UNIT 6: BASICS OF INTERNET

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6.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- learn the basics of the World Wide Web
- learn to use e-mail
- learn about web-browsers and their use
- define search engine
- describe different applications of Internet

6.2 INTRODUCTION

Internet is a kind of network that is built using wires or other wireless medium. It is not limited to a few places but is a network that is used worldwide, and hence can be called an international network or network of networks.

We browse through the Internet using a Web browser which is an application software used on the computer which we use to access the Internet.

In this unit, we will focus on some of the terminologies that are related to the Internet.

6.3 INTERNET ACCESSING

The Internet can be defined as a network of globally connected computers that is decentralized by design. This definition can be broken down into three parts. Let us understand each part of the definition in isolation.

It is a network. A network is a collection of computers. The Internet can also be referred to as a network because it is a collection of millions of computers.

Globally connected computers. This means that you can be connected to the Internet, regardless of your location. The Internet has brought people in the world closer by connecting computers located in the remotest of locations.

Decentralized design. The Internet has a decentralized design. That is, there is no centralized body that controls the way in which the Internet functions. Each computer connected to the Internet is called a host or client. You can consider Internet having the following characteristics:

- *A complex network* - with simplified definition as a 'network of network'
- *Disorganized* - Internet can be cumbersome and confusing, even for experienced users
- *A decentralized system* - millions of individual networks and over 200 million individual computers connected through the world
- *Composed of many billions of files* (web pages).
- *Dynamic* - changing every minute of every day. On an average, a new network is connected to the Internet every 30 minutes.
- *Expanding exponentially* - the Internet is growing at the rate not less than 15% per month.

In order to access the Internet, one requires the following:

- A client computer with necessary hardware and client software
- Connectivity through Internet Service Provider (ISP) for flow of data
- Host computer(s) which is also called Web server hosting the desired

data.

The necessary hardware devices that the client computer must have are :

- Processor of Pentium (Intel based) or AMD or Macintosh
- Network Interface Card (NIC)
- Modem, it can be an external or internal (fitted inside the computer)

The necessary software that must be found on the client computer are :

- Operating system like Windows, UNIX, LINUX or OS/2 etc.
- Web browser like Netscape, Internet explorer, FireFox etc. (it must be compatible with the operating system)

Common methods of Internet access in homes include dial-up, landline, broadband (ADSL) **(over coaxial cable, fiber optic or copper wires)**, Wi-Fi, satellite and 3G technology cell phones etc.

6.4 WORLD WIDE WEB

The World Wide Web- known as WWW or W3 or simply, the Web - is one of several Internet resource discovery tools developed to help people publish, organize and provide access to information on the Internet. The Web was first developed by Sir Tim Berners Lee in 1989 while working at CERN, European Particle Physics Laboratory in Switzerland, and has now become the most powerful and popular, resource discovery toll on the Internet. The WWW can be defined as a hypertext, multimedia, distributed information system that provides links to hypertext documents, as well as to many other Internet tools and databases.

The terms Internet and World Wide Web are often used in everyday speech without much distinction. However, *the Internet and the World Wide Web are not the same*. The Internet is a global system of interconnected computer networks. In contrast, the Web is one of the services that runs on the Internet. It is a collection of text documents and other resources, linked by hyperlinks and URLs, usually accessed by web browsers from web servers. In short, the Web can be thought of as an application "running" on the Internet.

Before going to the rest of the unit let us be introduce to the definitions

of some of the common terms that are used through out the unit.

Hypertext: Hypertext is text which contains links to other texts. The term was coined by Ted Nelson around 1965.

Hypermedia: Hypermedia is a term used for hypertext which is not constrained to be text: it can include graphics, video and sound.

Always remember that Hypertext and Hypermedia are concepts, not products.

Hyperlink: An element in a hypertext document that links to another place in the same document or to an entirely different hypertext document.

URL: A URL (Uniform Resource Locator) is the global address or web address of documents and other resources on the World Wide Web. For example, *http://www.kkhsou.in, http://www.assam.gov.in or http://www.assamtribune.com* are URLs.

