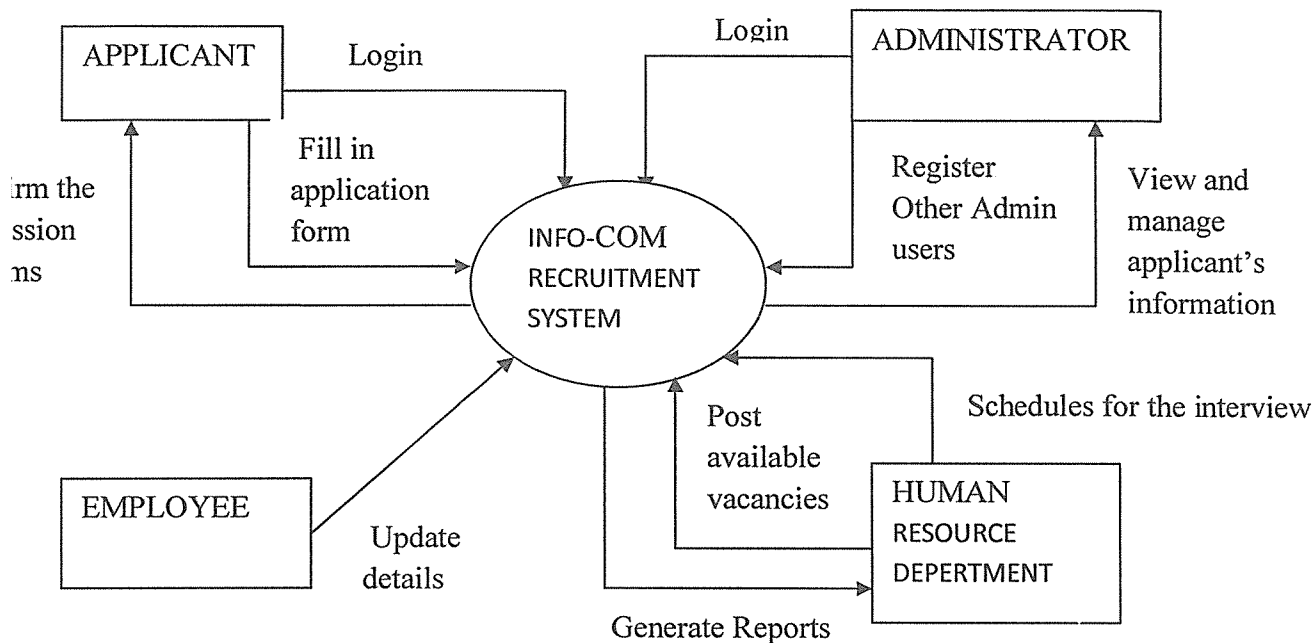
Figure 4: Site Definition

4.6.1 Database Design

4.6.1.1 Context Model Diagram

Context Level Data flow diagram shows the basic structure of information flow.

Figure 5: Context Model Diagram

The applicant need to login to the system by inserting a valid username and a password. The applicant can therefore fill in the application forms. If the application is successful, the system confirms the submission of the forms. The system administrator also needs the valid username and password to access the company's information. System administrator is also able to register other admin user, and can view and manage the applicant's information. Human resource department post the available vacancies on the system, schedule the interview and generate reports from the system while the employees are able to update the given details from the system.

4.6.2 Physical Design

It shows how the system would be physically and technically implemented. Database design is the process of producing a detailed data model of a database. This design data model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a Data Definition Language, which can then be used to create a database. A fully attributed data model contains detailed attributes for each entity.

The process of database design generally consists of a number of steps which are not all necessary in all cases. To create the database, the researcher started by determining the data to be stored in the database. Then the researcher identified the relationships between the different data elements by looking out for the dependencies in the data that is where one piece of information is dependent upon another. Using MYSQL, the researcher created a database called infocom together with its tables.

The database contains eleven tables which can only be modified by the human resource. This enabled the researcher to achieve her objective which was to carry out system study and to design a database for efficient data storage. Hence, the researcher has dealt with preliminary design then a detailed design of the system. This is where the preliminary design has used the Computer Aided Software Engineering (CASE) tools and detailed design which defines the requirements for input, processing, storage and output as well as system control and backup. This included the Conceptual, Logical and Physical modeling of the database.

4.6.2.1 Tables

```
mysql> desc register;
```

Field	Type	Null	Key	Default	Extra
user_fname	varchar(50)	NO		Not Null	
user_lname	varchar(50)	NO		NOT NULL	
user_email	varchar(50)	NO		NOT NULL	
user_pass	varchar(20)	NO		NOT NULL	
confirmpass	varchar(20)	NO		NOT NULL	

Table 3: Applicants Registration Table

```
mysql> desc login1;
+----------+-------------+------+-----+----------+-------+
| Field    | Type        | Null | Key | Default  | Extra |
+----------+-------------+------+-----+----------+-------+
| login    | varchar(50) | NO   |     | NOT NULL |       |
| password | varchar(20) | NO   |     | NOT NULL |       |
+----------+-------------+------+-----+----------+-------+
```

Table 4: Applicants Login Table

```
mysql> desc forget;
+-------+-------------+------+-----+----------+-------+
| Field | Type        | Null | Key | Default  | Extra |
+-------+-------------+------+-----+----------+-------+
| email | varchar(40) | NO   | PRI | NOT NULL |       |
+-------+-------------+------+-----+----------+-------+
```

