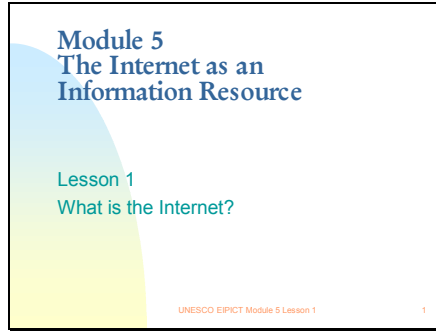


Lesson 1: What Is the Internet?

Slide 1

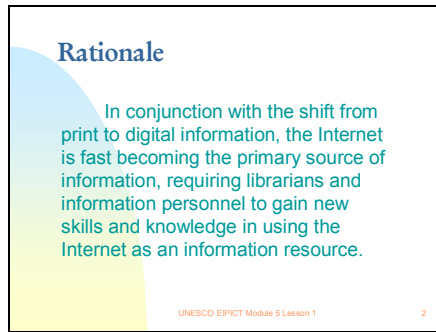


Module 5
The Internet as an
Information Resource

Lesson 1
What is the Internet?

UNESCO EIPICT Module 5 Lesson 1 1

Slide 2

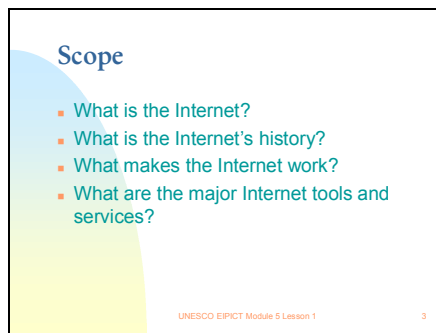


Rationale

In conjunction with the shift from print to digital information, the Internet is fast becoming the primary source of information, requiring librarians and information personnel to gain new skills and knowledge in using the Internet as an information resource.

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Slide 3



Scope

- What is the Internet?
- What is the Internet's history?
- What makes the Internet work?
- What are the major Internet tools and services?

UNESCO EIPICT Module 5 Lesson 1 3

Slide 4

Learning Outcomes

By the end of the lesson, students should be able to:


- Describe what is the Internet
- Discuss briefly the Internet's history
- Define basic Internet concepts, terms and technology
- Identify the major Internet tools and services

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Slide 5

What is the Internet?

The Internet is a global network of computer networks utilizing a suite of protocols called TCP/IP (Transmission Control Protocol/Internet Protocol) that supports interconnection of a number of different computer networks



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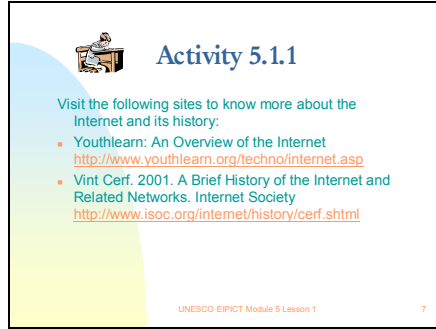
Slide 6

What is the Internet's History?

- The Internet started as a military network called ARPANET, which was involved in networking research
- The Internet later expanded to include universities, businesses and individuals
- Today, the Internet is also referred to as the Net, Information Superhighway, and Cyberspace

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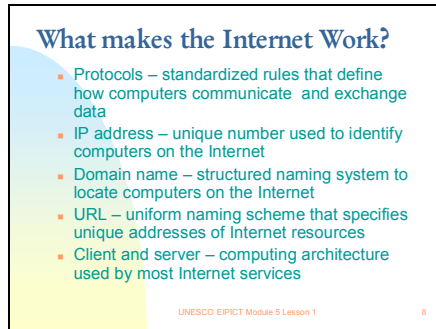
Activity 5.1.1

Visit the following sites to know more about the Internet and its history:

- Youthlearn: An Overview of the Internet
<http://www.youthlearn.org/techno/internet.asp>
- Vint Cerf, 2001. A Brief History of the Internet and Related Networks. Internet Society
<http://www.isoc.org/internet/history/cerf.shtml>

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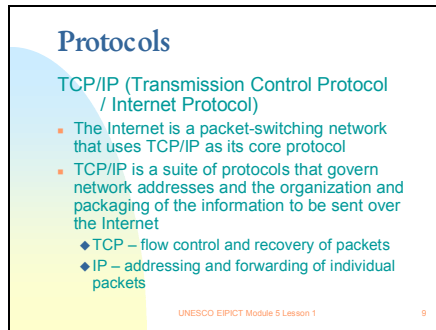


What makes the Internet Work?

