

HTML AND WEB TECHNOLOGY

CS 2550 Dr. Brian Durney

BECOMING FLUENT IN HTML

In this class, we will be writing programs that generate HTML.

You'll need to be able to check the generated HTML and find problems if it isn't right.

JavaScript
Program

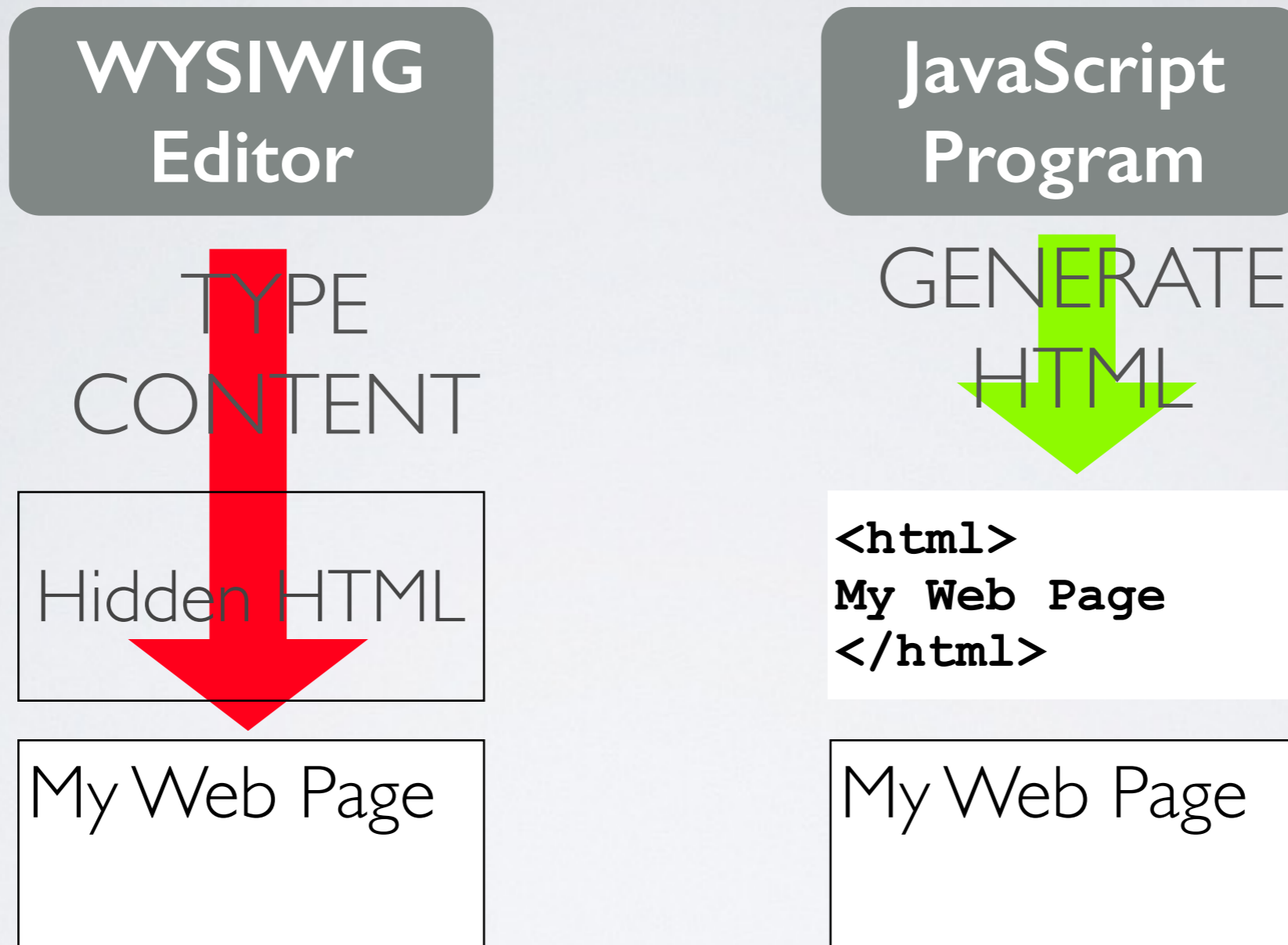
GENERATE
HTML

```
<html>  
My Web Page  
</html>
```



My Web Page

BECOMING FLUENT IN HTML



If you use a WYSIWIG editor like Dreamweaver, you won't become familiar with HTML.