Table 5: Applicants Forgot Password Table

```
mysql> desc adminlogin;
+----------+-------------+------+-----+----------+-------+
| Field    | Type        | Null | Key | Default  | Extra |
+----------+-------------+------+-----+----------+-------+
| username | varchar(20) | NO   |     | Not Null |       |
| password | varchar(15) | NO   |     | Not Null |       |
+----------+-------------+------+-----+----------+-------+
```

Table 6: Administration Login Table

```
mysql> desc adminreg;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| fname    | varchar(40) | NO   |     | NULL    |       |
| lname    | varchar(40) | NO   |     | NULL    |       |
| username | varchar(20) | NO   |     | NULL    |       |
| password | varchar(20) | NO   |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
```

Table 7: Administration Registration Table

```
mysql> desc address;
+----------------+-------------+------+-----+----------+-------+
| Field          | Type        | Null | Key | Default  | Extra |
+----------------+-------------+------+-----+----------+-------+
| postcodd       | varchar(40) | NO   | PRI | NULL     |       |
| residentialadd | varchar(40) | NO   |     | NOT NULL |       |
| postcode       | varchar(50) | NO   |     | NOT NULL |       |
| city           | varchar(50) | NO   |     | NOT NULL |       |
| street         | varchar(50) | NO   |     | NOT NULL |       |
| tel            | varchar(50) | NO   |     | NOT NULL |       |
+----------------+-------------+------+-----+----------+-------+
```

Table 8: Applicant Address Table

```
mysql> desc eduform;
+------------+-------------+------+-----+----------+-------+
| Field      | Type        | Null | Key | Default  | Extra |
+------------+-------------+------+-----+----------+-------+
| ID         | int(11)     | NO   | PRI | NULL     |       |
| university | varchar(50) | NO   |     | NOT NULL |       |
| date       | varchar(20) | NO   |     | NOT NULL |       |
| year       | varchar(20) | NO   |     | NOT NULL |       |
| degree     | varchar(50) | NO   |     | NOT NULL |       |
| course     | varchar(50) | NO   |     | NOT NULL |       |
+------------+-------------+------+-----+----------+-------+
```

Table 9: Applicant Education Table

```
mysql> desc achievement1;
+------------+-------------+------+-----+----------+-------+
| Field      | Type        | Null | Key | Default  | Extra |
+------------+-------------+------+-----+----------+-------+
| ID         | int(11)     | NO   | PRI | NULL     |       |
| title      | varchar(20) | NO   |     | NULL     |       |
| company    | varchar(20) | NO   |     | NOT NULL |       |
| date       | varchar(20) | NO   |     | NOT NULL |       |
| year       | varchar(20) | NO   |     | NOT NULL |       |
| department | varchar(20) | NO   |     | NOT NULL |       |
+------------+-------------+------+-----+----------+-------+
```

Table 10: Applicant Achievement Table

```
mysql> desc language;
+----------+-------------+------+-----+----------+-------+
| Field    | Type        | Null | Key | Default  | Extra |
+----------+-------------+------+-----+----------+-------+
| official | varchar(40) | NO   |     | NOT NULL |       |
| other    | varchar(40) | NO   |     | NOT NULL |       |
| tel      | varchar(50) | NO   |     | NOT NULL |       |
| mobile   | varchar(50) | NO   |     | NOT NULL |       |
| fax      | varchar(50) | NO   |     | NOT NULL |       |
+----------+-------------+------+-----+----------+-------+
```

Table 11: Applicant Language Table

```
mysql> desc empform;
+----------+-------------+------+-----+----------+-------+
| Field    | Type        | Null | Key | Default  | Extra |
+----------+-------------+------+-----+----------+-------+
| ID       | int(11)     | NO   |     | NULL     |       |
| emp      | varchar(50) | NO   |     | NOT NULL |       |
| company  | varchar(50) | NO   |     | NOT NULL |       |
| date     | varchar(20) | NO   |     | NOT NULL |       |
| year     | varchar(20) | NO   |     | NOT NULL |       |
| response | varchar(30) | NO   |     | NOT NULL |       |
+----------+-------------+------+-----+----------+-------+
```

Table 12: Applicant Employment Table

```
mysql> desc briefcomment;
+----------+-------------+------+-----+----------+-------+
| Field    | Type        | Null | Key | Default  | Extra |
+----------+-------------+------+-----+----------+-------+
| commentb | varchar(50) | NO   | PRI | NOT NULL |       |
| commentp | varchar(50) | NO   |     | NOT NULL |       |
+----------+-------------+------+-----+----------+-------+
```

Table 13: Applicant Brief Comment Table

```
mysql> desc refrence;
+--------+-------------+------+-----+----------+-------+
| Field  | Type        | Null | Key | Default  | Extra |
+--------+-------------+------+-----+----------+-------+
| fname  | varchar(50) | NO   |     | NOT NULL |       |
| lname  | varchar(50) | NO   |     | NOT NULL |       |
| cpa    | varchar(40) | NO   |     | NOT NULL |       |
| email  | varchar(50) | NO   |     | NOT NULL |       |
| mobile | varchar(50) | NO   |     | NOT NULL |       |
+--------+-------------+------+-----+----------+-------+
```

