WEBSITE DESIGN FOR NIGERIA TELECOMMUNICATION INDUSTRY

(A CASE STUDY OF NIGERIA COMMUNICATIONS COMMISSION)

by

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DEDICATION.

To GOD be the glory, honor, power and adoration, for He is good and His mercy endures forever. This project work is dedicated to fruitful effort of my lovely daughters Miss Adeyemi Oluwadunmininu, Adeyemi Oluwafikayomi and my virtuous and amiable wife Dr. (Mrs.) Adeyemi, Adedoyin.

May they grow up to fulfill God's purpose for their lives In Jesus Name.

ACKNOWLEDGEMENT.

The road to success is not always straight. It is always littered with pitfalls like stress, disappointment and, at times frustration. Despite all these human beings always crave to work in it. All thanks to Almighty God who at all times litters this road with some helpers who are always ready to share the price paid to succeed.

In my academic odyssey, I encountered a father who was always by my side. Without Him, the journey would have been very rough. Instead He made the journey an eventful one. All glory to Him the God of gods, JEHOVAH SHIKENUM, JEHOVAH SABOS, who remains the center of all knowledge. I thank Him for being my source of inner strength throughout the duration of the course.

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I shall not forget the contributions of my Uncle Mr. Samjoe Amudipe, my big sisters Mrs. Ogunbakin Marion, Mrs. Ola Margret Bosede and my siblings Bola and Adeyemi Shola. I thank God for clothing me with these admirable brothers and sisters.

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ABSTRACT

This project work is aimed at developing interactive website design for Nigeria Telecommunication Industry. It highlights the contribution of the telecommunication industry to the economy, also the evolution of telecommunication. This research work also covers the concepts of web based information service development and implementation of website design. This design will foster a greater collaboration between Nigeria Communication Commission (NCC) and the entire public and thereby place her among millions of corporations whose services and operation are known globally.

CHAPTER ONE

INTRODUCTION

Telecommunications, according to Oxford dictionary is the technology of sending signal, images and messages over long distance by Radio, Telephone, Television, satellite, etc.

The Nigeria Communications Commission's (NCC) operational definition of telecommunications is "any form of transmission, broadcast or reception of sign, signal, text, images, sound or data by wire optical means, microwave or other electromagnetic means".

From these definitions, it can be deduced that telecommunications constitute an essential element in the infrastructure of a country. Indeed no modern economy can be sustained today without an integral telecommunication infrastructure.

The trend of the telecommunications industry can be best described as growth from Morse telegraphy to information super highways.

1.1   Background of the Study.

1.1.1   The Telegraph Era.

The age of commercial telegraphy dawned in 1839 when Cooke and Wheat Stone first messages on their short line telegraph system between London and West Drayton in England. Five years later, a telegraph line, barely 70 Kilometers long between Baltimore and Washington DC, in the USA, carried the first public telecommunication message. The transmission direct current keying, the sender Samuel Morse and the message was prophetic "What hath God wrought". The electrical transmission of messages at that time was indeed something of a marvel.

Soon, the new techniques began to be used extensively, starting with the railways and the press, not only in the USA but also in Europe. The telegraph grew into a network which so read across

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ost of the countries of old and the new worlds and after a while beneath the oceans between

en. Cables continued to be laid worldwide during the first third of this century and 1930 a

twork of nearly 650,000 Kilometers were in operations.

1.2   The Birth of Telephone.

he need for converse by speech and other limitations of telegraph led Alexander Graham Bell

1876 to successfully demonstrate and present a working telephone. It was easy to use and

lowing direct real time contact between people. The development of the telephone, initially

ainly for business purposes on account of its cost and social connection of the time was rapid.

lany of the early telephones were established as point-to-point air units or private wires, but the

oncept of connecting lines to a command exchange took root and turned the telephone into an

ven more useful device. These switch broads were operated manually and, in metropolitan area

with a high level of calling, they hampered the operation and growth of the systems. It was even

alleged that operators with split loyalties might connect callers to a rival business rather than the

number requested. Such an incident inspired American undertaker Almond B Stronger to devise

what came to be described as the "girl-less", cuss-less telephone system in which connections

were set up and broken down by machinery, entirely under the control of the calling subscriber.

Then was born the automatic telephone, this led to the spread of automatic exchanges in the

United States.

Improvements were also taking place on the transmission side. The efficiencies of the electro

acoustic devices of the telephone handset was enhanced, the use of loading coil which or offset

the losses that audio signal suffered in transmission over wires was also introduced.

The intervention of diode valve by John Flemming in 1904 was followed by that of triode in

1906 by Lee de forest. This made the construction of the voice frequency amplifiers a reality.

l these led to the smooth interworking of different national systems which made provision on
ternational telephone service possible.

1.3 The Power of Radio.

orld War I saw the rapid development of radio – telegraph and form them on radio means of
ommunication became widespread, both for broadcasting and for long distance intercontinental
ommunication. This same decade of the 1930s was characterized by the continuing technical
evelopment of line and radio technologies, including the first international microwave radio
nk (between Great Britain and France) and in some countries, the first nationwide subscriber
uck dialing networks.

evelopment continue during the World War II and the 1950, so that by the end of that decade
ne transatlantic telephone cable was in place as well as broadband national microwave
distribution networks in many countries.

1.1.4 The Advent of Television.

The first practical television system was invented by John Baired in 1924. The system depended
on mechanical scanning, using rotation disks on which small apertures were spirally arranged.
World War II interrupted the commercial exploitation of television that commenced in the
1930's. But the work done on radar during war proved to be of great value to the development of
the new medium. Many improvements like better quality picture increased range of coverage and
evolution from black to colored followed. It was not long before television became the most
powerful of all the mass media.

The power of television was further enhanced by the introduction in 1980, of teletext, a system
for broadcasting textual information in the frame blanking intervals of television. Television
reception has become widespread, not only of air also via cable networks and satellites.

1.5 Computers and Data Transmission.

From the 1906's onward, the use of computers for data processing began to expand. Although, Charles Babbage had conceived that first practical machines could not materialize until 1939.

Those early machines were electro-mechanical and used relays as switches, to build-up the required data processing capabilities. Such computers were bulky and unreliable and were soon overtaken by their electronic counter parts.

From the same decade, computers of various types and sizes were being used in increasing numbers. This led to an ever growing demand for data transmission that would enable computers to communicate with each other and with their terminals. To meet this demand, data transmission facilities had to be progressively made available; either over public networks (telephone, telegraph or data) leased lines or private networks.

Facilities to provide communications for computer were being developed at the same time the associated evolution of computers for communications was not only for offline service functions like billings, accounting and directory information, but also in the very heart of switching itself. The logical culmination of the trend of switching ushered the stored program controlled (SPC) into Commercial service, in 1960 this development over the years to become the preferred type of switching for virtually all applications.

In parallel, message switching or store and forward systems with computer control, were developed for telegraph systems in an automatic service but was soon overtaken by packet switching system that proved to be most suitable for data networks. The latter type is now extensively used in many data networks that are flourishing today.

1.6 The Satellite Era.

Arthur C. Clarke originally suggested the use of a geo-stationary satellite as an extra terrestrial communication relay in 1945. It was only in 1957, however that the first earth satellite, Spunik I, was launched. It was made with digital transmission.

The use of satellite communications rose from intercontinental voice connections to large number of global, regional or domestic communication satellites in operation that provide a wide variety of services including text, data, voice and video.

Facsimile machines and mobile radio telephone systems for cars were also introduced.

1.7 Expanding Spectrum use.

The earliest telegraph line was a single wire earth return circuit. It carried a direct signal keyed at a speed not exceeding 20 bit/s. since that time, the transmission quality of lines, including the signaling speeds they could support, have been significantly improved. From an upper frequency limit of 150KHZ for open wire lines to 200THZ for optical-fibres, the usable electromagnetic spectrum space over transmission lines has grown by leaps and bounds.

These developments have been spurred by the evolution of carrier systems that enabled the multiplexing of several voice channels over a single transmission line. Starting with Frequency Division multiplex (FDM) systems for as few as a couple of voice channels in the 1930's, they have grown in capacity by several orders of magnitude. Currently, there are systems with a capacity of over 10,800 voice channels.

The same kind of spectrum growth has occurred with wireless. From an initial use of long waves, radio spectrum exploitation has progressively expanded to medium wares, short wares, ultra short waves, microwares, multimetic waves and even light wares. But the demands for spectrum have been expanding at such a pace that despite the extensions, spectrum congestion continues in

me bands. Suitable measures are, therefore, as necessary as before to ensure that the use of equency spectrum is equitable, economic and efficient. Such optimal use in essence what the dio Regulations are meant to assure.