BECOMING FLUENT IN HTML

**WYSIWIG
Editor**

TYPE
CONTENT

Hidden HTML

My Web Page

**JavaScript
Program**

GENERATE
HTML

```
<html>  
My Web Page  
</html>
```

My Web Page

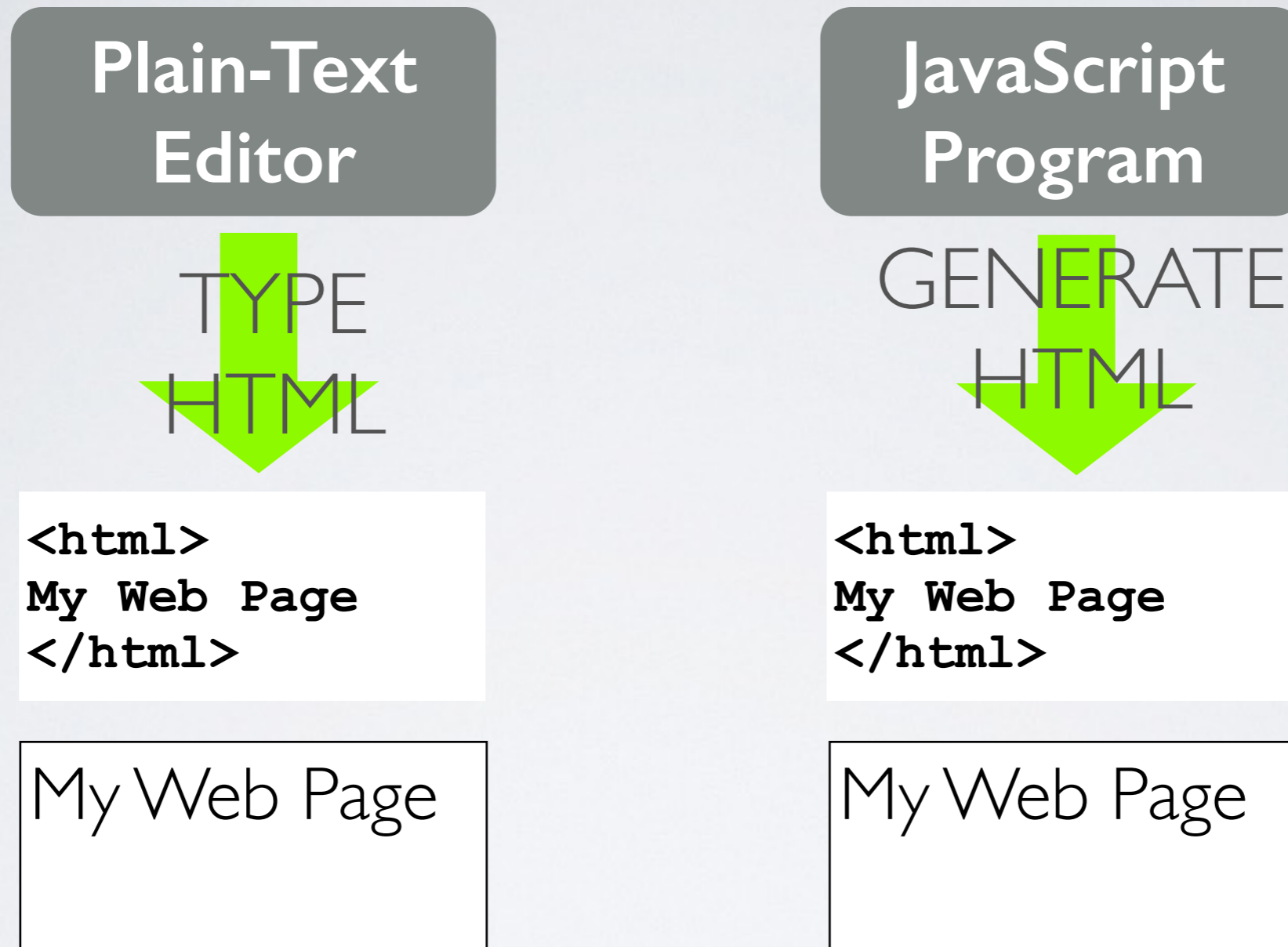
If you use a WYSIWIG editor like Dreamweaver, you won't become familiar with HTML.

