

Web Programming

with PHP and Javascript

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THE INTERNET

Files → Server → Network → Browser → User

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
    <title>Hello, World!</title>
  </head>
  <body>
    Hello, World!
  </body>
</html>
```

THE INTERNET

Files → Server → Network → **Browser** → User

- **Browser**: HTTP Communicator, HTML Interpreter

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THE INTERNET

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- ▶ Browser: **HTTP** Communicator, HTML Interpreter
- ▶ **HTTP**: HyperText Transfer Protocol

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THE INTERNET

Files → Server → Network → Browser → User

- ▶ Browser: HTTP Communicator, [HTML](#) Interpreter
- ▶ HTTP: HyperText Transfer Protocol
- ▶ [HTML](#) : HyperText Markup Language

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/html4/strict.dtd">
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  <head>
    <title>Hello, World!</title>
  </head>
  <body>
    Hello, World!
  </body>
</html>
```

HTML & CSS

```
<html>1
  <head>
    <title>Bacon Ipsum</title>
  </head>
  <body>
    <p>
      Bacon ipsum dolor sit amet chuck
      sirloin shank andouille.
    </p>
  </body>
</html>
```

HTML & CSS

```
<html>
  <head>
    <title>Bacon Ipsum</title>
  </head>
  <body bgcolor="black">
    <p color="white" align="center">
      Bacon ipsum dolor sit amet chuck
      sirloin shank andouille.
    </p>
  </body>
</html>
```

HTML & CSS

```
<html>
  <head>
    <title>Bacon Ipsum</title>
  </head>
  <body style="background-color:black;">
    <p style="color:white;
      text-align:center;">
      Bacon ipsum dolor sit amet chuck
      sirloin shank andouille.
    </p>
  </body>
</html>
```


HTML & CSS

```
<html>
  <head>
    <title>Bacon Ipsum</title>
    <style>
      body{background-color:black;}
      p{color:white;}
      .centered{text-align:center;}
    </style>
  </head>
  <body>
    <p class="centered">
      Bacon ipsum dolor sit amet chuck
      sirloin shank andouille.
    </p>
  </body>
</html>
```

HTML & CSS

```
<html>
  <head>
    <title>Bacon Ipsum</title>
    <link rel="stylesheet" type="text/css"
      href="style.css" />
  </head>
  <body>
    <p class="centered">
      Bacon ipsum dolor sit amet chuck
      sirloin shank andouille.
    </p>
  </body>
</html>
```

HTML & CSS

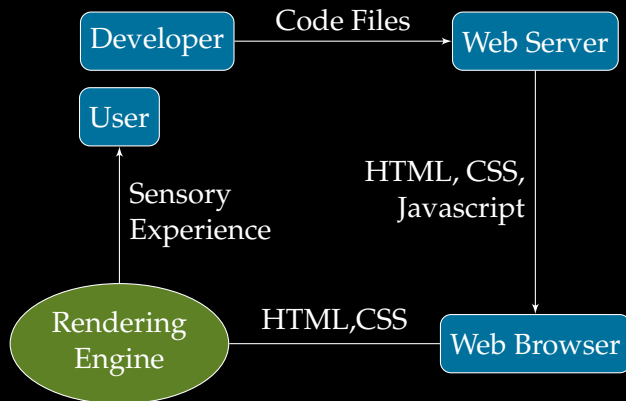
Trends in the Tech:

- ▶ maximizing code reuse
- ▶ improving semantics and modularity
- ▶ increasing interactivity and media support