1.8 Mobile Communication for all.

uring the early years of the 20th century, only ships and aircraft used mobile communications. and mobile communication first found use during World War I, for military operations. It was troduced as a service generally, available to the public in the 1960's. Even then the early pplications were mainly for cordless telephones (CTs) and simple paging systems that were not ore than beepers.

n the last three decades, however, there has been a spectacular growth in the land mobile ommunications. Advanced pages as well as high performance mobile telephony is increasing apidly and adequately spectrum availability as well as agreement on system characteristics has been important issues.

1.2 Objectives of the Study.

1. To discuss the evolution of telecommunication.

2. To highlight the contribution of the telecommunication industry to Nigeria economy.

3. To highlight steps required for participation in Nigeria's telecommunications market.

4. To design a website for Nigeria Communication Commission (NCC).

5. To seek to provide an extensive portal environment that can be expanded to incorporate all administrative functionality.

6. Empowering the use of technology effectively to help students achieve high academic standards.

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3   **Scope and Limitation.**

The website to be developed will showcase the following pages:

- Home page.

- About Us (Introduction of telecommunications).

- Headlines.

- Legal and Regulatory.

- Research and standard.

- Spectrum Issues.

- Licensing.

- Industry Statistic.

- Event.

- Speeches.

- Telecom & ICT Bodies.

- Contact Us.

1.4   Definition of Terms.

Computer is an electronic device, which is capable of accepting data as input, processing the data to generate an output.

Computer network is when two or more computers are connected so that they can share resources such as software, hardware, and/or processing power.

Internet (Net) is a vast network of computers that connects millions of people all over the world.

Electronic mail or Email is basically a file that is sent from one computer to another through a network.

Search engine is a software that searches a particular piece of information according to the specified criteria.

Hypertext Markup Language (HTML) is the language used to create Web pages on the Internet.

World Wide Web (WWW) or Web consists of a huge collection of pages containing information, images, sounds and video clips stored in computers around the world.

Website is the site that stores WebPages.

Home Page is the first page of any website.

Modem is a device that is used to transmit data over the network.

Internet Service Provider (ISP) is a company that provides individuals, organizations, and businesses access to the internet.

Internet Server Computers are computers that provide information and services on the Internet.

1. **Web Server** is a computer that provides information and services to Web surfers.

2. **Mail Server** is a computer that provides e-mail services and accounts.

3. **File Transfer Protocol (ftp) Server** is a computer that maintains a collection of files that you can download.

4. **Internet Relay Chat (IRC) Server** is a computer that supports your use of discussion groups and chat rooms.

Web Browser is the software used to navigate the Net.

Each web page on the web has a unique address called **Uniform Resource Locator (URL).**

The URL's of web pages start with **http://** where http stands for **Hyper Text Transfer Protocol.**

To view a particular website, you will have to write the address or URL of that website in the **Address bar.**

CHAPTER TWO

LITERATURE REVIEW

.1   Benefits of Telecommunications in the Nation's Economy

elecommunications, the infrastructure of infrastructure, not only has applications for all human

ctivities, but actually moderate them. Today, businessmen policy makers, lawyers, politicians,

ate governments, development organizations, legislators, educational institutions, consultants

tc are actively involved in telecommunications. In fact, people who do not have ready access to

elecommunications are finding themselves isolated with few opportunities and dimming

rospects.

Below are some practical applications of telecommunications:

Economical/ Industrial

The most dramatic impact of telecommunications has undoubtedly been economic. It is now

accepted that the productivity and competitiveness of all economic sectors and their capacity to

innovate in terms of products services and processes increasingly depend on communications

network.

Telecommunications network are making it possible for developing countries to participate in the

world economy in ways that supplies were not possible in the past by enabling them to take

advantage of their intellectual and cultural resources. The interconnection of computer has

brought about greater efficiency and better information management.

People, businesses and whole communities without ready access to information technologies are

left behind in the fast paced world-international investors demand efficient and reliable access to

information, and new businesses will not locate in place where telecom access is not readily and speedily available. Clearly, technology is driving the new global economy.

Health Care

With the development of teleconferencing facilities and multimedia capabilities of telecommunications, which has made it possible to combine audio and video facilities, spatial differences between medical specialists, medical centers and patients have been eliminated.

As a matter of fact, surgeons in one part of the country, or in any other part of the world can consult with other specialist while performing operations, while other Surgeons in any part of the world can also monitor such operations.

Education

The internet has become a universal library, where books, journals, articles and other materials can be sourced right within the confines of individual's home in any part of the globe.

For authors, the internet is a cheaper means of publishing and reacting out to wider audiences, thereby making more money, Users – students, etc are afforded the benefits of constant and easy access up to date information on different subjects.

The application of telecom has also aided distance learning. A number of educational institutions are not only able to run courses concurrently, but delivered, in different lecture rooms that are located in places far away from the actual point of delivery.

Transportation

Another major beneficiary of development on telecommunication is transportation. Be it in air, sea or land transportation, telecommunication facilities have been developed to facilitate these businesses. In fact, commercial airline industry will certainly grind to a halt without

elecommunications facilities. Monitoring of travel schedules and bookings are heavily
ependent on telecommunications.

Rural Development

The place of telecommunication in the development of rural community is generally appreciated.
According to recent report on rural telecommunications and universal service obligations, the
uses and practical application of telecommunications can be deduced from some of the following
benefits of the rural telecommunication.

I. Improvement of the living conditions of the people in the rural areas by allowing them to
communicate easily amongst themselves and with relatives, friends and business
associates living elsewhere.

II. Easier and faster access to up-to-date markets and price information thereby assisting
farmers and rural-based traders in their businesses.

III. More rural businesses and better employment opportunities that can greatly reduce the
problem of rural-to-urban migration.

IV. Better access to agricultural extension services such as prompt information on improved
seeds, availability of fertilizers, weather forecasting and pest control.

V. Improved health services including remote diagnosis and treatment advice.

VI. More efficient handling of civil emergencies and natural disaster.

VII. Wider access to education resources, especially through distance learning.

VIII. Easier access to government and wider awareness of government programmers and
activities.

IX. Enhanced security of lives and properties.

X. Increased patrolling and nurturing of border villages and to worlds.

Disaster Warning Systems

To eliminate or substantially reduce the vulnerability of large number of population to natural disaster such as floods, earthquakes, server storms, etc. the only option is the dissemination of early warnings of approaching disasters which depends greatly on effective communications systems and networks. Long range forecast are based on monitoring satellite observations. Radar information also provides essential data on location and movement of server storm.

The refinement of warning and forecasting systems depends on improvements in data access and communications.

In addition to the above and with similar technological capabilities telecommunications is also applied in the following areas of social and economic life of nations.

- ❖ Industrial development
- ❖ International trade
- ❖ Security
- ❖ Social
- ❖ Knowledge and information sharing.
- ❖ Warfare

2.2   Telecommunication Industry Structure

Nigeria's telecommunications industry structure consists of the following components:

- Government
- Ministry of Communications
- Nigeria Communications Commissions; and
- Telecommunications Services providers

2.2.1 Government

The role of government in the telecommunications sector includes:

- Giving overall directions for telecommunications development.

- Ensuring policy constituency of telecommunications with other national policies; and

- Enacting necessary laws and taking other measures promptly in support of the National Telecommunications Policy.

2.2.2 Ministry of Communications

The ministry formulates broad telecommunications policy. Among its specific functions are:

1. Proposing policy options and recommending to Government such measures as legislation, fiscal incentives etc.

2. Monitoring the implementation of government policy in the industry.

3. Establishing policies for promoting universal access to communications in Nigeria as outlined in this policy.

4. Representing Government on matters pertaining to regional and international organizations.

5. Overall monitoring of radio spectrum allocation in the country, and liaising with the National assembly on telecommunications matters.

2.2.3 The Nigeria Communications Commissions

- Licensing of telecommunication operators.

- Assignment and registration of frequency to non-government spectrum users.

- Promoting and enforcing a fair competitive environment for all operators as outlined in the policy.

- Defining standards for economic regulations of dominant operators, including tariff regulation an outlines in the policy.

- Administration of a national numbering plan

- Facilitating private sector participation and investment in the telecommunications sector of the Nigerian economy.

- Promoting and enforcing a fair competitive environment for all operators as outlined.

- Establishing mechanisms for promoting universal access to telecommunications services in Nigeria, as outlined in the policy.

- Establishing and enforcing technical operational standards and practices for all operators including the imposition of penalties for violations.

- Ensuring that the public interest is protected.

2.2.4 The Status to Telecommunication in Nigeria

Presently, in Nigeria, there are still very many villages without a single telephone while people elsewhere in the developed world spend hours surfing the internet.

This is a negative aspect of the digital divide. Nigeria is committed to policies and programmes that would quickly bridge the digital divide.

Before 1990, Nigeria had a public network of a little above 700,000 lines capacity of which 400,000 lines are connected. Nigeria lagged behind when compared to some even less endowed African countries, let alone advanced countries.

In a bid to deregulate the industry, the federal government initiated action to tackle these observed shortcomings began with the establishment of the Nigeria Communication Commission (NCC).

