

**COURSE
GUIDE**

LIS205

INTERNET AND INFORMATION SEARCHING 1

Course Team

Dr. Sani Gwarzo

(Course Developer/Writer) – B.U. Kano

Dr. (Mrs.) Comfort U. Uzoigwe (Course Editor) – NOUN



National Open University of Nigeria

Headquarters

University Village
Plot 91, Cadastral Zone,
Nnamdi Azikiwe Expressway
Jabi, Abuja

Lagos Office
14/16 Ahmadu Bello Way
Victoria Island, Lagos

e-mail: centralinfo@noun.edu.ng

URL: www.nouedu.net

Published by
National Open University of Nigeria

Printed 2020

ISBN:

All Rights Reserved

LIS 205**COURSE GUIDE**

CONTENTS	PAGE
Introduction	iv
What you will Learn in this Course	iv
Course Aims	v
Course Objectives	v
Working through the Course	vi
Study Units	vi
Course Materials	vii
Assessment	vii
The Presentation Schedule	vii
TUTOR-MARKED ASSIGNMENT.....	viii
Final Examination and Grading	viii
Summary	viii

INTRODUCTION

This course LIS 205 internet and information searching is a one semester, two-credit unit course which is designed and made available to all students undertaking their first degree programme in Library and Information Science. They are 6 modules and 13 units in this course. The course will involve an overview of internet and information searching, as well as definitions of concepts, history and development of the internet, internet as a medium of access, learning, research and communication, uses and significance of the internet to library and information centres, basic steps for information searching, search strategies and techniques, the concepts and uses of www, search engines, meta search engines and directories, and problems and the challenges of internet technology in Nigeria. The course materials have been developed to suit Nigerian students by adopting illustrations from local events.

This course guide tells you in a nutshell what the course is all about. The course materials that the students will require to be using and how they can work their way through these materials. Some general guidelines have been suggested to enable students complete this course without difficulties. Some guidance on their TUTOR-MARKED ASSIGNMENTS has also been given for further clarity of the course. Detailed information on the TUTOR-MARKED ASSIGNMENTS will be made available to students at their study centers when they start their tutorials.

There are some tutorial sessions which are linked up with this course. As a student, you are advised to make yourself available for these sessions. Detailed information on the times and venues of these tutorials will be communicated to you by your study centers.

WHAT YOU (STUDENT) WILL LEARN FROM THIS COURSE

The overall aim of this course LIS 205 internet and information searching, is to introduce you to the fundamental principles of internet and information searching in libraries and information centre which you need to apply as professional librarians.

In this course you will learn the basic concept and techniques of the internet, that will enable you function effectively as a professional librarian especially in the area of delivery library services. You will learn how to handle library resources, master library routines and procedures and be able to perform the job of a librarian effectively when asked to do so.

COURSE AIMS

This course aims to give you an understanding of the basic functions of the internet services in libraries, the roles the internet can play in prompt provision of library resources to their patrons.

This will be achieved by aiming to:

- . Give you an overview of internet and information searching in libraries and information centres
- . Outline the basic computer networks associated with the operation of the internet
- . Explain how the internet can help patrons to access the resources of the library.
- . Explain the basic steps for information searching in the library.
- . Discuss the search strategies and techniques in information searching.
- . Introduce you to the concepts and uses of www, search engine, Meta search engine and Directories.
- . Explain the problems and the challenges of internet usage in Nigeria.

COURSE OBJECTIVES

The overall objectives have been specified so as to achieve the aims set out above. In addition, each unit has specific objectives set out. These unit objectives are always included at the beginning of each unit. You are advised to read them before you start working through the unit.

You should always refer to them during your study of the unit to check your progress made so far in completing the unit. By so doing you can be sure that you have done what was required of you by the unit. The objectives of the whole course are set out below. If all these objectives are met, you shall have achieved the aims of the course as a whole. On successful completion of the course, you should be able to:

1. Define concepts, history and development of the internet.
2. Meaning, history, development of the internet and the World Wide Web.
3. Definitions and types of computer networks associated with the internet.
4. Internet protocol (IP), uniform resources locator (URL), search engines and directories.
5. The general uses of the internet.
6. The uses of the internet in the library and information centers.
7. Internet as a medium of access, learning, research and communication.
8. How can the internet enhance access, learning, research and communication?
9. Criteria for evaluating internet resources.
10. The email as means of sending messages.
11. How to use the email in sending messages.
12. Information searching.
13. Basic steps for information searching.
14. Search strategies and practical techniques.
15. The challenges of internet usage in Nigeria.
16. Strategies for improving internet usage in Nigeria.

WORKING THROUGH THE COURSE

In order to complete this course successfully, you are required to read the study units, read the reference books and any other material provided by NOUN. You are also required to spend a lot of time to study the content of this material. Do your TUTOR-MARKED ASSIGNMENT and consult your facilitator where necessary.

STUDY UNITS

There are 13 study units in this course.

Module 1: Definition of Concepts, history and development of the internet

- Unit 1: Meaning, history, development of the internet and the World Wide Web.
- Unit 2: Definition and types of computer networks associated with the internet.
- Unit 3: Internet protocol (IP), uniform resource locator (URL), search engines and directories.

Module 2: The uses of the internet

- Unit 1: The general uses of the internet.
- Unit 2: The uses of the internet in the library and information centers.

Module 3: The internet as a medium of access, learning, research and communication

- Unit 1: How can the internet enhance access, learning, research and communication?
- Unit 2: Evaluating internet resources.

Module 4: Information searching

- Unit 1: Basic steps for information searching.
- Unit 2: Search strategies and practical techniques.

Module 5: The email as a means of sending messages

- Unit 1: Meaning of email and how to create email account.
- Unit 2: How to send messages using email.

Module 6: Problems and the challenges of internet technology in Nigeria

- Unit 1: The challenges of internet usage in Nigeria.
- Unit 2: Strategies for improving internet usage in Nigeria.

COURSE MATERIALS

You will be provided with the following materials:

- Course Guide

- Study Units
- Textbooks
- Assignment file

In addition, you are required to consult the recommended textbooks and do your assignments.

ASSESSMENT

There are two aspects to the assessment of students. These are the TUTOR-MARKED ASSIGNMENT and the final end of semester examination. In attending to the assignments, you are required to draw from your knowledge and techniques gathered from the course. The assignments must be submitted to your tutor for formal assessment, in accordance with the deadline given to you.

THE PRESENTATION SCHEDULE

The presentation schedule included in your course materials gives you the important dates for the completion of TUTOR-MARKED ASSIGNMENTS (TMAs) and attending tutorials. Remember, you are to submit all your assignments by the dates stipulated. You should guard against lagging behind in your work.

TUTOR-MARKED ASSIGNMENT

You are expected to submit three TUTOR-MARKED ASSIGNMENTS on the whole.

The TUTOR-MARKED ASSIGNMENTS will count for 30% of your total score in this course. You are encouraged to submit the three TMAs. You will be able to complete your assignments from the information and materials contained in your course materials. However, it is desirable that at this degree level in education, you should demonstrate that you have read and researched more widely than the required minimum. Using other references will give you broader view point and may provide a deeper understanding of the course. Try to submit your assignments on time.

FINAL EXAMINATION AND GRADING

The final examination for this course will be of two hour duration. It will have a value of 70% of the overall marks. All areas of the course will be assessed. You may find it useful to review yourself-assessment tests, TUTOR-MARKED ASSIGNMENTS and comments on them before examination. The work you submit will count for 30% of your total course mark. At the end of the course, you will be required to sit for final examination, which will also count for 70% of your total mark. The table below shows how the actual course marking is broken down.

Table 1: COURSE MARKING SCHEME

Assessment	Marks
Assignment 3 (TMAs)	The 3 TMAs will be used for the continuous Assessment = $10 \times 3 = 30\%$.
Final Examination	70% overall course mark.
Total	100% of course marks.

SUMMARY

LIS 205- Internet and Information Searching, intends to expose students to the fundamentals and processes in carrying out library information search using the internet facilities. Upon the completion of this course, you will be equipped with the necessary knowledge in information searching needed to work in the library system.

I wish you success in this course.

TABLE OF CONTENTS

Module 1: Definition of concepts, history and development of the internet.....	1
Unit 1: Meaning, history, development of the internet and the World Wide Web.....	1
Unit 2: Definitions and types of computer networks associated with the internet.....	6
Unit 3: Internet protocol (IP), uniform resource locator (URL) ,search engines and directories..	17
Module 2: The uses of the internet	26
Unit 1: The general uses of the internet.....	26
Unit 2: The uses of the internet in library and information centers.....	30
Module 3: Internet as a medium of access, learning, research and communication.....	35
Unit 1: How can the internet enhance access to learning, research and communication.....	35
Unit 2: Evaluating internet Resources.....	39
Module 4: Information Searching.....	44
Unit 1: Basic steps for Information searching.....	44
Unit 2: Search strategies and practical techniques.....	49
Module 5: The Email as a means of sending messages.....	64
Unit 1: Meaning of email and how to create email account.....	64
Unit 2: How to send messages using email.....	68
Module 6: Problems and the challenges of internet technology in Nigeria.....	73
Unit 1: The challenges of internet usage in Nigeria.....	73
Unit 2: Strategies for improving internet usage in Nigeria.....	76

MODULE 1: DEFINITION OF CONCEPTS, HISTORY AND DEVELOPMENT OF THE INTERNET

Unit 1: Meaning, history, development of the internet and the World Wide Web

Unit 2: Definitions and types of computer networks associated with the internet.

Unit 3: Internet protocol (IP), uniform locator resource (URL), search engine and directories.

UNIT 1 Meaning, history, development of the internet and the World Wide Web

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Meaning, history, development of the internet and the world wide web
 - 3.2 The Internet
 - 3.3 The World Wide Web
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

The internet is a massive network of networks, a networking infrastructure. It connects millions of computer globally, forming a network in which any computer can communicate with any other computer as long as the are both connected to the internet. The idea of the internet or the superhighway is based on the principle that every piece of data held electronically anywhere is potentially accessible to any person with appropriate computer technology.

It offers a world-wide communication capability, a mechanism for information dissemination and a medium for collaboration between individuals and their computers without regards for geographical location.

Today, the internet has made the whole world a global village.

2.0 OBJECTIVES

At the end of this unit you should be able to;

- Define the internet.
- Explain the difference between the internet and the World Wide Web.

- Give brief history of the development of the internet.

3.0 MAIN CONTENT

3.1 Meaning, history, development of the internet and the World Wide Web

The Internet came as a result of fear entertained by the American government on the possibility of war between USA and Russian. On two occasions, the Russian government has proven to USA that in terms of technology it was more superior to the American Government. Firstly, it was a Russian government that first sent human being to the moon. In other words, the first man that landed on the moon was not an American but a Russian. Secondly, the Russian government built a missile silo in Cuba, which is a tiny Island close to the United States without the knowledge of American government despite its security operatives that have been rated to be the best in the world. Some visionary thinking people came to the conclusion that if Russia wants it can invade and destroy American cities before other Americans knew about it. In addition, those visionary leaders saw great potentials to allow computers to share information on research and development especially in scientific and military fields. With this in mind, Advanced Research Agency Network (ARPA net) was created under the auspices of the Department of Defence in 1960. Part of their responsibilities was to secure the computers used for defence purposes, in the event of war or natural disaster. At the initial stage only 4 computers located at military establishment were connected. However, within a span of ten years the computer network has grown to 200 computers.

3.2 The Internet

There is confusion between the actual meaning of the words Internet and World Wide Web, some people, erroneously, use the terms interchangeably. The two terms are not the same. Internet is referring to the Network infrastructures, which allowed computers to be connected in order to share their resources. WWW on the other hand is simply the collection of the resources that can be accessed over the Internet. In other words, Internet provides the network structure that allows computers to communicate with each other, and as result share information. According to Beal ((2018) “the Internet

is a massive network of networks, a networking infrastructure. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are connected to the internet”

3.2.1 TCP (Transmission Control Protocol) is a standard that defines how communication devices establish and maintain a network conversation through which data can be exchanged. TCP works with the Internet Protocol (IP), which defines how computers send packets of data to each other. Together, TCP and IP are the basic rules defining the Internet.

TCP is a connection-oriented protocol, which means a connection is established and maintained until the application programs at each end have finished exchanging messages. It determines how to break application data into packets that networks can deliver, sends packets to and accepts packets from the network layer, manages flow control, and—because it is meant to provide error-free data transmission—handles retransmission of dropped or garbled packets as well as acknowledgement of all packets that arrive. For example, when a Web server sends an HTML file to a client, it uses the HTTP protocol to do so. The HTTP program layer asks the TCP layer to set up the connection and send the file. The TCP stack divides the file into packets, numbers them and then forwards them individually to the IP layer for delivery. Although each packet in the transmission will have the same source and destination IP addresses, packets may be sent along multiple routes. The TCP program layer in the client computer waits until all of the packets have arrived, then acknowledges those it receives and asks for the retransmission of any it does not (based on missing packet numbers), then assembles them into a file and delivers the file to the receiving application.

3.2.2 A packet is the unit of data that is routed between a source (sender) and a destination (receiver) on the Internet or any other packet-switched network. When any document (e-mail message, HTML file, Graphics Interchange Format file, Uniform Resource Locator request, and so forth) is to be sent from one place to another on the Internet, the Transmission Control Protocol (TCP) layer of TCP/IP divides the file into "chunks" (packets) of an efficient size to ease the sending process. Each of these packets is separately numbered and includes the Internet protocol address of both the sending and the receiving computers. Packets for a given document may travel different routes through the Internet.

When each packet arrives, they are reassembled into the original file (by the TCP layer at the receiving end).

A packet-switching scheme is an efficient way to handle transmissions on a connectionless network such as the Internet. An alternative scheme, circuit-switched, is used for networks allocated for voice connections. In circuit-switching, lines in the network are shared among many users as with packet-switching, but each connection requires the dedication of a particular path for the duration of the connection.

3.3 World Wide Web (www)

This is a collection of hypertext and hyperlinked documents stored and accessed on the Internet. It is like a large library, however the documents are scattered on computers connected to the Internet. But because of the hyperlink technology, the resources when needed appeared like they are stored in one central location. Wikipaedia (2019) described the www as an information system, where documents and other web resources are identified by their Uniform Resource Locator (URL), which may be interlinked by hypertext, and are accessible over the Internet by a software application called web browser.

4.0 CONCLUSION

From what you have learnt in this unit, you should be able to discuss the meaning, history and the development of the internet. Also you should be able to differentiate between the internet and the World Wide Web.

5.0 SUMMARY

This unit has explained the meaning, history and the development of the internet. It has also explained the difference between the internet and the World Wide Web.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is the meaning of the internet?
2. What is the difference between the internet and the World Wide Web?

7.0 REFERENCES/FURTHER READING

Beal, V. (2019) Search engine *Webopedia*
https://www.webopedia.com/TERM/S/search_engine.html

Boswell (2017) Seek and Ye Shall Find: Top Ten Alternative Search Engines
<https://lifehacker.com/seek-and-ye-shall-find-top-ten-alternative-search-engines.html>

Brehm, B. (1999) Effective Internet Searching
<https://files.eric.ed.gov/fulltext/ED439058.pdf>

Collins, J. (2018) How to Search Within a Web address: Use the inurl command to quickly find keywords in URLs. Retrieved 15/12/18
<https://www.lifewire.com/hot-to-search-within-web-address-3482391?print>

Unit 2: Definition and types of computer Networks associated with the internet

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Definitions and types of computer networks associated with the internet (Hypertext, Hypertext markup language, Hyperlink and Hypertext transfer protocol (http))
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading
- 1.0 INTRODUCTION**

Network is an arrangement in which two or more computers are connected together in such a way that the computers can “See” and “Talk” to each other. The computers can be beside each other, in the same room or several meters or miles apart. Since these computers are connected together they can share data or information, and peripheral devices such as printers, Modem, Scanners and other hardware devices, it would also be possible to share application programmes. Connecting the computers on a network is much cheaper than leaving them as standalone computers. It is cheaper because you don’t need to have equal number of printers for the available computers. You can have just one printer to service the need of all the computers. In the same manner you don’t have to buy application programmes for all the computers available, one copy is enough to service the need of all your computers

2.0 OBJECTIVES

At the end of this unit, you should be able to

- Define computer networks, including the different types of networks and how they are arranged for maximum benefits.
- Explain the types of networks that are used in operating the internet.
- Describe their application on the internet for resources accessibility on a global scale.

