Key Concepts around Designing Web Pages Session 1

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WWW

- WWW stands for World Wide Web which is also known as 'WEB' or 'W3'.
- It is a way of exchanging information such as images, video, audio, text files, etc., between computers.
- Now, all this information will be accessed by users from many parts of the world over the internet using their devices such as computers, laptops, cell phones, etc.
- The www, along with the internet, enables the retrieval and display of text and media to your device.

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Fundamentals of Web

- HTML stands for Hyper Text Markup Language. The markup means formatting language for the web.
- URI stands for Uniform Resource Identifier. A kind of "address" that is unique and used to identify each resource on the web. It is also commonly called a URL.
- HTTP stands for Hypertext Transfer Protocol. It allows for the retrieval of linked resources from across the web.

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What is web?

The web is a system for publishing page information over the internet, and linking pages using links.

Anyone can publish a page by uploading it to a web server, read that page by typing its address into a **web** browser.

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How does web work?

- When you send any request from your browser, it sends to the web server.

- A **web server** is a computer program that runs **websites**. It distributes **web** pages as and when they are requested. This intercommunication is done using Hypertext Transfer Protocol or **HTTP**.

- A **web browser**, or simply **browser**, is an application used to access and view websites.

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What is a URL?

http://www.mysite.com/index.html

Protocol   Domain name   resource

URL consists of:

- **Protocol,** which is used for transferring the pages.

- **Domain name** that specifies the name of the website.

- **Resource,** which is the title of the page that is displaying the output currently.

What is a Protocol?

A protocol is a set of rules and guidelines for communicating data between two or more computers or devices in a network.

Types of protocols:

- TCP: Transmission Control Protocol
- FTP: File Transfer Protocol
- SMTP: Simple Mail Transport Protocol
- POP: Post Office Protocol

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HTTP

- HTTP is a communication between web browser and web server.

- Browser sends an HTTP request from the client end to the web. Then the web server receives the request and processes it.

- The server then returns an HTTP response or output to the browser. Finally, the client or browser receives the response.

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Activity

1. When and where did Tim Bernes Lee invent the World Wide Web?

2. What is unique and is used to identify each resource on the web?

3. What is a protocol?

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HTML and its Structure

- HTML is a standard mark-up language that is used for creating web pages.

- It describes the structure of web pages through HTML elements or tags.

- These tags are used to organise the pieces of content such as 'heading,' 'paragraph,' 'table,' 'image,' and more.

- Domain name specifies the name of the website. For example, **www.google.com www.yahoo.com**

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Websites and their Classification

- A website is a set of related web pages typically served from a single web domain.

- It is a collection of web pages, images, videos, or other digital assets that are hosted on one or more web servers, usually accessible via the internet.

- The pages of a website can usually be accessed from a common root URL called the homepage.

- The URLs of the pages organise them into a hierarchy, although the hyperlinks between them control the flow.

Websites can be classified as:

1. Magazine websites
2. E-commerce websites
3. Blogs
4. Portfolio websites
5. Social media websites

A magazine website features articles, photos, and videos that are informational and educational.
In the last twenty years, the magazine industry has changed from a print-only platform to a large digital format. The magazine website type works well for informational websites, particularly publications from universities and organisations.

An e-commerce website is an online shopping destination where users can purchase products or services from your company. A robust e-commerce web page makes it easy to browse products, filter by categories, highlight special sales and make purchases.

A blog features regularly updated articles, photos and videos. Blogs started with more casual, personal content compared to magazines. But since then, the lines have blurred, and now it is common for major brands and businesses to have their blog. Adding expert content improves the overall credibility of a company or an individual. Blogs also provide material for social media posts and email campaigns.

A portfolio website allows creative professionals a place for showcasing their best work. It is perfect for artists, writers, designers, filmmakers, furniture builders, etc. As you build a portfolio, there is no need to add every single project you have ever worked on. Instead, focus on creating categories of items and highlighting the best work from each category.

There are approximately 2.77 billion people on social media with dozens of different platforms available.
No matter who your target audience is, you will probably find them on Facebook or Twitter or Instagram or Snapchat, or LinkedIn. Although you cannot redesign the platforms themselves, you have some control over

the look of your page, and you can create content that drives social media shares.

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Activity

1. What is a website?
2. What type of website features articles, photos, and videos that are informational and educational?
3. What type of website features regularly updated articles, photos and videos?

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Static Websites

- A static website has web pages that are stored on the server in the format.
- These pages are sent to a client web browser.
- It is coded in Hypertext Markup Language or HTML.
- A static web page displays the same information for all users from all contexts or subjects, making customisation impossible.

Dynamic Websites

- A dynamic website changes or customises itself frequently and automatically, based on certain criteria.
- For example, dynamic sites allow you to create a user profile, comment on a post, or make a reservation.
- Dynamic websites can have two types of dynamic activities, such as code and content.
- Dynamic websites contain web pages that are generated in real time.
- These pages include web scripting code, such as PHP or ASP. When a dynamic page is accessed,

the code within the page is parsed on the web server, and the resulting HTML is sent to the client's web browser.

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Technologies used to Create Static and Dynamic Websites

- A Dynamic website is a kind of extension of a static website.
- The data is taken from the databases using server-side programming languages like .php, java, and .net.
- .PHP is a popular server-side scripting language and MySQL is a Database.
- On the other hand, a static website is the most basic and easiest to create.
- It requires only client- side technologies like HTML and CSS and not any server.
- No programming languages, including JavaScript, are required to make a static site.

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Activity

1. Which website changes or customises itself frequently and automatically, based on certain criteria?
2. What type of website is suitable for the contents that never or rarely need to be updated?
3. Which popular server-side scripting language is used to create a dynamic website?

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Web/ Mark-up Languages

- Web or mark-up languages are designed for the processing, definition, and presentation of text.
- They specify code for formatting layout and style, within a text file. The code used to specify the formatting are called tags.

HTML, DHTML, XML, and XHTML are the four main types of mark-up languages.

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Activity

1. What is a software- and hardware-independent tool for storing and transporting data?

2. Which languages specify code for formatting, both the layout and style, within a text file?

3. What allows you to change the qualities of an HTML tag depending on an event, outside of the browser, such as a mouse click, time, or date?

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Recap

In this session, you learnt that:

- The World Wide Web, along with the internet enables the display of text and media to your device. It's a way of exchanging information such as images, video, audio, text files, etc., between computers.

- A website is a collection of web pages, images, videos, or other digital assets that are hosted on one or more web servers, usually accessible via the internet.

- Websites are classified as magazine websites, ecommerce websites, portfolio websites, social media websites, and blogs.

- Static websites are simple websites meant to display information to for its users. A static web page displays the same information for everybody from all contexts or subjects, making customisation impossible.

- A dynamic website changes or customises itself frequently and automatically, based on certain criterion. Dynamic websites contain web pages that are generated in real time and are easier to maintain than static websites.

- HTML, DHTML, XML, and XHTML are the four main types of mark-up languages.