Web Engineering

Lecture 8
Front End Application Tools
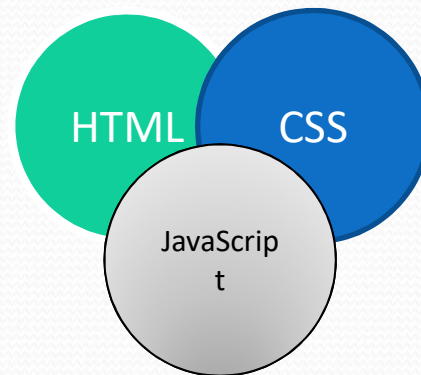
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Front-End Developer

- Focuses on look and feel of a website
- Uses HTML, CSS, and JavaScript
- Is competent in color scheming, graphic design, and information flow
- Creates a great user experience
- Is right-brained: Strong intuition, creativity, & imagination

HTML CSS

JavaScript

HTML (HyperText Markup Language) is the standard markup language used to create web pages. It is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>).

HTML and HTTP

- HTML provides formatting, hypertext link, and image display features
  - including tables, stylesheets (to alter default formatting), etc.
- HTML also provides input features
  - Select from a set of options
    - Pop-up menus, radio buttons, check lists
  - Enter values
    - Text boxes
  - Filled in input sent back to the server, to be acted upon by an executable at the server
- HyperText Transfer Protocol (HTTP) used for communication with the Web server

Sample HTML Source Text

```html
<html>
<body>
 <table border>
    <tr> <th>ID</th> <th>Name</th> <th>Department</th> </tr>
    <tr> <td>00128</td> <td>Zhang</td> <td>Comp. Sci.</td> </tr>
    ….
 </table>
 <form action="PersonQuery" method=get>
    Search for:
      <select name="persontype">
        <option value="student" selected>Student </option>
        <option value="instructor"> Instructor </option>
      </select> <br>
    Name: <input type=text size=20 name="name">
    <input type=submit value="submit">
 </form>
</body> </html>
```

Display of Sample HTML Source

ID	Name	Department
00128	Zhang	Comp. Sci.
12345	Shankar	Comp. Sci.
19991	Brandt	History

Search for: [Student ⊡]
Name: [_____]
[submit]

CSS (Cascading Style Sheets)

is a style sheet language used for describing the look and formatting of a document written in a markup language.

Syntax Of CSS

A CSS rule set consist of a selector and a declaration block.

Selector   **Declaration**   **Declaration**

h1   {color: red; font-size:15px;}

Property   Value   Property   Value

- The selector points to the HTML element you want to style
- The Declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a property name and a value, separated by a colon.

JAVASCRIPT

- JavaScript is the popular scripting language on the internet, which is used in millions of Web pages to improve the design, validate forms, detect browsers, create cookies etc.

- JavaScript was designed to add interactivity to HTML pages

- JavaScript is a scripting language (a scripting language is a lightweight programming language)

- JavaScript is an interpreted language (means that scripts execute without preliminary compilation)

- Everyone can use JavaScript without purchasing a license.

WHAT IS JAVASCRIPT?

- JavaScript was designed to add interactivity to HTML pages
- JavaScript is a scripting language (a scripting language is a lightweight programming language)
- A JavaScript consists of lines of executable computer code
- A JavaScript is usually embedded directly into HTML pages
- JavaScript is an interpreted language (means that scripts execute without preliminary compilation)
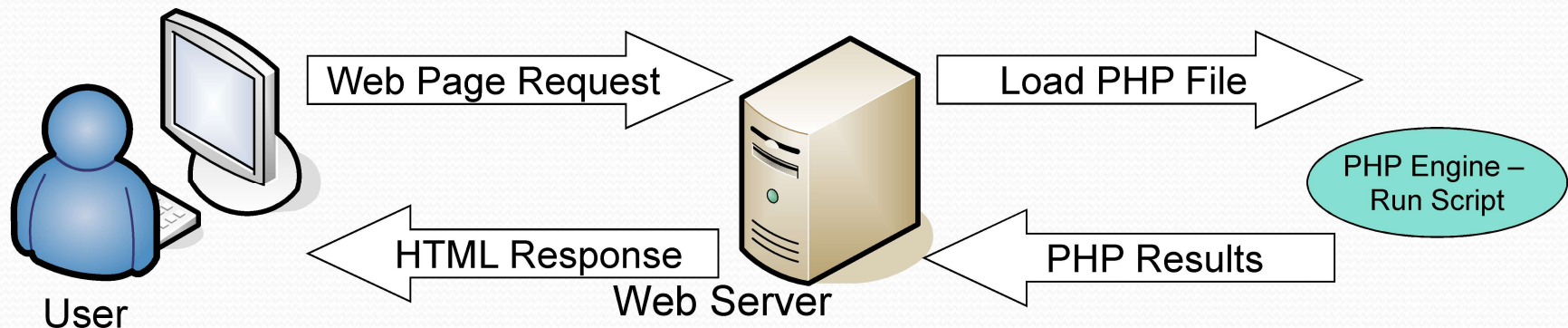- Everyone can use JavaScript without purchasing a license

PHP - What is it / does it do?

- PHP: **P**HP **H**ypertext **P**re-processor
- Programming language that is interpreted and executed on the server
- Execution is done before delivering content to the client
- Contains a **<u>vast</u>** library of functionality that programmers can connect
- Executes entirely on the server, requiring no specific features from the client

PHP - What is it / does it do?

- Static resources such as regular HTML are simply output to the client from the server
- Dynamic resources such as PHP scripts are processed on the server prior to being output to the client
- PHP has the capability of connecting to many database systems making the entire process transparent to the client

MySQL

- MySQL is an SQL (Structured Query Language) based relational database management system (DBMS)
- MySQL is compatible with standard SQL
- MySQL is frequently used by PHP and Perl
- Commercial version of MySQL is also provided (including technical support)