Table 14: Applicant Reference Table

4.6.2.2 Forms

This page contains all required links by the applicants and administrators.
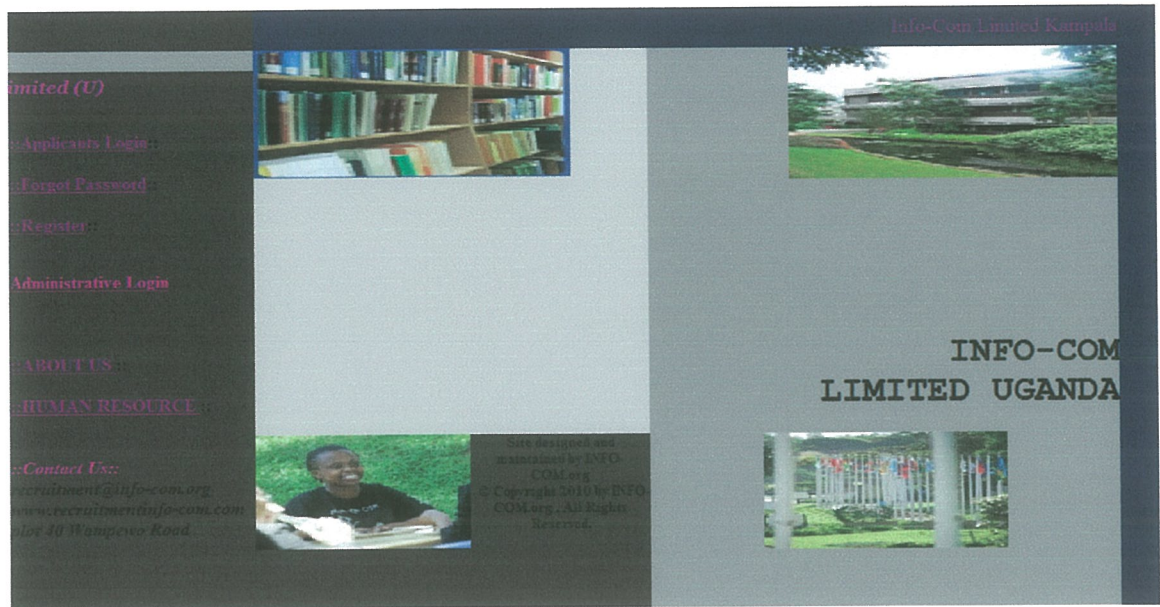
Figure 6: Welcoming Page

Allows the applicant to login using a valid Email and Password

Figure 7: Applicants Login Form

This provides the applicants with required fields for registration

Figure 8: Applicants Registration Form

This generates the user password from the database and posts it to the users email address

Figure 9: Applicants Forgotten Password Form

This allows the administrator to login to the system by providing valid username and password

INFO-COM Recruitment System Administrative Login

USERNAME: recruitment@infocom.org
PASSWORD: ••••
Login Now »

Site designed and maintained by INFO-COM.org
© Copyright 2010 by INFO-COM.org , All Rights Reserved.

Figure 10: Administration Login Form

This form allows the administrator to registers other admin to the system

Registration Form
First Name: erick
Last Name: owiyo
User Name: ecruitment@infocom.org
Password: ••••
Register

Figure 11: Administration Registration Form

This page provides the instructions to be followed for the applications and the eligibility

Figure 12: Applicants General Instruction

Figure 13: Applicants Education Form

GENERAL | ADDRESS | EDUCATION | LANGUAGE | EMPLOYMENT | REFRENCE | ASSIGNMENT | Submit|

*Indicates a required field

*Official Language
ENGLISH

*Other Languages
ENGLISH
KISWAHILI
DHOLUO

Mobile Number
0721213124

*Fax
020-344676

E-mail Address:

*Telephone Number
020-344567

Save>>

Figure 14: Applicants Language Form

GENERAL | ADDRESS | EDUCATION | LANGUAGE | EMPLOYMENT | REFRENCE | ASSIGNMENT | SUBMIT |

*Indicates a required field

SAVE>>

REFERENCES: List three persons, not related to you, who are familiar with your character and qualifications

Please Add Referees

First Name VICTORIA   Last Name ODINGO   Company and Post Address
4569
BIDCO OIL LTD.
UGANDA

Email Address vicdingo@y.com   Mobile Number 0734565767

Save>>

Figure 15: Applicants Reference Form

Figure 16: About Us Page

This page displays the applicant's information and can only be viewed by the system administrator

Figure 17: Applicants Information Display

4.7 System Implementation

This is a stage of software development which involves turning the requirements into technological terms. Implementation includes conducting of system tests, conversion from the old system to the new system, installation of databases and training of users. The interfaces were developed by the use of Macromedia Dreamweaver 8 while the database was created by use of MySQL software. In order to perfect the functionality of the system, the researcher ensured every process flow of application has its own entity and attributes corresponding to the user friendly interfaces.

4.7.1 System Conversion

This signifies how the system is going to be put into use. It is prompted when the executable file is run. A multi-user data base management system is a large and complex suite of software that has high initial cost, requires a staff of trained personnel to install and operate, and also has substantial annual maintenance and support costs. Installing such a system may also require upgrades to the hardware and data communications system in the organization. Substantial training is normally required on an ongoing basis to keep up with new releases and upgrades. Additional or more sophisticated and costly database software may be needed to provide security and to ensure proper concurrent updating of data.

4.7.1.1 Parallel Running

The researcher recommended that parallel change over method be used in interacting with the system. This means running the old system and new system simultaneously until new system is proved free of bugs and it is working correctly as required.

In conclusion, if the files are currently held on a computer system, then it should be possible to move the data from the present implementation to the target hardware and software. However, a thorough investigation should be done on cost and compatibility. Some routines may need to be written to modify the data after conversion. The old and the new system are run, simultaneously for agreed period of time and results from the two systems are compared. Once the user has complete confidence in the new system, the old system is abandoned. All the steps undertaken during this project has been so useful to the researcher because she was able to realize the way how things work in the outside world that is out of what is theoretically studied in the classroom. The researcher has gained the skills in various fields like research and design

among others. It has been so educative, and inspirational that all the students ought not to miss for doing the research and the necessary investigations.