BECOMING FLUENT IN HTML



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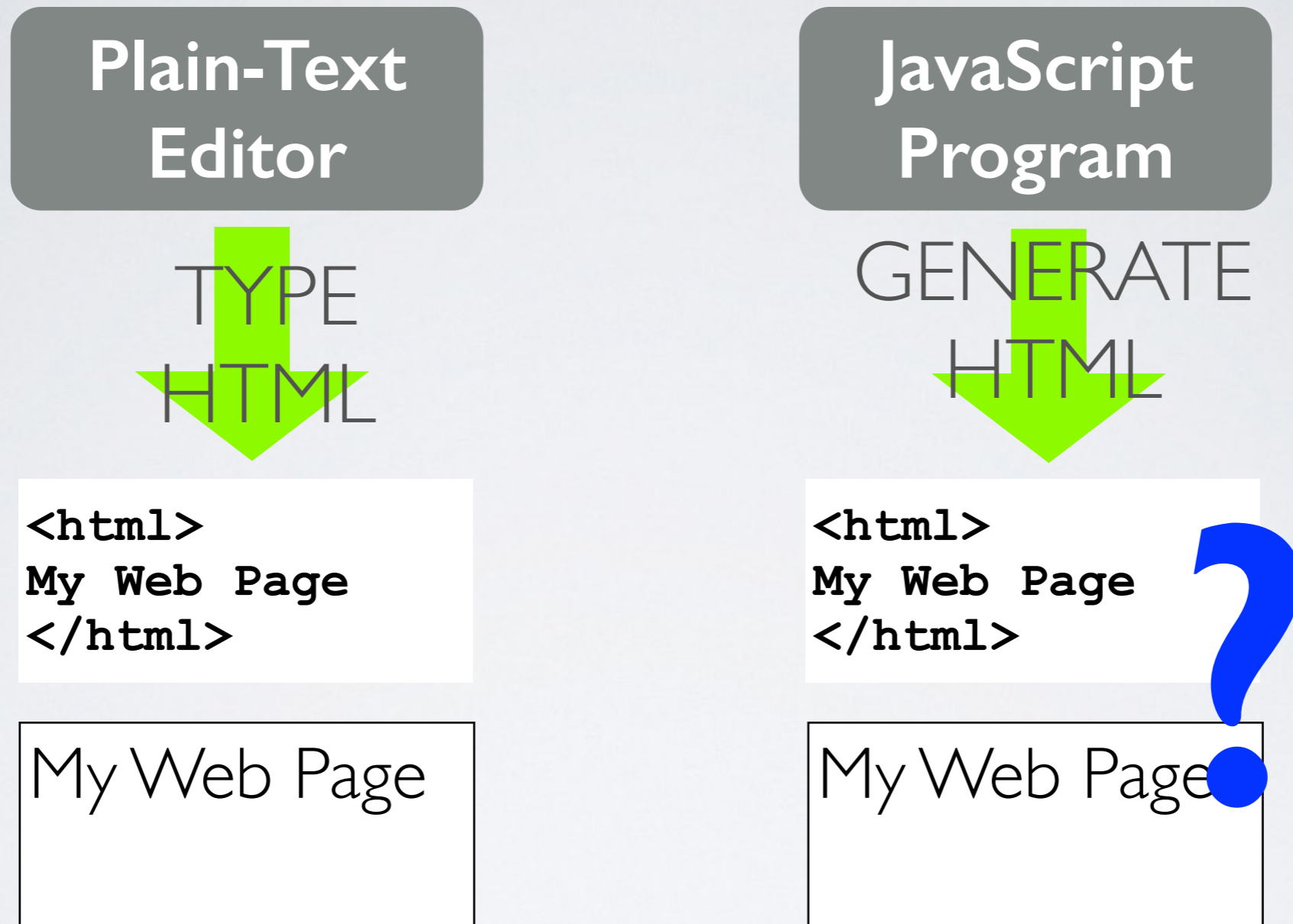
BECOMING FLUENT IN HTML



If you use a plain-text editor you'll type in HTML and will learn how to work with HTML.

It's okay to use an IDE. Just be sure to type in HTML directly.

