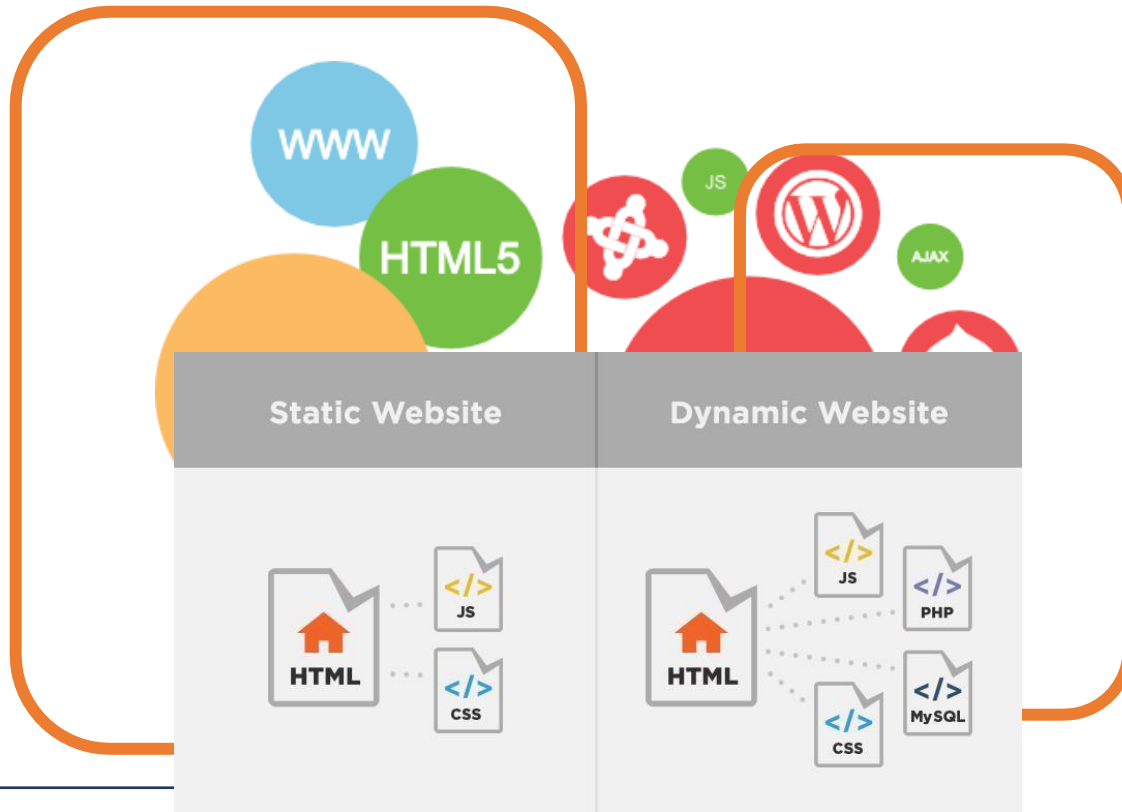
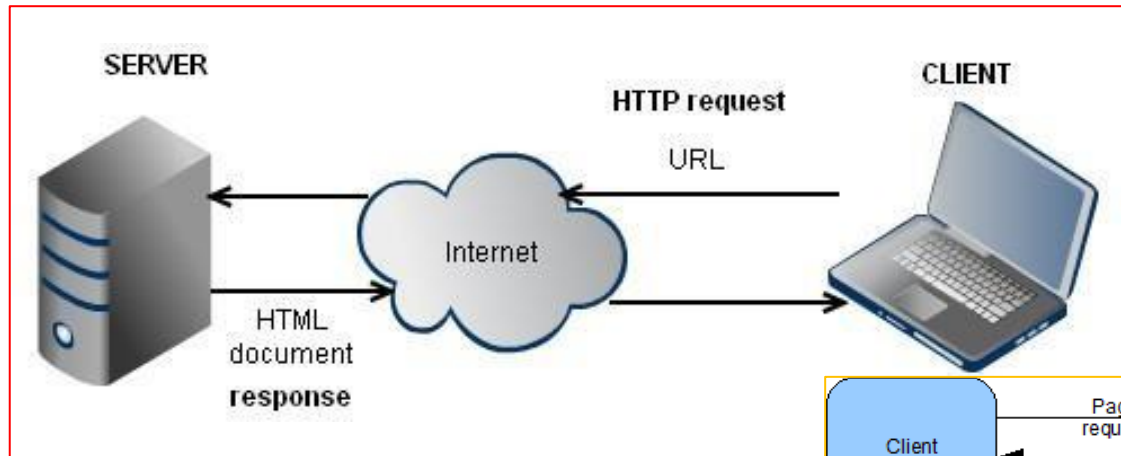


