

Basics of Internet and Web

Introduction

- In the current information age, the Web plays an important role in connecting people, sharing relevant content and enabling us to conduct our daily activities.
- The methods by which computer communicate with each other through the use of markup languages like HTML, XML etc. and multimedia packages like text, audio, video, graphics etc. is known as Web technology.
- Web technology relates to the interface between web servers and their clients. It includes mark-up languages, programming languages, standards for document identification and display the document.

Website

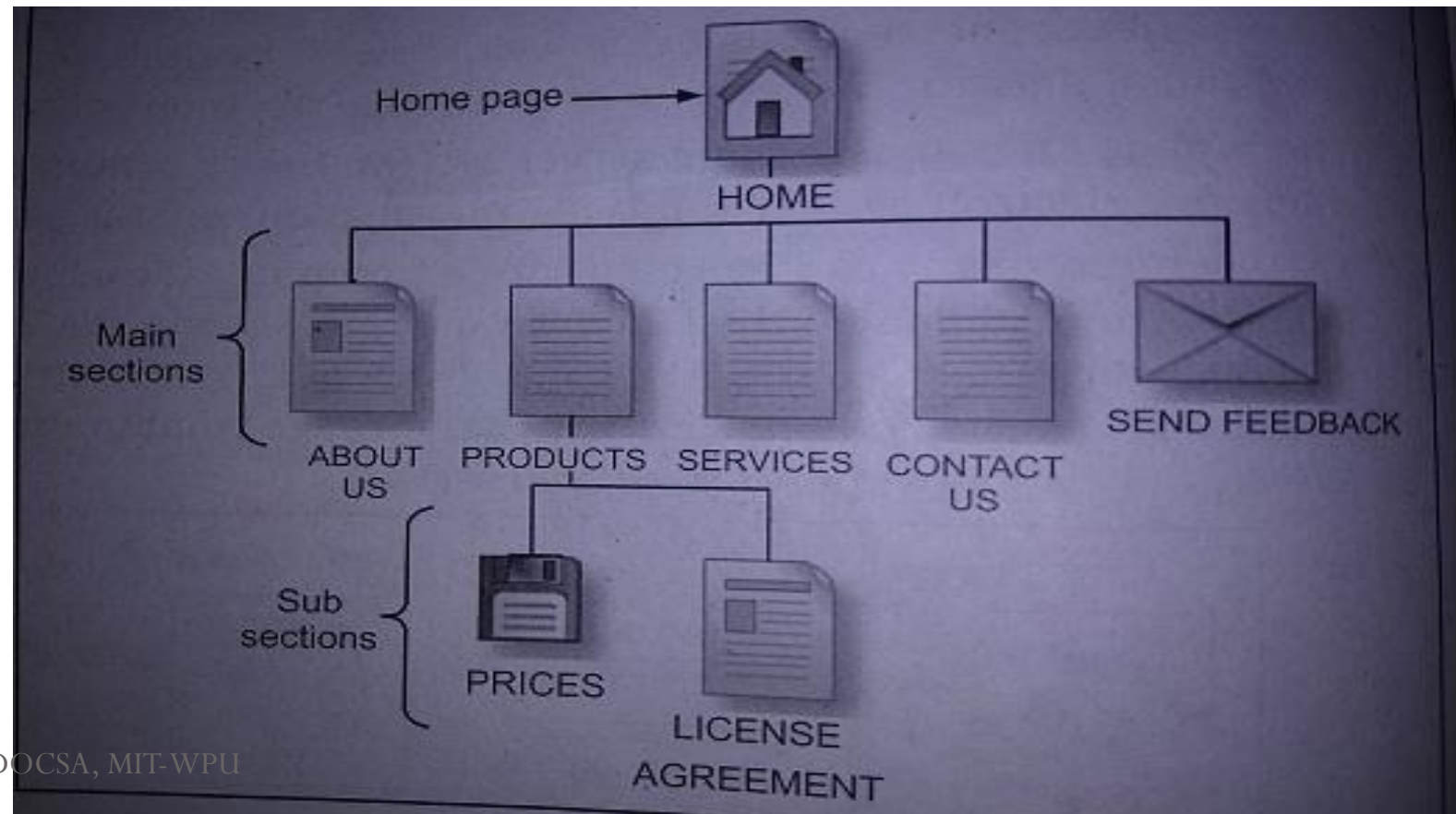
Definition : A **website** is a set of related web pages, published by an organization or individual.

A **website** can also be defined as an organized linked collection of web pages stored on an internet server and read using a web browser.

Web page is an electronic document written in a computer language called HTML. These web pages are linked together through a system of connections called hypertext links, which enable the user to jump from one web page to another by clicking on a link.

Structure of Website

There are various links in Home page, each link directing to pages (main sections) that describe one particular area named as About us, products etc. links to other pages (sub-sections) are also provided from the linked pages.