4.7.1.2 System Testing

Testing is the process of checking whether the system is working as per required and it provides the desired results. The researcher tested both the database and the website. In the database the researcher tested each table individually by validating the field size, checking the constraints and testing the stored procedures. In the website the researcher tested to see if users can perform the required task using the website by performing some of the necessary tasks using the site. The researcher tested each and every page individually before testing the entire website. After testing the database and the website individually, the researcher tested the connectivity between the website and the database by trying to retrieve information from the database and by entering data through the forms on the website to see if the information can be stored on the database. This enabled the researcher to achieve the objective which was to test and validate the designed website.

4.7.1.3 System Coding

This is the actual programming by the researcher which involved writing codes by use of PHP programming language and MySQL.

4.7.1.4 User Manual

Frequently, organizations that adopt the data base approach need to hire or train individuals to design and implement data bases, provide data base administration services, and manage a staff of new people. Furthermore, because of the rapid changes in technology these new people will have to be retrained or upgraded on a regular basis. This personnel increase may be more than offset by other productivity gains, and an organization should not minimize the need of these specialized skills which are required to obtain the most from the potential benefits.

CHAPTER FIVE
DISCUSSION, RECOMMENDATIONS AND CONCLUSION

5.0   Introduction

This chapter examines how the objectives of the study were achieved using the web based system software developed for the recruitment process, incorporated with module as well as validation using previous studies. The outcomes and contribution of the study to evaluation of changes in the software developed are discussed and conclusions are given below.

5.1   Discussion

This section of the research provides a summarized overview of how the objectives and tasks of the project have been achieved, lesson learnt, recommendations as well as the conclusion and any other area for further research which should be carried out. The system achieves a lot more than the old system; it provides an environment that is both convenient and efficient for the retrieval and storage of information.

The system provides an easy way of updating information, so that information changes in ones file is automatically updated in the database. The system ensures that an effortless and speedy means of generating reports is in place. It ensures that Info-Com maximizes on its benefits and reduces on the interview costs. The system has a login form that provides a secure security that is hard for unauthorized users to access information in the database. Furthermore, software engineering principles like robustness, usability, interoperability, efficiency and platform were strictly followed making the software highly user friendly yet minimizing any undesirable tradeoffs.

The home page which was used as a template by the researcher consists of links to information for the application pages that provides information for the user to make an application plus the necessary information required by the system user. The system enables the human resource department to manage system login information, which is modifying, deleting and viewing users' profiles. The entire system was implemented by the researcher using web clips with the user interface and other components in HTML, MySQL, JavaScript and PHP. It was the researcher's wish to automate the update of the knowledgebase and reasoning steps when new information is gained from experience obtained after using expert system module for a given number of times.

However, this was not possible, because the programming tool (web clips) did not provide support for this.

5.2 Recommendations

This project can be improved by embedding in more dynamic utilities that were not possible due to the project scope but can improve the Info-Com Limited recruitment system. For the users to obtain accurate and up-to-date information which they can use to make suggestion and any concrete conclusions, the system need to be updated frequently, if possible on a daily basis. The database should be managed by a skilled person with the necessary expertise on database design and management. The database should be protected from intrusion because the information stored in it is very delicate.

The researcher's findings of the study recommended adoption and usage of a web based system developed for the recruitment system, so as to improve on knowledge of manual record keeping of the applicants', to improve application accessibility, help human resource department schedule for interviews automatically as well as managing the applicants files automatically. Furthermore, a mechanism enabling updates to the system would also be available so that applicants and administration can be able to update their details accordingly. This is because of the faster growing of technology which changes each and every time whereby new ideas are invented by other researchers. The web based system for the recruitment process developed can still be improved.

5.3 Conclusion

The strength of a company to manage and make use of its stored sensitive data promises its excellence in today's competitive business world. This triggers the need to use all the information technology techniques available in order to secure and make good use of the available company data. Simplicity is the target everyone would wish to achieve in everyday life hence coming up with an automated recruitment system to make applicants' life easy and to save on costs and time. The main purpose for developing this project was aimed at developing a Web-based Recruitment System for the Info-Com limited that creates vacancies, store applicants data, interview process initiation, schedule interviews, store interview results for the applicant and finally hire the applicant. The researcher was able to achieve through the system produced as output of the project.

Lastly, the researcher wanted to make the information concerning the recruitment available to the majority of users from Uganda and abroad. With the produced system being a website, this was achieved. All the steps undertaken during this project report have been useful to the researcher because the researcher come to realize the way how activities are done in the outside world that is out of university life. The researcher has gained skills in various fields like the creation of a dynamic website, research and design among others. It has been so educative, inspirational and interesting that any student ought not to miss the research project report. The study provided solution of providing easy and faster way of accessing information by the users of the system. Nevertheless, findings of the study were limited to a specific target (Info-com Limited). The desired aim of providing quick access to information on recruitment process was more applicable to other applicants staying outside the country plus any other person who has the desire to apply for a job was achieved.

5.4   Project Limitations

During the data collection phase, on a number of occasions, the researcher found the respondents for question too busy to provide meaningful audience, especially during working hours. Most of the intended respondents were not reached because it was not easy to meet them due to the fact that they appeared very busy. It was so expensive to conduct the survey because the respondents were most of the time out of the scope of the appointments and would always say sorry thus not getting always the required information or data.