NCC in July 1993 set out guide lines for private sector participation and issued licenses to a number of companies for several telecommunications undertaking:

- ➢ Provision and operation of public mobile communications.

- ➢ Operation of telephones, and value added network services.

- ➢ Cabling, repairs and maintenance of telecommunication in Nigeria.

Upon NCC activities private fixed Telephony operators came in stream and provided services to complement NITEL's effort. These operators contributed a modest 100,000 to fixed Network.

As a result of Government commitment to the principles of deregulation, competition and privatization as well as the creation of level playing ground for all operators, a revolution has been triggered in the telecommunications sub-sectors of Nigeria.

Consequently, in August 2001, Government awarded three GSM licenses to three GSM operators namely; NITEL, MTN and ECONET through a most acclaimed public auction conducted by the NCC. Since it was launched, the growth in the use and penetration of mobile phone has been very impressive. ECONET, MTN and NITEL have rolled out about one million GSM.

Tremendous growth is being experienced in the telecommunication industry, especially in the deployment of digital mobile and fixed lines. There has been an increase in the number of cyber cafes, Internet services, and card calling and other value added services.

In Nigeria, a recent survey has revealed that communications services are becoming increasingly necessary for access to economic, social, education and government information, and as such many institutions and agencies now move into replacing hard copies publications with digital online access media.

And so, Nigeria is greatly heading to and at the verge of adopting the digital information to conduct their lives in order not to exclude the rural communities that are already economically disadvantaged from the transition to the telecommunications revolution in the country.

Governments have intensified efforts to see that public access is provided for each community so as that all Nigerians can have easy access to information super highway service at affordable price.

2.2.5 Rural Telephony

Efforts has also been put to place by the Federal government to provide rural telephone services so as to integrate the teaming rural population with the rest of Nigeria in particular and the world in general.

2.2.6 Tariff Structure, Pricing, Payphone and Internet.

NITEL has also reduced its telephone, fax and telegraph services as well as cost of telephone acquisition in order to make telephone and other services more affordable to all Nigeria and so bring the services closer to all.

The number of payphone has also increased significantly. This is to take care of those who cannot afford to subscribe directly.

2.2.7 Internet

Before 1996, there were no active or operational internet services providers in Nigeria. However in 1996, ten license offers were granted to some multi-national corporations such as oil companies to link the internet to operate dial up services. With the connectivity of NITEL Internet services in 1997, the spread of the internet revolution started growing steadily in Nigeria with services provided to 28 three categories of users namely: Internet Services Providers (ISP), corporate service users and the single dial-up service. The number rose to 46 in 1998, 70 in 1999, 133 in 2000 and by 2001, the number rose to 160 and over 40 active ISP's were recorded. NITEL also provides Internet services.

2.3 Prospects

As result of her booming telecommunications sub-sector, Nigeria;

1. Remains the most populous country in Africa

2. Is the major market for long distance market operators

3. Remains the central location as potential for telecommunications hub for West Africa region.

4. Possess ingredients that could support local manufacturing.

5. Poses to be the potential market for broadband network.

2.4   Trends

As the economy of the nation continues to loop up and with pressures from international businessmen, Government, educational institutions, global financial markets, Nigeria is positioned as a major commercial center in the West African region, and the demand for reliable and modem telecommunications infrastructural facilities and services is heavy. Nigeria is therefore a major market for telecommunications equipment and services in technology areas such as:

- Digital transmission system (including microwave satellite and optic fiber)

- Submarine communications

- Digital exchanges (wired and wireless)

- Billing system

- Data communications networks including primary rate.

- ISDN and Broad band ISDN service.

2.5   The Nigeria Communication Commission (NCC) at a Glance

The Nigeria communication commission, a strong independent, regulator of telecommunications industry in Nigeria was established by decree 75 of 1992. This commission was establishing the

federal government in view of the ultimate goal of the telecommunications industry; the provision of voice, data and image in any combination, anywhere at any time with convinces and economy. NCC was also established to steer private sector participation in the industry thereby ensuring the provision of qualitative and efficient telecommunications service throughout the country.

2.5.1 Objectives of NCC

The main objective of the NCC includes:

- Creating a regulations environment to facilitate the supply of telecommunications facilities and services.

- Facilitating the entry of private entrepreneurs into the communication market and;

- Promoting fair competition and efficient market conduct among all players in the industry.

- The value added services a liberalized by decree include; installation of terminal or other equipment e.g. Telephone, telex, fax.

- Provision operations of public pay phones.

- Provision and operation of private network links employing cable, radio communication, satellite within Nigeria.

- Provision and operation of public mobile communication e.g. Cellular, paging, trucking radio.

- Provision and operation of value-added network services e.g. for mural area and estates.

- Repair and maintenance of telecommunication facilities.

- Cabling e.g. telephone cables.

Other function that becomes the responsibility of the NCC after the recent telecommunication policy of the Obasanjo administration including;

- Assignment and registration radio spectrum to licensed operators.

- Administration national numbering plan.

- Establishing mechanisms for promoting universal access to telecommunication services nationwide.

- Enforcing technical standards and protection of consumers from unfair practices by licenses.

Consequently upon NCC activities private fixed telephony operations on stream and provided service to compliment NITELS effort. These operations contributed a modest 100,000 lines to the fixed Network, The mobile cellular service which was handled by M-Tel (now part of INTEL) provided 35,000 analogue cellular lines fully subscribed and considered very in adequate and unsatisfactory.

2.5.2 Organizational Structure of the NCC

The organizational structure of the commission is comprise of five (5) Directorate; Legal services, Licensing, Engineering, Standard and Support services which is made up of the following departments and units; The units include Administration, Finance, Human Resources and Information Technology (IT), As well as Fire department; Public Affairs Corporate, Research and Planning, Business Development, Consumer Affairs and International Audit

The various interest of each of these department represented by a board of 10 (Ten) commissioners comprising of one chairman, persons of chief Jordan, one Executive vice chairman-Engineer E.C. A. Ndukwe and eight (8) board of directors.

The commission has it its headquarters located in Abuja with your Zonal officers in Kano, Lagos Umuahia and Port Harcourt for the purpose of achieving national coverage and presence.

Also on the homepage are links to other subsystems that are buttonized and they include Home, License, News, Legal, About us, Speeches, Event and Industry Standard. At the bottom of the page is the copyright warning.

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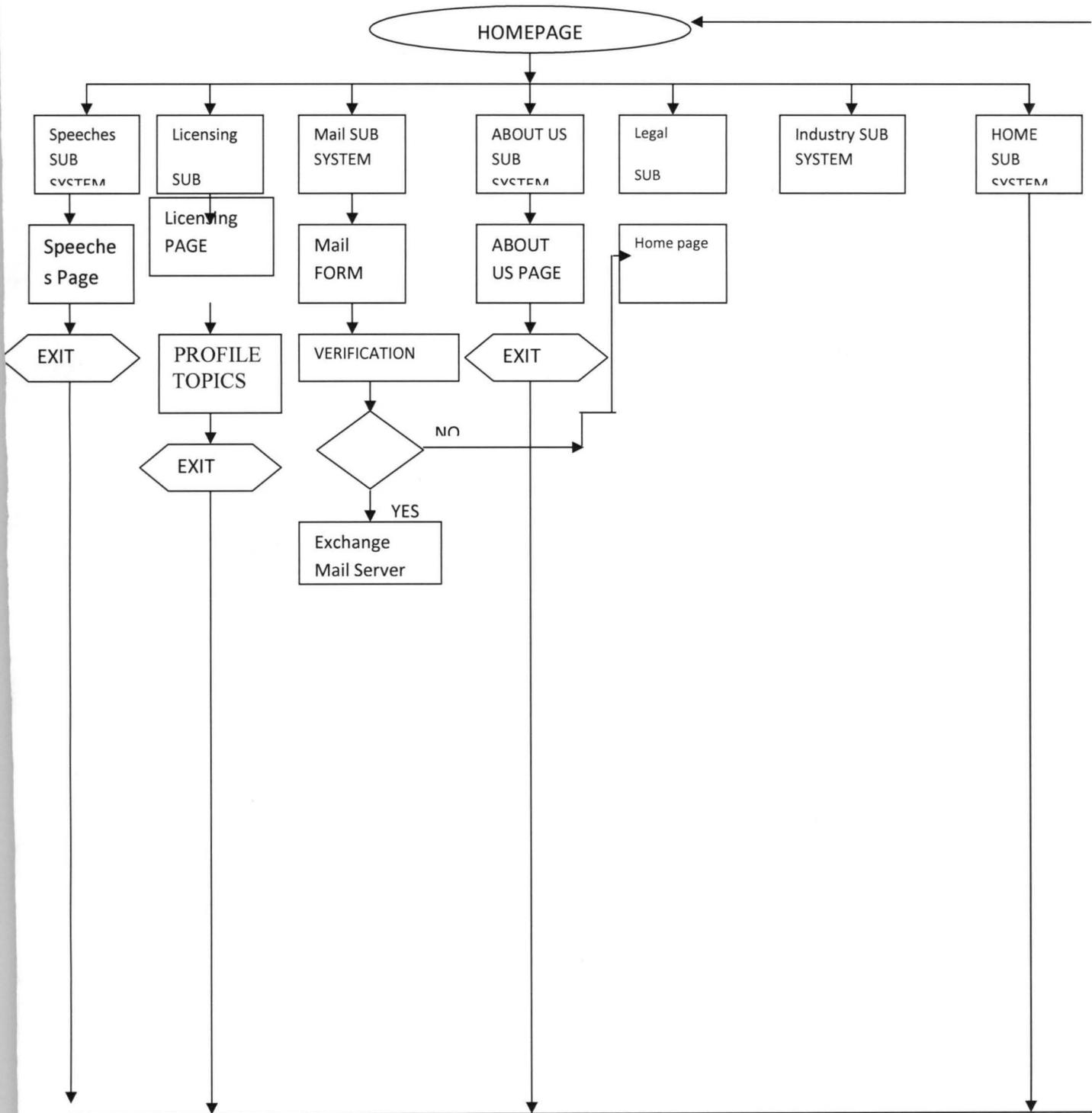
3.5   Overview of Subsystem