3.0 MAIN CONTENT

3.1 Definition and types of computer networks associated with the internet (Hypertext, Hypertext markup language, Hyperlink and Hypertext transfer protocol (http)).

3.1.1 Types of Networks

Basically, there are three types of computer networks namely Local Area Network (LAN); Wide Area Network (WAN) and International Network.

A local area network (LAN) is a network of computers owned by one organization such as University, College or Department, Company or industrial establishment. Techopedia (2019)

defines LAN as “a computer network within a small geographical area such as a home, school, computer laboratory, office building or group of buildings.” The keyword in this definition is the geographic area and not the ownership of the computer. The physical structure of the network is composed of inter-connected workstations and personal computers which are each capable of accessing and sharing data and devices, such as printers, scanners and data storage devices, anywhere on the network.

Wide Area Network (WAN) on the other hand, as the name suggests cover much geographical spread than local area network. The distances covered may be from one state to another or from one region to another. According to Techopedia (2019) a wide area network (WAN) is a network that exists over a large-scale geographical area. A WAN connects different smaller networks, including local area networks (LANs) and metro area networks (MANs). This ensures that computers and users in one location can communicate with computers and users in other locations. A part from the geographical spread WAN works just like LAN, but on a larger scale. Typically, TCP/IP is the protocol used for a WAN in combination with devices such as routers, switches, firewalls and modems. WAN implementation can be done either with the help of the public transmission system or a private network.

International Network

This refers to a publicly accessible system of networks that connects computers around the world via TCP/IP protocol.

3.2 Network Topology

Network Topology is the schematic description of a network arrangement, showing how the various computers and other connecting devices are connected for maximum benefits.

3.2.1 BUS Topology

Bus topology is a network type in which every computer and network device is connected to single cable. When it has exactly two endpoints, then it is called **Linear Bus topology**. This is shown in the fig. 1. As can be seen, the computers are connected together by one long network cable.

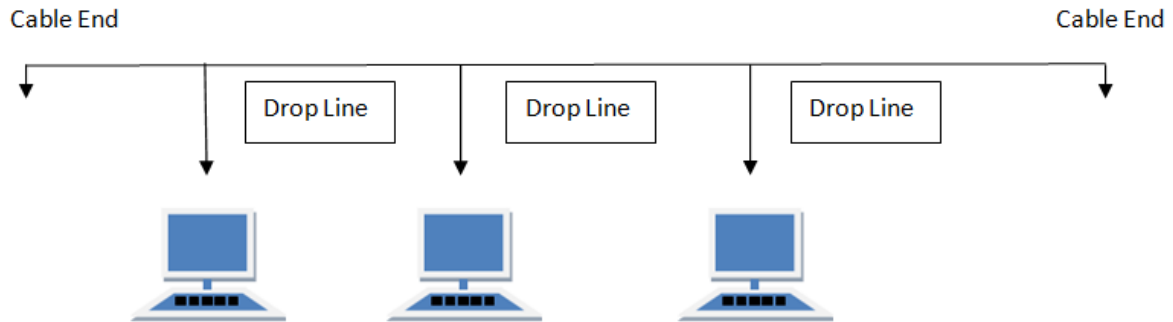


Fig1. Bus topology

Features of Bus Topology

1. It transmits data only in one direction.
2. Every device is connected to a single cable

Advantages of Bus Topology

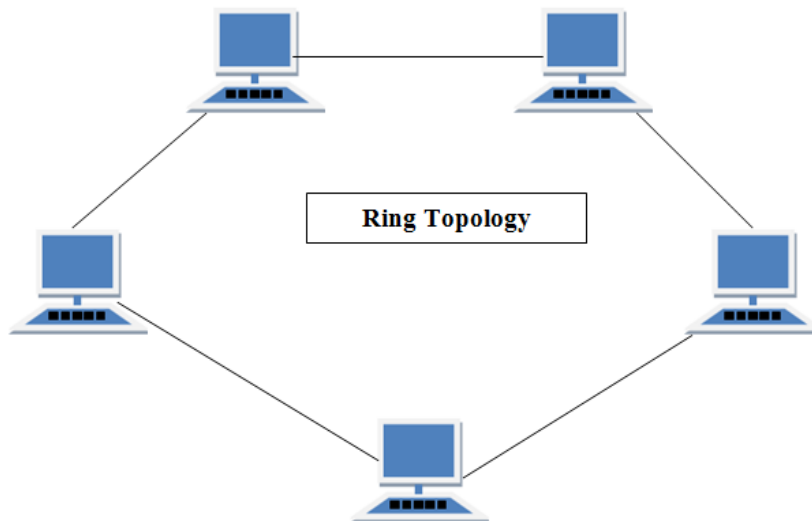
1. It is cost effective.
2. Cable required is least compared to other network topology.
3. Used in small networks.
4. It is easy to understand.
5. Easy to expand joining two cables together.

Disadvantages of Bus Topology

1. Cables fails then whole network fails.
2. If network traffic is heavy or nodes are more the performance of the network decreases.
3. Cable has a limited length.
4. It is slower than the ring topology.

3.2.2 Ring Topology

It is called ring topology because it forms a ring as each computer is connected to another computer, with the last one connected to the first. Exactly two neighbours for each device.



Features of Ring Topology

1. A number of repeaters are used for Ring topology with large number of nodes, because if someone wants to send some data to the last node in the ring topology with 100 nodes, then the data will have to pass through 99 nodes to reach the 100th node. Hence to prevent data loss repeaters are used in the network.
2. The transmission is unidirectional, but it can be made bidirectional by having 2 connections between each Network Node, it is called **Dual Ring Topology**.
3. In Dual Ring Topology, two ring networks are formed, and data flow is in opposite direction in them. Also, if one ring fails, the second ring can act as a backup, to keep the network up.
4. Data is transferred in a sequential manner that is bit by bit. Data transmitted, has to pass through each node of the network, till the destination node.

Advantages of Ring Topology

1. Transmitting network is not affected by high traffic or by adding more nodes, as only the nodes having tokens can transmit data.
2. Cheap to install and expand.

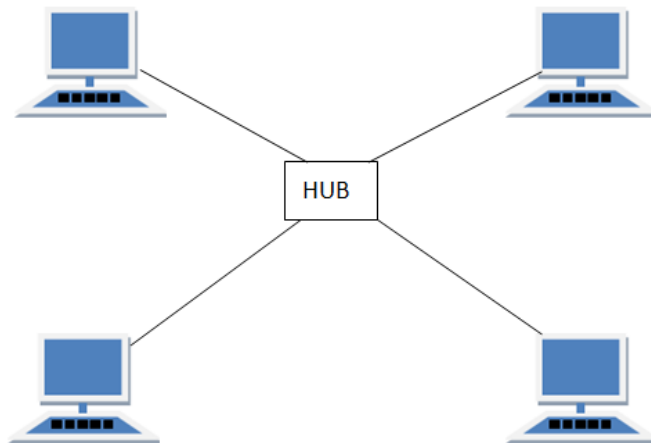
Disadvantages of Ring Topology

1. Troubleshooting is difficult in ring topology.
2. Adding or deleting the computers disturbs the network activity.

3. Failure of one computer disturbs the whole network.

3.2.3 STAR Topology

In this type of topology all the computers are connected to a single hub through a cable. This hub is the central node and all others nodes are connected to the central node.



Features of Star Topology

1. Node has its own dedicated connection to the hub.
2. Hub acts as a repeater for data flow.
3. Can be used with twisted pair, Optical Fibre or coaxial cable.

Advantages of Star Topology

1. Fast performance with few nodes and low network traffic.
2. Hub can be upgraded easily.
3. Easy to troubleshoot.
4. Easy to setup and modify.
5. Only that node is affected which has failed, rest of the nodes can work smoothly.

Disadvantages of Star Topology

1. Cost of installation is high.
2. Expensive to use.
3. If the hub fails then the whole network is stopped because all the nodes depend on the hub.
4. Performance is based on the hub that is it depends on its capacity

3.2.4 Mesh Topology

It is a point-to-point connection to other nodes or devices. All the network nodes are connected to each other. Mesh has $n(n-1)/2$ physical channels to link n devices.

There are two techniques to transmit data over the Mesh topology, they are:

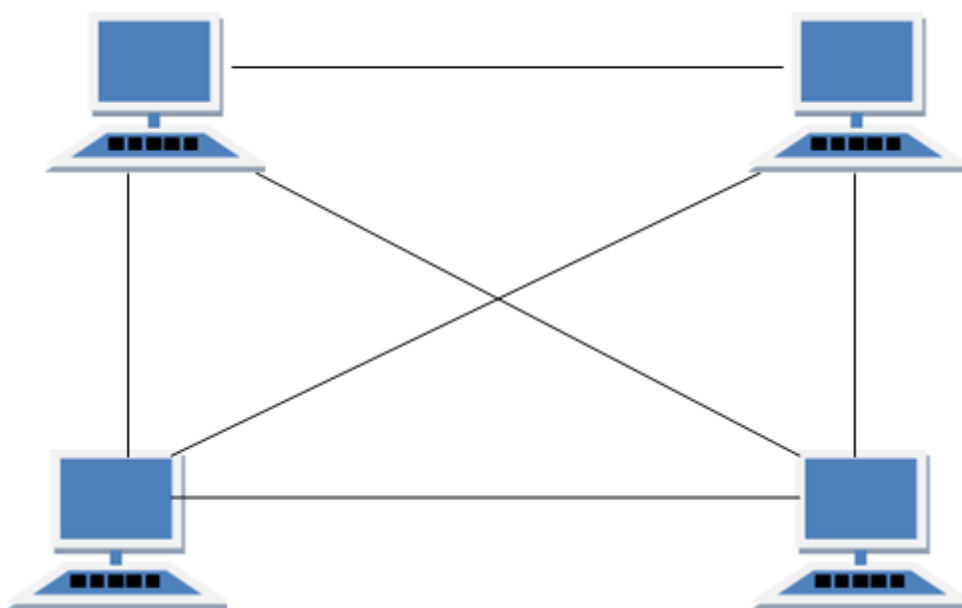
1. Routing
2. Flooding

Mesh Topology: Routing

In routing, the nodes have a routing logic, as per the network requirements. Like routing logic to direct the data to reach the destination using the shortest distance. Or, routing logic which has information about the broken links, and it avoids those nodes etc. We can even have routing logic, to re-configure the failed nodes.

Mesh Topology: Flooding

In flooding, the same data is transmitted to all the network nodes; hence no routing logic is required. The network is robust, and it's very unlikely to lose the data. But it leads to unwanted load over the network.



Types of Mesh Topology

1. **Partial Mesh Topology:** In this topology some of the systems are connected in the same fashion as mesh topology but some devices are only connected to two or three devices.
2. **Full Mesh Topology:** Each and every nodes or devices are connected to each other.

Features of Mesh Topology.

1. Fully connected.
2. Robust.
3. Not flexible.

Advantages of Mesh Topology

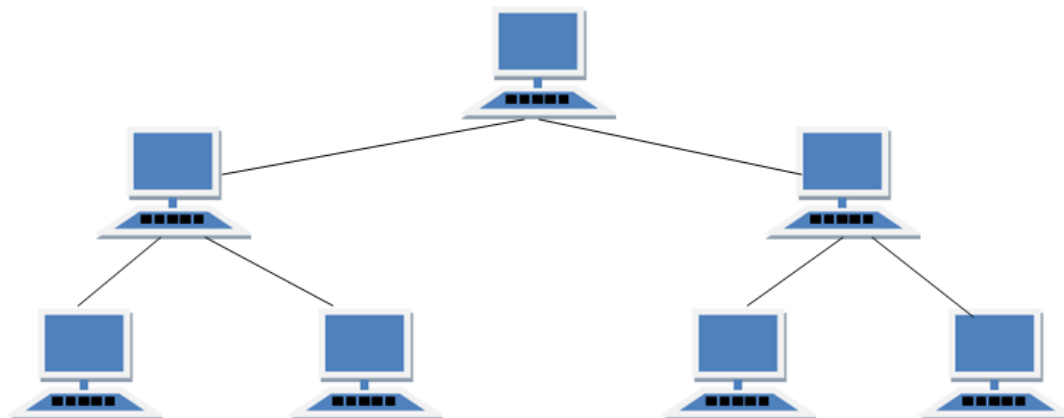
1. Each connection can carry its own data load.
2. It is robust.
3. Fault is diagnosed easily.
4. Provides security and privacy.

Disadvantages of Mesh Topology

1. Installation and configuration is difficult.
2. Cabling cost is more.
3. Bulk wiring is required.

3.2.5 TREE Topology

It has a root node and all other nodes are connected to it forming a hierarchy. It is also called hierarchical topology. It should at least have three levels to the hierarchy.



Features of Tree Topology

1. Ideal if workstations are located in groups.
2. Used in Wide Area Network.

Advantages of Tree Topology

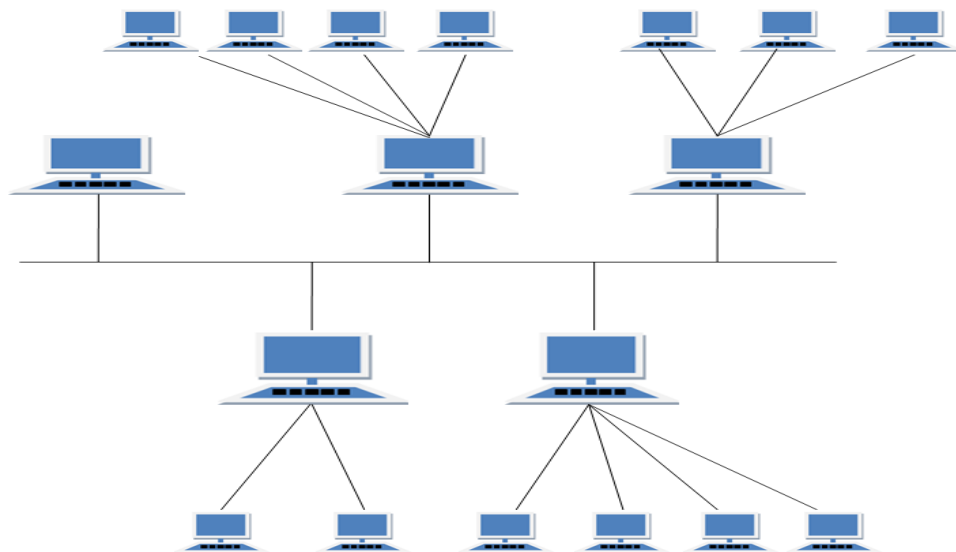
1. Extension of bus and star topologies.
2. Expansion of nodes is possible and easy.
3. Easily managed and maintained.
4. Error detection is easily done.

Disadvantages of Tree Topology

1. Heavily cabled.
2. Costly.
3. If more nodes are added maintenance is difficult.
4. Central hub fails, network fails.

HYBRID Topology

It is two different types of topologies which is a mixture of two or more topologies. For example if in an office in one department ring topology is used and in another star topology is used, connecting these topologies will result in Hybrid Topology (ring topology and star topology).



Features of Hybrid Topology

1. It is a combination of two or topologies
2. Inherits the advantages and disadvantages of the topologies included

Advantages of Hybrid Topology

1. Reliable as Error detecting and trouble shooting is easy.
2. Effective.
3. Scalable as size can be increased easily.
4. Flexible.