5.5   Areas of Further Study

To make the system more comprehensive the researcher suggests addition of the following: further research to be carried out on how to enter data in the database in MySQL. For one to enter data in MySQL, one should use forms created in the web pages or use the INSERT INTO command in SQL. Using forms to enter data into the database is relatively easy but not all data can be entered through forms, for example in the Project table, there is no form created to enable one to enter the data into the database. On the other hard using SQL commands to enter data is a little bit difficult, cumbersome and requires skills. The researcher's suggestion is that research should be carried out on this to find easier ways of doing this like when creating the database or a table. Security controls including digital signatures should be enforced in this system to minimize hacking. The website should also be modified to allow document and picture uploading.

REFERENCES

i. CS French (1992), Computer Science Fourth Edition, DP publications L.T.D Guernsey

ii. Chen, P. P. and Zvieli, A. (1986), "Entity-Relationship Modeling of Fuzzy Data," Proceedings of 2nd International Conference on Data Engineering, Los Angeles, p. 320-327

iii. DATE, C.J (2000)_An Introduction To Database Systems_Seventh Edition Thomson Press, New Delhi

iv. Delaney, Kalen, et al (2007) Inside SQL Server 2005: Query Tuning and Optimization. Microsoft Press

v. Dittman et. al, (2001). Systems Analysis and Design Methods, Irwin /McGraw-Hill; 5th Edition, New York

vi. Downes, Green, Mairlot (2003) Dreamweaver MX-PHP Web Development, New York

vii. E. H. Chi, "The Scent of a Site," Proceedings of the Conference on Human Factors in Computing, Los Angel

viii. Hutchison et.al, (1999) Using Information Technology, Irwin /McGraw-Hill, Third Edition

ix. James Martin, (1976). Principals of database management, Prentice Hall of India Private LTD, Delhi

x. Jeffrey, Lonnie and Kelvin, (2000).System Analysis And Design Methods._Fifth Edition, Irwin Mc Graw_Hill , New York

xi. J. Carroll, Wiley, (1995) Scenario-Based Design. New York, NY

xii. Sarah .E. Hutchinson and Stacey.C.Sawyer (2000), Computers, Communications And Information Seventh Edition, Irwin Me _Graw, New York

xiii. Shelley Lowery http://www.cyberindian.com/web-designing/essential-website-components.php

xiv. Systems, CHI 2000, pp. 161–168, The Hague, The Computing Netherlands, 2000.

xv. P. Sawyer (2000) Designing for Scent, technical report, User Interface Engineering-New York.

xvi. Williams, sawyer and Hutchinson (1999).Using Information Technology_Third Edition Irwin McGraw-Hill, New York.

APPENDICE
APPENDIX A: QUESTIONNAIRE

Preamble

Dear Respondent,

We are students of Kampala International University carrying out an academic research on the topic "Development of a web based recruitment process system for Info-Com Limited." You have been randomly selected to participate in the study and are therefore kindly requested to provide an appropriate answer by either ticking the best option or give explanation where applicable. The answers provided will only be used for academic purposes and will be treated with at most confidentially.

A).. PERSONAL INFORMATION:

1.................................... Gender

Male [ ]   Female [ ]

2.   Age

20-25 [ ]   26-30 [ ]

31-35 [ ]   36 and above [ ]

B) .... QUESTIONS

1. How do you rate data and employee records obtained from the different departments within this Company?

   Very Good [ ]   Good [ ]   Fair [ ]   Poor [ ]

2. What is the average time needed to schedule for the interview and to process applicant details?

   One Week [ ]   Two Weeks [ ]   One Month [ ]   More than One Month [ ]

3. How do you rate the reports generated at the end of each recruitment process?

   Good [ ]   Fair [ ]   Poor [ ]

4. In which format is data presented after processing?

   Good [ ]   Fair [ ]   Poor [ ]

5. How often is the interview arranged in the company? Please specify with a reason

Daily [ ]　　　　Weekly [ ]　　　　Monthly [ ] Yearly [ ]

6. What are the procedures of work being done in the company?

Manually [ ]　　　　Electrically [ ]

7. How many computers are connected to the system in place?

0-5 [ ]　　　6-10 [ ]　　　11-15 [ ]　　　More than 15 [ ]

8. How do rate performance control that is in place to ensure data security?

Very Good [ ]　　　Good [ ]　　Fair [ ]　　Poor [ ]

9. How do you ensure the confidential of the data given by the employee and applicants in during file transmission the company?

Good [ ]　　　　　Fair [ ]　　　　Poor [ ]

10. How are the possible measures put in place to cater for the unpredictable disasters that may damage the data in storage?

Good [ ]　　　　　Fair [ ]　　　　Poor [ ]

11. How do you rate the performance of the existing system? Why?

Very good [ ]　　　　Good [ ]　　　Fair [ ] Poor [ ]

APPENDIX B: SOURCE CODES

```
<!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>INFO-COM Recruitment System</title>

<style type="text/css">

<!--.style1 { font-size: large;  color: #841D79;

}

body {

        background-color: #FFFFFF;

}

.style4 {

        font-size: xx-large;

        font-weight: bold;

        font-family: "Courier New", Courier, monospace;

}

.style6 {color: #000033}

.style7 {color: #FF0099}

.style8 {color: #333333}

.style9 {font-family: Geneva, Arial, Helvetica, sans-serif}

.style10 {font-family: Verdana, Arial, Helvetica, sans-serif}

.style11 {
```

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

        color: #FF9966;

}

.style16 {color: #000000}

.style17 {color: #FF834D; }

.style18 {

        color: #000000;        font-style: italic;

}

.style19 {color: #CC0099; }

.style20 {color: #B32299}

-->

</style>

</head>

<body>

<table    width="1014"    border="0"    align="center"    cellpadding="0"    cellspacing="0"
bordercolor="#F3FFFF" bgcolor="#660066">

