Web Technology-I
BIT274CO

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UNIT 1
Introduction to Web Technology

* Web Basic: Web browser, Web Servers, Tier Technology, Static and Dynamic Web page
* Web Protocols:HTTP,HTTPs,FTP
* Introduction to free and open source software

Web

* World wide is commonly called web.
* System of interlinking hypertext documents that are accessed via the internet.
* One can view web page that contains text,images,videos and other multimedia and navigate between them via hyperlink.
* Tim Berners lee a British Computer scientist & Belgian Computer scientist Robert Cailliar invented the web.

Web Technology

* Web technologies are infrastructural building blocks of any effective computer network that allows users and devices on the computer network to communicate and share resources.
* Communication between the sender and receiver can only possible with the mechanism called web technology.
* E.g HTML,CSS,CGI,XML

Web Browsers

* Web Browsers are software installed on your PC to access the Web.
* such as Netscape Navigator, Microsoft Internet Explorer or Mozilla Firefox.

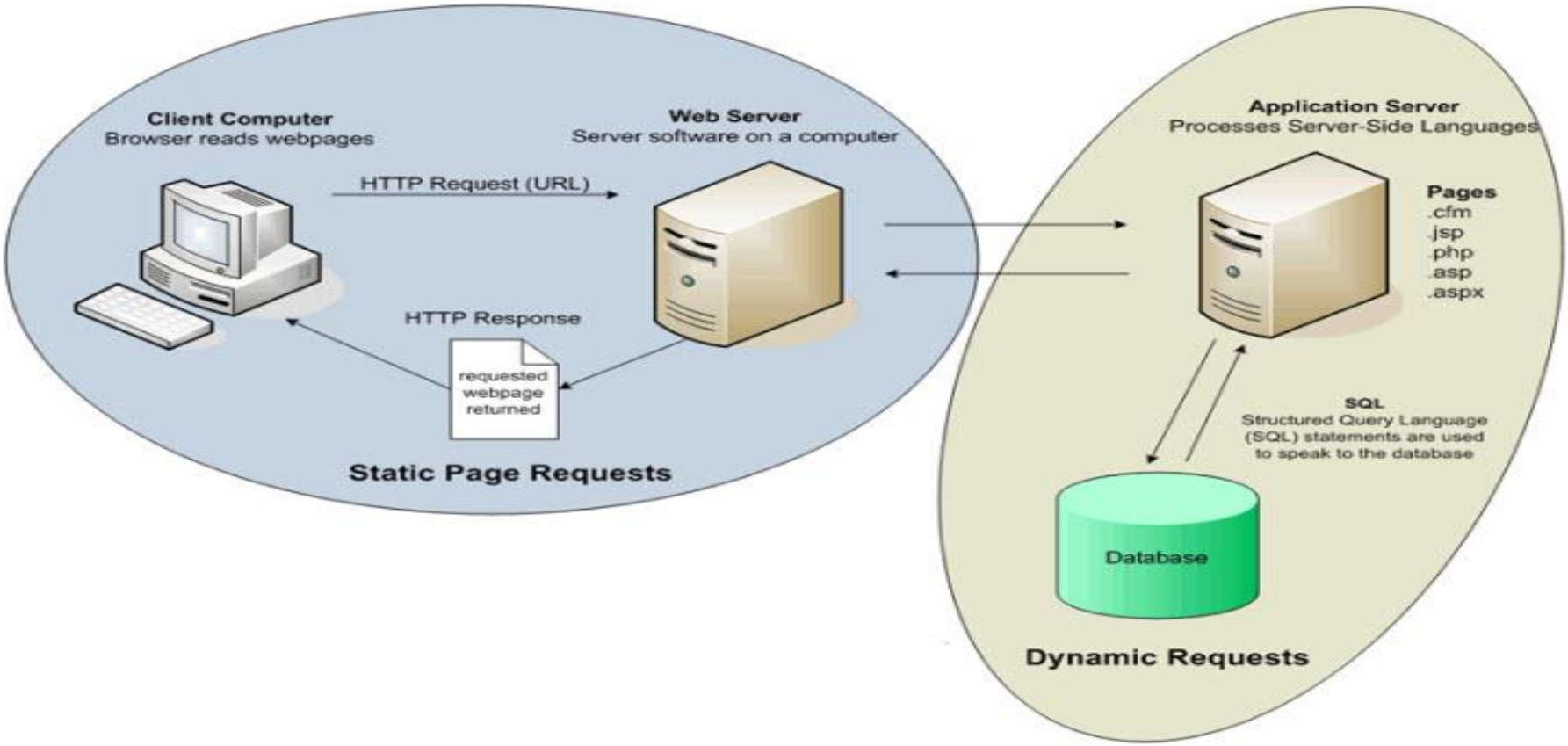
Web Servers

* Called service providers to the client.
* Every website sits on a computer known as web server.
* Every Web server that is connected to the Internet is given a unique address made up of a series of four numbers between 0 and 255 separated by periods.
* for example, 68.178.157.132 or 68.122.35.127. When you register a Web address, also known as a domain name, such as cite.com you have to specify the IP address of the Web server that will host the site.