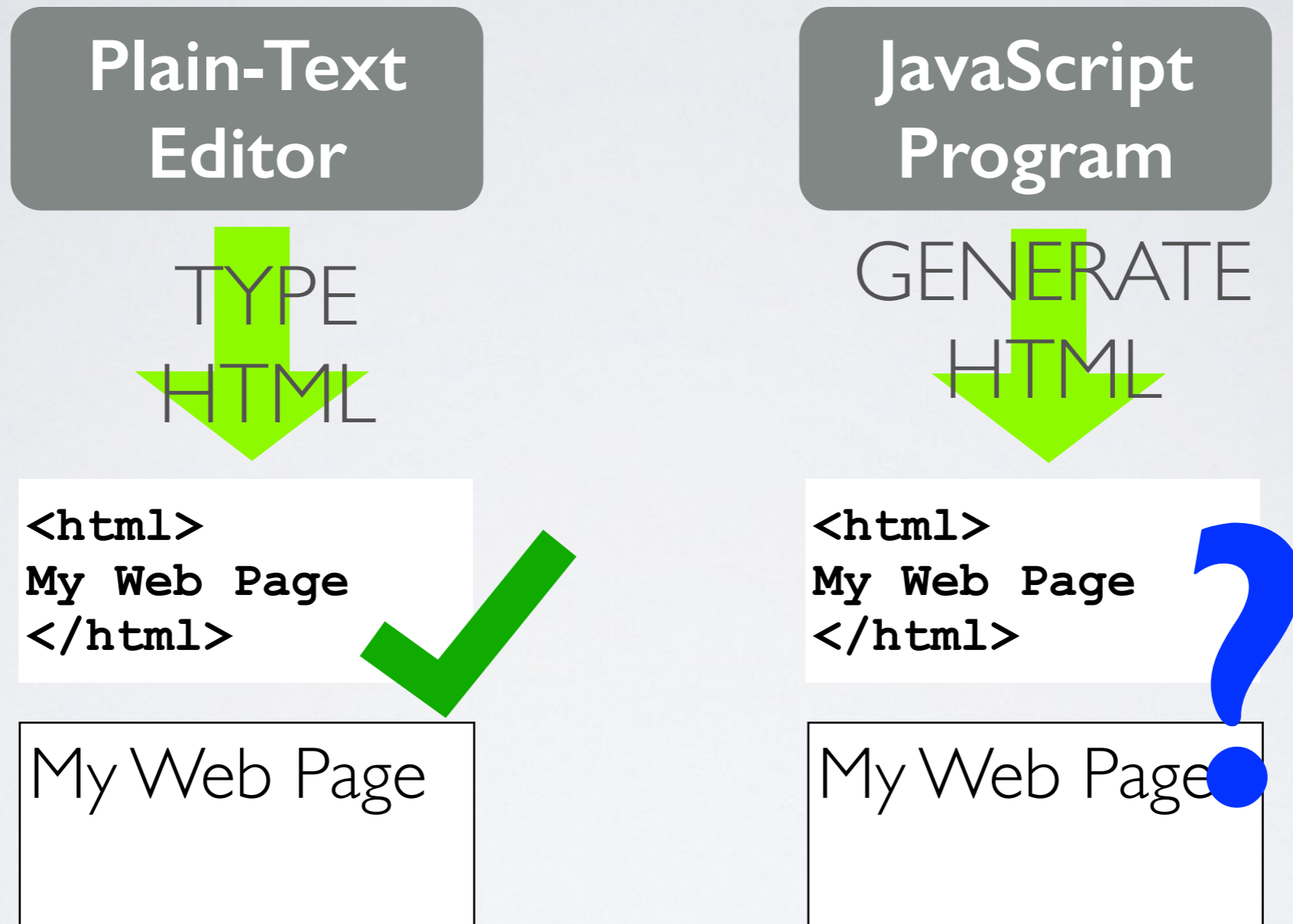
BECOMING FLUENT IN HTML