The system comprised of thirteen subsystems namely, Home, Legal, Speeches, Mail, Headlines, About Us, Licensing, Events, Contact us, Standard and Spectrum issue. These subsystems may have other sub-units embedded within them all structured to work together towards achieving a feasible website as shown in the block diagram overview of the project.

3.5.1   Mail Subsystem

This subsystem allows staff of the organization to be authenticated and check their mail when they are outside the organization. The technology being used is the Open Web Access (OWA)

3.5.2   Speeches Subsystem

This subsystem gives visitor access to some papers delivered during seminars.

3.5.3   Licensing Subsystem

This subsystem gives a general overview of the different licensing option being implemented by the organization.

3.5.4   About Us Subsystem

This subsystem gives a general overview about the activities of the organization.

3.5.5   Event Subsystem

This gives information about the upcoming events within the organization.

3.5.6 Contact Us Subsystem

Since NCC is a federal Organization, the subsystem gives information about address of NCC offices scattered in different part of the country.

3.5.7 Telecom and ICT Bodies Subsystem

This subsystem gives inform about the different Telecom and ICT bodies that exist around the world

3.5.8 Spectrum Issues Subsystem

This subsystem shows the entire spectrum that exists in the country.

3.6 The Homepage Integration Design

The integration design involves the functional completeness of the page representing every function previously described without stressing one more than the other. Hence in accordance with website design, the following form the baseline and factors on which this integration design is based. They are online functionality, Internet strategy, website structure and navigation and content criteria. These form the strategic bench mark in this integration design, and would be considered. In online functionality, the delivery of far reaching functions that go beyond the presentation of web pages, but interactive capabilities, which include online registration processing, student log system and the general interactive courseware.

Also Internet strategy takes advantage of the facilities and publicity offered by the Internet to position itself in the correct view without limit in scope of operational horizon.

On the other hand, the ease of navigation and website structure remains an important baseline in this integration design and other designs. This website is online focused meaning that they can be accessed from any part of the world.

Conclusively, the integration of this homepage and other factors parameter put into consideration, form the integration design parameters.

3.7   Top Down Design Approach

The choice of any design approach depends on the type of project one want to design. This design approach was chosen because of the inherent advantages it will render to this project design. Some of these advantages include the early testing of the control functions and also the early attention on module integration and interface definition. The Top-Down design approach used in this project work started with the design of the home page. This was followed by the design of six subsystems as shown in the block diagram.

These subsystems contain other subsystem (module). This was achieved by going through each subsystem until the design for all modules incorporated within it is exhausted. The next design step picks another subsystem and completes the design of the modules within it. The step-by-step design of the modules contained in each subsystem is as shown in the Top-Down design block diagram.

CHAPTER FOUR

SYSTEM IMPLEMENTATION

The design of the project involves both hardware and software. These are essential to the development of the project and making it a reality.

The program is designed as an internet and intranet web application which is installed on a remote server. The server is installed in a computer and other computers are connected to it.

It follows this approach so that the web application could get to everywhere it is need.

The entry from each location where the application runs is submitted to the database in the server.

The database administrator assigns usernames and passwords to the administrators in the locations were the application is used.

Since the application runs on the web or the internet it can be reached by every locality with an internet connection.

4.1   System Requirement

The system requirement are the implements that are put together to make the automated application work. The system requirements for this project are the following:

1. A minimum Pentium processor of 3.06 GHZ

2. A minimum random access memory (RAM) of 2 GB

3. A minimum hard disk of 250 GB

4. A visual display unit (VDU) with minimum screen resolution of 1280 x 800 and minimum of 32 bit color quality

5. A standby UPS (uninterrupted power supply) of a minimum of 2KVA

6. A quality DeskJet printer

7. A mouse and keyboard

4.2   Software Requirement

The software requirements are the required software that are need to make the automated application work as expected. The software is

1. **Apache server:** Apache HTTPD server version 2.2.58, which is the current production version of the software. The Apache Software Foundation uses minor release numbers for updates containing security enhancements or bug fixes. This serve is used to connect the server-side languages to the web and to the database in use. It also helps to debug the server-side language for syntax errors and show logical errors as well.

2. **PHP:** PHP (recursive acronym for "PHP: Hypertext Preprocessor") is a widely-used open source general-purpose scripting language that is especially suited for Web development and can be embedded into HTML. PHP is a server-side scripting language which can run in various operating systems. Hence if the program is transferred from one operating system to another provided the serve is installed the program would run

3. **MySQL:** MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by MySQL AB. MySQL AB is a commercial company, founded by the MySQL developers, that builds its business by providing services around the MySQL database management system. Mysql is a database management system, a relational database management system, an open source software,

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very fast, reliable, and easy to use. It also works with client side and server side embedded systems.

4. **Ajax:** Asynchronous Java script and XML(Extended markup language), is used combination of java script and xml to enhance the speed of the program.

5. **Operating systems**: Which is program installed with command line and user friendly interface were programs are installed and used. For example, Microsoft windows Xp or higher versions operating system, Mackintosh 2000 – date versions operating system, Linux 2000 – date versions operating system.

6. Web browsers (for example Microsoft Internet Explorer, Mozilla Firefox, Netscape, Emphany, Opera, Flock, Comic Bird, Konqueror, etc).

7. Another scripting language used is Cascading Style sheet, CSS. CSS is used to enhance the design of this project and make the user interface appealing.

Other software used in the developing the automated application includes;

- graphical software - Adobe Fireworks

- animation software - SwishMax

- Text editors - Notepad++ and Gedit

4.3   System Implementation and Result

The system implementation of the application follows the results and of the developed application which has been designed to give exact information supplied in the database. The software put together to make the application what it is are proved reliable. The results from the projects from the project can also be updated.

4.4   System Documentation

System documentation entails the preparation of a detailed report to accompany a program that has been tested and proven to be running correctly for current and future references. System documentation include the following: the statement of the problem (being solved), algorithm (pseudo code or flowchart), highlights and deficiencies of method of solution, sample copies of input(s) and output(s) of the program, program code, sample run listing, internal controls built into the system and operating instructions for the users.

4.5   Sample Input of the programs

Fig. 4.1 Home Page

Fig. 4.2 About Site

About NCC

The Nigerian Communications Commission is the independent National Regulatory Authority for the telecommunications industry in Nigeria. The Commission is responsible for creating an enabling environment for competition among operators in the industry as well as ensuring the provision of qualitative and efficient telecommunications services throughout the country.

Over the years NCC has earned a reputation as a foremost Telecom regulatory agency in Africa. The Commission is hoping to catalyze the use of ICT'S for different aspect of national development. The Commission has initiated several programs such as State Accelerated Broadband Initiative (SABI) and Wire Nigeria Project (WIN) to help stimulate demand and accelerate the uptake of ICT tools and services necessary for the enthronement of a knowledge society in Nigeria.

In order to achieve its mandate, the Commission has put in place the necessary licensing and regulatory framework for the supply of telecommunications services.

VISION

An information rich environment, comparable globally in quality telecom service provision, regulated by a responsive, world-class organization.

MISSION

To support a market driven telecommunications industry and promote universal access.

We will achieve this through the consistent enforcement of clear and fair policies that protect stakeholders, ensure efficient resource management, share industry best practices and deliver affordable, quality telecom services.

Fig.4.3 About Nigerian Communication Commission

NCC
NIGERIAN COMMUNICATIONS COMMISSION

14:45:45
Mon, 19 Apr 2010

Current User :: Multilinks | logout

Home   About NCC   Licence   Objectives   TeleComms   Login

Licensing

Any organisation/individual willing to participate in the provision of telecommunications services in Nigeria can obtain information about the underlisted via link and the Licensing link on the menu bar.