  <!--DWLayoutTable-->

    <tr>

    <td width="192" height="37" bgcolor="#333333"> </td>

    <td colspan="3" bgcolor="#000033"><div align="right" class="style1">Info-Com Limited
Kampala </div></td>

    <td width="34" bgcolor="#000033"></td>

  </tr>

  <tr>

    <td height="19" bgcolor="#999999"> </td>

    <td colspan="2" rowspan="10" valign="top" bgcolor="#CCCCCC"><div align="center">
```

```
<p align="left"><img src="4 (5).jpg" alt="4" width="280" height="118" /><br />

</p>

</div></td>

<td rowspan="8" valign="top" bgcolor="#999999"><div align="right"><img src="4.jpeg"
alt="4" width="292" height="121" /></div></td>

<td rowspan="11" bgcolor="#000033"></td>

</tr>

<tr bgcolor="#333333">

  <td height="26"><strong>

    <span class="style6">

    <span class="style7"> <span class="style8">

    <span class="style9"> <span class="style10"> <span class="style11">

    <span class="style20">

    <marquee>

    <em>Welcome To Info-Com Limited (U) </em>

    </marquee>

  </span> </span> </span> </span> </span> </span> </span> </strong></td>

</tr>

<tr bgcolor="#333333">

  <td height="29"> </td>

</tr>

<tr bgcolor="#333333">

  <td height="29"><div align="justify" class="style16">

    <h4><strong><a href="Login.php">::Applicants Login</a></strong>::</h4>

  </div></td>
```

```
</tr>

<tr bgcolor="#333333">

  <td height="29"><div align="justify" class="style16">

    <h4><strong><a href="forgotpass.php">::Forgot Password</a></strong>::</h4>

  </div></td>

</tr>

<tr bgcolor="#333333">

  <td height="50" valign="top"><div align="justify" class="style16">

    <h4><strong><a href="register.php">::Register</a></strong>::</h4>

  </div></td>

</tr>

<tr bgcolor="#333333">

  <td height="45"><div align="justify">

    <h4><a href="adminLogin.php" class="style19">Administrative Login</a> </h4>

  </div></td>

</tr>

<tr bgcolor="#333333">

  <td height="19"><!--DWLayoutEmptyCell--> </td>

</tr>

<tr>

  <td height="52" valign="bottom" bgcolor="#333333"><div align="justify">

    <h4><strong><a href="aboutus.php">::ABOUT US </a></strong>::</h4>

  </div></td>

  <td rowspan="2" valign="top" bgcolor="#999999"><div align="right">

    <h3><span class="style4">INFO-COM<br />
```

LIMITED UGANDA</h3>

</div></td>

</tr>

<tr bgcolor="#333333">

<td   height="19"   valign="middle"><h4>::HUMAN
RESOURCE ::</h4></td>

</tr>

<tr>

<td valign="top" bgcolor="#333333"><h4>

   ::Contact Us::

recruitment@info-com.org

www.recruitmentinfo-com.com

plot 40 Wampewo Road

</h4>

</td>

<td   width="191"   height="141"   valign="top"   bgcolor="#333333"><div   align="left"><img
src="4 (4).jpg" alt="4" width="190" height="105" /></div>

<div align="left"></div></td>

<td   width="157"   valign="top"   bgcolor="#333333"><h5   align="center">Site
designed and maintained by INFO-COM.org

  © Copyright 2010 by INFO-COM.org , All Rights Reserved.</h5></td>

<td width="417" valign="top" bgcolor="#999999"><div align="right">

<p align="center">

</p>

</div>

<h5 align="right"> </h5></td>

```php
    </tr>

</table>

</body>

</html><?php require_once('Connections/ConInfo.php'); ?><?php

mysql_select_db($database_ConInfo, $ConInfo);

$query_Recordset1 = "SELECT * FROM adminlogin";

$Recordset1 = mysql_query($query_Recordset1, $ConInfo) or die(mysql_error());

$row_Recordset1 = mysql_fetch_assoc($Recordset1);

$totalRows_Recordset1 = mysql_num_rows($Recordset1);

?><?php

// *** Validate request to login to this site.

if (!isset($_SESSION)) {

  session_start();

} $loginFormAction = $_SERVER['PHP_SELF'];

if (isset($_GET['accesscheck'])) {

  $_SESSION['PrevUrl'] = $_GET['accesscheck'];

} if (isset($_POST['username'])) {

  $loginUsername=$_POST['username'];

  $password=$_POST['password'];

  $MM_fldUserAuthorization = "";

  $MM_redirectLoginSuccess = "display.php";

  $MM_redirectLoginFailed = "adminFail.php";

  $MM_redirecttoReferrer = false;

  mysql_select_db($database_ConInfo, $ConInfo);
```

```php
$LoginRS__query=sprintf("SELECT username, password FROM adminreg WHERE username='%s' AND password='%s'",

get_magic_quotes_gpc()     ?     $loginUsername     :     addslashes($loginUsername),
get_magic_quotes_gpc() ? $password : addslashes($password));

$LoginRS = mysql_query($LoginRS__query, $ConInfo) or die(mysql_error());

$loginFoundUser = mysql_num_rows($LoginRS);

if ($loginFoundUser) {

$loginStrGroup = "";

//declare two session variables and assign them

$_SESSION['MM_Username'] = $loginUsername;

$_SESSION['MM_UserGroup'] = $loginStrGroup;

if (isset($_SESSION['PrevUrl']) && false) {

$MM_redirectLoginSuccess = $_SESSION['PrevUrl'];

}

header("Location: " . $MM_redirectLoginSuccess );