Disadvantages of Hybrid Topology

1. Complex in design.
2. Costly.

Adopted from <https://www.studytonight.com/computer-networks/network-topology-types>

Hypertext

The word **hypertext** is defined as a software system allowing extensive cross-referencing between related sections of text and associated graphical materials. Techopedia.com (2019) sees hypertext as “a word, phrase or chunk of text that can be linked to another document or text...”

The Techopedia noted that hypertext was central to the creation of the World Wide Web. Because through the use of textual links, web pages written in Hyper Text Mark up Language can be linked and cross referenced throughout the web. Without hypertext, following a link on a topic to a related article on that topic – one of the primary means of navigating the web- would be impossible.

Hypertext Mark-up Language (HTML)

This is a type of writing software that is used to write documents published on the Internet. It is a non-linear type of writing that gives the reader the opportunity to jump from one part of the document to another part of the same or different document entirely. It uses formatting tags to control how the page is displayed on the screen. In addition to this, page created using the HTML editor can contain text, pictures, sound or video on the same page. There are different types of HTML editing software that you

can use to produce html documents. Like all software, there are those that can be obtained free on the internet and there are others that you pay.

Hyperlink

This is a technique used to connect related words or concepts in such a way that an internet user can jump or move from one word or concept to another related word or concept. This is the technique that greatly assisted the development of the Internet, which stores hyperlinked hypertext documents. A convention that is used to show a hyperlink reference, by most web page designers, is blue and underlined word or concept, moving your cursor to that blue underlined word changes the cursor to a pointing figure. However, this is not rigidly observed. A web page designer has the liberty to use which ever colour he chooses to show his hyperlink reference. One thing that is certain is that whenever you are browsing a web page and you come across a hyperlink the cursor will automatically change to a pointing finger, clicking that will take you to another page on the same document or another related document stored several kilometres away from you.

Hypertext Transfer Protocol (http)

This is a set of rules governing the operations of exchange of information between two or more computers or between communication devices. According to Webopedia (2019) “Http is the underlying protocol used by the World Wide Web (www) and this protocol defines how messages are formatted and transmitted, and what actions Web servers and browsers take in response to various commands.” (<https://www.webopedia.com/TERM/H/HTTP.html>)

On how the http works, Reference.com (2019) explains that when a user opens his browser he is indirectly using HTTP. When he types a link into the address bar and presses enter, he has sent a request to transfer some form of data (text, graphic images, sound, video, and other multimedia files) from the World Wide Web to his computer. This is the basic process of HTTP.

4.0 CONCLUSION

From what you have learnt so far in this unit, you should be able to discuss the different types of networks associated with the use of the internet. Also their different application in the internet.

5.0 SUMMARY

This unit has explained the definitions, types of computer networks and their applications in internet usage.

6.0 TUTOR- MARKED ASSIGNMENT

1. How many types of computer networks do we have?
2. What is the meaning of Hypertext?
3. What is the difference between the Hypertext and Hypertext makeup language?

7.0 REFERENCES/ FURTHER READING.

Collins, J. (2018) The Invisible Web: What It Is, How You Can Find It Retrieved from <https://www.lifewire.com/invisible-web-how-to-find-it-3482490>

Computerhope (2019) URL available at <https://www.computerhope.com/jargon/u/url.htm>

DeCesare, J. A. (2014) The Expanding Role of Online Video in Teaching, Learning, and Research. *Library Technology Reports* alatechsource.org. February/March

EDN Staff (1995) Top 10 uses of the Internet available at <https://www.edn.com/electronics-news/4351406/top-10-uses-of-the-internet>

Unit 3: Internet protocol (IP), uniform resource locator (URL), search engine and directories

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The internet protocol (IP), uniform resource locator (URL), search engine directories.
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In the last unit, you have learnt the concepts and terms associated with the use of the internet. In this unit, the internet protocol (IP), uniform resource locator (URL), search engine and directories will be discussed also as tools associated with the use of the internet.

2.0 OBJECTIVES

By the end of the unit, you will be able to :

- Define the internet protocol (IP)
- Discuss the meaning of uniform resource locator (URL).
- Describe search engine and directories.

3.0 MAIN CONTENT

3.1 The internet protocol (IP), uniform resource locator (URL), search engines and directories.

IP Address (Internet Protocol address): this is a unique number assigned to computers connected to the Internet. Every computer that joins the internet is assigned a unique number to distinguish it from other computers on the same or different network so that messages can be shared between them, without getting mixed-up. Whatismyipaddress.com (2019) pointed out that the internet protocol “is responsible for addressing, delivering and routing your online requests... It attaches an “electronic return address” to all your online requests and activity. The address it uses is the IP address for your connection.” This can be equated to traditional mail system, where you use an envelope to send a message to a friend or relatives residing elsewhere. After writing the message, it is put in an envelope the address of the recipient is written on the back of the envelope while your name and address are written on the flap of the envelope. The Postal delivery man use these addresses to either deliver the envelope to the person addressed on the backside of the envelope or return as unclaimed to the person sending the message.

This is exactly how the IP address works. A document requested from the Internet is divided in smaller packets or chunks. Each packet is numbered and bears the IP address of the computer sending the document as well as the IP address of the computer that made the request.

It should be pointed out that IP addresses are assigned by your Internet Service Provider (ISP) that gives you access to the Internet. There are organizations whose line of business is to allow your computer or device to connect to his computer to access the Internet. In Nigeria, GSM operators are also providing this service, in addition, to telephone services. The data they allow you to buy enables your device to connect to their server that is already connected to the Internet. The server giving you access to the Internet is the one that will assign an IP address to your computer or device. Whenever you access the Internet your request goes through this server, when the document requested is fetched it comes to you through that server.

Activity

If you want to find out your IP address on a computer or communication device enter the following as one word i.e. without any space between the words, what is my IP address. Your screen should provide with the following information:

- *Your Public IPv4 is: 105.112.74.128*
- *Your IPv6 is: Not Detected*
- *Your Local IP is: 192.168.43.134*
- *Location: Lagos, LA NG*
- *ISP: Airtel Networks Limited*
- *[Hide your IP information with a VPN](#)*

Uniform Resource Locator (URL)

This is the global address of documents and other resources on the World Wide Web. A URL is just like classification schemes used in libraries. The classification schemes allow the library user to retrieve the document and it also collocate documents that have similar subject. Like the classification Scheme,

a URL allows the Internet users to retrieve any document stored on the Internet. The URL is made up of several parts; each part is giving specific information about the location of the document.

Parts of a URL

Beal, (2019) described the first part of the URL, which he pointed out is called a *protocol identifier* and it indicates the type of protocol to use, and the second part is called a *resource name* and it specifies the IP address or the domain name where the resource is located. The protocol identifier and the resource name are separated by a colon and two forward slashes.

In a more detailed explanation, Computer hope (2019) listed five sections that makeup the URL of documents stored on the Internet. These sections include the following: Protocol, Sub domain, Domain and Domain suffix, Directories and the web page.

<https://www.computerhope.com/jargon/u/url.htm>

Protocol	Subdomain	Domain and domain suffix	Directories	Web page

ComputerHope.com

For the first part, which is the https:// part signifies that the computer hosting the document can be accessed through the http protocol. After the http protocol, next is the www that used to distinguish the content. Even though, this portion is optional because documents can be retrieved without using the www. Typing the <http://Computerhope> without the www will still take you to their website.

The Domain and domain suffix provided information about the top level domain (TLD) and their line of business. In other words, it shows the owners of the computer that is hosting the document and their line of business. In this case, the owner of the website is a company called computer hope. And their line of business is indicated by the suffix of com. It should be noted that this is not the only suffix that is used to indicate the line of business or profession others include: mil, edu, co, org, gov. Country suffixes are also used to show the country of origin.

Next is the location of the directory, where the document is stored, this is shown by the forward slash. In the above example, the directory is two directories deep /jargon/u/. The last part of the URL is information about the file type, html that is automatically supplied by the application that was used to create the document. Other file extensions that you may encounter include: rtf, pdf, doc, etc.

Activity**Web browser**

A web browser is a software programme that allows a user to access and display web pages. A web browser basically displays Hypertext Mark up Language (html) files containing text, images, still and videos files etc in an ordered lay out. The difference between a search engine and a web browser is that a search engine indexed the contents of what is published regardless of the format, while web browsers allow the display of the located and retrieved web page. This means that every web browser has a search engine that assists it to find the Internet resources. This explains why web browsers are universal in nature; users are given the options of configuring any search engines to their browsers.

Web Page

This is a document created using special software that allow the document to be hyperlinked to a similar document or referenced on the internet. The hyperlink or reference could be either in the same document or elsewhere, in the same computer or a different computer in a different country, and can be accessed through the www. In addition to the text, a web page may contain tables, formatting tags that are suppressed by the web browser during display as well as images in the form of flash animation, Pictures, Video files and Sound files all residing side by side on the same page.

Web Site

A website is a collection of web pages maintained by a single person or organization. In most cases, a website has a distinct fully qualified domain name, such as www.boutell.com. Less often, a set of pages beginning "lower down" than the home page of the site will also be referred to as a website. These pages will almost always have URLs that begin with a common "stem," such as: <http://example.edu/~professorsname/>

Home page

The "home page" of a website is the page that is displayed if you simply type in the domain name of the site in the address bar of your browser and press enter. It is the first page that opens and from the first page you can use the links provided to other pages of the website. For instance, when you type <http://nou.edu.ng/> and press enter in the address bar, you go to National Open University home page. "Home page" can also refer to a page that serves as the table of contents and logical starting point for any collection of web pages, such as the personal web pages of an individual, even if it is not actually the top-level home page for the domain name.

3.2 Search Engine

Search engines, sometimes referred to as Crawler, spiders, wanderers or robots are software programmes that are designed to search for information on the internet. According to Computer-geek, (2017) search engines search for websites based on keywords that the user types in the search box. Search engines visit all the computers connected to the Internet in order to index their contents. When a search engine indexed the contents of what it found it creates a database of its findings. When users issue a query, the search engine refer the query to the database and fish out list of all the items matching the query. Each item is accompanied by its Uniform Resource Locator (URL), which is a full address of where each item is stored. Typically, a URL include information about the full address of the computer that stores the document, including the type of protocol needed to allow access to the computer and also allow the computer to communicate with other computers on the internet.

There are many types of search engines each has its own characteristics, i.e. strength and weaknesses. Some are particularly good in finding general types of information/document, while others confine themselves only to a particular subject or group of subjects. Some are more academic than others, i.e. some presents more authoritative information that is acceptable to academic community, such as Google. Other search engines provide more commercially oriented information. Some carry adverts to offset their cost of existence others carry very little or no advertisements at all. As indicated earlier, that each has its own strength and weakness; it will be good for you to become familiar with the characteristics of one or two search engines in order to reap the benefit of finding the needed information as complete and accurate as possible.

Zhang, (2004) classified search engines into two categories namely Crawler-based search engine and Human powered directories. He described crawler based as those search engines that creates their listings by using a piece of software to “crawl” or spider the web and then index what it finds. Human powered directories, on the other hand, depend on human editors to create the listings. The advantages between the two are that while crawler based search are good for specific search topic, human powered are good for general search. Zhang points out that when the search topic is general; crawler search engines returns hundreds of thousands of relevant and irrelevant responses to simple search request. While human powered can guide and help narrow the search to get refined results. He concludes that “search results found in a human powered directory are usually more relevant to the research topic and more accurate” than what obtains in search engines. Information Providers Guide (IPG, 2012) published by the European Commission added another search engine “Hybrid search engine or Mixed Results”. The IPG noted that in the web’s early days search engines either presented crawler based results or human powered listings. Today it is common for both types to be presented. Usually, a hybrid search engine will favour one type of listing over another

There are also other types of search engines that combine results of searches from different search engine into one search results. These are known as Meta crawlers. Meta crawlers are types of search engines that copy the databases of other search engines and adopt them as their own. So ordinarily, if a user used Meta crawler he is getting the results of several search engines. Examples of meta-crawler search engines include Metacrawler, Infospace and Dogpile. Specialised search engines are search engines that target their contents to specialized groups of people or subjects, for example medical profession Searchmedica. Another search engine is **VROOSH! Meta search** that contains engine for searching Mp3 and FTP sites for downloading computer application programmes.

Components of a Search Engine

A search engine has three components (a) the crawler (b) the index and (c) the search engine software.

- a. **The crawler** or the **spider** is that part of the search engine that visits and reads the websites and then follows the links provided on those websites to other pages that have similar subject.

This is better understood considering the facts that the pages that make up the internet

consisted of document written in hypertext language. The spider returns to the site on a regular basis to detect any changes and to update its database.

- b. *The index*** Whatever the spider finds goes into a database that has been created to store the reference results of the crawl. In other words, the index contains a copy of every web page that the spider finds.
- c. *The search engine software*** is the part that accepts the user entered query, interpret it and sifts through the millions of pages recorded in the index to find matches. It then ranks them in order of what it believes is most relevant. Search engines normally rank the “hits” list of what it found when answering a query. The lists of what it found are arranged in the order of relevance. The first on the list been the most important followed by second item and so forth.

How search Engine work

At the home page of all search engines is a text box where the user enters his query and a button to tell the search engine to commence the search. Different search engines use different search button it is your responsibility to learn how to tell the search engine to commence the search. After the search engine has finished the keyword search a list, technically referred to as “hits” is returned. These hits are arranged in the order of importance as judged by the search engine (Sullivan, 2003). The most important are shown in the order of 1,2,3,4 and so on, the most important is number 1 followed by number 2 and 3 in that order

The hits that are presented to you are the results of the searches conducted by the search engine. Each entry is accompanied by the full URL of that document. The moment you click on any of the list the document represented by that entry opens for you to view, read, print or download for later use.

Directories

A web directory or subject directory is a catalogue of web resources organised according to categorization by subjects, from general to specific. Unlike search engines that used software programmes to index the contents of what is available, web directories relied on the efforts of human editors. In other words, directories are created and maintained by human editors. The editors scout,

reviews and select sites to be included in their directory. Discussing the differences between Search engine and directory, Forsyth (2014) maintains that directories perform the same function as search engines but they do not use computers to rank pages, they use people. People visit the submitted site and approve the site to a relevant directory.

Forsyth (2014) cited the following directories as examples:

[Yahoo](#) - Most popular Directory

[DMOZ](#) - Popular, public edited Directory

[1st SPOT](#) - General Directory

[The Net One](#) - General Directory

[Ask Jeeves](#) - Question related directory

On how the directories obtain their contents, Fisher, (2019) pointed out that web directories involves humans adding the links to sites. Owners submit their sites to the editors of the directories (sometimes for a fee, sometimes free). The editors then determine the value of the site, whether it should be included in the directory or not.

How Directories work

Most directories arrange their contents from general category down to specific subject. For example, using the [The Net One](#) to look for resources on library administration, you will need to go to the home page of the directory. When the home page opens there are about 10 different general categories of subjects covered by the directory. Select the appropriate category and click. This will take you to available resources under that category. To speed up your search, a text box has been provided to check the data base of the directory. Type what you are looking for and click search to commence the search, browse through to see your result.

When to use Subject directories or a search engine?

Like the yellow pages of a telephone book, subject directories are best for browsing and for searches of a more general in nature. They are good sources for information on popular topics, organizations, commercial sites and products. Directories are equally preferred tool when you' want to see what kind of information is available on the Web in a particular field, subject or area of interest, go to a directory and browse through the subject categories. But if you have a known Author, Title, Subject, Series or any part of these, i.e. you cannot remember the exact wordings type what you know and search, then browse through to your get the document. Remember that the computer has added more access points to documents. You can now retrieve a documents not only by the four points listed above, but also through the publisher, place and year publishing.

4.0 CONCLUSION

From what you have learnt in this unit, you should be able to discuss internet protocol (IP), uniform resource locator (URL), search engine and directories. Also their uses will be discussed.

5.0 SUMMARY

This unit has explained the internet protocol (IP), uniform resource locator (URL), search engines and directories.