Tier Technology (3-Tier and N-tier)

* Physical, Business and Data layer are physically seperated.
* In software engineering, multi tier architecture (often referred as n tier architecture) is a client server architecture in which presentation, application processing and data management functions are physically separated.
* Most wide spread use of multi tier architecture is three tier architecture.
* N tier application architecture provides a model by which developers create flexible and reusable application.

Static and Dynamic Web Page



Static Web Page

* Unchanged or constant.
* Contains the prebuilt content each time the web page is loaded.
* Standard HTML web pages are static web page
* HTML defines the structure and content of the web page.
* The content of HMTL will change only if the developer updates and publishes the file.
* Extension for static web pages is .htm or .html

Dynamic Web Page

* Changing content
* These web pages contain server code which allows to change the content dynamically each time if the web page loads.
* Web pages developed using the scripting language such as PHP,ASP,JSP,ROR are dynamic web pages.
* Also called data base driven web pages.
* Extension for dynamic web page is .php,.apsx,.jsp

HTTP

* Hypertext transfer prtocol,the underlying protocol used by the world wide web.
* HTTP defines how message are transmitted and formatted and what actions the web servers & web browsers should take to response to various commands.
* For eg. When we enter url in our web browser, this actually sends a HTTP command to the web server directing to fetch & transmit the requested web page.
* HTTP is called stateless protocol because each command is executed independently, without knowledge of the commands that came before it

HTTPs

* Similar to HTTP.
* Secure HTTP used by world wide web.
* Message are transmitted in encrypted form.

FTP

* File transfer protocol.
* For exchanging files over the internet.
* FTP works same ways as HTTP for transferring web pages from a server to users browsers and SMTP for transferring emails across the internet.
* Uses TCP/IP protocols to enable data transfer.
* Used for downloading files from the server and uploading files to the server.

Free software

* Freely licensed to use, copy.
* E.g Mozilla,Open Office,linux,APACHE

Open source software

* source code is openly shared so that people are encouraged to voluntarily improve the design of the software.
* Open Source Software Open Source Software is a software that is free to use and which provides the original source code used to create it so that advanced users can modify it to make it work better for them.
* Examples: Linux GIMP Blender Inkscape Mozilla Firefox 3.0 OpenOffice.org KOffice

Advantages of FOSS

* Generally free.
* Easily modified and adopted for the business requirements.
* Decreasing software costs, increasing security and stability (especially in regard to malware), protecting privacy, and giving users more control over their own hardware.
* Free, open-source operating systems such as Linux and descendants of BSD are widely utilized today, powering millions of servers, desktops, smartphones (e.g. Android), and other devices. Free software licenses and open-source licenses are used by many software packages.
* Long term support .

Disadvantages of FOSS

* FOSS can't be sold and will not generate money as that of commercial product.
* Less user friendly and easy to use because less attention is paid to developing the UI.
* Less support available when things go wrong.
* It rely on its community of users to respond and fix problems.
* Although open source software is free but there might be some indirect cost evolved as paying for support
* There may be certain bugs with in the software which will exploit security threat.

Proprietary Software

* Proprietary Software Proprietary Software (Closed Source Software) means the company that developed the software owns the software and no one may duplicate it or distribute it without that company's permission.
* Users have to pay to the software company if they want to use the proprietary software.
* Examples: Microsoft Office 2007 Adobe Photoshop CS3 Adobe Flash CS3 Corel Office X3 Windows 7

Advantages of Proprietary software

* Good customer service for trouble shooting and setup purpose.
* Developed to meet market demand.
* Less bugs compared to FOSS.

Disadvantages of Proprietary Software

* Expensive.
* Charge licensing fee.
* Dependents on the developer.
* Not easily adoptable.

Software licensing

* Legal agreement governing the use or redistribution of software.
* It grants an end user permission to use one or more copies of software.
* Software licensing typically contains provisions which allocate liability and responsibility between the parties entering into the license agreement.
* Software licenses can generally be fit into the proprietary software and free and open source software

Commercial license

* Publisher of software grants the use of one or more copies of software under the end user license agreement (EULA).
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* Certain rights regarding to the software are reserved by the software publisher.
* Without the acceptance of the license, the end user may not use the software at all
* E.g license for Microsoft Windows

Commercial license cont..

* Proprietary Software license contains the extensive list of activities which are restricted
* Such as reverse engineering, simultaneous use of the software by multiple users and publication of benchmarks or performance tests
* The most common license models is per single user or per user in the appropriate volume discount level, while some manufacturer accumulate existing licenses.

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* Apple public source license, Apache license, BSD license, Boost software license.

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