}

else {

header("Location: ". $MM_redirectLoginFailed );

}

}

?>

<!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" />
```

```html
<title>INFO-COM Recrutment System</title>

</head>

<body>

<table width="563" border="0" align="center" cellpadding="0" cellspacing="0">

 <!--DWLayoutTable-->

 <tr bgcolor="#669999">

  <td width="504" height="17"></td>

 </tr>

 <tr bgcolor="#CCCCCC">

  <td height="19"><div align="right"><a href="Login.php"></a><br />

  </div></td>

 </tr>

 <tr bgcolor="#000033">

  <td  height="15"  bgcolor="#FFFFFF"><strong>INFO-COM  </strong>Recruitment  System
Administrative Login </td>

 </tr>

 <tr>

  <td> </td>

 </tr>

 <tr>

  <td><table width="333" border="1" align="center">

   <tr bgcolor="#666699">

    <td  width="323"><form  ACTION="<?php  echo  $loginFormAction;  ?>"  id="form1"
name="form1" method="POST">

     <table cellpadding="0" cellspacing="0" bordercolor="#FFFFFF">

      <tr bgcolor="#ffffff">
```

```
<td align="right" width="57">USERNAME:</td>

<td width="157"><input name="username" type="text" id="username" value=""
size="35" maxlength="64" /></td>

</tr>

<tr bgcolor="#ffffff">

<td align="right">PASSWORD:</td>

<td><input name="password" value="" maxlength="64" size="35" type="password"
/></td>

</tr>

<tr>

<td colspan="2" bgcolor="#f5f5f5"><table border="0" cellpadding="2" cellspacing="0"
width="100%">

<tbody>

<tr bgcolor="#f5f5f5">

<td width="42%" align="left"> <strong><a href="register.php"></a>
</strong></td>

<td width="58%" align="right" bgcolor="#666699"><input name="submit"
type="submit" value="Login Now &raquo;" /></td>

</tr>

</tbody>

</table></td>

</tr>

</table>

</form></td>

</tr>

</table></td>

</tr>
```

```
<tr>

    <td><h5 align="right"><strong>Site    designed    and    maintained    by    INFO-COM.org
</strong><br />

      &copy; Copyright 2010 by INFO-COM.org , All Rights Reserved.<br />

     </h5></td>

</tr>

<tr bgcolor="#6699FF">

    <td height="19" valign="bottom" bgcolor="#6699CC"><div align="right"></div></td>

</tr>

</table>

</body>

</html>

<?php

mysql_free_result($Recordset1);

?>

<?php require_once('Connections/ConInfo.php'); ?>

<?php

$colname_Recordset1 = "-1";

if (isset($_GET['ID'])) {

  $colname_Recordset1 = (get_magic_quotes_gpc()) ? $_GET['ID'] : addslashes($_GET['ID']);

}

mysql_select_db($database_ConInfo, $ConInfo);

$query_Recordset1    =    sprintf("SELECT    *    FROM    eduform    WHERE    ID    =    %s",
$colname_Recordset1);

$Recordset1 = mysql_query($query_Recordset1, $ConInfo) or die(mysql_error());

$row_Recordset1 = mysql_fetch_assoc($Recordset1);
```

```
$totalRows_Recordset1 = mysql_num_rows($Recordset1);

?>

<!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>INFO-COM Recruitment System</title>

<style type="text/css">

<!--

.style1 {color: #FF0000}

.style2 {color: #000000}

    >   </style>

</head>

<body>

<table width="1024" border="0" align="center" cellpadding="0" cellspacing="0">

  <!--DWLayoutDefaultTable-->

  <tr bgcolor="#669999">

    <td width="170" height="14"></td>

    <td width="790"></td>

  </tr>

  <tr>

    <td     height="19"     colspan="2"><a     href="index.php">HOME</a>     |     <a
href="general.php">INSTRUCTIONS</a> </td>

  </tr>

  <tr bgcolor="#999999">
```

```html
<td height="9" colspan="2"></td>

</tr>

<tr        bgcolor="#CCCCCC">        <td        height="19"        colspan="2"><strong><a
href="general.php">GENERAL</a>    |    <a    href="address.php">ADDRESS</a>    |    <a
href="education2.php">EDUCATION</a> | <a href="language.php">LANGUAGE</a> | <a
href="employment.php">EMPLOYMENT</a> | <a href="refrence.php">REFRENCE</a> | <a
href="assigment.php">ASSIGNMENT</a> | Submit|</strong></td>

</tr> <tr>

<td height="22" colspan="2" valign="top" bgcolor="#9966FF"><p class="style1">*<span
class="style2">Indicates a required field</span></p>

<p> </p>   </td>

</tr>

<tr>

<td   height="19"   colspan="2"   background="2.JPG"   bgcolor="#666699"><strong>List   all
University   degrees or other qualifications obtained</strong></td>