- Protocols – standardized rules that define how computers communicate and exchange data
- IP address – unique number used to identify computers on the Internet
- Domain name – structured naming system to locate computers on the Internet
- URL – uniform naming scheme that specifies unique addresses of Internet resources
- Client and server – computing architecture used by most Internet services

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Protocols

TCP/IP (Transmission Control Protocol / Internet Protocol)

- The Internet is a packet-switching network that uses TCP/IP as its core protocol
- TCP/IP is a suite of protocols that govern network addresses and the organization and packaging of the information to be sent over the Internet
 - ◆ TCP – flow control and recovery of packets
 - ◆ IP – addressing and forwarding of individual packets

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Protocols (2)

Internet Protocols

- HTTP (Hypertext Transfer Protocol) - for accessing and transmitting web documents
- FTP (File Transfer Protocol) - for transferring files from one computer to another
- Gopher Protocol - for accessing documents via gopher menus (no longer widely used)
- Telnet Protocol - allows users to logon to a remote computer
- SMTP (Simple Mail Transfer Protocol) for sending and managing electronic mail (email)

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IP Address

- IP address is a unique address assigned to each computer connected to the Internet
- It is used by TCP/IP to route packets of information from a sender to a location on the Internet
- IP address consist of four sets of numbers ranging from 0 to 255, eg. 249.7.13.53

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IP Address (2)

- IP address: 249.7.13.53
 - ◆ The first two-number sets designate the network
 - ◆ The third number set identifies the local network
 - ◆ The fourth number set identifies the particular machine

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Domain Names

- Domain names are the alias or English-language equivalent of a computer's IP addresses
- Domain Name System (DNS) allows the use of easier-to-remember domain names instead of IP addresses to locate computers on the Internet
- Domain Name Resolvers scattered across the Internet translate domain names into IP addresses

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Domain Names (2)

- Domain names have two parts:
 - ◆ First part names the host computer
 - ◆ Second part identifies the top level domain
- Top-level domain (TLD) – identifies the type of host
 - ◆ Generic Top-Level Domains
 - ◆ Country Code Top-Level Domains
- Domain names are used in URLs and email addresses

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Top-Level Domains

- **.com** – commercial/company site
- **.edu/ac** - educational/academic site
- **.gov** – government site
- **.org** – non-profit organization site
- **.mil** – military site
- **.int** – international organization site
- **.net** – network provider site

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Top-Level Domains (2)

- **.aero** - restricted use by the air transportation industry
- **.biz** - general use by businesses
- **.coop** - restricted use by cooperatives
- **.info** - general use by both commercial and non-commercial sites
- **.museum** - restricted use by museums
- **.name** - general use by individuals
- **.pro** - restricted use by certified professionals and professional entities

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Country Code Top-Level Domains

- **.au** – Australia
- **.ph** – Philippines
- **.cn** – China
- **.sg** – Singapore
- **.fj** – Fiji
- **.uk** – United Kingdom
- **.id** – Indonesia
- **.us** – United States
- **.jp** – Japan
- **.tw** - Taiwan
- **.mn** – Mongolia
- **.vn** - Vietnam
- The complete list can be accessed at <http://www.iana.org/cctld/cctld-whois.htm>

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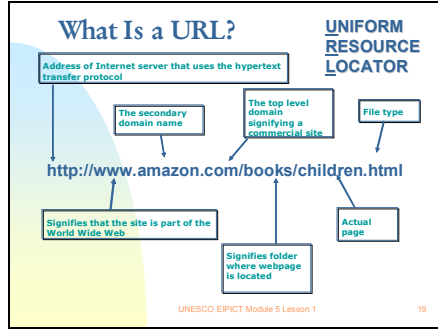
Slide 18

Uniform Resource Locator

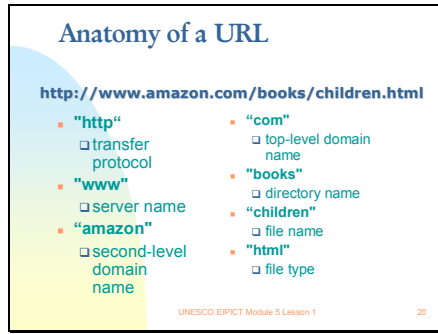
- Each Internet document or file has a unique address called a URL
- The URL comprises three parts:
 - Protocol – lets the computer know how to process the information it receives
 - Domain name – Internet address of the computer hosting the site and storing the documents
 - Path – tells the computer which directory and file to access

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Slide 20



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Activity 5.1.2

Read these articles:

- A Basic Guide to the Internet
<http://library.albany.edu/internet/internet.html>
- Learn the NET. Anatomy of a URL.
<http://www.learnthenet.com/english/web/110www.htm>

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Client Server

- The client-server model is the distributed computing architecture used by most Internet services, generally classifying hosts on the Internet as clients and servers
- Client programs are used to access Internet services provided by host computers running server programs that provide the information or service needed
- For example web browsers are client programs used to access information hosted by web servers

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 **Activity 5.1.3**

Read these articles

- Howstuffworks. How Internet Infrastructure Works. <http://www.howstuffworks.com/internet-infrastructure.htm>
- Jacob Carlson, Ken Green & Erik Schetina. 2002. Internet Infrastructure Components: A 10,000-Foot View - Transporting Information. <http://www.informit.com/articles/article.asp?p=26644&seqNum=3>

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End of Lesson 1 Module 5