Introduction to Web Development

A Student-Run Short Course (SRC) conducted by the Student Academic Council in collaboration with the Technical Council.

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Logistics

❏ 21st August to 28th August, 10 PM to 11 PM. AB 1/201, Learning Theatre.

❏ All important updates will be communicated through Google Classroom.

❏ All codes will be uploaded to the GitHub repository. Link: https://github.com/Reuben27/Web-Development-SRC
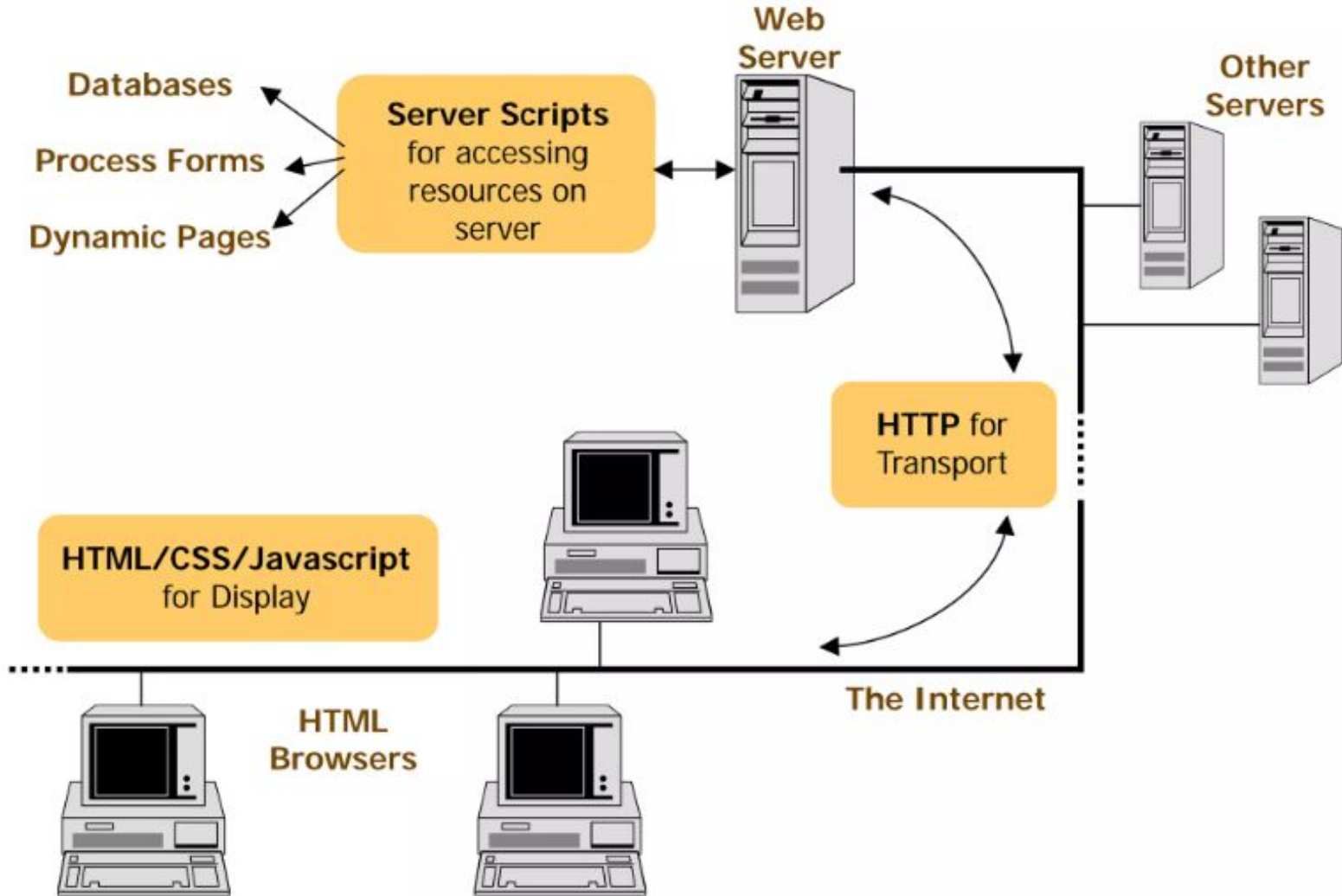
❏ P/F course. Attendance compulsory.

2qctf3p

What is Web Development? Why learn it?

❏ Creating, building and maintaining websites. It can range from working on a single page static site to managing complex web applications such as ecommerce sites, social networking sites, CMS, etc.

❏ Around 15.1 billion web enabled devices. Expected to almost double by 2030.

❏ Demand is still high for web developers in 2023. AI tools ain't perfect but can acts as tools to being productive.

❏ For any framework you use in the future, basics of how the web works, HTML, CSS is going to be required.

How the web works?

❏ The World Wide Web is all about communication between **clients and servers**.

    ❏ Clients - browsers such as Chrome, Firefox.

    ❏ Servers - computers hosted on the cloud.

❏ HyperText Transfer Protocol **(HTTP)** connects you and your website request to the remote server that houses all website data. It's an internet protocol for transmitting hypermedia documents such as HTML. Foundation of data communication for the web.

❏ Domain Name System **(DNS)** is a hostname for IP address translation service. Protocol for message exchange between clients and servers.

Databases

Process Forms

Dynamic Pages

Server Scripts for accessing resources on server

Web Server

Other Servers

HTTP for Transport

HTML/CSS/Javascript for Display

HTML Browsers

The Internet

What's the Difference?

HTML
Hypertext Markup Language

Create the structure
· Controls the layout of the content
· Provides structure for the web page design
· The fundamental building block of any web page

CSS
Cascading Style Sheet

Stylize the website
· Applies style to the web page elements
· Targets various screen sizes to make web pages responsive
· Primarily handles the "look and feel" of a web page

Javascript

Increase interactivity
· Adds interactivity to a web page
· Handles complex functions and features
· Programmatic code which enhances functionality

In Summary:

HTML

CSS

JS

HTML the Skeleton
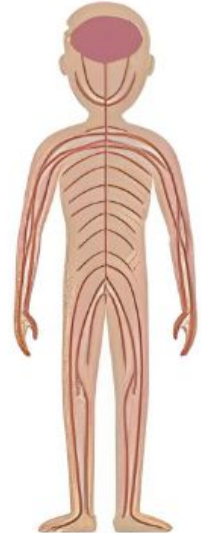
CSS the Skin

Javascript the Brain

HTML (HyperText Markup Language)

❏   HTML is not a programming language but is a markup language. Markup languages prepare a structure for the data or prepare the look or design of a page. These are presentational languages and it doesn't include any kind of logic or algorithm

❏   A markup language is a set of markup tags.

❏   The tags in the HTML language are not displayed in browser, but the browser uses these tags to interpret the content of the page.

❏   HTML is not case sensitive.

Structure

❏   The <!DOCTYPE html> declaration defines that this document is an HTML5 document

❏   The <html> element is the root element of an HTML page

❏   The <head> element contains meta information about the HTML page

❏   The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)

❏   The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

```html
<html>

    <head>

        <title>Page title</title>

    </head>

    <body>

        <h1>This is a heading</h1>

        <p>This is a paragraph.</p>

        <p>This is another paragraph.</p>

    </body>

</html>
```

VS Shortcut for adding Structure (! or Shift+1)

```html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
6       <title>Document</title>
7   </head>
8   <body>
9
10  </body>
11  </html>
```

HTML Attributes

❏ Attributes provide additional information about HTML elements. Always specified in the start tags.

❏ <img src="img_girl.jpg" width="500" height="600">

Thank you!