**01-19-18 Web Tech Lecture**

**WWW (World Wide Web)**

* Collection of web resources and application
* Applications > to allow us to **access** (happens through the internet) the resources.
* Built on a client-server architecture. Applications that play either one of the two roles.
* **Server** – you are providing a service.
* **Client** – you are consuming the services provided by the server.
* Applications that we have are divided into two:
* **Web** **Servers** - Those that are serving the resources.
  + - * An application that runs in a computer and it has two roles.
        + It houses or host the web resources.
        + It waits for clients to request for the resources. -> processes -> then send the resources.
      * *a computer always connected to the internet, designed to store information and share it.*
* **Client**
* **Browser** - most common client.
  + - * Use to request the resources.
      * *the application on your computer that lets you talk with all these web servers*
* **Spider** – crawls the web and retrieves information from the web without interaction.

//on the server side, sometimes we don’t have web servers, it’s possible that the servers are now web services.

* **Web** **services** – an application that provides services that can be accessed by the web.
* **Application** **servers** – servers that provides applications that are accessible by the web.
* An application that uses the infrastructure of the internet to access web resources
* Global information system
* Greatest application that uses the infrastructure of the internet to access resources.
* *Is the biggest applications of them all.*
* *A huge distributed application running on millions of servers world wide, accessed by a web browser*
* *Huge collection of documents which are interlinked.*

**Sir Tim Berners-Lee** – wanted a way to share scientific paper, that’s why he invented the WWW.

* Came up with three technology:
* **HTTP**
* **URL**
* **HTML** – hypertext, you can create links to other resources (other html).
* **Hypertext** - once you house the links in a server, and you access it using a browser, you can just follow the links.

**Web** **Resources** – practically anything.

**Internet (International Network)**

* **Network** - In simplest terms, two devices connected to have electronic communication.
* A much larger network.
* Global network of networks.
* In the internet, what you have are the:
* **host** – devices connected to the internet.
* **Interconnection** **Media** – platform; wireless or wired
* **Protocols** – governs how host communicate over the media.

//all three are the platform that you can use to build an application in top of.

(eg. **WWW**) – the most successful application ever develop.

* *is the way computers connect to each other in order to share information.*

**Other application that uses the infrastructure of the internet:**

* email (Simple mail transfer protocol SMTP)
* distributed file system
* online games
* WWW (focus)
* etc.

**HOW DOES THE WEB WORKS?**

Boot a browser and type a URL.

* **URL (Uniform Resource Locator)**
* how we address the various web resources that are available on the web. (vast collection)
* used to identify each one.
* Parts of the URL:
* **HTTP** - scheme or the protocol of the URL
* we are doing web communication via HTTP.
* *a language in which a browser and a server talks among themselves.*
* **host** **name** - in a descriptive form; in a domain name form.
  + - **IP** **Address**
      * xxx.xxx.xxx.xxx
      * The way we access the host in the internet.
    - **DNS** (**Domain** **Name** **Server**)
      * 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.
* **Name of the resource that I am accessing** (eg. Index.html)

**Web debugging proxy** - inspects the communication of the server and the browser. (eg. Fiddler)