Web(site) Development Technologies

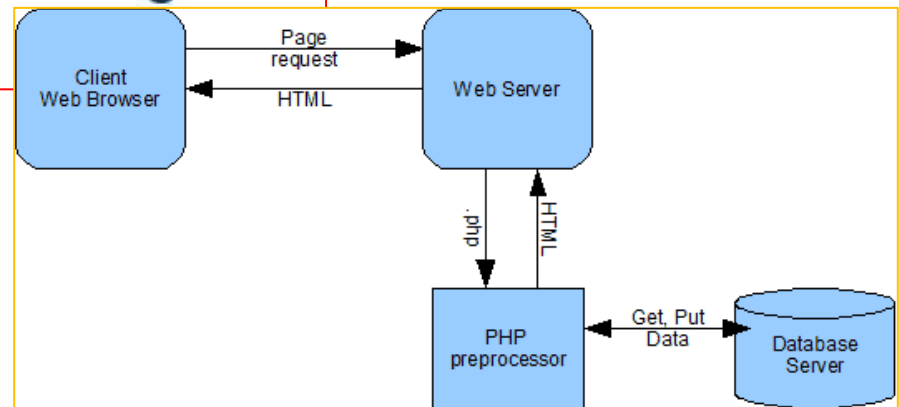


Web Technology Overview



Rendering a website works by combining server-side technologies with client-side technologies.

Client-Server Communication



Static or Dynamic Website for SEO?

With pure HTML static websites:

- You have total control over your SEO.
- You can customize a website any way you want.
- You have HTML and CSS that are fully understood by search engines.
- The sitemap will have a simple index which is recommended by all the search engines.
- Faster load time!

With dynamic websites:

- You need a special plugin to manage SEO (but works great!)
- You should probably optimize page load time.
- You work in GUI environments.
- CMS (**WordPress**) → many SEO solutions!



Page Speed Insights (mobile/desktop):

<https://developers.google.com/speed/pagespeed/insights>

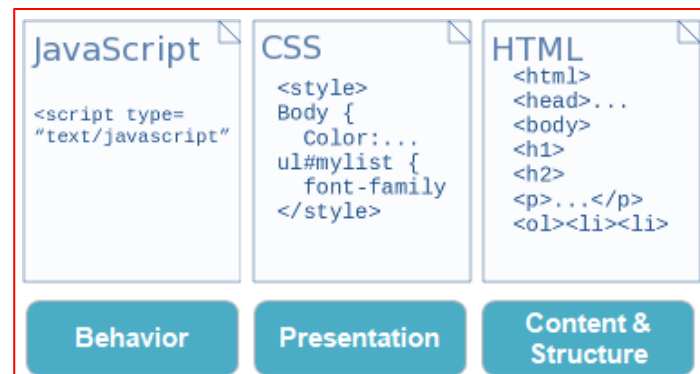
HTML, CSS & JavaScript

In simple terms:

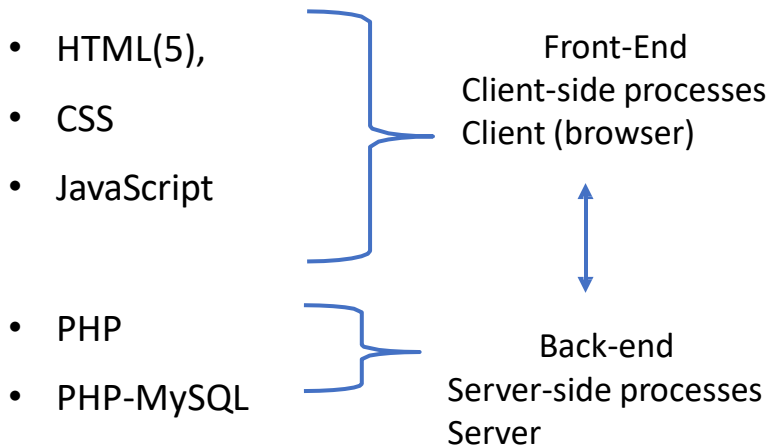
HTML provides the basic structure of sites, which is enhanced and modified by other technologies like **CSS** and **JavaScript**.