Types of Websites depending on use

1. **Portal website:** It offers variety of Internet services from a single location.
2. **Business/ Marketing Website:** It promotes or sell products or services.
3. **Blog:** It is an informal web site consisting of time-stamped articles or posts, in a diary or journal format.
4. **Social networking web site:** It encourages members to share their thoughts, interests, ideas, stories, photos, music and videos with other registered users.
5. **Educational Web site:** It offers avenues for teaching and learning.
6. **Entertainment Website:** It offers an interactive and engaging environment for entertainment.
7. **Web app:** It is a website that allows users to access and interact with software through a Web browser on any computer connected to the internet.

Advantages and Disadvantages of Websites

Advantages:

1. A lot of information can be accessed using websites with faster speed.
2. Once, a website has been established, it reduces cost.
3. Information displayed in website will be accessed by each and every one, any where and any time.
4. Using website you have the ability to update and upgrade to latest technologies.

Disadvantages:

1. Website must be kept up to date.
2. There is no control who views the website and therefore security must be taken about the information that is placed on it.
3. Receiving spam email from the contact us form due to the popularity of website.
4. Need to keep the website optimized with faster loading time, if slow loading and buffering, client may loose interest in buy or opting the services.

Types of Websites depending on contents

1. **Static websites:** A static website contains web pages with fixed content. Each page is coded in HTML and displays the same information to every web visitor.
2. **Dynamic websites:** Dynamic websites can change the web page contents dynamically while the page is running on client's browser.

Static Websites

Static websites contain fixed number of pages and format of web page is fixed which delivers information to the client.

This kind of websites created from HTML and CSS coding on simple text editor like notepad.

Advantages:

1. **Time saving:** A static website is quick to develop.
2. **Cost Effective:** Static websites are cheaper to develop.
3. **Inexpensive Hosting:** These websites can get dedicated servers at a cheaper price.
4. **Easy Indexing:** Search engines can easily index a static website as they are just a series of coded HTML or CSS files.
5. **Fast transferring:** Static websites do not have complex structures and can be easily and quickly transferred from server to client without much processing time.

Disadvantages:

1. **Difficult to change:** All the HTML files would need to be individually changed even for a small change made to the website which takes lot of time.
2. **Not good for long run:** As any business would need to make a no. of updates to be in with the latest trends.
3. **Limited Functionality:** It does not offer all the functionalities that a dynamic website can.

Dynamic Websites

Dynamic websites can change the web page contents dynamically while the page is running on client's browser.

This kind of websites use server-side programming like PHP and JSP to modify page contents on run time.

Advantages:

1. **Easy to update:** No expert knowledge is needed in changing the dynamic website.
2. **Interactive:** Dynamic websites interact with the users and changes according to their behavior.
3. **Quick to Responsiveness:** Can be quickly updated to become responsive to various screen sizes.
4. **Smooth Navigation:** User can jump from one page to the other without any problem.

Disadvantages:

1. **Higher Cost:** Dynamic websites expensive in their development and even the hosting cost is high.
2. **Slow Processing:** Having a number of functions to perform with complex technology, the dynamic websites becomes slower to process and load.

Internet

Definition : **Internet** is global communication network that allows almost all computers world wide to connect and exchange information electronically.

Internet is also defined as an information super highway, to access information over the Web.

Internet Protocols

Protocol is a set of rules or an agreement that specifies a common language that computers on a network use for communication with other computers.

Most common **Internet Protocols** are:

1. Simple Mail Transfer Protocol (SMTP)
2. Gopher
3. Telnet
4. Trivial File Transfer Protocol (TFTP)
5. Simple Network Management Protocol (SNMP)
6. Hypertext Transport Protocol (HTTP)

Internet Protocols

- 1. Simple Mail Transfer Protocol (SMTP):** SMTP is a protocol that sends and receives emails over the internet. It's a TCP/IP protocol that's used by email clients and servers to deliver and forward messages.
- 2. Gopher:** The Gopher protocol is a communication protocol that allows users to search, distribute, and retrieve documents on the internet.
- 3. Telnet:** Telnet or Teletype Network Protocol, is a network protocol that allows users to connect to and communicate with remote computers. It's a client-server application that provides a command line interface for accessing remote systems.
- 4. Trivial File Transfer Protocol (TFTP):** TFTP is a simple protocol that allows users to transfer files between a client and a server. It's often used for booting devices and backing up configuration files.
- 5. Simple Network Management Protocol (SNMP):** It is a network protocol that allows network administrators to monitor and manage devices on a network.
- 6. Hypertext Transport Protocol (HTTP) :** It is communication protocol used to retrieve web pages from a web server. It is also called request and response protocol because the communication between browser and server takes place in request and response pairs.