6.0 TUTOR- MARKED ASSIGNMENT

1. What is the meaning of URL?
2. List three search engines.
3. Define directories.
4. What are the uses of directories?

7.0 REFERENCES/ FURTHER READING

Sher, T. (2019) What is a Web Directory?: Search the human-organized web *Lifewire* available at <https://www.lifewire.com/what-is-web-directory-3482036>

Forsyth S. (2014) what are these Search Engines and Search Directory things? Available at www.stevenforsyth.com/google/what-are.htm

Harris, R (2000) Internet Search Tips and Strategies. - Retrieved 1/10/2018 from <https://www.virtualsalt.com/howlook.htm>

The Internet World Stat (2019) <https://www.internetworldstat.com/stats.htm>

MODULE 2: THE USES OF THE INTERNET

Unit 1: The general uses of the internet.

Unit 2: The uses of the internet in the library and information centers.

Unit I: The uses of the internet.

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1 The general uses of the internet.
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In this unit, you will learn the general uses of the internet. Also to be discussed is how the internet has made the world a global village.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- State the general uses of the internet.
- Discuss the different uses of the internet in our society.

3.0 MAIN CONTENT

3.1 The general uses of the internet

The advent and use of the Internet continued to have considerable impact on our lives. This is evident from the way people have accepted it, and are using it to accomplish many things in so little time. Internet is so significance to our lives to the extent that virtually everything is now going online. Things that were unheard of before are now possible with the coming of the Internet. Today, one hears old concepts being refurbished with an “electronic extension” to their name to signify how the Internet technology has affected them. For example, Commerce (E-Commerce) , Banking (E-Banking), Book (E-Book), Magazines (Ezines) etc.

In a survey of Internet Traffic conducted in 1995, EDN Staff (1995) summarised the popular uses of the Internet into 10 different general classes. The survey shows that individuals, corporations, business people, and groups use Internet primarily as a communications vehicle, and that these users reduce their use of fax machines, telephones, and the postal service.

3.2 The top 10 uses which they indicated in descending order of use are as follows:

1. **Electronic mail.** At least 85% of the inhabitants of cyberspace send and receive e-mail. Some 20 million e-mail messages cross the Internet every week.
2. **Research.**
3. **Downloading files.**
4. **Discussion groups.** These include public groups, such as those on Usenet, and the private mailing lists that List Serve manages.
5. **Interactive games.** Who hasn't tried to hunt down at least one game?
6. **Education and self-improvement.** On-line courses and workshops have found yet another outlet.
7. **Friendship and dating.** You may be surprised at the number of electronic "personals" that you can find on the World Wide Web.
8. **Electronic newspapers and magazines.** This category includes late-breaking news, weather, and sports. We're likely to see this category leap to the top five in the next several years.
9. **Job-hunting.** Classified ads are in abundance, but most are for technical positions.
10. **Shopping.** It's difficult to believe that this category even ranks. It appears that "cybermall" are more for curious than serious shoppers.

(<https://www.edn.com/electronics-news/4351406/Top-10-uses-of-the-Internet>)

In all these 10 uses communication is the most important use of the internet. For example you need to use the email to communicate with somebody. This communication is much faster than the normal mails handle by post offices. There are reports about missing mails, or late delivery of the mails. You send a mail to Kaduna from Abuja it takes a month before it arrives. All these problems have been

eliminated with the coming of emails service. The very time you send an email to someone it takes only few seconds for him to receive notification on his cell phone. If for any reason the email cannot be delivered it is returned to you.

Internet is used in research because of the enormous amount of its resources. Whatever resource you will need in the conduct of your research will be there on the Internet, you only need to know how to retrieve it. Walker, (2007) described the Internet as a gigantic library as well as a world - wide message board, a telephone network and publishing medium. It is open 24 hours a day. He pointed out that information about almost any subject is available in depth and up to date. This is incredibly valuable for every subject you can imagine.

The Internet is not only a store of information resources, but also a store for software or computer programmes. The Internet is now a source for downloading all types of device drivers. Not only that you can also get the manuals or how-to- do literature on any device that refused to work. For example, if you have a device that refused to work there is a special website that can show you how your device works. That web site is <https://www.howstuffworks.com/>.

Discussion groups are available on the Internet in all spheres of human endeavour. You can join any discussion group of your choice, but you should be mindful of what group you join.

The Internet is now a source of many educational programmes. Online courses, workshops and many other types of educational programmes are offered online through the internet. The Internet has made it possible to attend classes with the lecturer and the students in dispersed locations. For example with the appropriate technology, it is possible for a lecturer to be teaching resident students in one university and virtual students in another university in the same or different state or country. The virtual students attend the class, ask questions or respond to questions asked through telecommunication facilities, as if he is a resident student.

Most major Newspapers and magazines are now available online. This means that at any given time you can find out what is happening in your locality, country or the world at large. Breaking news is now available to tell you and to show you what is really happening in the world. Social media, which are a

component of the Internet, in some cases are used to send stories as they are unfolding. In most cases, media organisations rely on this social media, especially in areas where they don't have correspondents that will take the news and send it to them. These newspaper organisations encourage people to send them breaking news to inform them about what is happening. Based on that report, the media organisation can send a correspondent to continue to cover the event.

4.0 CONCLUSION

From what you have learnt in this unit, you should be able to discuss the general uses of the internet in the society. Also emphasized how the internet has made the world to a global village.

5.0 SUMMARY

This unit has explored the general uses of the internet in the society. Specific examples of the uses were enumerated too.

6.0 TUTOR-MARKED ASSIGNMENT

1. List and discuss five uses of the internet in our society.

7.0 REFERENCES/FURTHER READING

Johnson, L. and Lamb, A (2007) An information skills workout Wikis and collaborative Course Hero available at <https://www.coursehero.com>

Walker, J. (2007) Importance of Internet available at https://www.tibetangeeks.com/using_tech/importance/importance_of_internet.html

Kunder, M. (2019) the size of the World Wide Web (the Internet). Retrieved from <https://www.worldwidewebsite.com>

Mbaskool.com (2019)

Meriam Library (2010) Is this information Good? <https://library.csuchico.edu/help/source-or-information-good>

Unit 2: The uses of the internet in the library and information centers.

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1 The uses of the internet in the library and information centers.
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

The advent of the internet into the world has revolutionized the world and it has affected all ways of doing everything. The library is not left out. The use of the internet in library operations brought positive changes. The internet as a matter of fact, has revolutionized the computer and communication world-wide like nothing before. It provides the largest reservoir of vital information to libraries in all disciplines all over the world. It provides information for research to organizations among others.

The internet has metamorphosed into a world wide web (www) which is essentially a networking arrangement with global access.

Alasa and Kelechukwu (1998) enumerated some of the numerous benefits that can be derived from the internet by libraries.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- State the uses of the internet in libraries and information centers.
- List and discuss at least five services that can be rendered through the internet in library and information centers.

3.0 MAIN CONTENT

3.1 The Uses of the Internet in the library and information centres

In Libraries and Information centres the Internet has brought considerable changes to the library operations. First and foremost the Internet has extended the opening hours of the library. Majority of Academic libraries in the western world are now open 24 hours a day and 7 days a week. Users are now able to attend the library round the clock. The dream of all libraries to admit all users is now being realised with the coming of the internet. Users from all walks of life can access the online library resources, regardless of whether he is a bona fide user of that library or not. The Internet has made it possible for the library users to have access to the library collections remotely. With proper internet connection, library users from Nigeria can access documents in New York public Library, Library of Congress, Bibliotheque Nationale de France or any library in the world.

In terms of the collection, library resources that is available to users are now much more than they may require since access to other libraries is possible. The Internet as a store house provides access to billions of information sources, which includes books, reports, journals and multimedia resources. The days when a library user will walk out of the library with an unsatisfied need are over. Since the libraries are networked, if a resource is not available in one library, the librarian can browse the collection of the other libraries in the consortium to borrow the resource or scan the relevant portion or obtain the softcopy of the resource for the user.

The advent and use of the Internet in the libraries has also assisted the libraries in discharging their functions. Singh (2001) noted that the Internet is playing an important role in discharging the functions of libraries, by changing how the libraries organise, manage and disseminate information. Singh pointed out that with more and more documents getting published, it becomes obvious for libraries to shift towards electronic means of acquiring, processing and disseminating information.

Today all sorts of library services from membership registration to document delivery can be offered through the internet. Other services that the Internet has affected are: Acquisition of document, Technical processing, Circulation, Reference and Information Services, Communication, Resource Sharing etc.

3.1 Acquisition of document

As discussed elsewhere in this lecture notes, the Internet is used by all commercial organisations as a shopping mall. Publishers of information resources are not left out of in this regards. Publishers used

the Internet to advertise their products, by publishing their catalogues of In-print, out of Print and list of forthcoming titles. But unlike the manual procedures for acquisition, in which the publishers catalogue are received sent to department, collate and compile what is selected from the catalogues and then sending to the appropriate publisher/s. The advent of the Internet has changed all these manual procedures, with a quicker way of getting the resources. Libraries and Information Centres can browse through the publisher's catalogue, confirm the price and place orders online. Any noticed discrepancy can be clarified within minutes through the email.

3.2 Technical processing

Technical processing is referring to Cataloguing and classification. Before the coming of the Internet, Cataloguers and Classifiers in libraries were finding it difficult to catalogue and classify some resources especially those with poor bibliographical information. With the coming of the Internet, the Cataloguer and the Classifier can easily browse for the title with poor bibliographical information in the catalogues of large libraries like that of library of congress. The cataloguer can download the information about that resource and add the necessary details. The information when downloaded will not only provide the cataloguing information but also the subject and the classification number of the resource.

3.3 Circulation

The Internet has made the circulation of in house document much easier and much quicker. After the technical processing, the document can be placed in the OPAC on the day of the acquisition. Readers that use the library remotely can have access to it.

3.4 Reference and Information Services

Libraries are using the Internet to attend to ready reference information service. The Internet can be successfully used to provide short range and long-range reference services. "Ask the librarian" or "my virtual reference desk" is a type of service that is offered to remote users of the library. Users can log in to ask questions and get their answers remotely. Even though, there are types of questions that require the presence of the user for his answers.

3.5 Communication

Internet has become the most used means of communication since its creation. Libraries can use email services to communicate with book publishers, book sellers, vendors and their users across the globe.

3.6 Resource Sharing

As indicated, the internet has brought major libraries online together. Libraries can have access to the catalogue of these major libraries and secure library resources on behalf of their users. The issues of missing gaps in journal collection will be a forgotten issue as libraries can request for photocopies of missing issues. In addition, there are database vendors that specialises in providing access to all types of journal publications, such as EBSCHO host, Jstor etc. Libraries can opt to pay for the annual access fees rather than renew their subscription with the journal vendors. Since it is provided online it means library users can have access to the journal collection 24 hrs a day and seven days a week.

Alasa & Kenechukwu in Uzoigwe (2004) enumerated some of the numerous benefits that can be derived from the internet by libraries thus:

1. Quick and convenient information exchange.
2. Access to experienced and expert individuals in thousands of fields.
3. Access to regular updates on topics of interest.
4. Enhancement of team work across geographical distance.
5. Access to archives of information.
6. Transfer of data between machines and provides great platform to have fun and be entertained.
7. As a reference tool, the internet provides us with wealth of up to date resources unavailable in bound volumes.
8. The internet gives personal access to specialization and experts in hundreds of discipline.
9. It enables you to reach your fellow librarians with messages and documents independent of the constraints of mails, telegraph or even fax.
10. One can collect news and facts which can be stored on one's computer for later use in reference.
11. Resources in the internet allow librarians to provide better services to their patrons by giving on-line access to information that will be difficult to locate in any other manner.
12. The internet provides access to on-line catalogue for libraries very close or on another continent and it gives access to bibliographic records of millions of books and the details of holdings of libraries around the world. Electronic journals and news-letters are made available on a regular basis.

13. Librarians can make the selection of books required in their institutions and order them without going from one bookshop or publisher to another. For good library services, writes Onyekwuelu (1998: 13):

Libraries must be connected first to the internet and then to another. This is necessary because, it is expected that in the next three years, there will hardly be any journal on paper, subscription will be via-E-mail and useful works will be available only electronically.

4.0 CONCLUSION

From what you have learnt from this unit, you should be able to discuss the uses of the internet in library and information centers.

5.0 SUMMARY

This unit has explored the uses of the internet in library and information centers. Specific benefits of the use of the internet in library and information centers were highlighted.

6.0 TUTOR- MARKED ASSIGNMENT

1. List and discuss ten uses of the internet in the library and information centers.

7.0 REFERENCES/ FURTHER READING.

- Uzoigwe.C.U (2004), Information Technology in Libraries: The Nigeria case. Coal City Libraries. Journal of the Nigerian Library Association, Enugu Chapter.
- Dr. Pankaj Kumar Singh (2014), Library and Information Technology. India: Tilak Wasan.
- MOZ (2017) How People Interact with Search Engines. <http://moz.com/beginners-guide-to-seo/how-people-intercat-with-search-engines>
- Norton, (2011)10 tips for smarter, more efficient Internet searching Retrieved on i/10/18 from <https://www.techrepublic.com/blog/10-things/10-tips-for-smarter-more-efficient-internet-searching/>

MODULE 3: THE INTERNET AS A MEDIUM OF ACCESS, LEARNING, RESEARCH AND COMMUNICATION

Unit 1: How can the internet enhance access to information, learning, research and communication.

Unit 2: Evaluating internet resources.

Unit 1: How can the internet enhance access to information, learning, research and communication?

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1 How can the internet enhance access to information, learning, research and communication?
 - 3.1.1: How can the internet access information
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In this unit, you will learn how the internet can enhance access to information, learning, research and communication.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Discuss how the internet can enhance access to information.
- Mention the significant roles the internet can play in learning, research and communication.

3.0 MAIN CONTENT

3.1 How can the internet enhance access to information, learning, research and communication?

3.1.1 How can the internet access information

Internet is the transport vehicle for the information stored in files or documents on another computer. It carries together various information and services such as electronic mail, online chat, file transfer, and the interlink web pages and other documents of the World Wide Web. The internet itself does not contain information, it is a slight misstatement to say “a document was found on the internet” it would

be more correct to say it was found through or using the internet. What it was found in (or on) is one of the computers linked to the internet.

The internet has a library of various avenues whereby information can be accessed e.g. through email, face book, instagram, online chat rooms and various websites.

3.1.2 How the internet can enhance learning (education)

Internet has enhanced learning (education). It can improve the quality of education in many ways. It opens doorways to a wealth of information, knowledge and educational resources, increasing opportunities for learning in and beyond the classroom. Teachers use online materials to prepare lessons, and students to extend their range of learning.

Internet has enhanced modern education- having access to information through the internet empowers students to take charge of their education and the research backs that up.

Further, modern education process has changed due to the use of internet. They use the internet to give students extra resources, study materials and where courses are done online. The internet is very beneficial for students in all aspects. It serves as a teacher to students from where you can ask everything and it will answer you.

Internet for education is connected with information exchange, communication and creation of knowledge. The internet has offered learners increased freedom from the physical limitation of the real world. It has reduced the constraints of place, space, time and geography, with individuals able to access high-quality learning opportunities and educational provision regardless of local circumstances.

The internet supports student-centered and self- directed learning through building new knowledge by accessing, selecting, organizing and interpreting information and data. It produces a creative learning environment through developing students' new understanding in their areas of learning. It promotes collaborative learning in a distance-learning environment by enabling the students to communicate, share, and delve into the internet to gather lots of very useful academic information for research purposes and the information contained on the (internet) can be useful for academic research. It is a potential research tool and opens up a new and comprehensive source of information. In any

development, information is probably the biggest advantage internet is offering to users. The internet is on apparent treasure trove of information. Any kind of information on any topic under the globe is available on the internet.

3.1.3 How the internet promote research

The internet helps a researcher to collect relevant information for a specific research. It enables the researcher to have fast communication with their schoolmates, as well as offers them the platforms for accessing papers online.

