**Topic 1: WORLD WIDE WEB**

DEFINITION OF World Wide Web

World Wide Web is a collection of public web sites that are integrated with the Internet, together with the client’s devices to have access to it.

The term is often mistakenly used as a synonym for the Internet itself, but the Web is a service that operates over the Internet.

**Applications play either one of the two roles:**

* SERVER-providers
* CLIENT- consumers

**SERVER:**

**Two roles of Server:**

* It houses or host the web resources.
* It waits for clients to request for the resources

**CLIENT:**

-it is a computer hardware device or software that accesses a service made available by a server.

**-**the most typical type of Client is the **BROWSER**

**What is a Browser?**

**-**it is used to request the resources from the server

* **SPIDER- i**s a program that visits Web sites and reads their pages and other information in order to create entries for a [search engine](http://searchsoa.techtarget.com/definition/search-engine) index.

Sometimes, when servers are unavailable because of some reason, there are 2 alternatives:

* **Web** **services** – it is an application that provides services that can be accessed by the web.
* **Application** **servers** – these are servers that provides applications that are accessible by the web.

The World Wide Web uses three protocols:

* **HTTP (Hypertext Transfer Protocol)-** It is a set of transferring files over the World Wide Web
* **HTML (Hypertext Markup Language)-** The language used in writing web pages
* **URL (Uniform Resource Locator)-** It is a way to locate a resource in the World Wide Web.

INTERNET (International Network)

-A means of connecting a computer to any other computer anywhere in the world via dedicated routers and servers.

Network- These are two computers connected to the internet to communicate each other.

**Internet is composed of the following:**

* Hosts/Nodes- these are computers that are connected to the network.
* Interconnection Media – It is the physical linking of a carrier’s network with equipment facilities not belonging to the network. (e.g. wires, ect.)
* Protocols- these are the standards or rules that are to be followed on how host communicate over the media.

**SOME EXAMPLE OF COMPETING APPLICATIONS:**

* GOPHER - It was designed for distributing, searching, and retrieving [documents](https://simple.wikipedia.org/wiki/Document) over the Internet. Gopher represented an early alternative to the [World Wide Web](https://simple.wikipedia.org/wiki/World_Wide_Web).
* WAIS (World Area Information Server) – This is a program that can index enormous amounts of information and make it searchable across large networks.
* Veronica Search Engine- It is the search engine for WAIS and Gopher
* Archie Search Engine – It is used for File Transfer Protocol.

**HISTORY OF World Wide Web**

The man behind World Wide Web is Mr. Tim Berners-Lee.

By 1990, with the help of Robert Cailliau, Berners-Lee developed the skeletal outline of the internet, including a web browser and web server.

Unfortunately, the world wasn't ready for his ideas. The web was still a series of simple text pages, difficult to navigate, and inaccessible to most people.

But all that changed in 1993, with the release of the Mosaic web browser, which allowed users to explore multimedia online. 1993 also saw the introduction of the first modern search engines.

Though early search engines were primitive, mostly manual, and primarily indexed only titles and headers, in 1994 WebCrawler began to "crawl" the net, indexing entire pages of active websites.

This technology opened the door for more powerful search engines and made it possible to easily search through vast amounts of connected information.

In this same year, Berners-Lee founded the World Wide Web Consortium (W3C) to help further develop ease of use and accessibility of the web and made it a standard that the web should be available to the public for free and with no patent.

HOW WWW Works?

* Web Browser – it is used to request the web pages on the internet,
* URL (Uniform Resource Locator) – It serves s an address of the web resources; it is a unique identifier

PARTS OF UNIFORM RESOURCE LOCATOR:

* HTTP (Hypertext Transfer Protocol)

- it is the scheme or the protocol of the URL.

- it can either be FTP (File Transfer Protocol), SMTP (Simple Mail Transfer Protocol)

* Hostname

- A hostname is the label (the name) assigned to a device (a host) on a network and is used to distinguish one device from another on a specific network or over the Internet.

- it is used with a unique IP Address

* IP Address (Internet Protocol Address)

-unique identifier

- e.g. xxx.xxx.x.xx

* Domain Name Server(DNS)

-A system that converts or map a descriptive name to an IP address.

-An application that runs on some machine and it’s like a directory service. Give the hostname and gives the IP address, or it points you to the node that knows the IP address.

* e.g. [www.example.com](http://www.example.com)
* **/index.html** - this signifies the name of the resource used.
* **Fiddler** - Web Debugging Proxy which logs all HTTP(S) traffic between your computer and the Internet.

*“World Wide Web is the universe of network-accessible information, the embodiment of human knowledge.”* -W3C

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