CSS or Cascading Style Sheets are used to control presentation, formatting, and layout. (it is a presentation language created to style the appearance of content, using for example, fonts or colors.)

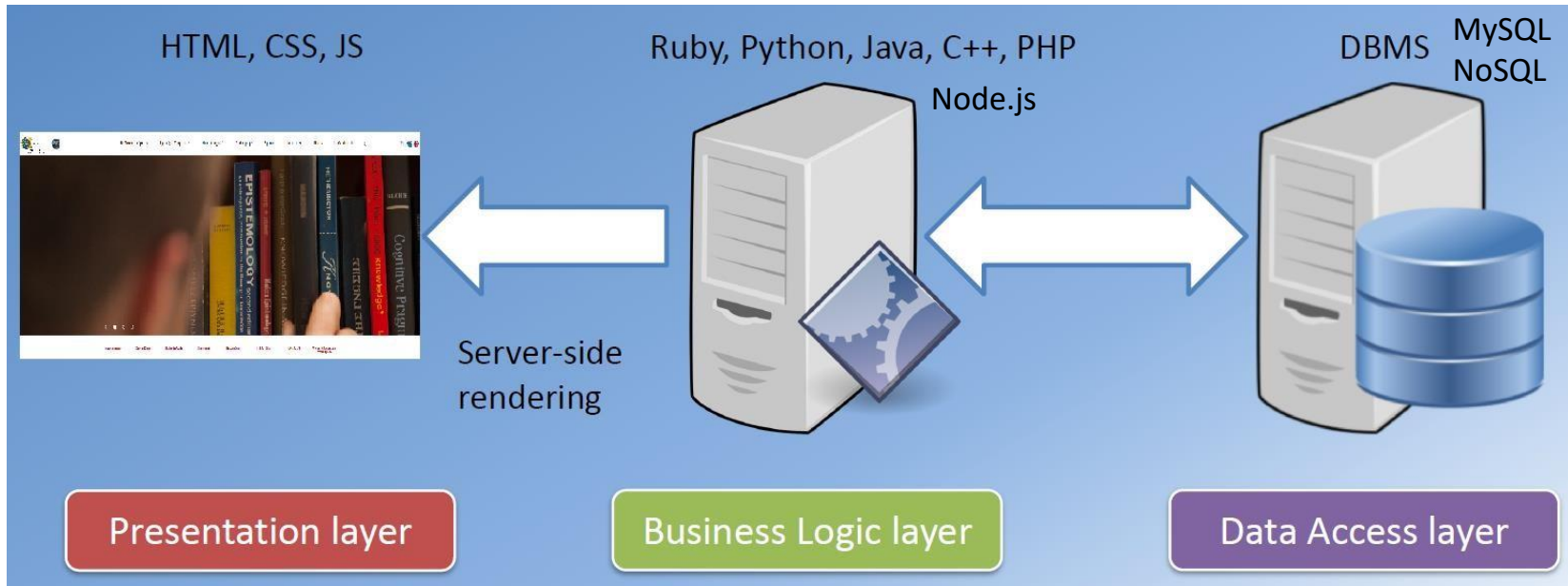
JavaScript is a client-side scripting language used to control the behavior of different (HTML) elements.



