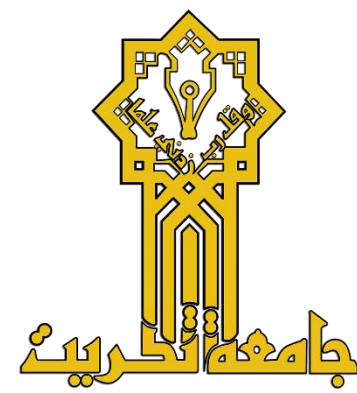




WEB PROGRAMMING



Department of Computer Sciences
Academic Year: 2023-2024
First stage
Semester: Two

Lecture - 1

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Course Objectives

1. To get introduced with the history of web.
2. To learn how to create web pages using HTML.
3. To learn how to construct style documents for web pages using CSS .
4. To learn how to create static web pages which is a client-side script language.

Recommended Books

- An Introduction to Web Design and Programming, Paul Wang and Sanda Katila, 2003
- Beginning Web Programming with HTML, XHTML, and CSS, Second Edition, Jon Duckett, 2008
- Learning Web Design 4th Edition, by Jennifer Niederst Robbins, 2012

Internet an Overview

- The Internet is a global system of interconnected computer networks that use the standard Internet Protocol Suite (TCP/IP) to serve billions of users worldwide.
- It is a network of networks that consists of millions of private, public, academic, business, and government networks, of local to global scope, that are linked by a broad array of electronic, wireless and optical networking technologies.

Internet an Overview

- The term Internet actually refers to the combined collection of academic, commercial, and government networks connected over international telecommunication backbones and routed using IP addressing.

Internet Applications

The internet has gained popularity rapidly as it is used for various purposes. Few of the main applications of internet are listed below:

1. **E- mail (Electronic mail):** Electronic mail (also known as email or e-mail) is one of the most commonly used services on the Internet, allowing people to send messages to one or more recipients. Email was invented by Ray Tomlinson in 1972. Electronic mail is a method of exchanging digital messages from an author to one or more recipients. An email message consists of three components, the message envelope, the message header, and the message body.

Internet Applications

2. **FTP (File transfer protocol)** : File transfer protocol is a simple and standard network protocols that transfers a file from one host to the other over a TCP network.

3. **E- Commerce**: Electronic commerce can be defined as use of electronic communications, particularly via the internet, to facilitate the purchase/sale of goods and services. Ecommerce includes all forms of electronic trading including electronic data interchange (EDI), electronic banking, electronic mail and other online services.

Internet Applications

4. Video Conferencing: Video conferencing or video teleconference is a set of telecommunication technologies which allow one or more locations to transmit and receive video and audio signals simultaneously. This is known as visual collaboration. Modern video conferencing is IP based and through more efficient video compression technologies, allowing desktop or PC based video conferencing.

Internet Service Provider (ISP)

An Internet service provider (ISP) is a company that provides access to the Internet, hosts data, or does both. ISP is also known as IAP (internet access provider). ISPs connect customers to the Internet using copper, wireless or fiber connections.

As internet gained popularity, it was essential to provide internet access to many people or many hosts. Due to the increasing demand to access internet, commercial ISP came into existence in 1990.

Internet Protocol

Every computer and device (modem, router, Smartphone, cars, etc.) connected to the Internet is assigned a unique numeric IP address (IP stands for Internet Protocol) that identifies the host for communication purposes.

Internet Protocol

The designers of the Internet Protocol defined an IP address as a 32-bit number and this system, known as Internet Protocol Version 4 (IPv4), is still in use today. However, due to the enormous growth of the Internet and the predicted depletion of available addresses, a new addressing system (IPv6), using 128 bits for the address, was developed in 1995, and is being deployed worldwide since the mid-2000s.

Internet Protocol

For example, the computer that hosts test.com has the IP address 208.201.239.100. All those numbers can be dizzying, so fortunately, the Domain Name System (DNS) was developed to allow us to refer to that server by its domain name, “test.com”, as well. The numeric IP address is useful for computer software, while the domain name is more accessible to humans.

Matching the text domain names to their respective numeric IP addresses is the job of a separate DNS server.