The Web or WWW mainly consists of the Hypertext transfer protocol (HTTP), Universal Resource Locators (URLs) and the Hypertext Markup Language (HTML).

6.5 WEB BROWSERS

A web browser (commonly referred to as a browser) is a software application for presenting and retrieving the information resources and traversing through the resources on the World Wide Web. The common web browsers are *Google Chrome*, *Firefox*, *Internet Explorer*, *Opera*, and *Safari*.

The first web browser was invented in 1990 by Sir Tim Berners-Lee. It was called WorldWideWeb and was later renamed Nexus.

Homepage is the webpage that your browser uses when it starts the webpage that appears every time you open your browser.



Fig 6.1 Web browsers

The different parts of a Mozilla Firefox browser window are shown below:

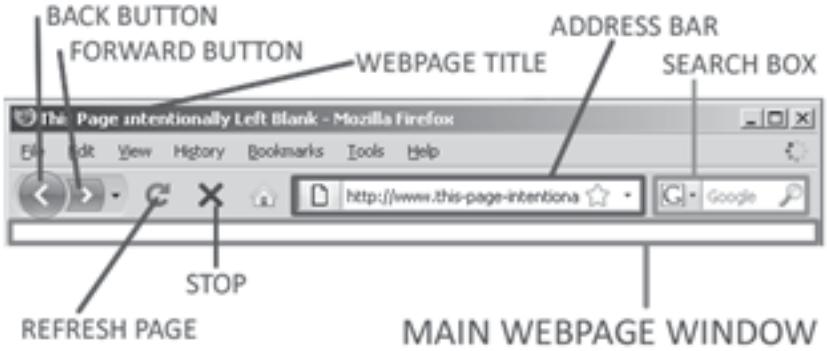


Fig. 6.2 Browser Window

- Each webpage has an address or URL. This is indicated in the *Address Bar*. If you want to open a webpage then you have to type its address on the Address Bar.
- Most web pages will have titles. You can check the title of the page by

looking at the *webpage title*, it is also called title bar.

- The actual webpage itself is displayed in the *Main Webpage Window*. It is cut off in the picture above, but would normally fill most of the screen.
- You can reload a page by hitting the "Refresh" button. This will update it to the latest version.
- If a webpage takes a long time to load you can stop loading it by hitting the "Stop" button.
- Through the "Search Box" you can search any term on the Internet.

6.6 SEARCH ENGINES

A web search engine is a software system that is designed to search for information on the World Wide Web. The search results are generally presented in a line of results often referred to as search engine results pages (SERPs). The most commonly used search engines are shown below:

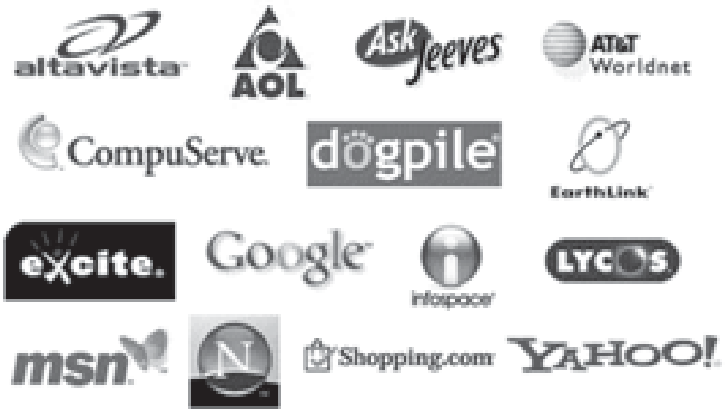


Fig 6.3 A list of Search Engines

6.7 WEB PAGE

A web page is nothing but a hypertext document which is suitable for the World Wide Web and can be accessed through a web browser and displayed on a monitor or mobile device. Web pages are usually written in HTML (Hypertext Markup Language) or XHTML (Extensible Hypertext Markup

Language). Web pages provide navigation to other web pages via ***hypertext links***. A web page of the website of Krishna Kanta Handiqui State Open University is shown below:



Fig 6.4 Webpage of KKHSOU

Always remember a website is a collection of a number of hyperlinked web pages. A *Web server is a computer* that delivers (serves up) *Web pages*.