Front-end & Back-end Example



3Tier -Architecture

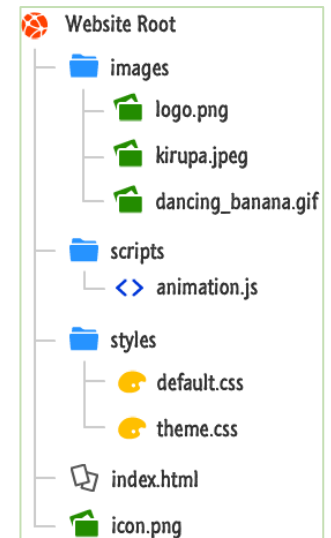
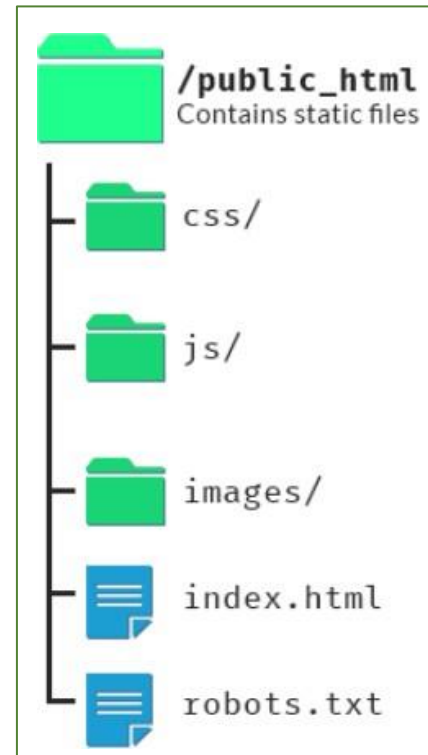
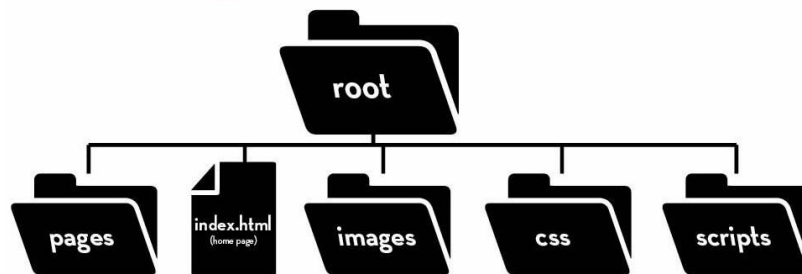


Front-end Web dev

Back-end Web dev

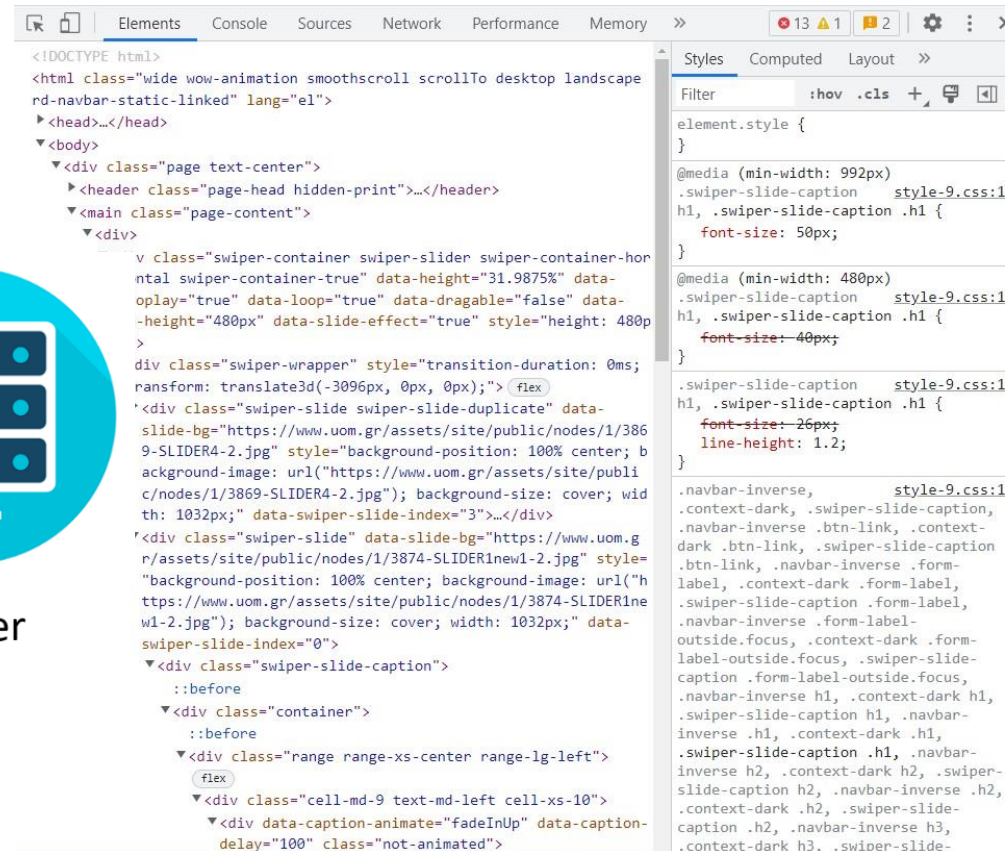
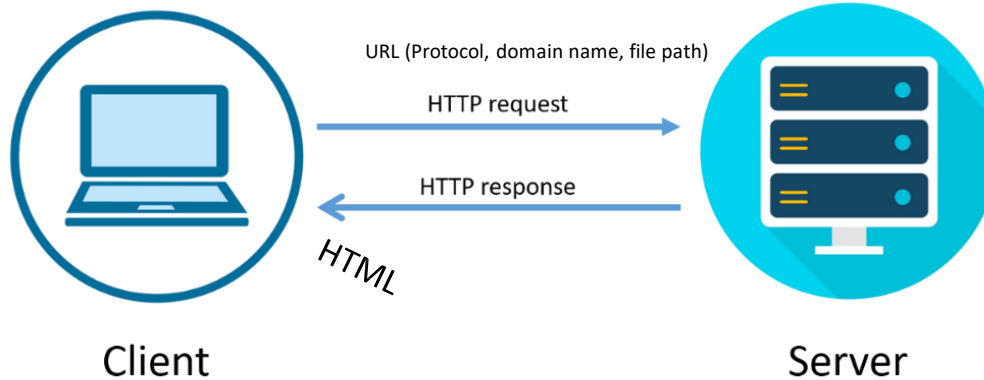
Full stack Web dev

