WWW

WWW stands for World Wide Web. It is a system of interconnected hypertext documents that are accessed through the internet. The World Wide Web is an essential part of the internet and allows users to access information in various forms, such as text, images, audio, and video. It was created in 1989 by British computer scientist Tim Berners-Lee while working at CERN, the European Organization for Nuclear Research. The World Wide Web has revolutionized the way people communicate and share information, and it has become an integral part of modern society.

History Of Web

The history of the *World Wide Web (WWW)* dates back to 1989 when British computer scientist Tim Berners-Lee invented it while working at CERN, the European particle physics laboratory in Switzerland. Berners-Lee envisioned a system that would allow scientists to share information across different computer systems, leading to the creation of the first web browser and web server software.

In 1991, the first web page went live, and the web began to expand as more people started creating and sharing content. The introduction of the first web search engine, Archie, in 1990, made it easier to find content online. The first commercial web browser, Mosaic, was released in 1993, which led to an explosion of web activity, as businesses and individuals alike began to create websites and communicate over the internet.

In the late 1990s, the dot-com boom led to a rapid expansion of e-commerce, and the introduction of new technologies like JavaScript and Cascading Style Sheets (CSS) allowed web designers to create more dynamic and visually appealing websites. The rise of social media in the mid-2000s brought a new level of interactivity to the web, as people began to create and share content with each other on platforms like Facebook and YouTube.

Today, the web continues to evolve, with new technologies like artificial intelligence, virtual reality, and the Internet of Things (IoT) promising to change the way we interact with the internet and each other.

Webpage

A *webpage* is a document that is part of a website, usually written in HTML and accessible through a web browser. It can contain various types of content, including text, images, videos, links, and interactive elements. Webpages are designed to provide information or services to users, and can be static or dynamic, depending on how they are created and served to the user.

Working :

Webpages are typically created using *HTML (Hypertext Markup Language)*, which provides the basic structure and content of the page, and *CSS (Cascading Style Sheets)*, which is used to control the layout and appearance of the page. *JavaScript* is often used to add interactive features to the page, such as menus, buttons, and animations.

When a user requests a webpage from a web server, the server sends the *HTML, CSS, and JavaScript* files to the user's browser. The browser then uses the *HTML* to create a *Document Object Model (DOM)* of the page, which represents the structure and content of the page as a tree of nodes. The browser then uses the *CSS* to apply styles to the nodes in the *DOM*, and uses the JavaScript to add interactivity and dynamic behavior to the page.

Once the page is fully loaded and rendered, the user can interact with it by clicking links, filling out forms, or using other features provided by the page. These interactions can trigger new requests to the server, which can result in new pages being loaded and rendered in the user's browser.

Domain Name

A *domain name* is a unique identifier that represents a specific website or web page on the internet. It is part of a larger hierarchical *Domain Name System (DNS)* that translates easy-to-remember domain names, such as *www.example.com*, into IP addresses that are used to locate and access the website's server on the internet. Domain names are typically made up of a name (e.g., "example") and a top-level domain (e.g., ".com"), separated by a dot. They are registered and managed by domain registrars and must be renewed periodically to remain active.

Browser Rendering

Browser rendering is the process by which a web browser displays the content of a webpage. The rendering engine of the browser parses the HTML and CSS code of the webpage and generates a visual representation of it. The process involves several steps such as building

the Document Object Model (DOM), parsing and applying the Cascading Style Sheets (CSS), and executing any JavaScript code present on the webpage. Once all the resources are loaded and rendered, the browser displays the final output to the user. The rendering process can be affected by several factors such as browser type, device specifications, internet speed, and the complexity of the webpage.

Client-Side Rendering

Client-side rendering (CSR) is a method of rendering web pages where the rendering process is done on the client-side, which means the browser. The server sends the necessary HTML, CSS, and JavaScript files to the browser, and the rendering process is performed by the browser. This method allows for fast initial load times and a more dynamic and interactive user experience. Single-page applications (SPAs) are an example of client-side rendering.

Server-Side Rendering

Server-side rendering (SSR), on the other hand, is a method of rendering web pages where the rendering process is done on the server-side before the content is sent to the browser. The server generates the HTML file based on the client's request and sends it to the browser. This method is suitable for websites that require frequent updates or for websites with a large amount of static content. Content management systems (CMS) are an example of server-side rendering.
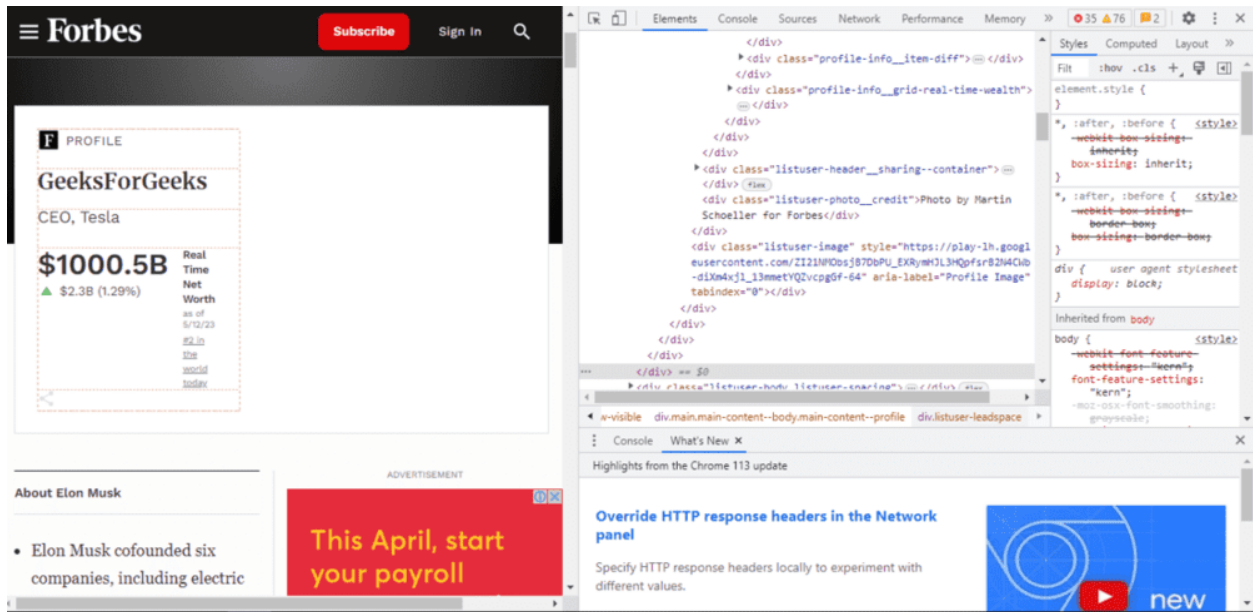
Inspect Command

The *inspect command* is a tool that allows you to view and manipulate the HTML, CSS, and JavaScript of a webpage. It is available in most modern web browsers, such as Google Chrome, Mozilla Firefox, and Microsoft Edge.

To use the inspect command, follow these steps:

1. Open your web browser and navigate to the webpage you want to inspect.
2. Right-click anywhere on the page and select "Inspect" from the context menu. Alternatively, you can use the keyboard shortcut Ctrl+Shift+I (Windows, Linux) or Cmd+Option+I (Mac).
3. The developer tools window will appear, showing you the HTML, CSS, and JavaScript of the page.
4. Use the various tabs and tools within the developer tools to inspect and manipulate the webpage as needed.

Example :

Inspect Command