Independent Study: Web Development

Edward Sharick - Week 1 (8/28/2023)

What is a website?

A collection of files that can be read by a web browser application. It delivers content to the user and in some cases allows the user to interact with the content and send information back to a server.

How are these files organized?

- Organize files related to different pages into directories (can be external servers).
- An 'index.html' file is located in each directory. The root directories 'index.html' file is the home page or landing page for your application.
- The name of other directories can be put into the web URL to access files in other folders.
    - www.homepage.com – references index.html file in the root directory
    - www.homepage.com/directoryName -references the index.html in the directory named 'directoryName'
- Besides the .html file, you can include resource files (pictures, video, audio), .css files used for styling, and scripts (commonly javascript files .js)

In summary, HTML files are used for organizing the layout of content on the page, CSS files are used for styling and appearance, and JS files are used for adding more functionality to your webpage.

What is a URL?

- A Uniform Resource Locator (URL) is used to address a document (or other data) on the web.
- A web address follows these syntax rules:

  scheme://prefix.domain:port/path/filename
- scheme - defines the type of Internet service (most common is http or https)
- prefix - defines a domain prefix (default for http is www)
- domain - defines the Internet domain name (like w3schools.com)
- port - defines the port number at the host (default for http is 80)
- path - defines a path at the server (If omitted: the root directory of the site)
- filename - defines the name of a document or resource

How should I learn Web Development?

Start with HTML, CSS and JS for front-end development. Then learn a modern framework like bootstrap for the front-end. Then learn a server-side language, such as PHP or Microsoft ASP. I will be using the w3schools tutorials for HTML, CSS, JS, Bootstrap, and PHP.

Web development Plan for this semester

- Learn HTML (2 weeks)
    - .html files place content onto a page
    - Web browsers can read the .html file and display the content to the user

- Learn CSS (2 weeks)
    - CSS can style html elements
    - CSS rules can be place inside the .html file, or can be in an external .css file
    - They decide how element should look on the page and can define some behaviors, like when the user hovers over an element.
- Learn JavaScript (3 weeks)
    - JavaScript is a programming language that integrates nicely with html elements and CSS rules.
    - It can add more user-interactivity to your website, hide and show elements, etc.
- Learn Bootstrap 5 (1 week)
    - Bootstrap is a framework for creating responsive, mobile-first websites.
    - It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels, and more.
    - Basically, it makes web design much easier because you are using the work a bunch of other people already did.
- Learn PHP: Hypertext Preprocessor (2 weeks)
    - PHP is an open-source scripting language
    - PHP scripts are executed on the server. The result of the script can:
        - Return data to the browser as plain HTML.
        - Output images, PDF files, or text in other XML files.
        - Send and receive cookies.
        - Add, delete, modify data in a database (MYSQL)
- Learn how to integrate AI tools into a web application (1 week)
    - Integrate a chat-bot that can offer user suggestions or answer questions.
    - Will use an API for ChatGPT or some other API.
- Build my final web application (4 weeks)
    - A fitness tracker and workout planner web application.