Website Folder Structure

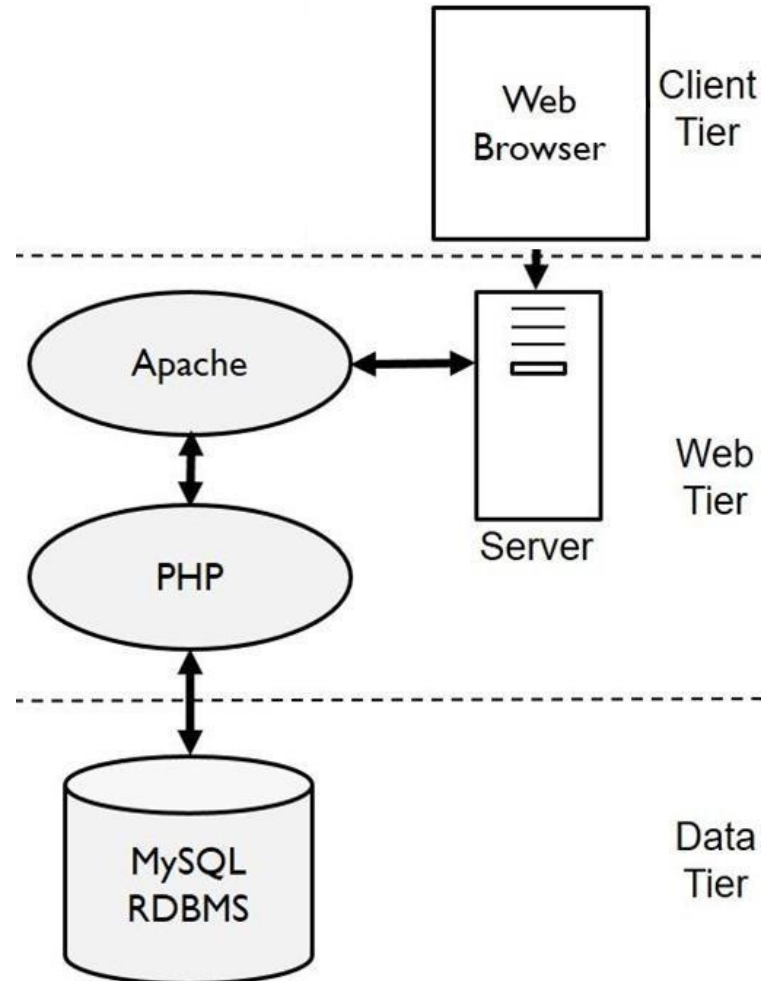


Client Source

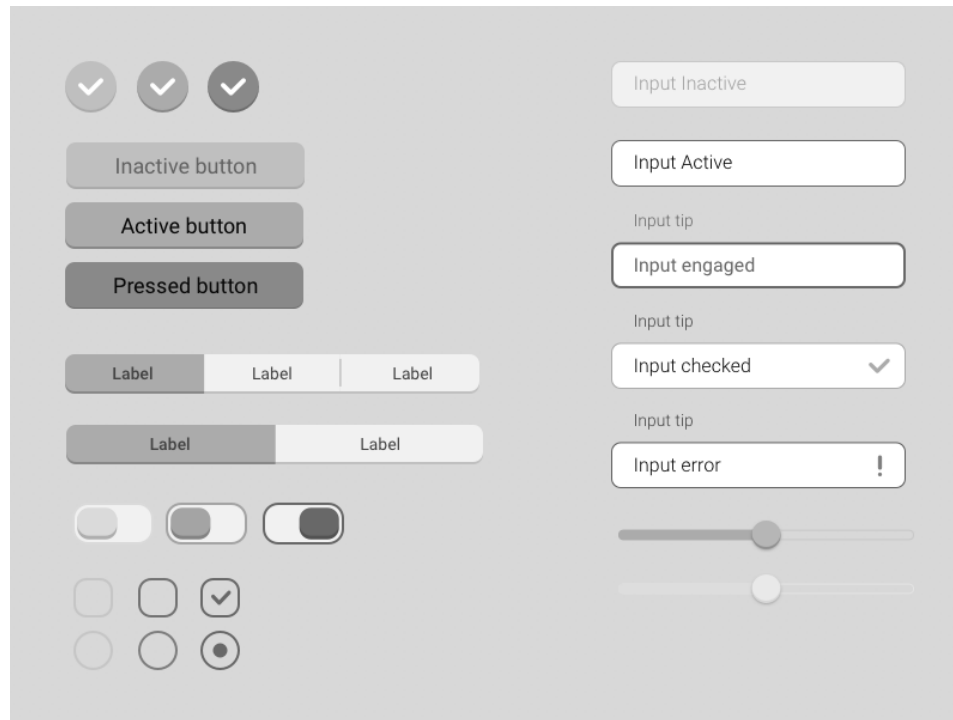
Client Source



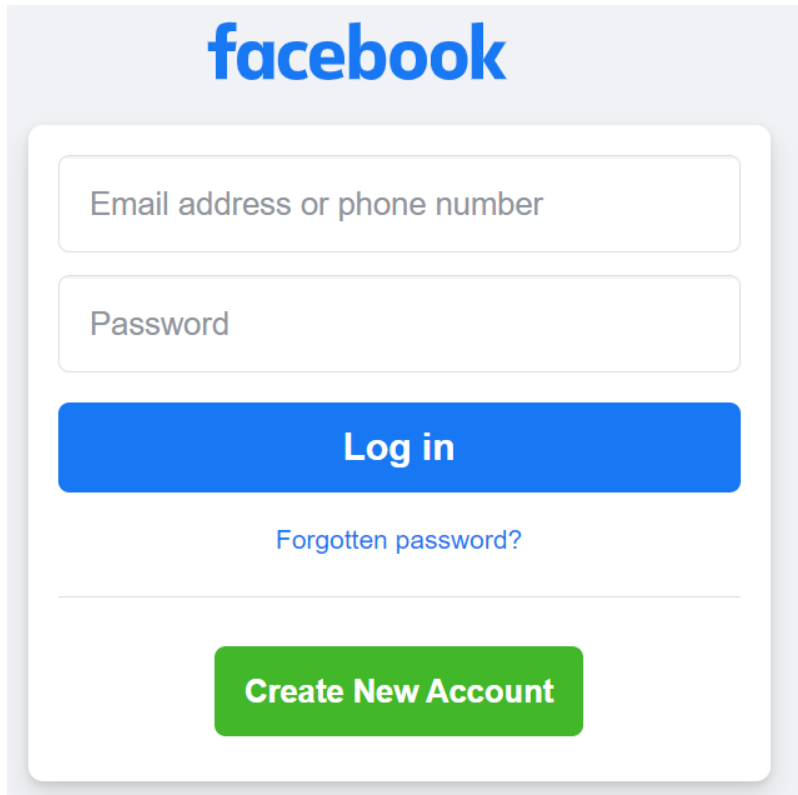
XAMPP



User Interface (UI) Elements



Example Full stack



A screenshot of the Facebook login interface. At the top is the Facebook logo. Below it is a white rounded rectangle containing two input fields: 'Email address or phone number' and 'Password'. A blue 'Log in' button is positioned below the password field. Underneath the button is a link for 'Forgotten password?'. At the bottom of the white box is a green 'Create New Account' button.

?

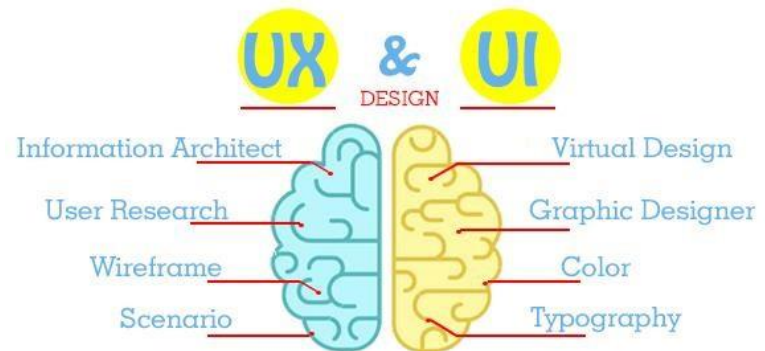
- Processes front-end
- Processes back-end
- Prog. Languages

User Experience (UX)

User experience is the way in which a user interacts with and experiences/perceives a product, system or service. It includes the user's perceptions of usefulness, ease of use and effectiveness.

The website/app should be:

- ✓ Easy
- ✓ Useful
- ✓ Efficient
- ✓ Trusted
- ✓ Enjoyable



HTML BASICS for SEO

What is HTML?

HTML= HyperText Markup Language

HTML is not a programming language; it is a markup language that defines the structure of the content. HTML is a format that tells a computer how to display a web page.