Internet has contributed significantly to the easiness of research through downloading materials as well as enhanced cognitive operation of data dissemination.

The internet is comparatively inexpensive and quick in dispersion of information by its:

- Ability to obtain large sample, which increases statistical power. Ability to obtain a more diverse sample than in traditional university-based research.
- Prevents experimental demand effects (with no interaction with the experimenter, no experimenter expectancy effect). Data is automatically coded so no data entry errors.
- Can sample individuals beyond your schools subject pool.
- Reduce cost of conducting research.

3.1.4 How the internet can promote communication

The internet enhances easy communication through the following ways:

- The internet allows the society to communicate with people of all nationality and ages from every country in the world.
- The internet can be used for business purposes e.g. to advertise a certain product over the web or to partner up with other businesses in the different part of the world.
- The internet is a vehicle for interpersonal communication and interactivity, can also be used for mass delivering of messages, information storage, processing and retrieval of information.

- The internet provides public relation with a direct link to the public, and in turn the public can interact with public relation agencies and companies.
- The internet is a global tool which in turn communicates through the web, can only be possible with the use of the internet.

4.0 CONCLUSION

You have learnt from this study unit, how the internet can enhance access to information, learning, research and communication.

5.0 SUMMARY

This unit has discussed extensively how the internet can enhance access to information, learning, research and communication of all types.

6.0 TUTOR-MARKED ASSIGNMENT

1. Discuss how the internet can enhance access to information.
2. Discuss how the internet can aid a researcher.

7.0 REFERENCES/ FURTHER READING

Rubin (2000)

Singh, N. (2001) Internet: Importance and Usage for Library and Information Professionals
DESIDOC Bulletin of Information Technology Vol.21 No.3, pp.17-28

Whatismyipaddress.com (2019)

Xie, I. and Joo, S (2010). Transitions in search tactics during the Web-based search process
<https://onlinelibrary.wiley.com/doi/abs/10.1002/asi.21391>

Unit 2: Evaluating Internet Resources

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content

3.1 Evaluating internet resources

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/ Further Reading

1.0 INTRODUCTION

In this unit, you will learn the evaluation of internet resources.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Discuss how to evaluate internet resources.
- Enumerate the criteria for evaluating internet resources.

3.0 MAIN CONTENT

3.1 Evaluating internet resources

When you find an internet resource and wish to use it, there are criteria to apply in order to determine its currency, authenticity and trustworthiness. Not all Internet resources meet these qualities. As indicated earlier, what is published on the Internet has no any form of control comparable to paper based publications. Anybody with information he wants to share with world, regardless of whether that information is correct or not, if he has the necessary equipment he can simply log in to the internet and publish it. The information found on a web site does not necessarily pass through the hands of editors, fact-checkers or reviewers, so it is extremely important you determine the value of the site's content and presentation (Houghton Mifflin Harcourt Publishing, 1995-2008). Today, evaluating information is even more important now than ever because of the advent of Social Networking Sites. That is the reason why you need to verify the information before you decide to use it.

There are many ways through which information can be verified. Common methods among these ways include determining the authority responsible for the creation of the resources, currency of the information including updating history. Two important documents consulted (1) Miriam Library, (2010) and (2) Houghton Mifflin Harcourt Publishing Company (1995-2008). The two documents discussed criteria to use when evaluating resources, especially those published on the Internet.

The Miriam Library used an acronym "CRAAP Test" to summarize what to look for when evaluating resources. The acronym stands for **Currency, Relevance, Authority, Accuracy and Purpose**.

The CRAAP Test is a list of statements in question form, which when answered will give the reader the ability to accept or reject any information found on the Internet.

Currency: The timeliness of the information. Is your topic time-sensitive? In other words, is it important that you locate the most current, up-to-date resources? If so, ask yourself:

- When was the information published or posted?
- Has the information been revised or updated?
- Does your topic require current information, or will older sources work as well?
- Are the links functional? or do they lead to error messages, such as "Page Not Found" ? Sites that are not regularly updated are likely to have more "broken links."

Relevance: The importance of the information for your needs.

- Does the information relate to your topic or answer your question?
- Who is the intended audience? (Pupils, SSCE Students, Undergraduates, Post Graduate and Graduate Students)
- Is the information at an appropriate level (i.e. not too elementary or advanced for your needs)?
- Have you looked at a variety of sources before determining this is one you will use?
- Would you be comfortable citing this source in your research paper?

Authority: The source of the information. Because anyone can publish on the Web, it's important that you first identify the author of the information on the site. Ask yourself

- Who is the author/publisher/source/sponsor?
- What are the author's credentials or organizational affiliations?
- Can you confirm that the organization is a credible, authoritative source of information?
- Is there contact information, such as a publisher or email address of the person responsible for the existence of the document?
- What are the author's credentials? Is he or she an expert in the subject I am researching?
- Is the author qualified to write on the topic?

-Look closely at the site's URL—specifically at the three-letter suffix known as *extension*. This normally provides the domain name of the server that host the document. For example, in the address *www.archives.gov*, the extension is *.gov*. Sometimes the extension can provide clues about the source of the site you are viewing. For example these extensions and their sources:

gov - Government agencies

edu - Educational institutions

org - Organizations (nonprofit)

mil - Military

com - commercial business

net - Network organizations

Watch Out! A site with the *.gov* extension signals a government agency, and therefore, probably has reliable and trustworthy information. However, it can be harder to determine whether sites with the *.edu*, *.org*, or *.com* extensions are quality ones. For example, the *.edu* extension indicates that a site is associated with an educational institution, but it doesn't tell you whether it's the official site of the history department or one created by a first-year student.

Remember-looking at the URL's extension can uncover clues about the quality of the site, but doesn't tell the whole story. To really determine whether the site is a good one, you'll need to ask the other 4 Ws: *who?* *What?* *When?* and *why?*

Accuracy: The reliability, truthfulness and correctness of the content.

- Where does the information come from?
- Is the information supported by evidence?
- Has the information been reviewed or refereed?
- Can you verify any of the information in another source or from personal knowledge?
- Does the language or tone seem unbiased and free of emotion?
- Are there spelling, grammar or typographical errors?

Purpose: The reason/s for why the information exists.

- What is the purpose of the information?
- Is it to inform, teach, sell, entertain or persuade?
- Do the authors/sponsors make their intentions or purpose clear?
- Is the information fact, opinion or propaganda?
- Does the point of view appear objective and impartial?
- Are there political, ideological, cultural, religious, institutional or personal biases?

Navigation and Presentation

- Is the site well organized and easy to navigate? Can I find the information I am looking for within a few clicks?
- Is the site visually appealing? Does the design suit the overall purpose?
- Are multimedia elements used sparingly and for a specific purpose? Or are they distracting?
- Does the site have any advertisements or banners that might distract me from my purpose for visiting?
- Does the site take a long time to load?

4.0 CONCLUSION

You have learnt from this study unit, the evaluation of internet resources. The criteria for evaluating the internet resources were highlighted.

5.0 SUMMARY

This unit has discussed the criteria for evaluating internet resources.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is the meaning of evaluating internet resources?
2. List and discuss three criteria for evaluating internet resources.

7.0 REFERENCES/ FURTHER READING

Zhang, Y. (2004) A Comparison of Search Engines For Finding Resources

<http://www.yuanlei.com/studies/articles/is567-searchengine/page2.htm>

Beal, V. (2019) Search engine *Webopedia* https://www.webopedia.com/TERM/S/search_engine.html

Boswell (2017) Seek and Ye Shall Find: Top Ten Alternative Search Engines

<https://lifelacker.com/seek-and-ye-shall-find-top-ten-alternative-search-engines.html>

Brehm, B. (1999) Effective Internet Searching

<https://files.eric.ed.gov/fulltext/ED439058.pdf>

MODULE 4: INFORMATION SEARCHING

Unit 1: Basic steps for information searching

Unit 2: Search strategies and practical techniques

Unit 1: Basic steps for information searching

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1 Basic steps for information searching
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1. INTRODUCTION

In this unit, you will learn the basic steps of searching information on the World Wide Web, what needs to be put in place before one can conduct a successful search. You will also learn how to conduct and retrieve important documents from your search.

2. OBJECTIVES

At the end of this unit, you should be able to:

- State the basic procedures of information searching.
- Describe each procedure.
- Apply these procedures in your everyday search.
- Develop better strategies for searching the internet.

3. 0 MAIN CONTENT

3.1 Basic steps for information searching

Searching for information is one of the basic human necessities, in order to fill a vacuum that existed in the course of performing an undertaking. In other words you search for information when you realized that you needed to have it in order to, for example take decision, or to help you to do your assignment. Librarianship and Information Science have taken it upon themselves to study the reasons why people look for information so that they will acquire the library resources to meet this demand.

The searching of the information can be divided in to two. The most important search is that which has a direct bearing to present situation, ie the information is needed for immediate use. Technically, this is referred to as information wants (or desire), which is a kind of information needed to satisfy an

uncertainty. The second search is information need, here Librarians and Information Scientist have described it as a condition whether recognized or not that information is needed to resolve a problem.

According to Rubin (2000) studies suggested that the search for information generally goes through a variety of phases beginning with undefined notion that there is a need for information, which is referred to as an “Anomalous State of knowledge (ASK). As the process proceeds, the search becomes more and more defined and narrowed.

For the search to proceed there are six stages that need to be carried out before relevant information is retrieved. These stages are: Initiation, Selection; Exploration; Formulation; Collection and Presentation. Mbaskool.com (2019) has summarized and explained these stages:

Stage 1 Initiation: In this stage the user feels a need for the information and is still not sure regarding the source of information and the proceedings.

Stage 2 Selection: In this stage the user is sure of the information source and proceeds as per his requirements

Stage 3 Exploration: In this stage user looks for the information and updates his knowledge base and tries to satisfy the requirements.

Stage 4 Formulation: In this stage the information is gathered by the user and the process of evaluation starts. User analyze the collected information to get the desired outcomes

State 5 Collection: In this stage user is with all the processed information and they do the task of collecting the desired information.

Stage 6 Search Closure: After the collection of the information and meeting the requirements the user summarizes the information and completes the process of the information search.

MOZ (2017) noted that how people use search engines has evolved over the years, but the primary principles of conducting a search remain largely unchanged. MOZ listed the following procedures that are followed recursively. These procedures are:

1. Experience the need for an answer, solution, or piece of information
2. Formulate that need in a string of words and phrases, also known as the query
3. Enter the query into a search engine

4. Browse through the results for a match
5. Click on a result
6. Scan for a solution, or a link to that solution
7. If unsatisfied, return to the search results and browse for another link or
8. Perform a new search with refinements to the query.

4.0 CONCLUSION

From what you have learnt from this unit, you should be able to discuss the basic steps for information searching. You should be able to apply the various steps in everyday search.

5.0 SUMMARY

This unit has explored the basic procedures for information search. The unit also presented each procedure for information search, how to apply these procedures for your everyday search for your maximum benefits.

6.0 TUTOR-MARKED ASSIGNMENT

1. State the basic steps in information searching.
2. List two better strategies for searching the internet.

7.0 REFERENCES/ FURTHER READING

/Collins, J. (2018) How to Search within a Web address: Use the in URL command to quickly find keywords in URls.Retrieved15/12/18

<https://www.lifewire.com/hot-to-search-within-web-address-3482391?print>

Collins, J. (2018) The Invisible Web: What It Is, How You Can Find It Retrieved from

<https://www.lifewire.com/invisible-web-how-to-find-it-3482490>

Computer hope (2019) URL available at <https://www.computerhope.com/jargon/u/url.htm>

De Cesare, J. A. (2014) the Expanding Role of Online Video in Teaching, Learning, and Research.
Library Technology Reports alatechsource.org. February March

Unit 2: Search strategies and practical techniques for information searching

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1 Search strategies and practical techniques for information searching
 - 3.2 Search Techniques
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In the last unit, you learnt the basic steps for information searching. In this unit, you will be taught the search strategies and practical techniques to enable you achieve a successful search from the internet.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- State the search strategies and practical techniques needed for a successful internet search.
- Guide the students to practice the practical techniques for a successful search.

3.0 MAIN CONTENT

3.1: Search strategies and practical techniques for information searching

Before conducting any search and the final decision to use either a search engine or a directory, developing an effective search strategy is important. Search strategy is a plan for finding information that will address your information needs. According to Xie and Joo (2010) a search strategy refers to a plan for a search task. When users conduct information searches, they must have some search strategies that are a combination of the choice of terms, operators, and tactics. Search strategies are the products of planned or situational interactions between users and Information Retrieval (IR) systems. Brehm, (1999) defined Internet Search Strategy as the organization of search keywords in order to conduct effective search on the web. A search tactic refers to a single movement or an action to achieve specific objectives in the information searching process, while a search strategy highlights a working plan and interactive reaction for a given situation. A search strategy consists of series of sequential tactics that take into account both planned and situational elements.

The more care and thought a user put during this plan, the more productive and more useful will be his search results. There are different stages in the process of strategizing a search, a simplified generic search strategy that has worked well in finding electronic information resources in electronic catalogues (OPACs) and CD-Rom can also be applied to find web resources as well. In this strategy, there are five steps that are followed namely:-

1. Formulate the topic of your research and its scope
2. Identify important concepts within the topic
3. Identify search terms to describe those concepts
4. Consider Synonyms and variation of those terms
5. Prepare your search logic.

3.1.1 Formulation of research topic and its scope Understanding your topic is the first step in conducting fruitful search. You must determine the extent, depth and the scope of the topic you wish to find on the internet. Johnson and Lamb (2007) proposed the creation of concept map or visual planning guide. The “plan could include your central topic or problem, a word list and a set of required information”. It is pertinent to determine what type of information is required (ie. Ideas, facts, opinions, options) what form of presentation is preferred (text, graphics, charts)? You can write different sentences about what you are researching in order to have a firm grip on the topic. Write down any idea you have regarding the topic, even those harebrained. Poor determination of the topic will only result in retrieving documents that may not address the information needs. You should bear in mind that all information retrieval systems are simply designed to supply and deliver the information not exactly as you wanted it but close enough to enable you to decide based on what you specified in your search terms.

3.1.2 Identification of important concepts within the topic. From the word list generated identify the key words that make up the topic of your research, if possible identify the dependant and independent variables of the topic. Make a list of these words, avoiding common words such as “the, of, is, etc”.

3.1.3 Identify the search terms that describe those concepts. Look at the list of your keywords again. It will be good to determine the synonyms of the words you intend to use; words that have the same meaning with your keywords and also determine words that have alternative spelling, abbreviations and acronyms for the words on your list. You should also identify words that have broader or narrower meanings than your original terms. This information is very important because as you start the search you may likely use the words to refine (expand or contract) your search terms. For instance, in the event you conduct a search and few hits are retrieved you can easily use the synonym words to expand the search.

Based on the foregoing, if you decide to use search engine, knowledge about their types, characteristics, and how each work is very important. According to Boswell (2017) “... not all search engines are created equal. Every search tool out there delivers a different experience and depending what you are looking for, it might not always be pleasant”. Therefore mastery of how to use two or more search engines is very important more especially in Nigeria, where majority of Internet connections are through smart phones that are handle by GSM operators in the country. The knowledge of two or more search engines will allow you to use the best search engine in a situation where the other search engine fails and get all the information you needed.

3.2 Search Techniques

Suggestions on how to start a search was proposed by Harris (2000), who discussed five possible scenarios under which Internet resources may be sought:

a. Broad Subject

This is the first scenario in which the internet user has a broad subject in mind, but don't know exactly what he is interested in or how to look it up. For broad subjects, such as information processing, Tibet, photosynthesis, volcanoes, Samuel Johnson, rope making and so on, Harris (2000) suggested the use of an online encyclopedia or similar reference site.

b. General Subject Area

The second scenario is a situation in which the user needs information about a general subject area. The user wants to find information about business, law, medicine, old master paintings, government documents and so forth. Harris (2000) suggested the use of targeted (specialized) search engine.

c. Well-known Specific Subject

The User has a well-known specific subject in mind and wants to find some relevant sites. To find sites for subjects such as Hawaiian vacations, exercise routines, colleges and universities in California, dietary guidelines, art museums, and the best source for these types of information is the directory.

d. Very Specific and Unusual Subject

The user has a need for information on a very specific and unusual subject, such as tea tree oil, Chihuahua coughing, paradichlorobenzene, or the Airbus 320, Harris (2000) advised the user to use a general search engine.

e. Research paper

When the user is writing a research paper and need substantial information from many sources. He is use a combination of several search engines, directories, and other tools.