The underlisted information are available:

License Requirement & Procedure

- Deregulated Services
- Post License Award Evaluation
- Application Form
- List of Licensees
- Fee Structures
- License Documents

In addition to the existing class licenses, Payphone, Cybercafé and Telecentres, the Commission, in a bid to facilitate entry into the telecommunications market in the country and ensure that Nigeria becomes an information rich society, has reviewed its licensing policy by adding new services to its Class licence category. Consequently, the following undertakings now fall under the Class Licence category

- Sales and Installation License; including; Mobile Cellular Phones & HF/VHF/UHF Radio
- Sales and Installation Permit; including; Fixed Telephone sets, Modem, Cordless phones, Fax machines and PABX and switches not exceeding 30-line capacity.
- Repairs and Maintenance; including

Fig.4.4 License Page

NCC
NIGERIAN COMMUNICATIONS COMMISSION

14:46:28
Mon, 19 Apr 2010

Current User :: Multilinks | logout

Home   About NCC   Licence   Objectives   TeleComms   Login

Objectives

To promote the implementation of the national communications or telecommunications policy as may from time to time be modified and amended

To establish a regulatory framework for the Nigerian communications industry and for this purpose to create an effective, impartial and independent regulatory authority

To promote the provision of modern, universal, efficient, reliable, affordable and easily accessible communications services and the widest range thereof throughout Nigeria

To encourage local and foreign investments in the Nigerian communications industry and the introduction of innovative services and practices in the industry in accordance with international best practices and trends

To ensure fair competition in all sectors of the Nigerian communications industry and also encourage participation of Nigerians in the ownership, control and management of communications companies and organisations

To encourage the development of a communications manufacturing and supply sector within the Nigerian economy and also encourage effective research and development efforts by all communications industry practitioners

To protect the rights and interest of service providers and consumers within Nigeria

To ensure that the needs of the disabled and elderly persons are taken into consideration in the provision of communications services and

To ensure an efficient management including planning, coordination, allocation, assignment, registration, monitoring and use of scarce national resources in the communications sub-sector, including but not limited to frequency spectrum, numbers and electronic addresses,

Fig. 4.5 Objectives Page

Current User :: Multilinks | logout

Home   About NCC   Licence   Objectives   TeleComms   Login

Telecommunication and ICT Bodies

African Telecom Regulatory Bodies, Telecom Companies and Agencies

View Industry Statistics

Country	Organization	Website
Burkina Faso	Autorite Nationale de Regulation des Telecommunications du Burkina Faso (ARTEL)	www.artel.bf
	Office National des Telecommunications (ONATEL)	www.onatel.bf
Cote D'Ivoire	Agence des Telecommunication de Cote d'Ivoire (ATCI)	www.atci.ci
Guinea Bissau	Instituto das Comunicacoes da Guine-Bissau (ICGB)	www.icgb.org
Kenya	Communications Commission of Kenya	www.cck.go.ke
Madagascar	Office Malagasy d'Etudes et de Regulation des Telecommunications	www.omert.mg
Mauritania	Regulatory Authority	www.are.mr

Fig.4.6 Telecoms Page

Current User :: Multilinks | logout

Industry Sector

Go Back!

Market Share of Mobile Operators
(June 2009)

MTN
Globacom
Zain (i.e. Celtel)
EMTS (i.e. Etisalat)
Mtel
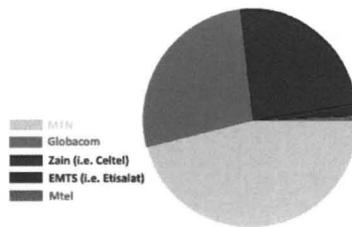
◀◀ Home   ◀ Previous   ▷ Next   Skip to End

Fig.4.7 Industry Statistic Page

Fig. 4.8 Login Page

Fig. 4.9 Error Page

Fig. 4.10 Login Confirmed

4.6 Software Testing and Integration

Many software projects are known to have fumble due mainly to unplanned testing procedure and in other cases testing is actually a series of different test whose primary purpose is to fully exercise the computer-based system. Although we have three different type of testing this has different purposes. This section involves the overall testing of the different modules. This also involves the systematic combination of these modules and the corresponding interfacing between them. Also integration involves a systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. A diagrammatic representation of the various software-testing steps involve is shown below

4.7   The Test Plan

Integration testing method has some problems affecting it that makes the whole testing process complicated and slow, because of this problem, the method of testing implemented in this project is a module testing method. It did not test the codes line by line; rather it explains why the logical structure of the program is not examined in all cases

Module testing is a black box test that tests the system's ability to solve a particular problem (i.e. to work as a whole) In this method of testing the designer 's interest is in verifying that the specification for the job are well met by the new system. In this case, when a particular module fail to perform its operation white-box method of testing was embarked upon. It involves careful examination of the code line by line in order to find the exact cause of the problem.

However, the test plan was made in such that the homepage was first to be tested by clicking on each hyperlink buttons on the page. Each hyperlink clicked on automatically loads the associated file's action and each of the subsystems was performing its associated action. Finally, the required outputs were obtained and both unit and integrated methods of testing were incorporated to achieve the required goal.

4.8   Test Data

Reliability is the probability of failure free operation of a computer program in a specified environment for a specified time. To ensure effective reliability, certain data are used to obtain results from different tests (unit and integrated test). Clicking on the "Profile button" will load a

On clicking the Spectrum Button, a user is taken to a page that displays the available spectrum within the country.	Result as expected.
The Contact us button when clicked present the address of various offices of NCC within the country	Actual result is the same

4.10 Performance Evaluation

For real time and embedded systems, software that provides required function but does not conform to performance requirement is unacceptable. Performance testing is designed to test the run time performance of software within the context of an integrated system. Performance testing occurs throughout all steps in the testing process. Even at the unit level, the performance of an individual module may be assessed as white box are conducted. However, it is not until all system elements are fully integrated that the true performance of a system can be ascertained.

In view of the above, the developed website was properly tested in all levels and results obtained seem very reliable. Both unit and integrated tests were performed on the system and this work fully recommended for both the tourism and educational sectors. In fact, the behaviour of the system proves its high degree of acceptability into relevant sectors. The actual test results correspond with the expected test result thereby indicating a validated and effective system design.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1   Summary of Achievements

It was really a great achievement to have worked on this Internet based project. The experience acquired from this work was extremely wonderful. I had the opportunity of carrying out researches on certain areas relating to the project.

This website is unique because it was designed with the latest software used in web designing and also it is independent of any browser A project of this type which is internet based has no restriction to anyone who wants to make access to it.

5.2   Problems Encountered and Solution

Many problems were encountered while designing this website. Some of the problems are as follows.

1. Inconsistent power supply from PHCN.

2. Inadequate software packages in the school project laboratory

3. No Internet access provided in the department

4. Also in the department, there is no system running a robust operating system like Windows NT that have Personal Web Server to simulate the server side and for easy database connection.

5. Information gathering and data collection was not an easy task during this work. Individuals were so reluctant about collecting questionnaires and providing the information needed for the work.

6. There was no dedicated server in the department to simulate the project because it is web based and server dependent.

5.3   Suggestions for Further Improvement

I suggest that further improvement should be made in some relevant areas of this project. Although the project was successfully carried out and it is performing as expected. The areas of further improvement include the following;

1. The project should be hosted by an ISP on the internet to satisfy its objective   toward reaching more people across the globe.

2. Though ADO is used in adding database connectivity to the web page because of its easy connection to ODBC. A combination of ADO and DBO properties gives rise to ASP. The use of ASP to provide web page database connectivity should be used.

5.4   Recommendations

In view of the above problems, the following recommendations were made:

1. Constant power supply should be provided to the students of the department to enhance productivity and speed.

2. Education is dynamic and not static; this means that the school library should be equipped with the latest materials relating to web designs.

3. Adequate Internet facilities should be provided to the student of the department to enhance researches and information retrieval from the global world.

4. The software packages in the project lab should be updated to meet the challenges in the website industry.

5. A dedicated system acting as a server and running on a robust operating system should be provided.

6. Choice of project should relate to students discipline.

7. Student project advisory committee should be put in place in the faculty to advice students on the right project topic to choose from.