Uniform Resource Locator (URL)

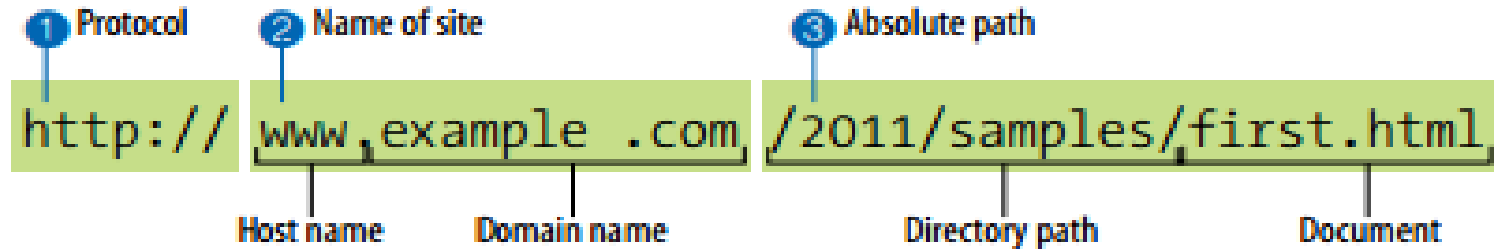
Every page and resource on the Web has its own special address called a URL, which stands for Uniform Resource Locator. It's nearly impossible to get through a day without seeing a URL plastered on the side of a bus, printed on a business card, or broadcast on a television commercial.

Some URLs are short and sweet. Others may look like crazy strings of characters separated by dots (periods) and slashes, but each part has a specific purpose.

The Parts of a URL

URLs: Uniform Resource Locators, Provide names for Web content.

A complete URL is generally made up of three components: the protocol, the site name, and the absolute path to the document or resource, as shown below



Uniform Resource Locator (URL)

1. **http://**: The first thing the URL does is define the protocol that will be used for that particular transaction. The letters HTTP let the server know to use Hypertext Transfer Protocol, or get into “web mode.”

Uniform Resource Locator (URL)

2. **www.example.com**: The next portion of the URL identifies the website by its domain name. In this example, the domain name is example.com. The “www.” part at the beginning is the particular host name at that domain. The host name “www” has become a convention, but is not a rule. In fact, sometimes the host name may be omitted. There can be more than one website at a domain (sometimes called subdomains). For example, there might also be development.example.com, clients.example.com, and so on.

Uniform Resource Locator (URL)

3. **/2011/samples/first.html**: This is the absolute path through directories on the server to the requested HTML document, first.html.
4. **Directory Path**: This part of the URL tells us what directories the requested file is contained in.
5. **Document**: The last part of the URL always ends in a file name, with it's extension.

Domain suffix

The phrase "google.com" has permeated the fabric of the English language, becoming a ubiquitous term. Essentially, "google.com" denotes the domain of a website, which serves as the address where the site resides on the internet. Websites are categorized based on their URLs, which reflect the nature of the organization providing the content. For instance, businesses or corporations operating online typically possess a domain suffix of ".com," indicating their commercial nature.

Domain suffix

These domain suffixes offer insights into the intended audience or purpose of a website, and they may also hint at its geographical origin. For instance, websites originating from the Iraq commonly bear a ".iq" suffix.

Below is a compilation enumerating the most prevalent domain suffixes alongside the types of entities that commonly utilize them.

Domain suffix

.com

Websites with the ".com" domain suffix typically represent commercial entities. These platforms are inclined to present information favorably towards the products they endorse. Although the information they offer may not be inherently deceptive, it's crucial to acknowledge that their primary motivation lies in promoting their products or services. Consequently, while browsing such sites, it's essential to recognize that you may only receive a partial perspective. Every piece of information disseminated by these commercial sites is underpinned by a financial incentive, whether it's to bolster their public image or to directly drive sales. Thus, it's wise to approach the content provided by commercial websites with a critical mindset, recognizing the inherent bias driven by their commercial interests.

Domain suffix

.edu

Educational establishments utilize this domain, encompassing schools spanning from early education to tertiary levels. Upon inspecting your school's URL, you'll observe the ".edu" domain suffix. It's imperative to scrutinize information sourced from sites within this domain. Content originating from departments or research centers affiliated with educational institutions is typically considered reliable. However, it's essential to exercise caution with personal websites maintained by students, even though they may reside on the school's server and bear the ".edu" domain. These student-run platforms are often not subject to the same level of oversight as official institutional channels..

Domain suffix

.gov

Government websites bear this domain, These sites encompass a wealth of authoritative information, including Census data, Proceedings, and Supreme Court decisions, making them reliable sources of information.

.org

Historically associated with non-profit organizations, websites with the ".org" domain suffix typically represent entities such as the Red Cross. Generally, the content on these sites is regarded as trustworthy and impartial.

More References Used

- <https://crypto.stanford.edu/cs142/lectures/url.html>
- <http://web.simmons.edu/~grovesd/comm244/notes/week2/links>
- https://www.usg.edu/galileo/skills/unit07/internet07_08.phtml



THANK YOU