Having decided you want to use a search engine many Scholars, including Harris, (2000); (Norton, 2011); Collins, (2018) emphasized the need to narrow down the concept of the search terms even before starting the search. Because, the narrower you can get your search terms from the beginning, the more successful your search will be. To this regards, Collins (2018) advised the search terms to be specific, but with sufficient qualifiers in order to retrieve the exact documents. He cited as an example, searching for coffee, which he pointed out that using the single word, will retrieve much more than we can use. But when sufficiently qualified (roasted Arabica Coffee) the result of the search becomes manageable.

It should be noted that the search technique that can be used to retrieve resources can be grouped into two. The first is when a user runs a query and millions of results are displayed.

In this instance the user needs to use the search techniques to limit the result to manageable number. Secondly, when the user runs a query and few results are displayed, in this case he needs to expand the

search terms. In other words, there are search commands that a user can use to limit or expand his search result. The command for limiting result include the following:: (a) Use of Quotation marks to locate a Specific phrase (b) Searching within a site (c) Finding words within a Web Address (d) Search within web page titles (e) Limit searches to specific domains (f) Use basic math to narrow the search (g) Finding document by file format (h) Use of wildcard.

3.2.1 Search techniques for better results

Search engines is a software programme and therefore it must understand what is exactly needed before it can help you find the correct resources of the Internet. It should be noted that computer and its software are/is regarded as Garbage in Garbage out (GIGO). It is what you give that you get in return. This means that you should assist the search engine (as the software) by describing in greater details what exactly you want. Describing what exactly is needed can save time and efforts by eliminating inappropriate hits that may come as a result of wrong description. In other words, if you give wrong description (query) you get wrong answers, which will consist of too many irrelevant hits with very few relevant ones making it necessary for you to spend time sifting through the list to get the correct answer.

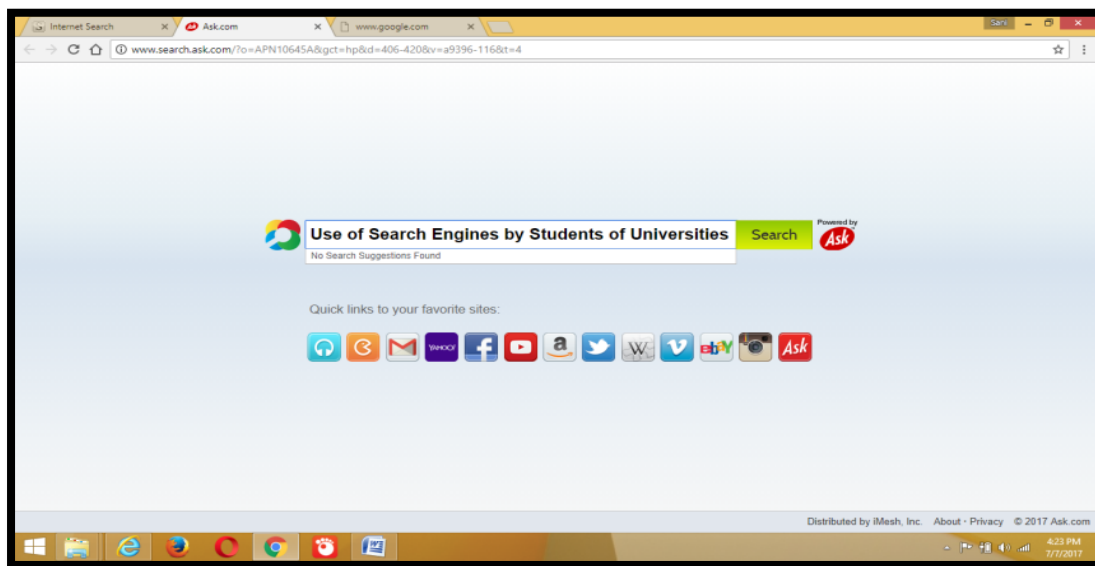
It should be re-emphasized that the more hit list returned from a search engine the vaguer is your query. By mastering the correct techniques each time you run a query you get relevant responses. For you to find any resource on the internet using a search engine you need to follow the following steps:

- a. Decide on a topic
- b. Understand clearly what you want find
- c. Understand the most important concept in your search topic
- d. Type the search query in to the search engines' box
- e. Press the key that will tell the search engine to commence the search
- f. Wait for the result (hits)
- g. Browse through to find what you are looking for

There are a number of techniques or strategies that have been tested and perfected which can be employed to narrow down or expand the search terms. A user can combine all or those that are relevant to his search. These techniques includes the use of Boolean operators, use of information about the domain server in URL, Use of document types, Use of quotation marks and finding resources using site information.

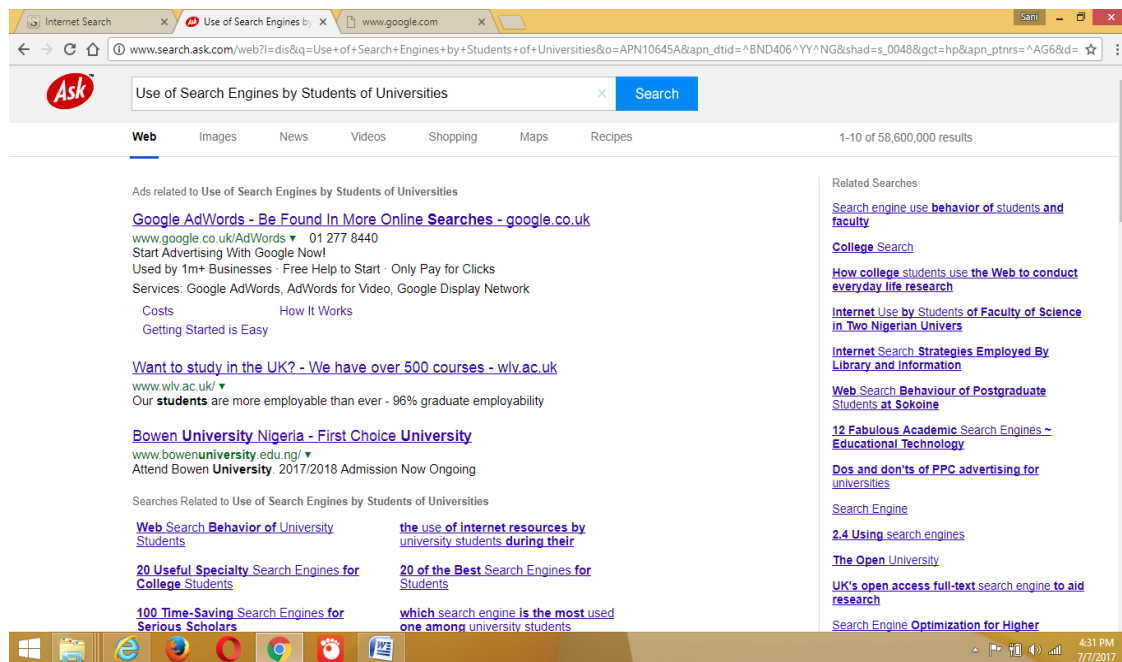
For better understanding, lets use this title practically to learn how to modify and get close to documents that will address our information needs. Supposed you are looking for this title **“Use of Search Engines by Students of Universities”**. Looking at the title critically, shows a number of problems that needs to be addressed before conducting the search. For example, the title is too general with no any geographical boundary. But for the sake of clarity let us conduct the search using Ask search engine.

Fig 1. Conducting search using Ask search Engine



The search retrieved 50,800,000 hits. The search engine retrieved this figure because the title has no geographical boundry, the search engines assumes we want all documents related to the search terms regardless of geographical location as well as the authors of the document.

Fig.2 Search results



(Please note that the computer that was used for these examples was configured to use ask webbrowser while Google's Search Index was used to find resources indexed by Google search engine. You can configure any search engine to use the index of any major search engine. Such as Google, Yahoo!, Bing and DuckDuckGo search engines. To do that goto your search engines settings and select the default search engine). The settings button is represented by three dots on the left hand side of your screen

The figures retrieved were just too many for anybody to sift through. How many days, weeks, or years will it take you to go through these (50, 800,000) enteries.

There are certain ways in which the title can be refined even before running it on the search engine. For example the first refinement that will be usefull is limiting the search term by geographical location of interest.

Refining the search term by Geographical Region

The new title is modified to read **"Use of Search Engines by Students of Universities in Nigeria"**.

Results obtained after the modification reduced the list from 50, 800, 000 hits to 698,000 hits. This can be regarded as a drastic reduction in the number of hits compared to the first search. In other words the introduction of a specific location made the search engines to drop all entries that are outside the stated geographical location, making the search terms to be focussed on a particular geographical location. It should be noted that the higher the hits the vaguer is the search term used. Each time a user run a query and too many hits are return it simply means that the search terms used are not focussed, and therefore

the search engines retrieves whatever comes its way as long as it contain one or all of the search terms used.

As indicated earlier the first search was too general, the search engine retrieved all the search terms regardless of the country. But after the introduction of geographical location, the search becomes a bit more specific, but still too general, requiring more modifications and refinements. You can also try the use of the subject of the study to limit your search. In this case undergraduate students are the subject of the writing.

Adding specific category of subjects to refine the search terms

The search term can further be refined by the type of students. The types of students included Graduate, Postgraduate, Undergraduate and subdegree students. The title is therefore refined to be specific on undergraduate students. So the new title **“Use of Search Engines by Undergraduate Students of Universities in Nigeria”** narrowed down the hits to 60,500 from 698,000. Still the title can be refined to be more specific to particular type of university. In Nigeria, there are three categories of universities namely, Federal, State and Private universities.. Each of these can be used to limit the search by that category. Let us say you are interested in undergraduate students of federal universities.

Refining search terms by type of university

The 60, 500 hits results included all students from the three types of universities. The title can again be modify to pick only resources from any of the universities. Let us say I am interested in getting resources that discussed students in Federal universities only. Therefore, the new title **“Use of Search Engines by Undergraduate Students of Federal Universities in Nigeria”** was run. After running the modified title 20,800 hits was retrieved.

Use of quotation Marks to Refine search terms

Again quotation marks can be used to still refine the query to be more specific to undergraduate students of federal universities. Therefore, the phrase “undergraduate students” is enclosed in quotation marks. What you are telling the search engine is that you are only interested in documents where the two words undergraduate + students appear side by side. This again reduced the number of hits from 20,800 to 10,900 hits. This is more manageable and more accurate than the earlier suggested titles.

In addition, enclosing the key variables in quotation marks tells the search engine you are only interested in documents in which the words appear side –by – side. In this case, the key variables to the title we have been using are “Search Engines”, “Undergraduate Students” and “Federal Universities in Nigeria”. Conducting the search with these terms in quotation marks returned only 6 hits.

Using Document type information to Refine search terms

However, if you still want to trim down the list you can include document type information. People use different types of application software to create their documents. Most of these application programmes automatically add an extension to the name of the document to indicate its type. For example, doc, pdf, rtf, html etc. using this information a user can ask the search engine to return only specified document type. In our suggested the document type can be added thus, **Use of “Search Engines” by “Undergraduate Students” of “Federal Universities in Nigeria” “pdf”** This will retrieve only pdf documents and exclude all the other document not created with the pdf application programme and the result obtained are the 6 indicated above.

From the fore going, it can be seen that the more focussed the title the less hits you obtained. For example, the first suggested title retrieved more than fifty-eight million hits. The reason for this is not too difficult to detect as explained above, the search terms used were not limited to any geographical location nor type of university or type of student. So the search engine assumes we are conducting a general search on the topic. But after series of modifications by giving the search engine a focus the result came down to 10,900 hits. This is the reason why scholars argued that the more hits you obtained when conducting electronic information search the vaguer is the search terms used. The fewer hits the more focus are the search terms used.

Use of Boolean operators to limit or expand search results

In addition to the above ways of focussing the search terms, the internet user can also use Boolean operators to limit or expand the search terms. The boolean operators are “**AND, OR, NOT**”. **And** is used to limit the search to the presence of the two words in the search, for example Biology **AND** Education. **Or** is used when you have a term that has variation in its spelling, (Catalog and Catalogue) or when you have words that mean the same thing, such as **admit** that has the following synonym words “acknowledge/recognise/concede/confess”. So in this case the word admit or acknowledge/recognise/concede/confess as the case may be. **Not** on the otherhand is used to negate or cancel the effects of the word to what is being searched. For example Jaguar **NOT** Automobile or Catapillar **NOT** Insect. University library NOT College library.

Some search engines instead of using boolean operators allows the use of arithmetic symbols of plus (+) to add words to a search term and minus (-) to exclude words from the search term. For example Biology + Education. Or Jaguar –Car –Automobile. In the first example it will only retrieve documents that contain the two words, just like the use of “AND” explained above. In the second example the engine will retrieve only documents about the animal Jaguar and not the car jaguar.

Using Domain Servrer to find Internet Resources

Domain names can be used to retrieve documents from a particular or group of websites. For example you can limit the retrieval of web pages from a particular web site that has domain extension that ended with .com, .edu or .org and etc. It should be noted that domains servers are used to identify one or more *IP addresses, which again is used* in URLs to identify particular Web pages. For example, in the URL *http://www.pcwebopedia.com/index.html*, the domain name is *pcwebopedia.com*. *Slash index* is the name of the document while *.html* is the type of the document.

Domain servers are identified by their suffix that indicates which level the domain server belongs to. For the purpose of this primer, we are concern only with two of these servers, (a) Generic domain server and (b) country code server. The generic domain are not many, there are only a limited number of such domains. For example:

gov - Government agencies

edu - Educational institutions

org - Organizations (non profit)

mil - Military

com - commercial business

net - Network organizations

As can be seen, from the classification, resource emanating from any of the organization bears the suffix of that organization. Example, <http://www.exploratorium.edu/ronh/research/> is a document stored on educational server by virtue of bearing the suffix .edu.

Country code (cc TLD) on the other hand is a two letter domain established for geographical locations. It tells the country from where the resource or computer emanates from. It should be noted that originally, only residents in a country can register their business with the cc TLD. But now days, some countries allow parties outside their shores to register their websites using their cc TLD. Each country on the globe has its suffix. Examples of country code TLD include the following:

us – United States

uk – United Kingdom

ca – Canada

th – Thailand

ng – Nigeria

sa – South Africa

Every computer connected to the Internet has a unique IP address that distinguishes it from another computer on the same network or a different network entirely. Computers communicate with each other using this IP address. The IP addresses are obtained from the server of your Internet Service Provider

(ISP). The moment you connect your computer or smart phone to your ISP, the ISP's server automatically assign an IP address to your connecting device. The ISP's server uses this IP address to accept your request and pass it on to the next server. When answers to your query have been received the same route is used to channel the answer to you, i.e from the web to ISP's computer and then to your connecting device.

In a situation where a user made a request that included the Domain name for example, <http://www.pcnames.com/Articles/Types-of-DNS-Servers.html> The server of the ISP must communicate with another server called, Domain Name System (DNS) that translates the domain name (pcnames.com) to the IP address and then connect to the computer that has the IP address and fetch the requested document.