HTML consists of a series of elements, which are used to enclose/wrap, different parts of the content to make it appear a certain way.



See file HTML Notes

HTML BASICS for SEO

By the end of this subsection, you should be able to:

- Use a text editor to author an HTML document. [?]
- Use basic tags to denote paragraphs, emphasis or special type.
- Create hyperlinks to other documents. [?]
- Add images to your document. [?]
- Use meta tags for useful information to the Search Engine

HTML Overview

skeleton of html document

```
<html>
<head>
<title> </title>
</head>
<body>
.....
</body>
</html>
```

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <meta charset="utf-8">
5      <title>My test page</title>
6    </head>
7    <body>
8      
9    </body>
10 </html>
```

This Code	Would Display
<code><p> This html comment would <!-- This is a comment --> be displayed like this.</p></code>	This HTML comment would be displayed like this.

HTML page structure

```
<html>  
  <body>  
    <h1>This a heading</h1>  
    <p>This is a paragraph.</p>  
    <p>This is another paragraph.</p>  
  </body>  
</html>
```

<head> meta tags

- **Title Tag** (50-60 chars): <title>...</title> (keyword or relevant to keyword: CTR optimized)
- ~~**Meta Keywords Attribute** (up to 10 keyword phrases): : <meta name="keywords" content="/>~~
- **Meta Description Attribute** (around 150 chars, 1-2 times include the target keyword): <meta name="description" content="/>

Άλλα Χρήσιμα meta tags

- <meta charset="UTF-8">
- <meta name="viewport" content="width=device-width, initial-scale=1">
- <link rel="icon" href="/favicon.ico" type="image/x-icon">

<head> Open Graph meta tags

- <meta property="og:title" content="...">
- <meta property="og:description" content="...">
- <meta property="og:image" content="...">
- <meta property="og:url" content="...">

social media



<head> Open Graph meta tags

Tag	Description
<code>og:url</code>	The canonical URL for your page. This should be the undecorated URL, without session variables, user identifying parameters, or counters. Likes and Shares for this URL will aggregate at this URL. For example, mobile domain URLs should point to the desktop version of the URL as the canonical URL to aggregate Likes and Shares across different versions of the page.
<code>og:title</code>	The title of your article without any branding such as your site name.
<code>og:description</code>	A brief description of the content, usually between 2 and 4 sentences. This will displayed below the title of the post on Facebook.
<code>og:image</code>	The URL of the image that appears when someone shares the content to Facebook.



Example:

```
<meta property="og:url" content="http://www.nytimes.com/2015/02/19/arts/international/when-great-minds-dont-think-alike.html" /> <meta property="og:type" content="article" /> <meta property="og:title" content="When Great Minds Don't Think Alike" /> <meta property="og:description" content="How much does culture influence creative thinking?" /> <meta property="og:image" content="http://static01.nyt.com/images/2015/02/19/arts/international/19iht-btnumbers19A/19iht-btnumbers19A-facebookJumbo-v2.jpg" />
```

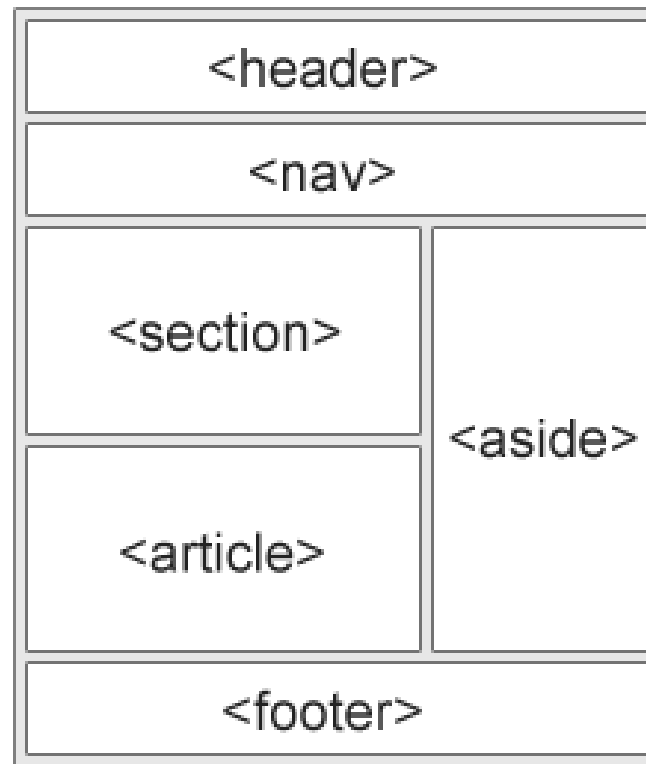
Microdata

```
<div>
  <h1>Avatar</h1>
  <span>Director: James Cameron (born August 16, 1954)</span>
  <span>Science fiction</span>
  <a href="../../movies/avatar-theatrical-trailer.html">Trailer</a>
</div>
```



```
<div itemscope itemtype = "https://schema.org/Movie">
  <h1 itemprop="name">Avatar</h1>
  <span>Director: <span itemprop="director">James Cameron</span> (born August
  <span itemprop="genre">Science fiction</span>
  <a href="../../movies/avatar-theatrical-trailer.html" itemprop="trailer">Traile
</div>
```

Semantics - Layout



Semantics - Layout

```
1 <html>
2   <body>
3     <header>
4       <h2>My WebPage</h2>
5     </header>
6
7     <section>
8       <nav>
9         <ul>
10          <li><a href="#">Page1</a></li>
11          <li><a href="#">Page2</a></li>
12          <li><a href="#">Page3</a></li>
13        </ul>
14      </nav>
15
16      <article>
17        <h1>Topic1</h1>
18        <p>text text text</p>
19        <p>text text text</p>
20      </article>
21    </section>
22
23    <footer>
24      <p>Footer</p>
25    </footer>
26
27  </body>
28 </html>
```

My WebPage

- [Page1](#)
- [Page2](#)
- [Page3](#)

Topic1

text text text

text text text

Footer