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APPENDIX

HOMEPAGE CODE

```
<!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>

 <script type="text/javascript" src="crawler.js">

/*

Text and/or Image Crawler Script ©2009 John Davenport Scheuer

as first seen in http://www.dynamicdrive.com/forums/ username: jscheuer1

This Notice Must Remain for Legal Use

*/</script>

<SCRIPT language="JavaScript1.2">

<!-- Script courtesy of http://www.web-source.net - Your Guide to Professional
 Web Site Design and Development

function makevisible (cur,which){

strength=(which==0)? 1 : 0.2

if (cur.style.MozOpacity)

cur.style.MozOpacity=strength

else if (cur.filters)

cur.filters.alpha.opacity=strength*100

}

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

<title>HOME</title>

<style type="text/css">

<!--

#Layer1 {

 position:absolute;      width:1125px;
```

```
  height:1787px;

  z-index:1;

  left: 35px;

  background-color: #003300;

  top: 15px;

}

#Layer2 {

  position:absolute;     width:200px;    height:115px;   z-index:1;       left:
  70px;

  top: 23px;}

#Layer3 {

  position:absolute;     width:1258px;   height:694px;   z-index:1;       top:
  17px;

}

#Layer4 {

  position:absolute;     width:138px;    height:67px;    z-index:1;background-
  color: #FFFFFF;

  left: 1px;      top: 1px;}#Layer5 {

  position:absolute;

  width:996px;

  height:71px;    z-index:2;      left: 140px;

  top: 5px;}

#Layer6 {

  position:absolute;     width:421px;    height:303px;   z-index:3;       left:
  296px;

  top: 132px;}

#Layer7 {        position:absolute;      width:200px;    height:115px;   z-
  index:4;

  left: -229px;   top: 11px;}#Layer8 {   position:absolute;      width:115px;

  height:21px;

  z-index:5;      left: 852px;    top: -41px;}#Layer9 {  position:absolute;

  width:953px;
```

```
height:217px;    z-index:4;        left: -420px;   top: 306px;}#Layer10 {
        position:absolute;

width:200px;

height:315px;    z-index:6;        left: 40px;     top: 121px;     background-
color: #CCCCCC;

}

#Layer11 {        position:absolute;       width:200px;    height:115px;    z-
index:7;

left: 911px;     top: 154px;}

#Layer12 {        position:absolute;       width:530px;    height:139px;    z-
index:7;

left: 716px;     top: 137px;}#Layer13 { position:absolute;       width:165px;

height:732px;    z-index:8;        left: 748px;     top: 690px;}

#Layer14 {        position:absolute;       width:197px;    height:30px;     z-
index:8;

left: 1055px;    top: 78px;}.style1 {color: #000066}#Layer15 {
        position:absolute;

width:126px;     height:66px;     z-index:2;        left: 935px;     top: 86px;

}

#Layer16 {        position:absolute;       width:114px;    height:63px;

z-index:1;

left: -102px;    top: 2px;}#Layer17 {    position:absolute;

width:101px;     height:63px;     z-index:9;        left: 722px;     top: 74px;

}

#Layer18 {        position:absolute;       width:184px;    height:101px;    z-
index:10;

left: 49px;      top: 444px;}#Layer19 { position:absolute;       width:157px;

height:22px;     z-index:11;       left: 1051px;    top: 106px;}#Layer20 {

position:absolute;       width:63px;      height:20px;     z-index:12;       left:
991px; top: 62px;}#Layer21 { position:absolute;       width:60px;

height:20px;     z-index:13;       left: 930px;     top: 61px;}#Layer22 {
        position:absolute;       width:57px;      height:17px;     z-index:14;

left: 876px;     top: 62px;}#Layer23 { position:absolute;       width:1012px;
        height:37px;
```

```
z-index:3;      left: 254px;    top: 681px;}#Layer24 { position:absolute;

width:185px;    height:19px;    z-index:4;      left: 677px;    top: 87px;

}

#Layer25 {      position:absolute;    width:200px;    height:174px;    z-
index:4;

left: -260px;

top: -1px;

}

-->

</style>

</head>

<body>

<div id="Layer23">

  <div class="marquee" id="mycrawler">

This Website was designed by FUNSHO ZACCHAEUS ADEYEMI with Registration
Number PGD/MSC/2007/1235 Under the Supervision Of MALAM Y. YAKUBU Of the
Department of Computer Science FUT MINNA. Industry Statistic Page

  <script type="text/javascript">marqueeInit({

uniqueid: 'mycrawler',

style: {

        'padding': '5px',

        'width': '920px',

        'background': 'white',

        'border': '1px solid #ffffff'

},

inc: 8, //speed - pixel increment for each iteration of this marquee's
movement

mouse: 'cursor driven', //mouseover behavior ('pause' 'cursor driven' or
false)

moveatleast: 4,neutral: 150,   savedirection: true}); </script>

  <script type="text/javascript">marqueeInit({

uniqueid: 'mycrawler2',
```

```
style: {

        'padding': '2px',

        'width': '600px',

        'height': '180px'

},

inc: 5, //speed - pixel increment for each iteration of this marquee's
movement

mouse: 'cursor driven', //mouseover behavior ('pause' 'cursor driven' or
false)

moveatleast: 2,neutral: 150,  savedirection: true});  </script>  </div>

</div>

<div id="Layer15"><img src="images\picture1.jpg" width="111" height="63"
style="filter:alpha(opacity=20);-moz-opacity:0.2"
onMouseover="makevisible(this,0)" onMouseout="makevisible(this,1)">

 <div id="Layer16"><img src="images\picture11.jpg" width="111" height="63"
style="filter:alpha(opacity=20);-moz-opacity:0.2"
onMouseover="makevisible(this,0)" onMouseout="makevisible(this,1)"></div>

</div> <div id="Layer3">

 <div id="Layer4"><img src="ncc_logo.jpg" width="138" height="67" /></div>

 <div id="Layer5"><img src="The_Nigeria.jpg" editor="Webstyle3"
moduleid="Default (Project)\The_Nigeria.xws" border="0" /></div>

 <div id="Layer6">

  <div style = "float: left; height: auto; width: auto; margin: 5px;"><img
src = "images/nccbuilding.jpg" width="413" height ="301"></div>

 </div>  <div id="Layer7">    <script webstyle3>document.write('<scr' + 'ipt
src="circles.js">'+'</scr'+'ipt>');/*img src="circles.gif" moduleid="Default
(Project)\circles_off.xws"*/</script>  </div>   <div id="Layer10">

   <script webstyle3>document.write('<scr' + 'ipt
src="circles.js">'+'</scr'+'ipt>');/*img src="circles.gif" moduleid="Default
(Project)\circles_over.xws"*/</script>

 </div>  <div id="Layer12">   <div id="Layer9">       <p><span class =
"subheading style1"><strong>Our Guiding Principles</strong></span> <br />

      The Commission is driven by three guiding principles (Fair, Firm and
Forthright) in carrying out its duties and functions as the National
Telecommunications Regulator. These principles drive our Core Values.<br />

      <br />      <span class = "subheading style1"><strong>Our Core
Values</strong></span></p>
```

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```html
    <ul style="margin-top: 2px; padding-top: 2px;">

      <li> Integrity

          <div id="Layer25">                    <object classid="clsid:d27cdb6e-ae6d-
  11cf-96b8-444553540000"

codebase="http://fpdownload.macromedia.com/pub/shockwave/cabs/flash/swflash.ca
  b#version=8,0,0,0"

  width="200" height="220" id="CC3500660" align="middle">

<param name="movie" value="mycalendar.swf"/>

<param name="quality" value="high" />

<param name="FlashVars" VALUE="ww=200&hh=220"/>

<param name="salign" value="lt" />

<param name="bgcolor" value="FFFFFF" />

<embed src="mycalendar.swf" quality="high" bgcolor="FFFFFF" width="200"
  height="220"

  FlashVars="ww=200&hh=220" name="CC3500660"  salign="lt" align="middle"
  type="application/x-shockwave-flash"

  pluginspage="http://www.macromedia.com/go/getflashplayer" /></object></div>

      </li>

      <li> Excellence </li>

      <li> Professionalism </li>

      <li> Responsiveness </li>

      <li> Innovation</li>

    </ul>    </div>      <p>The Nigerian Communications Commission is the
  independent National Regulatory   Authority for the telecommunications
  industry in Nigeria. The Commission is   responsible for creating an enabling
  environment for competition among operators   in the industry as well as
  ensuring the provision of qualitative and efficient   telecommunications
  services throughout the country.</p><p><span class = "subheading
  style1"><strong>Our Mission</strong></span> <br />

To support a market driven telecommunications industry and promote universal
  access. We will achieve this through the consistent enforcement of clear and
  fair policies that protect stakeholders, ensure efficient resource
  management, share industry best practices and deliver affordable, quality
  telecom services.<br /></p>

    <p><span class = "subheading style1"><strong>Our Vision</strong></span>
  <br />       An information rich environment, comparable globally in quality
```

telecom service provision, regulated by a responsive, world-class
organisation</p> </div>

```html
  <div id="Layer14">          <div id = "datebox">

   <div align="center">       <script language="JavaScript">

<!--    function cMonth(nMonth) {               if (nMonth == 0) return
'January';

        if (nMonth == 1) return 'February';

        if (nMonth == 2) return 'March';

        if (nMonth == 3) return 'April';

        if (nMonth == 4) return 'May';

        if (nMonth == 5) return 'June';

        if (nMonth == 6) return 'July';

        if (nMonth == 7) return 'August';

        if (nMonth == 8) return 'September';

        if (nMonth == 9) return 'October';

        if (nMonth == 10) return 'November';

        if (nMonth == 11) return 'December';