6.8 ELECTRONIC MAIL

Electronic mail, most commonly referred to as ***email*** or ***e-mail*** is a method of exchanging digital messages from a sender to one or more recipients. Modern email operates across the Internet or other computer networks.

Internet email messages consist of two major sections:

1. **Header** - Structured into fields such as From, To, CC, Subject, Date, and other information about the email.
2. **Body** - The basic content, as unstructured text; sometimes contains a signature block at the end. This is exactly the same as the body of a

regular letter.

Common header fields for email include:

- **To:** The email address or addresses and optionally names of the message's recipients.
- **Subject:** A brief summary of the topic of the message.
- **Bcc** (Blind Carbon Copy): addresses added to the delivery list but not (usually) listed in the message data, remaining invisible to other recipients.
- **Cc** (Carbon Copy): addresses added to the delivery list listed in the message data.

Message body -

Most modern graphic email clients allow the use of either plain text or HTML for the message body at the option of the user. HTML email messages often include an automatically generated plain text copy as well, for compatibility reasons.

A typical e-mail window is shown below:

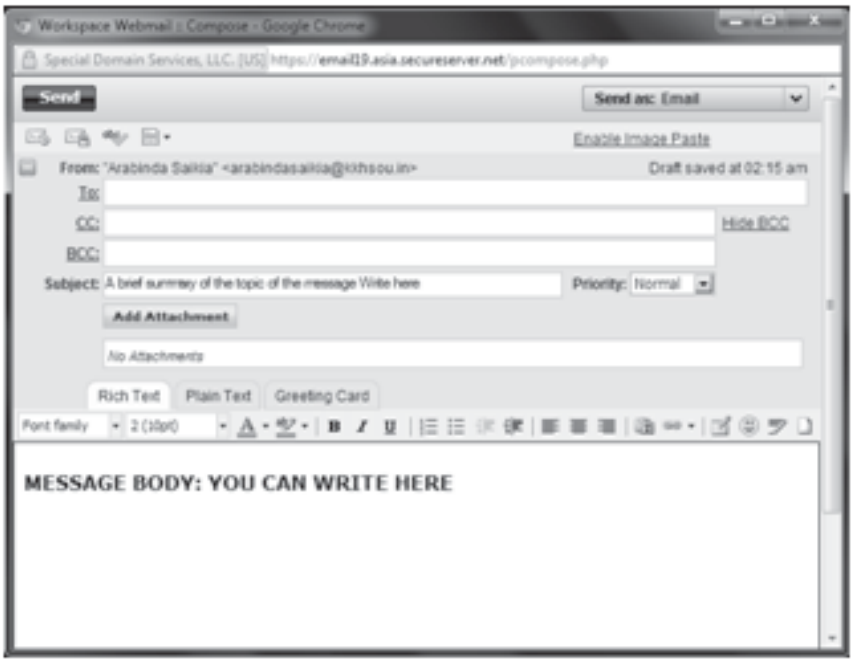


Fig. 6.5 Email Window

The text written in the message body part can be formatted; it means you can change the font size (text size), font type, make change the alignment of the text, can be converted to bold text or italic text etc. You can also

attached another documents along with the email written by you by clicking the button *"Add Attachment"*. After composing the email click on the **"Send"** button to finally send it to destination and within a second it will be delivered to the recipient's mailbox.

6.9 APPLICATION OF INTERNET

Internet is an interconnection of large number of heterogeneous computer networks all over the world that can share information back and forth. These interconnected network exchange information by using same standards and protocols

Applications of Internet -

The Internet is treated as one of the biggest invention. It has large number of uses.