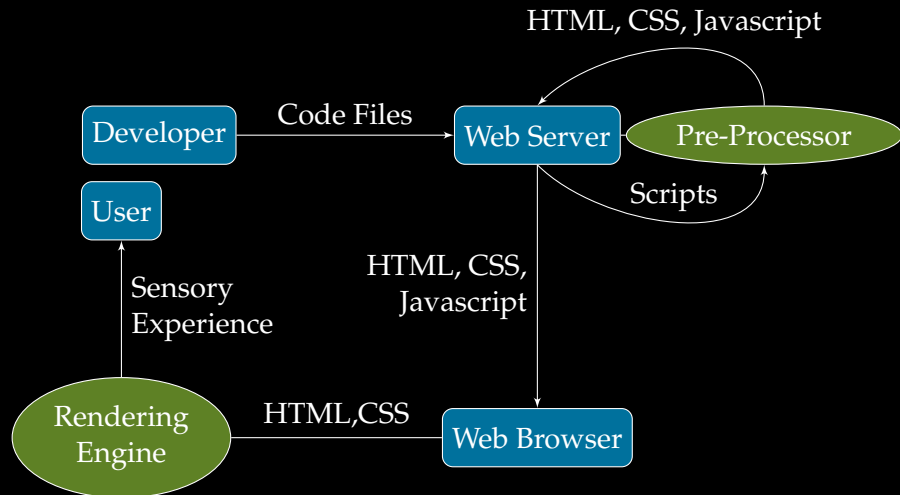
Trends in the Tools:

- ▶ generating code automatically
- ▶ enforcing MVC design patterns
- ▶ augmenting code dynamically

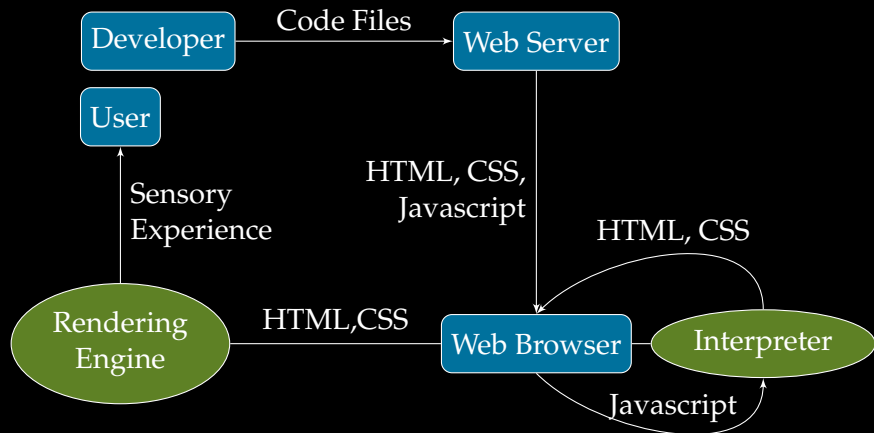
WEB DATA FLOW



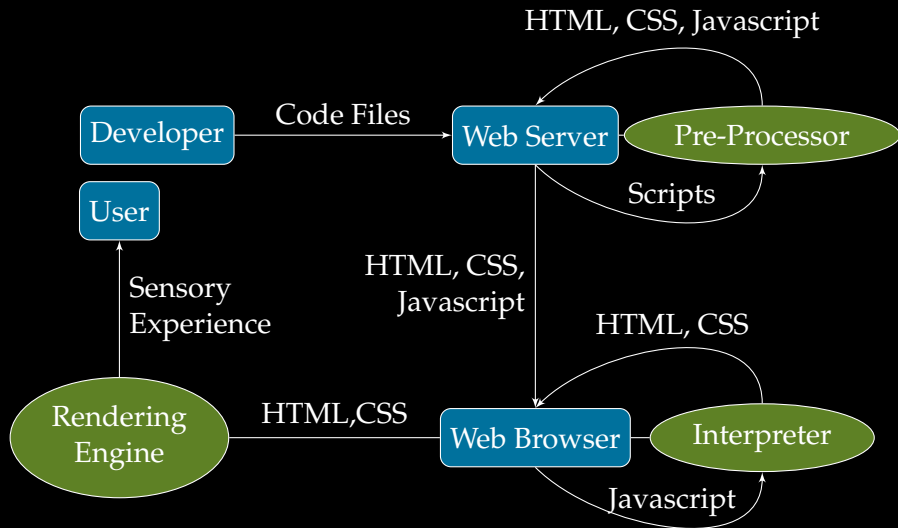
WEB DATA FLOW



WEB DATA FLOW



WEB DATA FLOW



COMMON TECHNOLOGIES

Server-side Scripting

- ▶ PHP
- ▶ Javascript
- ▶ Ruby
 - ▶ Haml
 - ▶ SASS/SCSS
- ▶ ASP
- ▶ JSP

Client-side Scripting

- ▶ Javascript
 - ▶ CoffeeScript

Fewer Client-Side Options

Adding client-side support for a language requires the browser to bundle an interpreter for that language, or for reliable plugins to be published.