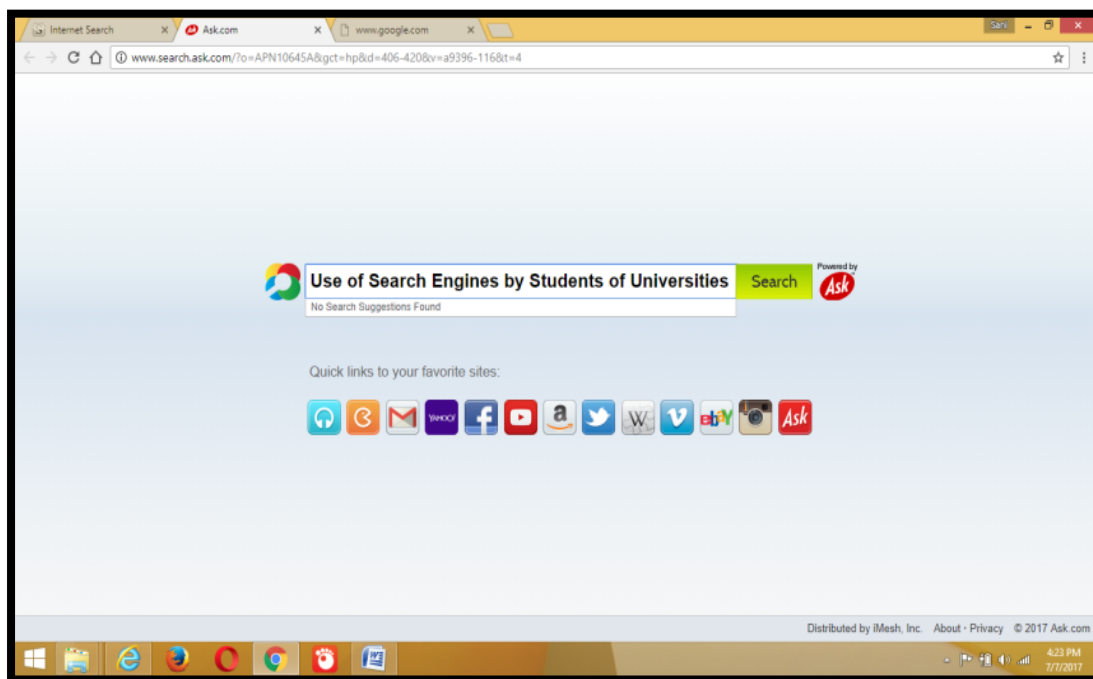


Fig.2

The result of the search is presented in fig 3.

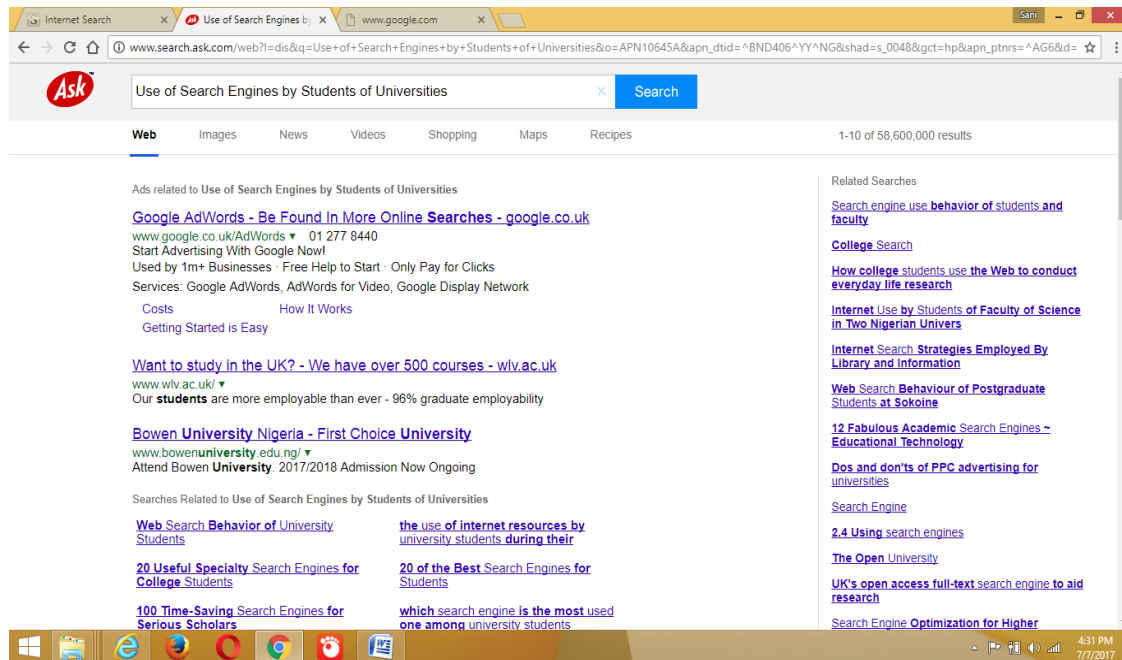


Fig 3.

1. Limiting Search Results

(a) Use of Quotation marks to locate a Specific phrase

Using specific phrase is the simplest way of narrowing and saving your precious time. By putting quotes around the most important phrases you are forcing the search engine to recognise the importance of the concept and to fish out only documents in which the two or more words appear side by side. According to Collins (2018) when you use quotation marks around a phrase you are telling the search engine to bring back pages that include these search terms exactly how they appeared. Norton (2011) emphasised that using quotation marks become handy especially if you are trying to retrieve document in which you remember only part of a phrase you have seen on a web page or part of a quotation.

(b) Searching within a site

Sometimes a user may have a particular site in mind, or title of the work, or the URL of a document, i.e. he knows that the site contain the exact information he is looking for. For example using the top level domain of .edu will return information from educational establishment.

Site: www.school.edu "subject I'm looking for" Frame your subject within quotations if it is more than two words; this lets the search engine know that you want to find those two words right next to each other.

However, if you have a particular school in mind that you'd like to search, use that school's Uniform Resource Locator (URL) in your search. You can also use the URL command to tell search engines (this works best with Google at the time of this writing) to look only for web addresses, aka URLs, that include your search terms. You are specifically telling the search engine that you *only* want to look within the URL - you don't want to see results from anywhere else but only the specified URL and what is being sought could either be in the basic body of contents, titles, metadata etc .

According to Collins (2018) for the URL to work you need to keep the following in mind:

- If you're looking for an exact phrase, say, "three blind mice", you'll need to remember that web addresses typically don't include spaces between words. However, if your query contains a common enough phrases, Google will automatically match results that include common variations. You might have to play with this a little bit in order to make it work how you'd like it to work - remember, while search engines are incredibly advanced, they still require help to understand what you're looking for.
- One of the most relatively unknown benefits of the URL command within Google is that you can use it to search within directories and sub-directories. For example: say you want to find all possible Contact pages on a popular shopping site. You could try this query in Google: URL: amazon.com "contact".
- Don't want certain sites to show up in your search results? You can exclude by using a simple Boolean math, the minus sign. For example, say you wanted to search for football information, but you wanted to exclude anything from NFL.com You can try this command: football -URL: nfl.

All in title is another important command that can be used to retrieve information. You can use this command to restrict search engine to return only titles of documents with that word/s in the title of the document. However it should be noted that the term **all in title** is a search operator specific to Google.

File type is another command that will back only the requested file extension and format e.g. **file type:** (pdf) (.swf, .mp3 etc)

2. Expanding Search Results

Commands that can expand results are (a) Boolean operators (b) Use of Alternate or Synonym words and then (c) Use of Multiple search engines.

- a) Use of Boolean operators (**AND OR NOT or +, -**) are used to connect and define the relationship between search terms. These can be used to expand the search results. In the search strategy stage, the user was advised to determine the synonym and alternative spellings of his keyword before conducting the search.
- b) The user can use the Boolean operators of “OR” and “AND” to include those synonym and alternative spellings expand his search results. For example (valuable OR precious OR priceless) (Catalog OR Catalogue).
- c) Not all search engines are equal. The user can use multiple search engines to expand his search results.

Some of these commands can be combined to make a very precise and powerful search. E.g.

In title: smithonian **Site:** You Tube.com will return you tube videos. By incorporating these you make your searches more efficient; they yield a greater amount of quality content that accurately meets search expectations (DeCesare, 2014).

4.0 CONCLUSION

From what you have learnt from this unit, you should be able to discuss the search strategies and practical techniques needed for a successful information search from the internet. You should also be able to apply the search strategies and techniques in your everyday search of the internet.

5.0 SUMMARY

This unit has explored the various search strategies and techniques that can be applied in order to achieve a successful internet search.

6.0 TUTOR- MARKED ASSIGNMENT

1. With practical examples, state three strategies and practical techniques in. searching the internet.

7.0 REFERENCES/ FURTHER READING

EDN Staff (1995) Top 10 uses of the Internet available at <https://www.edn.com/electronics-news/4351406/top-10-uses-of-the-internet>

Sher, T. (2019) What is a Web Directory?: Search the human-organized web *Life wire* available at <https://www.lifewire.com/what-is-web-directory-3482036>

Forsyth S. (2014) what are these Search Engines and Search Directory things? Available at www.stevenforsyth.com/google/what-are.htm

Harris, R (2000) Internet Search Tips and Strategies. - Retrieved 1/10/2018 from <https://www.virtualsalt.com/howlook.htm>

MODULE 5: THE EMAIL AS A MEANS OF SENDING MESSAGES

Unit 1: Meaning of email and how to create email accounts.

Unit 2: How to send messages using email.

Unit 1: Meaning of email and how to create email accounts

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main content
3.1	Meaning of email and to create email accounts.
4.0	Conclusion
5.0	Summary
6.0	Tutor –marked Assignment
7.0	References/ Further Reading

1.0 INTRODUCTION

In this unit, you will learn the meaning of the email and how to create email accounts.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Define email.
- Discuss how to create email accounts.

3.0 MAIN CONTENT

3.1 Meaning of email and how to create email accounts.

Electronic mail or email is a means of sending messages, text, and computer files between computers via the internet. It is the latest form of communication between one individual person to another individual or groups. However for one to use the email services he must have opened an email account, either in his place of work or his school (eg NOUN), or from commercial email providers or the free service that is available on the internet. (Google, Yahoo, Hotmail are classical examples of commercial email providers. They provide two methods of their service, subscription and free service. In both cases they allow you to open an email account on their server).

To open the account, there are certain decisions you need to take. Such as which service provider do you wish to have your account? (Yahoo, Gmail or hot mail and etc). Having decided on that you now also look at what services are you going to use the subscription service, in which case you will be annually charged for the services rendered or you will go for the free service.

All email service providers used a similar pattern for opening email account. This pattern is to log on to their website and fill an online form, which the providers will use to open and to maintain the account.

Google Mail (Your Name@gmail.com)

Google

Create your Google Account

First name Last name

Username @gmail.com

You can use letters, numbers & periods
[Use my current email address instead](#)

Password Confirm

Use 8 or more characters with a mix of letters, numbers & symbols

[Sign in instead](#) [Next](#)

One account. All of Google working for you.

English (United Kingdom) ▼ Help Privacy Terms

Activate Windows
Go to PC settings to activate Windows.

12:26 PM
6/8/2019

Fig1. Email accounting opening form

Create a Gmail account

To sign up for Gmail, create a Google Account. You can use the username and password to sign in to Gmail and other Google products like YouTube, Google Play, and Google Drive.

1. Go to the [Google Account creation page](#).
2. Follow the steps on the screen to set up your account.
3. Use the account you created to sign in to Gmail.

Yahoo mail ([Name@yahoo.com](#)) or Name@yahoo.co.uk

Step 1 Go to [yahoo.com](https://www.yahoo.com).

Step 2 Click the "Sign Up" link near the top of the page to go to the registration page.

Step 3 Fill out your personal information. You will enter your name, gender, birth date, country and postal code.

Step 4 Enter the Yahoo ID you would like to use and the password for the account. Click the "Check" button to see if the name is available. If it is not, you will have to choose another name.

Step 5 Type in an alternate email address if you have one. This will be used to send you account information if you lose the password to your Yahoo account. Choose two security questions from the drop-down menus and answer both questions.

Step 6 Type in the visual confirmation code.

Agree to the Yahoo terms and create your account by clicking "Create My Account" button.

Tip: Use text and numbers to make your password more secure.

After the account has been created, Gmail.com or Yahoo.com will send a welcome message to the just created account. Use the User name and the password that was used to create the account to open to see the welcome message. From now on your email account has been created, and you can send and receive email messages on that account.

A word of caution under no any circumstances should you tell your friend your password, so that he will not be spying on you. Also under no any circumstances should you forget the password you assigned when opening the account. If you forget the password you used then that is the end of that email account, because you cannot open nor use it.

3.0 CONCLUSION

From what you have learnt in this unit, you should be able to define email and discuss how to create email accounts.

5.0 SUMMARY

This unit has discussed the meaning of email and how to create email accounts. Also discussed are the different types of email accounts.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is the meaning of email?
2. Discuss how to create email accounts.

7.0 REFERENCES/ FURTHER READING

The Internet World Stat (2019) <https://www.internetworldstat.com/stats.htm>

Johnson, L. and Lamb, A (2007) An information skills workout Wikis and collaborative Course Hero available at <https://www.coursehero.com>

Walker, J. (2007) Importance of Internet available at https://www.tibetangeeks.com/using_tech/importance/importance_of_internet.html

Kunder, M. (2019) the size of the World Wide Web (the Internet). Retrieved from <https://www.worldwidewebsite.com>

Unit 2: How to send messages using email.

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1 How to send messages using the email
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor –marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In the last unit, you have learnt the meaning of the email and how to create email accounts. In this unit, you will learn how to use the created email accounts to send messages.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Explain how to use the email in sending messages.
- Discuss the different providers of email accounts.

3.0 MAIN CONTENT

3. 1. How to send messages using the email

Sign into your account, by giving the user name and the password you have used to create the email account. After you have successfully sign in to your box, the screen shown in fig2 opens. Remember that this is my inbox which I have been using for a very long time. Yours that is newly created will not have any emails, a part from the welcome message.

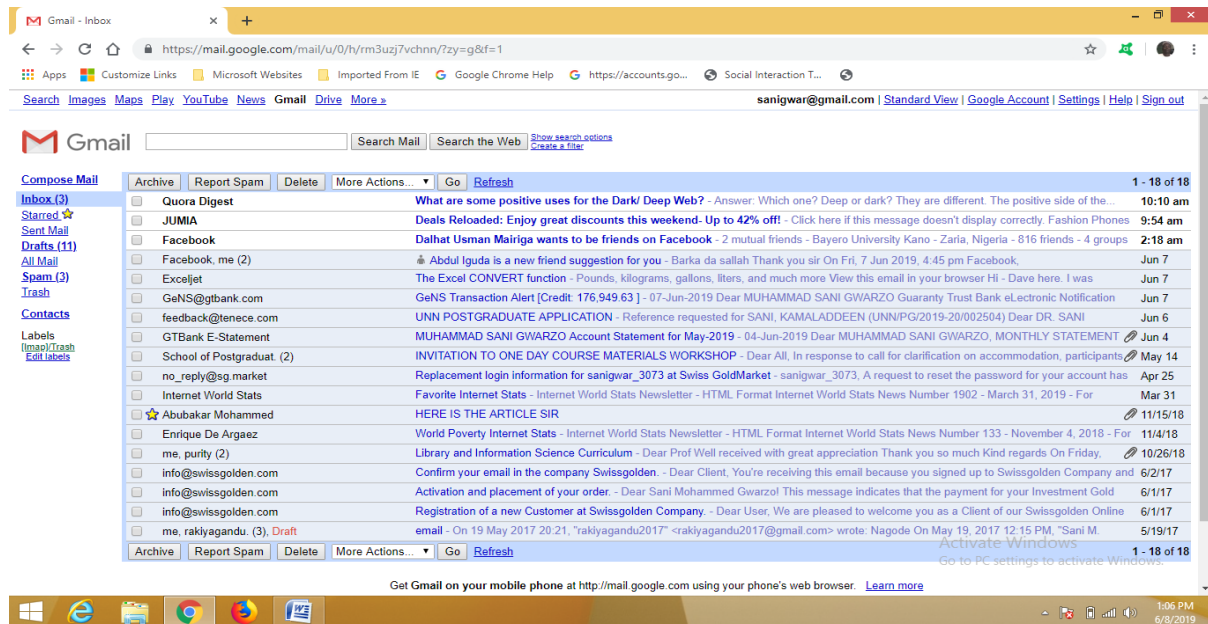


Fig2. Email Inbox

As can be seen, the email inbox is divided into three important columns. The first column immediately after Gmail is the Compose email column. Sender's name or email account that is used to send the message to your account and the subject column of the received messages.