1. **Communication:** It is used for sending and receiving message from one another by using electronic mail. Some of the web sites providing this service are gmail.com, yahoo.com, hotmail.com, rediffmail.com etc.
2. **Job searches:** Getting information regarding availability of jobs in different sectors and areas. One can publish one's resume online for prospective jobs. Some of the web sites providing this service are naukri.com, monster.com, summerjob.com, recuritmentindia.com etc.
3. **Finding books and study materials:** Books and other study materials stored around the world can be easily located through Internet. The latest encyclopedias are available online.
4. **Health and medicine:** Internet provides information and knowledge regarding various health issues, whereby people can have information about various diseases and can receive online help for their health-related queries.
5. **Travel:** One can use Internet to gather information about various tourist places. It can be used for booking Holiday tours, hotels, train and flights. Some of the web sites providing this service are indiatravelog.com, rajtravel.com, makemytrip.com etc.
6. **Entertainment:** Internet finds its primary application in this field where

people listen to songs, watch movies, download jokes, get the latest sports and news updates. Some of the web sites providing this service are cricinfo.com, movies.com, espn.com etc.

7. **Shopping:** Internet is also used for online shopping. By giving ones account details one can perform the transactions. One can even pay the bills and perform bank related transactions.
8. **Stock market updates:** One can sell or buy shares while sitting on a computer through Internet. Several websites like ndtvprofit.com, moneypore.com, provide information regarding investments.
9. **Research:** A large number of people use the Internet for research purposes, where they can download any kind information by using several available resources.
10. **Business use of Internet:** The various business application of Internet are:
    - Information about the product can be provided online to the customer.
    - Provide market information to the business.
    - It helps businesses to recruit talented people.
    - Helps in locating suppliers of the product.
    - Customer feedback can be easily obtained.
    - Establish a direct contact with customer.
    - Providing information to the investors by providing companies' back ground and financial information on web site.



CHECK YOUR PROGRESS

Q 1: Fill in the blanks:

(a) ..... access connects individual computer terminals, computers, mobile devices, and computer networks to the Internet, enabling users to access Internet services.

(b) ..... provide Internet access to computers and other devices in a limited area such as a home, school, computer

laboratory, or office building.

(c) Internet is

i) complex system ii) decentralized system

iii) dynamic system iv) all of the above

(d) Take the odd item out

i) Internet Explorer ii) Mozilla Firefox

iii) Google iv) Netscape navigator

(e) A ..... is a combination of text, graphics and hyperlinks.

(f) ..... is the webpage that your browser uses when it starts.

(g) Distinguish between Internet and WWW.



6.10 LET US SUM UP

- ***Internet*** is an interconnection of large number of heterogeneous computer networks all over the world that can share information back and forth.
- Common methods of Internet access in home are **dial-up, landline broadband, Wi-Fi, and 3G technology cell phones.**
- The ***World Wide Web*** is a system of interlinked hypertext documents accessed via the Internet.
- A ***web browser*** is a software application for retrieving, presenting and traversing information resources on the World Wide Web.
- A web ***search engine*** is a software system that is designed to search for information on the World Wide Web.
- ***Electronic mail*** is a method of exchanging digital messages from an author to one or more recipients



6.11 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: (a) Internet, (b) Local area networks, (c) (iv) (d) (iii)

(e) webpage, (f) Homepage, (g) The Internet is a global system of interconnected computer networks. In contrast, the Web is one of the services that runs on the Internet. Uniform Resource Identifier.



6.11 FURTHER READING

1. Deven N. Shah, A complete Guide to Interest and Web programming, Wiley India Private Ltd.
2. Rogers cadenhead, How to use the Internet, Sams Publishing



6.12 MODEL QUESTIONS

Q.1: What is Internet? Mention the common methods of accessing Internet.

Q 2: Describe World Wide Web and its functions.

Q 3: What is URL?

Q 4: Describe Web browser along with their features.

Q 5: What is a Search Engine and how does it work?

Q 6: What is website ? What do you mean by a Webpage?

Q 7: What is an Electronic mail? Describe the common header fields associated with an email.

Q 8: Mention some applications of the Internet.

Q 9: Name any two Internet browser.

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