</tr>

</table>

<div align="center"><br />

<table width="1004" border="1">

<tr>

<td width="994"><form id="form1" name="form1" method="post" action="">

<table width="954" height="235"  border="3" align="center">

<tr>

<td width="286" valign="top">ID</td>

<td width="286" height="99" valign="top"><strong>UNIVERSITY</strong><br />

<label for="textfield"></label></td>

<td width="73" valign="top"><strong>FROM</strong><br />
```

```
<br />

<label for="label"></label></td>

<td width="73" valign="top"><strong>TO</strong><br />

<br />

<label for="label2"></label></td>

<td width="204" valign="top"><strong>DEGREE OR EQUIVALENT</strong><br />

<label for="label3"></label></td>

<td width="144" valign="top"><p><strong>COURSE OF STUDY<br />

<label for="label4"></label>

</strong></p>

<p> </p></td>

<td width="130" colspan="2" valign="top"><strong>ACTION</strong><br /></td>

</tr>

<tr>

<td valign="top"><?php echo $row_Recordset1['ID']; ?></td>

<td height="99" valign="top"><?php echo $row_Recordset1['university']; ?></td>

<td valign="top"><?php echo $row_Recordset1['date']; ?></td>

<td valign="top"><?php echo $row_Recordset1['year']; ?></td>

<td valign="top"><?php echo $row_Recordset1['degree']; ?></td>

<td valign="top"><?php echo $row_Recordset1['course']; ?></td>

<td colspan="2" valign="top">UPDATE</td>

</tr>


<tr>
```

```
        <td     height="23"    colspan="8"><p><strong><a        href="education.php">::ADD
DIPLOMA/DEGREE ::</a></strong></p>

            <label for="Submit"></label></td>

      </tr>

    </table>

      </form>

    </td>

  </tr>

</table>

<table width="1006" border="1">

  <tr bgcolor="#FFFFFF">

    <td bgcolor="#999999"><strong>List all other Academic achivements if any</strong></td>

  </tr>

</table>

<table width="1004" border="1">

  <tr>

    <td     width="994"    height="106"    valign="top"><form    id="form2"    name="form2"
method="post" action="">

      <table width="966" border="3" align="center" >

      <tr>

        <td width="211" height="26" valign="top"><strong>TITLE</strong></td>

        <td width="263" valign="top"><strong>COMPANY/ SCHOOL </strong></td>

        <td width="61" valign="top"><strong>FROM</strong></td>

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

        <td width="147" valign="top"><strong>AREA</strong></td>

        <td width="161" colspan="2" valign="top"><strong>ACTION</strong></td>
```

```php
    case "int":

      $theValue = ($theValue != "") ? intval($theValue) : "NULL";

      break;

    case "double":

      $theValue = ($theValue != "") ? "'" . doubleval($theValue) . "'" : "NULL";

      break;

    case "date":

      $theValue = ($theValue != "") ? "'" . $theValue . "'" : "NULL";

      break;

    case "defined":

      $theValue = ($theValue != "") ? $theDefinedValue : $theNotDefinedValue;

      break;

  }

  return $theValue;

}

$editFormAction = $_SERVER['PHP_SELF'];

if (isset($_SERVER['QUERY_STRING'])) {

  $editFormAction .= "?" . htmlentities($_SERVER['QUERY_STRING']);

} if ((isset($_POST["MM_insert"])) && ($_POST["MM_insert"] == "form1")) {

  $insertSQL = sprintf("INSERT INTO achievement1 (ID, title, company, `date`, `year`,
department) VALUES (%s, %s, %s, %s, %s, %s)",

                       GetSQLValueString($_POST['ID'], "int"),

                       GetSQLValueString($_POST['title'], "text"),

                       GetSQLValueString($_POST['company'], "text"),

                       GetSQLValueString($_POST['date'], "text"),
```

```php
        GetSQLValueString($_POST['year'], "text"),

        GetSQLValueString($_POST['department'], "text"));


  mysql_select_db($database_ConInfo, $ConInfo);

  $Result1 = mysql_query($insertSQL, $ConInfo) or die(mysql_error());

$insertGoTo = "education2.php?ID=".$HTTP_POST_VARS['ID']."";

  if (isset($_SERVER['QUERY_STRING'])) {

    $insertGoTo .= (strpos($insertGoTo, '?')) ? "&" : "?";

    $insertGoTo .= $_SERVER['QUERY_STRING'];

  }

  header(sprintf("Location: %s", $insertGoTo));

}$colname_Recordset1 = "-1";

if (isset($_GET['ID'])) {

  $colname_Recordset1 = (get_magic_quotes_gpc()) ? $_GET['ID'] : addslashes($_GET['ID']);

}

mysql_select_db($database_ConInfo, $ConInfo);

$query_Recordset1  =  sprintf("SELECT  *  FROM  achievement1  WHERE  ID  =  %s",
$colname_Recordset1);

$Recordset1 = mysql_query($query_Recordset1, $ConInfo) or die(mysql_error());

$row_Recordset1 = mysql_fetch_assoc($Recordset1);

$totalRows_Recordset1 = mysql_num_rows($Recordset1);

?>
```

```html
<!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>
```

```html
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>INFO-COM Recrutment System</title>
</head>

        <td valign="top"><label for="label4"></label>

        <input name="department" type="text" id="label4" size="40" /></td>

        <td width="64" valign="top"><label for="label">UPDATE</label></td>

        <td width="73"><label for="label2"></label>

        <a></a> DELETE </td>

        </tr>

        <tr bgcolor="#eeeeee">

        <td height="32" colspan="9" align="left"><div align="right">

          <input type="submit" name="Submit" value="SAVE&gt;&gt;" id="Submit" />

        </div>

        <div align="right"></div></td>

        </tr>

        </tbody>

      </table>

      <input type="hidden" name="MM_insert" value="form1">

    </form>

  </td>

</tr>

<tr bgcolor="#6699FF">

  <td height="54" colspan="5" valign="bottom" bgcolor="#6699CC"><div align="right">

    <h5><strong>Site designed and maintained by INFO-COM.org </strong><br />
```

```
  &copy; Copyright 2010 by INFO-COM.org , All Rights Reserved.<br />

 

<input type="submit" name="Submit22" value="SAVE&gt;&gt;" />

</div></td>

</tr>

</table>

</body>

</html>
```