If you want to send an email, click on compose, which will open a form which you fill, this shown in fig 3. When the inbox has opened, the first row on the template of the inbox is where you write the email address of the recipient, the person you are writing the email to. If you are writing to many people you can enter all their email addresses separated by commas. The second row is the carbon copy (CC) this is used to send the same message to another recipient other than the one indicated in the first row. The third row Blind Carbon Copy (Bcc) is also used to serve as a backup copy. However this is not shown to the first two recipients.

The next row is the Subject of the email. Perhaps this is created to save time which the email service tries to achieve by eliminating things that are not necessary in messages. Every email sent to a recipient carry the subject matter so that the recipient has clear option of opening the email or not. Because they made it compulsory that every message must have a subject matter otherwise the message will not be sent.

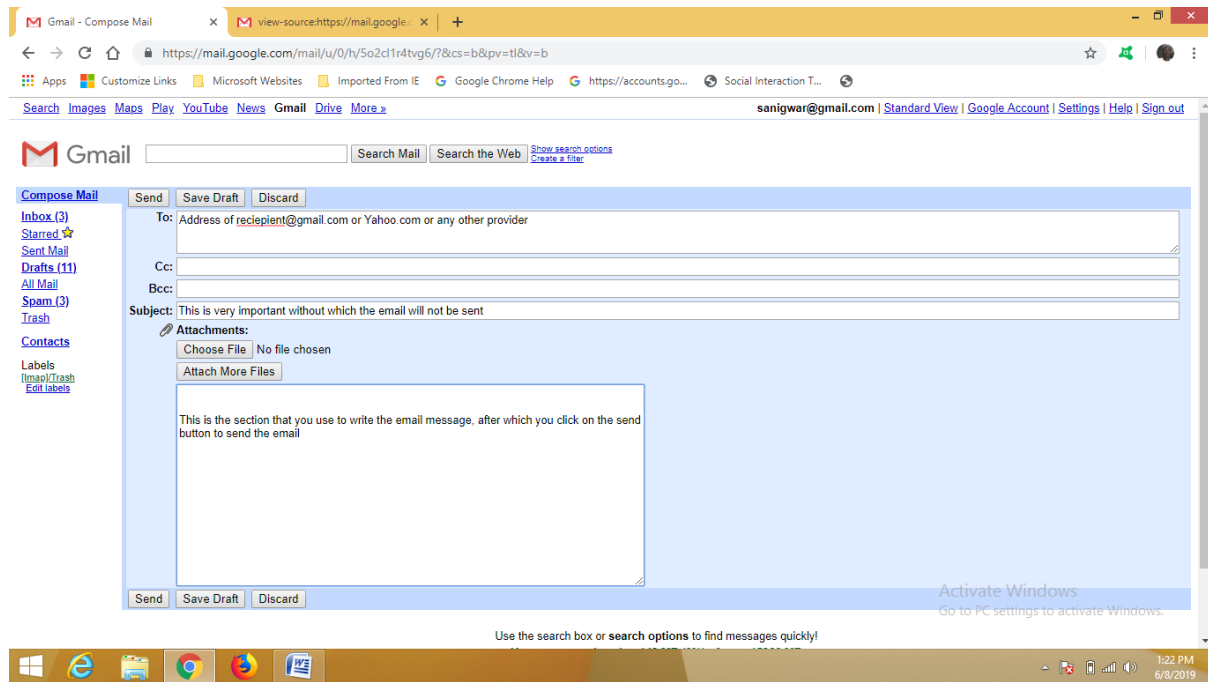


Fig 3.Email sending form

After you have finished filling the recipients address and the subject of your email you scroll down to where you write the message, ie contents of the email message you want to send. Review the address, the subject matter and the content of your message, before clicking on the send button located on top or bottom of the email sending box. The moment you click on the send button you get the message that “your message has been sent”. If that is the only email you are sending you now sign out, and shut down your computer. It is very important especially in commercial computer centres to sign out after you have finished sending your message. An unauthorized person can you use your account and you will be held responsible.

Sending Attachment.

Attachment is one of the novelties of email messages. Attachment allows you to attach Digital media files (text, pictures, video and other documents) and send it together with your email message. There is provision for attaching and sending up to 10 media files in any one email.

Sometimes you may wish to use the attachment facility to send document together with your email. To send attachment follow the previous procedures and then locate and press choose file button, just above the area where you write your email messages. This button is design to connect your email template with the My document folder, which is the default folder for storing all documents created using MS

Office Applications or any other document stored in the computer. However if the document to send is not stored there look for the appropriate folder where the document is stored, click the document, then click the open button. This will copy and attach the document to your email message. This is shown in **fig 4**.

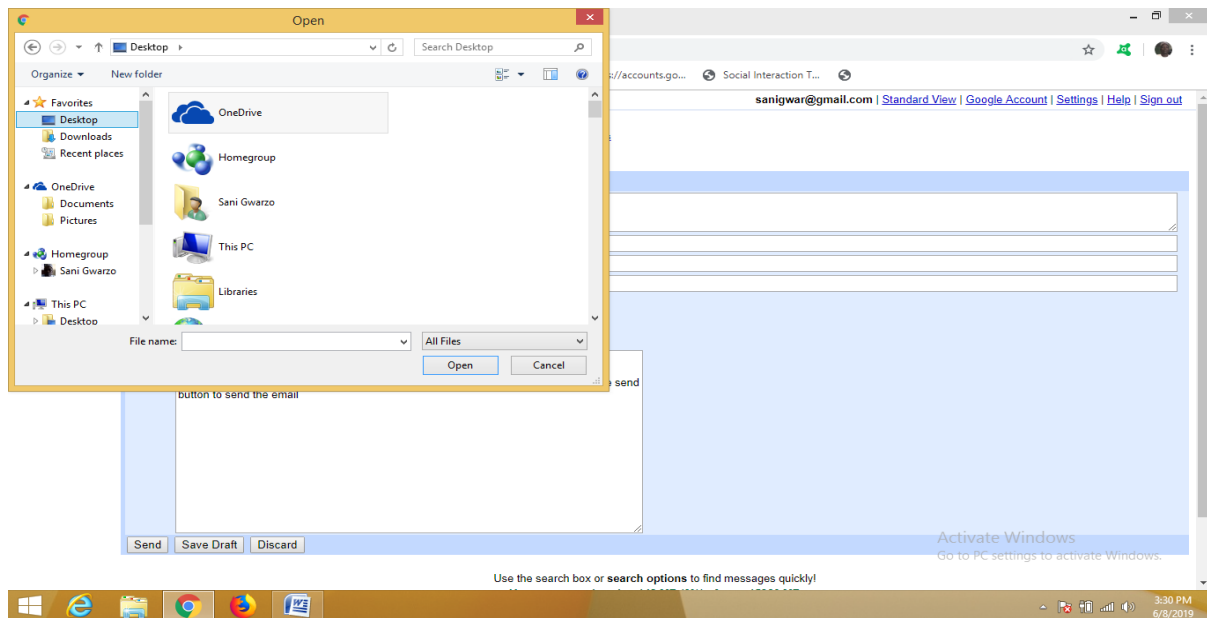


Fig 4. Selecting document to attach to email

Your attachment will be scan for viruses. After the scanning it will be attached to your email. It is a good practice to go over the entire content of the email before clicking on the send button to send the email and its attachment/s. It should be noted that you can either start with writing the email first before going for the attachment or you can go for the attachment first before writing the email.

Advantages

- Emails are delivered extremely fast when compared to traditional post. In addition sending the mail is very easy, people need little training to learn to use the email.
- Emails can be sent 24 hours a day, 365 days a year.
- Webmail means emails can be sent and received from any computer, anywhere in the world, that has an internet connection.
- Cheap - when using broadband, each email sent is effectively free. Dial-up users are charged at local call rates but it only takes a few seconds (for conventional email, eg text only) to send an email.

- Emails can be sent to one person or several people.

4.0 CONCLUSION

From what you have learnt from this unit, you should be able to explain how to use the email to send messages. Also you should be able to explain the different providers of the email accounts.

5.0 SUMMARY

This unit has explored how to use the email in sending messages. Also discussed are the different providers of the email accounts.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain in a nutshell how to send messages using the email.
2. List two providers of the email accounts.

7.0 REFERENCES/ FURTHER READING

Mbaskool.com (2019)

Meriam Library (2010) Is this information Good? <https://library.csuchico.edu/help/source-or-information-good>

MOZ (2017) How People Interact with Search Engines. <http://moz.com/beginners-guide-to-seo/how-people-interact-with-search-engines>

Norton, (2011) 10 tips for smarter, more efficient Internet searching Retrieved on 10/10/18 from <https://www.techrepublic.com/blog/10-things/10-tips-for-smarter-more-efficient-internet-searching/>

MODULE 6: PROBLEMS AND THE CHALLENGES OF INTERNET TECHNOLOGY IN NIGERIA

Unit 1: The challenges of internet usage in Nigeria

Unit 2: Strategies for improving internet usage in Nigeria

Unit 1: The challenges of internet usage in Nigeria

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main content
 - 3.1
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor –marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

In this unit, you will learn the challenges of internet usage in Nigeria.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Discuss the challenges militating against internet usage in Nigeria.

3.0 MAIN CONTENT

3.1 The challenges of internet usage in Nigeria

The utilization of the internet for knowledge delivery in Nigeria universities is not without challenges. Although when one compares it with its advantages and challenges, one will see that its use in library operation is very advantageous.

- The first problems the universities libraries in their use of internet are funding. Library funding in Nigeria has continued to dwindle since mid 1980's along with the downturn in the economic fortunes of Nigeria. The university libraries are not left out in this mess as in some universities what is accrued to the library is not released to them but used for the running of the entire university. With this situation, these libraries do not meet up with their naturally assigned traditional roles not to talk of acquiring and applying the ever sophisticated information technology systems that are capital intensive.

- Other problems that militate against the application of the internet in our university libraries is epileptic power supply. The utilization of the internet in library operation runs well on the platform of stable and uninterrupted power supply.

According to NOK in Ogunrobnbi and Ugbah (2014) regular power generation remains a problem in Nigeria. Frequent electricity interrupted constitutes a serious bottleneck to internet usage in library services.

- Another problem facing, the use of internet in library operation is lack of computer skill among the library staff.

According to Ikpaakindi in Uzoigwe (2004) stressed that the basic requirement for a functional automated university library is computer skill.

Numerous challenges are preventing Nigeria from achieving effective utilization of internet in some of the challenges according to Fashola (2005), Forg (2001), Sharma (2005), Association of African Universities (2001), Shrestha (2000), UNPAN (2005) and Khan, Hassan and Clement (2012) are as follows:

1. Computer virus: this creates problems of storage and retrieval of information data.
2. Poor connectivity/ internet access which leads to inadequate information access and retrieval.
3. Rapid system obsolesce: every day there is rapid change of computer systems but Nigeria finds it difficult to keep pace with such changes because of the high cost of computer systems.
4. Poor ICT infrastructure: many handicaps accounts for this, including lack of fund and expensive ICT components like high cost of band width.
5. Lack of consistent ICT policy: this arises from the fact that most of the policy makers are computer migrants and as such they are not interested in making favorable ICT policy to favor the use of the internet in information delivery.

He opined that the most fundamental skill required is knowledge of the computer, how it functions, inputting and retrieval of information from it, keyboard and how to navigate the screen .e.t.c. This is a basic skill that should be possessed by every librarian in the university library for effective knowledge delivery. More importantly, most of the older librarians are not digital

natives and as a result find it difficult in using the computer systems in delivering library services. Other problems that face the internet usage in Nigeria include:

- Lack of maintenance culture: there is lack of maintenance culture in Nigeria. We don't even thrive to maintain what we have.
- Unconducive operating conditions: most of our libraries don't have conducive environment for the operation of the internet.

In the words of Mohammed in Uzoigwe (2004) "there is no doubt in the fact that the internet is rapidly transforming the content of and services of libraries and information centers. Therefore, for the university libraries to accomplish their assigned roles in knowledge delivery, timely, accurately and reliable, they must introduce the use of the internet in their library operation.

4.0 CONCLUSION

You have learnt from this study unit, the challenges militating against the usage of internet in Nigeria. The challenges were listed and discussed extensively.

5.0 SUMMARY

This unit has exposed you to the challenges militating against internet usage in Nigeria. The challenges were highlighted and discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. List and discuss five challenges militating against the use of internet in Nigeria.

7.0 REFERENCES/ FURTHER READING

Rubin (2000)

Singh, N. (2001) Internet: Importance and Usage for Library and Information Professionals
DESIDOC Bulletin of Information Technology Vol.21 No.3, pp.17-28

Whatismyipaddress.com (2019)

Xie, I. and Joo, S (2010). Transitions in search tactics during the Web-based search process
<https://onlinelibrary.wiley.com/doi/abs/10.1002/asi.21391>

Unit 2: The strategies for improving internet usage in Nigeria

1.0 Introduction

2.0	Objectives
3.0	Main content
3.1	
4.0	Conclusion
5.0	Summary
6.0	Tutor –marked Assignment
7.0	References/ Further Reading

1.0 INTRODUCTION

In this unit, you will learn the strategies for improving internet usage in Nigeria.

2.0 OBJECTIVES

At the end of this unit, you should be able

- Discuss the possible strategies that can enhance internet usage in Nigeria.

3.0 MAIN CONTENT

3.1 The strategies for improving internet usage in Nigeria.

In spite of the numerous problems militating against the use of internet, the following strategies if adopted will improve its usage in Nigeria.

First and foremost, the Federal Government and Nigeria populace should re-order their priorities. Concrete plans and steps must be taken to internet services available to all libraries. This means, that these libraries must be automated and kept on-line. This is the only way in which Nigeria can be relevant in the global level.

- The parent institution of university libraries should make substantial funds available to the libraries for procurement and maintenance of the internet.
- There should be provision of standby generator sets, in the libraries which can be used when electricity is off.
- The library should organize from time to time seminars, workshop, conferences for training and retraining of libraries, in skills that will enable them to maximize the usage of the internet for knowledge delivery.
- Formulation and implementation of progressive policies in the country that will favor the use of internet.
- Installation and maintenance of reliable and fast campus network/Local Area Network (LAN).

- There should always be the provision of internet band within the libraries.

Finally, the managers of the libraries in Nigeria should constitute what is called “friends of the libraries” who can make funds available to the library when need be. If all these are put in place, the use of the internet will be without high in the libraries.

4.0 CONCLUSION

You have learnt in this study unit, the strategies for improving internet usage in Nigeria. The strategies were received and highlighted.

5.0 SUMMARY

This unit has x-rayed different strategies that can be adopted to improve internet usage in Nigeria.

6.0 TUTOR- MARKED ASSIGNMENT

1. List and discuss five strategies that can be adopted to improve internet usage in Nigeria.

7.0 REFERENCES/ FURTHER READING

Zhang, Y. (2004) A Comparison of Search Engines For Finding Resources
<http://www.yuanlei.com/studies/articles/is567-searchengine/page2.htm>

Beal, V. (2019) Search engine *Webopedia*
https://www.webopedia.com/TERM/S/search_engine.html

Boswell (2017) Seek and Ye Shall Find: Top Ten Alternative Search Engines
<https://lifehacker.com/seek-and-ye-shall-find-top-ten-alternative-search-engines.html>

Brehm, B. (1999) Effective Internet Searching
<https://files.eric.ed.gov/fulltext/ED439058.pdf>