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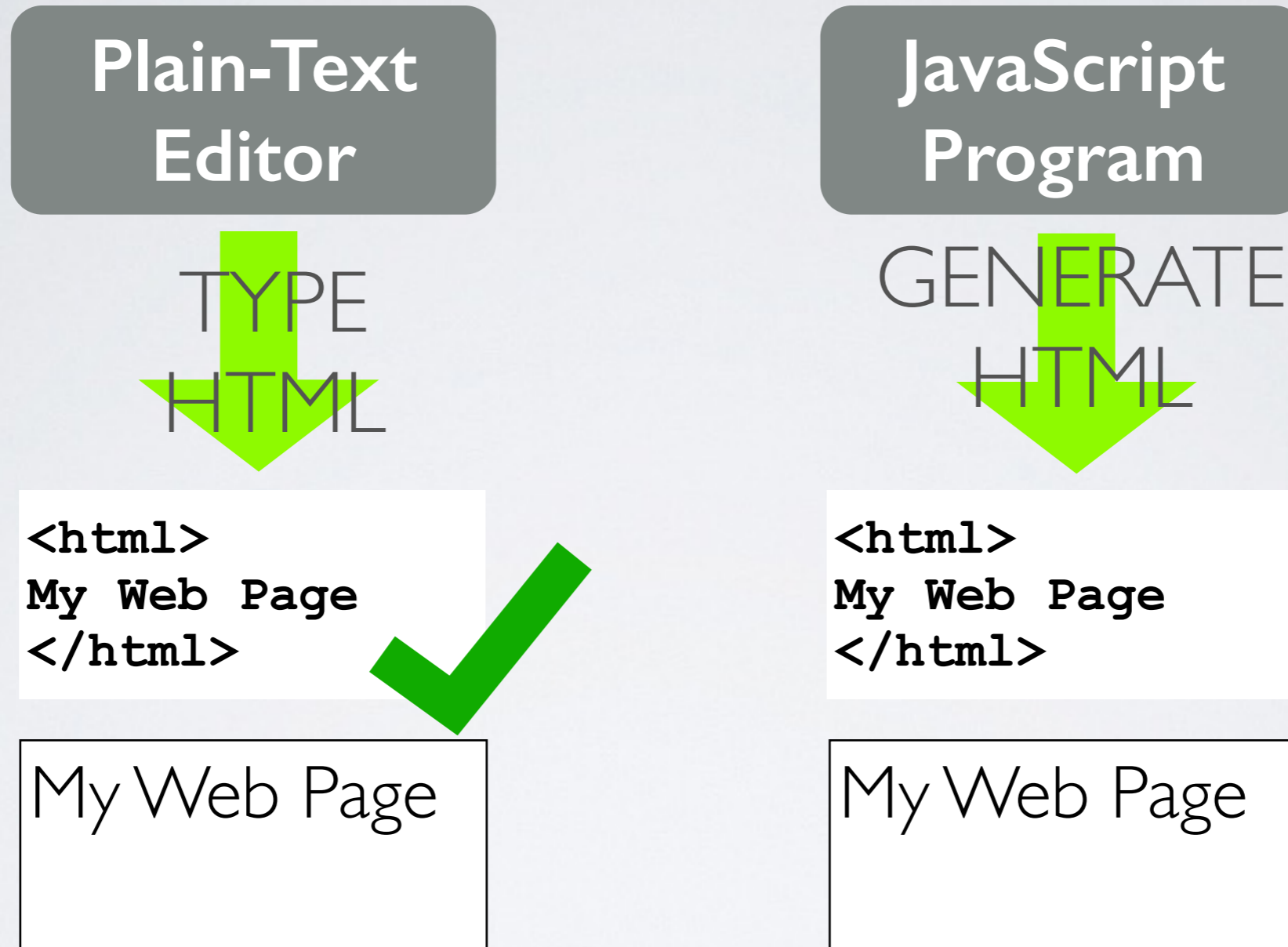
BECOMING FLUENT IN HTML