}

today = new Date();

document.write(cMonth(today.getMonth()) + ' ' + today.getDate() + ', ' +
(today.getFullYear() + '.'));

//-->

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

</div>

  <div id="Layer17"><img src="images\picture12.jpg" width="111" height="63"
style="filter:alpha(opacity=20);-moz-opacity:0.2"
nMouseover="makevisible(this,0)" onMouseout="makevisible(this,1)"></div>

  <div id="Layer20"><a href="mail.html">Webmail</a></div>

  <div id="Layer21"><a href="About.html">Abour Us</a></div>

  <div id="Layer19"><!-- Google CSE Search Box Begins   -->

                                <table width="204" border="0" cellpadding="0"
cellspacing="0">
```

```html
                    <tr><td width="204" align="center" valign="top"
nowrap="nowrap">

                        <input type="text" name="q" maxlength="255"
value="" class="seachtxtform"></input>

                        <input type="submit" name="sa"
value="Search"></input>

                        <!--<input type="hidden" name="client"
value="pub-1734327923886716"></input>

                        <input type="hidden" name="forid"
value="1"></input>

                        <input type="hidden" name="channel"
value="9518150362"></input>

                        <input type="hidden" name="ie" value="UTF-
8"></input>

                        <input type="hidden" name="oe" value="UTF-
8"></input>

                        <input type="hidden" name="cof"
value="GALT:#008000;GL:1;DIV:#336699;VLC:663399;AH:center;BGC:FFFFFF;LBGC:336
699;ALC:0000FF;LC:0000FF;T:000000;GFNT:0000FF;GIMP:0000FF;FORID:11"></input>

                        <input type="hidden" name="hl"
value="en"></input>--></td>

                    </tr>

</table>

  </div>

  <div class="clearall"></div><br />

  <div id="Layer22">

    <div align="center"><a href="home.html">Home</a></div>

  </div>

</div></div></body></html>
```

EVENT PAGE CODE

```
<!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>


<script type="text/javascript" src="crawler.js">
/*
Text and/or Image Crawler Script ©2009 John Davenport Scheuer
as first seen in http://www.dynamicdrive.com/forums/ username: jscheuer1
This Notice Must Remain for Legal Use
*/
</script>
<SCRIPT language="JavaScript1.2">
<!-- Script courtesy of http://www.web-source.net - Your Guide to Professional
 Web Site Design and Development
function makevisible(cur,which){
strength=(which==0)? 1 : 0.2
if (cur.style.MozOpacity)
cur.style.MozOpacity=strength
else if (cur.filters)
cur.filters.alpha.opacity=strength*100
}
// -->
</SCRIPT>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Event</title>
<style type="text/css">
<!--
#Layer1 {
 position:absolute;     width:1125px;   height:1787px; z-index:1;     left:
 35px;   background-color: #003300;      top: 15px;}#Layer2 {
 position:absolute;     width:200px;    height:115px;   z-index:1;
 left: 170px;   top: 23px;}#Layer3 {   position:absolute;     width:1258px;
 height:683px;
 z-index:1;}#Layer4 {   position:absolute;     width:138px;
 height:67px;   z-index:1;     background-color: #FFFFFF;
 left: 1px;     top: 1px;}#Layer5 {
 position:absolute;     width:996px;    height:71px;
 z-index:2;     left: 140px;   top: 5px;}
#Layer6 {       position:absolute;     width:421px;
 height:303px;  z-index:3;
 left: 296px;   top: 132px;}#Layer7 { position:absolute;
 width:200px;   height:115px;   z-index:4;
 left: -229px;
 top: 11px;
}
#Layer8 {       position:absolute;     width:115px;
 height:21px;   z-index:5;     left: 852px;   top: -41px;}
#Layer9 {       position:absolute;     width:953px;
 height:115px;  z-index:4;     left: -420px;  top: 306px;}
```

55

```
#Layer10 {          position:absolute;          width:200px;     height:315px;     z-
 index:6;           left: 40px;       top: 121px;       background-color: #CCCCCC;}
#Layer11 {          position:absolute;          width:200px;     height:115px;
 z-index:7;          left: 911px;       top: 154px;}#Layer12 {
 position:absolute;          width:1003px;     height:598px;     z-index:7;
 left: 253px;      top: 141px;          overflow: visible;}#Layer13 {
 position:absolute;          width:165px;      height:732px;     z-index:8;
 left: 748px;      top: 690px;}#Layer14 { position:absolute;          width:197px;
 height:30px;       z-index:8;          left: 1055px;     top: 78px;}#Layer15 {
 position:absolute;          width:126px;      height:66px;      z-index:2;          left:
 935px;  top: 86px;}#Layer16 { position:absolute;          width:114px;
         height:63px;      z-index:1;          left: -102px;     top: 2px;}
#Layer17 {          position:absolute;          width:101px;      height:63px;      z-
 index:9;           left: 722px;      top: 74px;}#Layer18 { position:absolute;
 width:184px;      height:101px;    z-index:10;        left: 49px;       top: 444px;}
#Layer19 {          position:absolute;          width:157px;      height:22px;
 z-index:11;         left: 1051px;     top: 106px;}#Layer20 { position:absolute;
 width:63px;        height:20px;      z-index:12;        left: 991px;      top: 62px;}
#Layer21 {          position:absolute;          width:60px;       height:20px;      z-
 index:13;          left: 930px;      top: 61px;}#Layer22 { position:absolute;
 width:57px;        height:17px;      z-index:14;        left: 876px;      top: 62px;}
#Layer23 {          position:absolute;          width:1004px;    height:52px;      z-
 index:3;           left: 4px;        top: 544px;}#Layer24 { position:absolute;
 width:185px;      height:19px;      z-index:4;          left: 677px;      top: 87px;}
#Layer25 {          position:absolute;          width:461px;      height:50px;      z-
 index:1;            left: -2px;       top: -63px;}.style5 {  font-size: 24px;
 font-weight: bold;}#Layer26 { position:absolute;          width:200px;
         height:115px;    z-index:15;        left: 41px;       top: 442px;}
-->
</style></head> <body>
<div id="Layer15"><img src="images\picture1.jpg" width="111" height="63"
 style="filter:alpha(opacity=20);-moz-opacity:0.2"
 onMouseover="makevisible(this,0)" onMouseout="makevisible(this,1)">
  <div id="Layer16"><img src="images\picture11.jpg" width="111" height="63"
 style="filter:alpha(opacity=20);-moz-opacity:0.2"
 onMouseover="makevisible(this,0)" onMouseout="makevisible(this,1)"></div>
</div><div id="Layer3">
  <div id="Layer4"><img src="ncc_logo.jpg" width="138" height="67" /></div>
  <div id="Layer5"><img src="The_Nigeria.jpg" editor="Webstyle3"
 moduleid="Default (Project)\The_Nigeria.xws" border="0" /></div>
  <div id="Layer7">     <script webstyle3>document.write('<scr' + 'ipt
 src="circles.js">'+'</scr'+'ipt>');/*img src="circles.gif" moduleid="Default
 (Project)\circles_off.xws"*/</script>  </div>
  <div id="Layer10">
    <script webstyle3>document.write('<scr' + 'ipt
 src="circles.js">'+'</scr'+'ipt>');/*img src="circles.gif" moduleid="Default
 (Project)\circles_over.xws"*/</script>
  </div>  <div id="Layer12">
    <table border="0" cellspacing="3" cellpadding="0" width="1007">
      <tbody>          <tr>
        <td height="586" valign="top" width="1001"><table border="0"
 cellspacing="3" cellpadding="0" width="1004">
            <tbody>               <tr>
              <td height="572" valign="top" width="998"><p><span
 class="style5">Events</span><br />
              Welcome to the NCC Events page. This page is a diary of
 forthcoming as   well as recent events involving to the NCC.   It also
 provides links and information about events that have been   concluded for
 the year. You can also download and view events of previous years   via the
 <a href="archive.htm">Archive</a> Page</p>
                 <div id="Layer23">
```