COMMON TECHNOLOGIES

Server-side Scripting

- ▶ PHP
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 - ▶ SASS/SCSS
- ▶ ASP
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Client-side Scripting

- ▶ Javascript²
 - ▶ CoffeeScript

Fewer Client-Side Options

Adding client-side support for a language requires the browser to bundle an interpreter for that language, or for reliable plugins to be published.

PHP

PHP: Hypertext Preprocessor³

```
<?php
    $myVar = "Hello World!";
    print $myVar;
?>
```

- ▶ Imperative
- ▶ Recent class-based Object Oriented Programming support
- ▶ Loosely typed
- ▶ Embeddable
- ▶ Good documentation of syntax and libraries

JAVASCRIPT

Not related to Java!

- ▶ Imperative
- ▶ Prototype-based OOP
- ▶ Functional programming capability
- ▶ Loosely typed
- ▶ Embeddable
- ▶ Can be used server- or client-side
- ▶ Many robust libraries for out-of-the-box functionality
 - ▶ jQuery
 - ▶ mootools
 - ▶ Dojo
 - ▶ Node.js

WEB PROGRAMMING TOOLS

- ▶ Install an AMP stack (Appache server, MySQL, PHP)
- ▶ Get a good, lightweight text editor⁴
- ▶ Extend your browser's inspection tools (Optional)

Windows

- ▶ WAMP
XAMPP
- ▶ Sublime Text 2
Notepad++

Mac

- ▶ MAMP
XAMPP
- ▶ Sublime Text 2
TextWrangler

Linux

- ▶ BitNami LAMP
XAMPP
- ▶ Sublime Text 2
VIM

Chrome

- ▶ Firebug Lite

Firefox

- ▶ Firebug

Safari

- ▶ Firebug Lite

A BASIC EXAMPLE

```
<?php
    $myBasicArray =
        array("Tom", "Jerry", "Jack", "Sally");

    for($i = 0; $i < sizeof($myBasicArray); $i++){
        print $myBasicArray[$i];
    }
?>
```

A BASIC EXAMPLE

```
<?php
    $myBasicArray =
        array("Tom", "Jerry", "Jack", "Sally");

    for($i = 0; $i < sizeof($myBasicArray); $i++){
        print $myBasicArray[$i];
    }
?>
```

Result: Names appear on the same line without spaces

A BASIC EXAMPLE

```
<?php
    $myBasicArray =
        array("Tom", "Jerry", "Jack", "Sally");

    for($i = 0; $i < sizeof($myBasicArray); $i++){
        print $myBasicArray[$i]."\n";
    }
?>
```

A BASIC EXAMPLE

```
<?php
    $myBasicArray =
        array("Tom", "Jerry", "Jack", "Sally");

    for($i = 0; $i < sizeof($myBasicArray); $i++){
        print $myBasicArray[$i]."\n";
    }
?>
```

Result: Each name on its own line in source, but not on the page

A BASIC EXAMPLE

```
<?php
    $myBasicArray =
        array("Tom", "Jerry", "Jack", "Sally");

    for($i = 0; $i < sizeof($myBasicArray); $i++){
        print $myBasicArray[$i]."<br />";
    }
?>
```

ADDING JAVASCRIPT

END NOTES

¹Check out [w3schools](#) to read up on HTML.

²Check out [Tizag's Javascript tutorials](#)

³PHP is a [recursive acronym](#)

⁴For our purposes, heavy duty editors like "Eclipse for PHP Developers" will be cumbersome and unnecessary. If given the choice between your computer's basic text editing environment and a bulky project management editor, choose the former.