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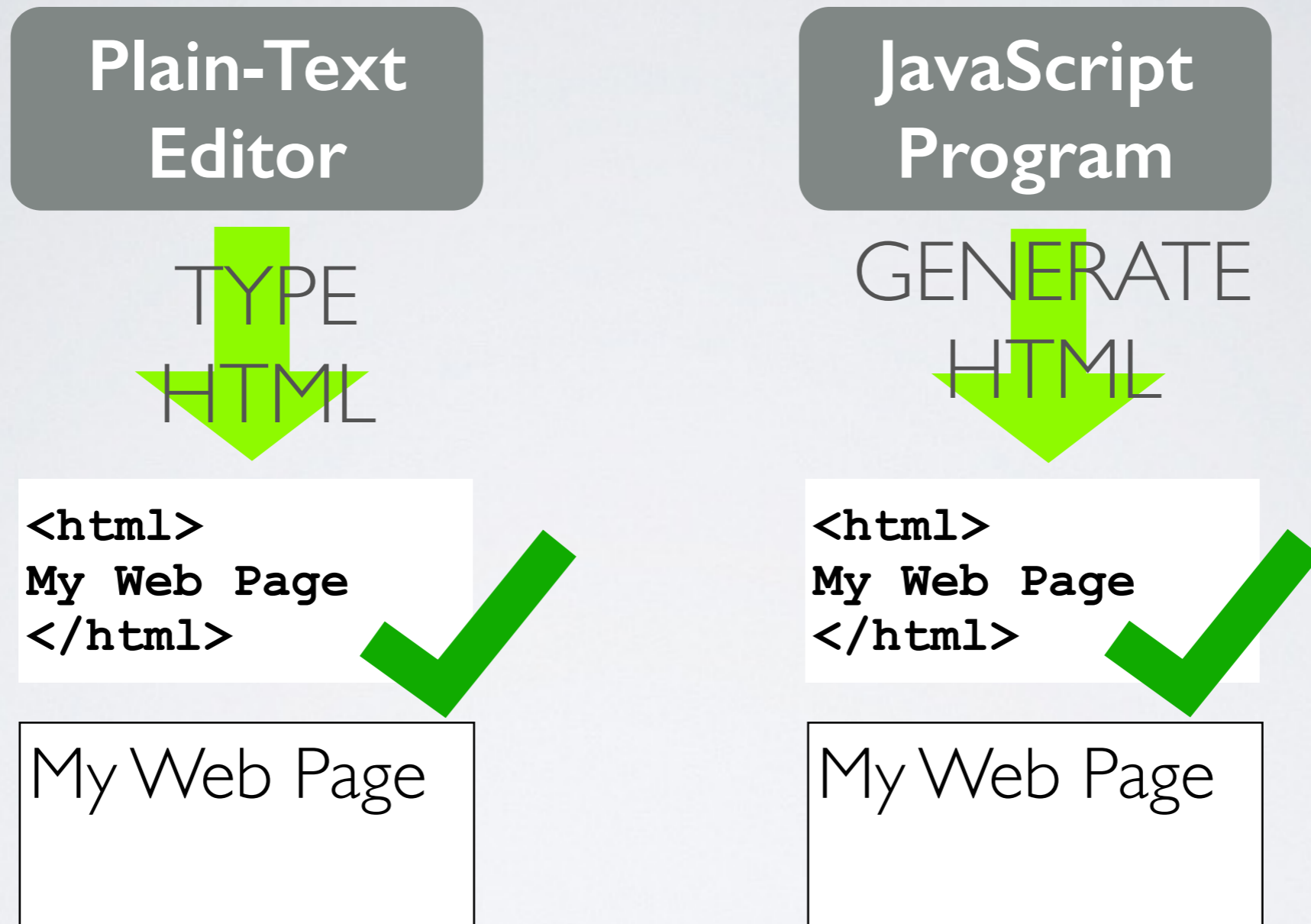
BECOMING FLUENT IN HTML



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WYSIWYG

Don't use WYSIWYG editors like Dreamweaver or word processors that save documents as HTML.



Get lots of practice working directly with HTML so that you are familiar with HTML and can debug your JavaScript programs that generate HTML.

READ AN HTML TUTORIAL

Find an HTML tutorial on the Web and read it.

See the Lesson 1 notes page for some suggestions

<http://universe.tc.uvu.edu/cs2550/notes/l1/l1notes.html>



sitepoint.com

w3schools.com

tizag.com

Don't just read; **do some examples** and **try things out**.

BROWSERS

For this class: **Chrome, Firefox, Safari**

Make web apps that are not browser-dependent.
Libraries and frameworks can help with that.