```
                        <div class="marquee" id="mycrawler"> This Website was
designed by FUNSHO ZACCHAEUS ADEYEMI with Registration Number
PGD/MSC/2007/1235 Under the Supervision Of MALAM Y. YAKUBU Of the Department
of Computer Science FUT MINNA.
                              <script type="text/javascript">marqueeInit({
uniqueid: 'mycrawler',
style: {
        'padding': '5px',                    'width': '920px',
        'background': 'white',               'border': '1px solid #ffffff'
},
inc: 8, //speed - pixel increment for each iteration of this marquee's
movement
mouse: 'cursor driven', //mouseover behavior ('pause' 'cursor driven' or
false)
moveatleast: 4,neutral: 150,  savedirection: true});
                        </script>                             <script
type="text/javascript">
marqueeInit({   uniqueid: 'mycrawler2',        style: {
        'padding': '2px',                 'width': '600px',                 'height':
'180px' },        inc: 5, //speed - pixel increment for each iteration of this
marquee's movement
mouse: 'cursor driven', //mouseover behavior ('pause' 'cursor driven' or
false)
moveatleast: 2,neutral: 150,  savedirection: true});
</script>                        </div>                       </div>
<table border="0" cellspacing="3" cellpadding="0" width="1001" align="left"
height="204">
                        <tr>                          <td colspan="2"><div
align="left"><strong>Year 2008</strong></div>                        </td>
                        </tr>                        <tr>
<td width="8"><div align="center"><img src="images/bullet.gif" width="7"
height="7" /><br />    <br /> </div></td>                        <td
valign="top" width="682"><p align="justify"><a
href="6th_cto_meeting.htm">Papers Presented</a> at the 6th   Annual CTO Forum
and Council Meeting held at Transcorp Hilton Hotel, Abuja   October 6 - 10,
2008. </p></td>                      </tr>                        <tr>
                        <td width="8"><div align="center"><img
src="images/bullet.gif" width="7" height="7" /><br />
<br />    </div></td>                        <td valign="top"
width="682"><p align="justify">NCC in collaboration with Federal Ministry of
Information and   the Commonwealth Telecommunications Organization (CTO),
United Kingdom hosts the <a href="cto_2008.htm">6th Annual CTO Forum and
Council Meeting</a> at the   Transcorp Hilton Hotel, Abuja, October 6 - 10,
2008</p></td>                      </tr>                        <tr>
<td colspan="2"><div align="left"><strong>Year 2007</strong></div>
<div lign="left"></div></td>
                        </tr>                        <tr>
<td width="8"><div align="center"><img src="images/bullet.gif" width="7"
height="7" /><br />                 <br />    </div></td>
                        <td valign="top" width="682"><a
href="convergence_workshop.htm">Papers Presented</a> at the Numbering and
Convergence Workshop held at Lagos Sheraton Hotels &amp;   Towers, October 22
- 25, 2007.</td<tr> <td width="8"><div align="center"><img
src="images/bullet.gif" width="7" height="7" /><br />
<br />    </div></td>
<td valign="top" width="682">NCC in collaboration with the International
Telecommunications Union (ITU) hosts a <a
href="numbering_worksop.htm">Workshop</a> on Numbering and Convergence, at
Lagos   Sheraton Hotels &amp; Towers, October 22 - 25, 2007.</td>
                        </tr>        <tr>
```

```html
<td width="8"><div align="center"><img src="images/bullet.gif" width="7"
height="7" /><br />      <br />      </div></td>      <td valign="top"
width="682">NCC hosts Public Form on <a href="qos_comm_07.htm">Quality of
Service</a> on Wednesday June 27, 2007 at    Transcorp Hilton, Abuja</td>
        </tr><tr>  <td width="8"><div align="center"><img src="images/bullet.gif"
width="7" height="7" /><br />  <br />    </div></td>
<td valign="top" width="682">NCC hosts <a href="apm_07.htm">African
Preparatory  Meeting</a> to the 'World Radio Communications Conference (WRC)
2007, June 25 -   27, 2007, Rockview Hotel, Abuja</td>
</tr> <tr> <td colspan="2"><div align="left"><strong>Year 2006</strong></div>
</td></tr><tr><td width="8"><div align="center"><img src="images/bullet.gif"
width="7" height="7" /><br /></div></td> <td valign="top" width="682">NCC
hosts <a href="http://digitalworldafrica.org/presented_papers.php"
target="_blank">Digital  World Africa 2006 Conference</a> in conjunction
with GBF and The Club of Rome,   September 12-13, Transcorp Hilton Hotel,
Abuja</td> </tr><tr><td width="8"><div align="center"><img
src="images/bullet.gif" width="7" height="7" /><br /><br />
</div></td><td valign="top" width="682">Consultation on National Scheme to <a
href="cab/curtail_theft.htm">Curtail Theft of Mobile Handsets</a>, August 30,
2006, Lagos, Nigeria </td></tr> <tr><td width="8"><div
align="center"><img src="images/bullet.gif" width="7" height="7" /><br /><br
/></div></td><td valign="top" width="682">Public Inquiry on <a
href="cab/customer_calls.htm">Calls to Customer Care Lines to Lodge
Complaints</a>, August 29, 2006, Lagos, Nigeria
 </td></tr><tr><td width="8"><div align="center"><img
src="images/bullet.gif" width="7" height="7" /><br /><br />
                        </div></td>
                        <td valign="top" width="682"><a
href="Workshop%20Papers/3G%20Spectrum/3G_Spectrum.htm">Stakeholder
Consultative   Forum on 3G Spectrum</a>, April 24, Lagos, Nigeria.</td>
                        </tr>
                        <tr>                              <td width="8"><div
align="center"><img src="images/bullet.gif" width="7" height="7" /><br />
                    <br />                              </div></td>
                        <td valign="top" width="682"><a
href="Workshop%20Papers/Universal%20Access-
Pilots%20Project/Universal_Access_Pilot_Project.htm">Operator   Seminar on
the Universal Access and Pilots Projects</a>, March 20, Lagos,
Nigeria.</td>
        </tr>          </tbody>     </table></td>     </tr></tbody></table>
</td></tr></tbody></table>
        <div id="Layer25"><img src="Events_Happening.gif" editor="Webstyle3"
moduleid="Default (Project)\Events_Happening.xws" border="0" /></div>
    </div>   <div id="Layer14
<div id = "datebox"><div align="center"> <script language="JavaScript">
<!--     function cMonth(nMonth) {
        if (nMonth == 0) return 'January'; if (nMonth == 1) return 'February';
        if (nMonth == 2) return 'March'; if (nMonth == 3) return 'April';
        if (nMonth == 4) return 'May'; if (nMonth == 5) return 'June';
        if (nMonth == 6) return 'July'; if (nMonth == 7) return 'August';
        if (nMonth == 8) return 'September'; if (nMonth == 9) return
'October';      if (nMonth == 10) return 'November'; if (nMonth ==
11) return 'December';
}
today = new Date();
document.write(cMonth(today.getMonth()) + ' ' + today.getDate() + ', ' +
(today.getFullYear() + '.'));
//-->
    </script>         </div>    </div>     <div align="center"></div>
```

```html
</div>    <div id="Layer17"><img src="images\picture12.jpg" width="111"
height="63" style="filter:alpha(opacity=20);-moz-opacity:0.2"
onMouseover="makevisible(this,0)" onMouseout="makevisible(this,1)"></div>
onMouseover="makevisible(this,0)" onMouseout="">Webmail</a></div>
   <div id="Layer20"><a href="mail.html">Abour Us
   <div id="Layer21"><a href="About.html">Abour Us
</a></div>    <div id="Layer19"><!-- Google CSE Search Box Begins   -->
<table width="204" border="0" cellpadding="0" cellspacing="0">
<tr><td width="204" align="center" valign="top" nowrap="nowrap">
<input type="text" name="q" maxlength="255" value=""
class="seachtxtform"></input><input type="submit" name="sa"
value="Search"></input><!--<input type="hidden" name="client" value="pub-
1734327923886716"></input><input type="hidden" name="forid"
value="1"></input><input type="hidden" name="channel"
value="9518150362"></input><input type="hidden" name="ie" value="UTF-
8"></input><input type="hidden" name="oe" value="UTF-8"></input>
<input type="hidden" name="cof"
value="GALT:#008000;GL:1;DIV:#336699;VLC:663399;AH:center;BGC:FFFFFF;LBGC:336
699;ALC:0000FF;LC:0000FF;T:000000;GFNT:0000FF;GIMP:0000FF;FORID:11"></input>
<input type="hidden" name="hl" value="en"></input>--></td>
</tr>    </table></div>    <div class="clearall"></div>
 <div id="Layer26">        <div id="layer">
    <object classid="clsid:d27cdb6e-ae6d-11cf-96b8-444553540000"
codebase="http://fpdownload.macromedia.com/pub/shockwave/cabs/flash/swflash.c
ab#version=8,0,0,0"
width="200" height="220" id="CC3500660" align="middle">
        <param name="movie" value="mycalendar.swf"/>
        <param name="quality" value="high" />
        <param name="FlashVars" VALUE="ww=200&hh=220"/>
        <param name="salign" value="lt" />
        <param name="bgcolor" value="FFFFFF" />
        <embed src="mycalendar.swf" quality="high" bgcolor="FFFFFF"
width="200" height="220"
FlashVars="ww=200&hh=220" name="CC3500660"  salign="lt" align="middle"
type="application/x-shockwave-flash"
pluginspage="http://www.macromedia.com/go/getflashplayer" /></embed>
    </object>       </div>  </div>  <br /<div id="Layer22">
  <div align="center"><a href="home.html">Home</a></div>
 </div></div></div></body></html>
```