Feature testing or **object testing**



WORKING WITH LOCAL FILES

Two ways of opening an HTML document:

From a **web server**

From a **local file**

LOCAL FILES

No HTTP status code

Chrome treats local files differently: no Ajax

IMPORTANT HTML TAGS AND CONCEPTS

```
<html>...</html>
```

Opening and closing tags
Slash in closing tag
Root tag pair

```
<head>
```

```
<title>
```

```
<body>
```

Lists and list
elements

```
<ul>
```

```
<ol>
```

```
<!-- -->
```

Comments

```
<li>
```

```
<a href="...">
```

Link

```
<br>
```



```

```

Image tag, including src, alt, height, and width attributes

```
<hr>
```

```
<table>
```

```
<tr>
```

```
<td>
```


Headings

```
<h1>
```

```
<h2>
```

```
<h3>
```

```
<p>
```

Don't forget the closing tag

etc.


```
class="..."
```

class attribute -- styles

```
<div>
```

```
id="..."
```

id attribute

```
<span>
```

```
<frameset>
```

```
<frame>
```

```
<form>
```

```
<input type="...">
```

```
<select>
```

```
<option>
```

```
<button>
```

A screenshot of a web form. At the top, there are two input fields: "Last Name:" and "Code:". Below them is a "Section:" dropdown menu showing "X01 Online". Underneath is an "Assignment" dropdown menu with a checkmark and the text "Select an Assignment". The dropdown menu is open, showing a list of options: "Assignment 1", "Assignment 2", "Assignment 3", "Assignment 4", "Assignment 5", "Assignment 6", and "Project". To the left of the "Assignment" dropdown are two buttons: "Choose File" and "Submit".

URLS

absolute URL

http://universe.tc.uvu.edu/Game/RSSA/index.html

protocol

path name

server domain name

What other protocols have you seen?

relative URL

howToPlay.html

URLS

port number

`http://192.168.0.250:8080/Game/RSSA/index.html`

server IP address

`check.php?userName=Harpo&password=swordfish`

query string

IP ADDRESSES

IP = Internet Protocol

IPv4 address **161.28.117.185**

IPv6 address **fe80::250:56ff:fe87:3b1d**

Base 16 digits: 0-9, a-f

Hexadecimal or hex

Name server: translates domain name to IP address

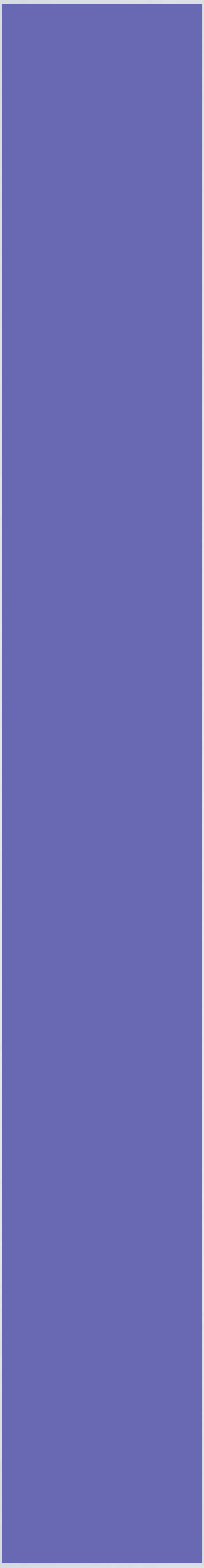
WEB TECHNOLOGY

local

remote

client computer

server computer



WEB TECHNOLOGY

local

remote

client computer

server computer

Browser gets URL for a web site

WEB TECHNOLOGY

local

remote

client computer

server computer

Browser gets URL for a web site

`http://www.uvu.edu/index.html`

WEB TECHNOLOGY

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server computer

Browser gets URL for a web site

WEB TECHNOLOGY

local

remote

client computer

server computer

Browser gets URL for a web site

Browser gets domain name from URL

WEB TECHNOLOGY

local

remote

client computer

server computer

Browser gets URL for a web site

Browser gets domain name from URL

```
http://www.uvu.edu/index.html
```

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Browser gets domain name from URL

Browser sends **HTTP request** message



WEB TECHNOLOGY

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Browser gets URL for a web site

Browser gets domain name from URL

Browser sends **HTTP request** message

Server sends back requested resource, along
with **headers** that describe it and
HTTP status code

WEB TECHNOLOGY

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client computer

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Browser gets URL for a web site

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content-length: 1278

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```
content-length: 1278
```

```
200 successful
```

```
404 not found
```

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Browser sends additional requests for related
resources, like images in the HTML document

WEB TECHNOLOGY

local
client computer

remote
server computer

Browser gets URL for a web site

Browser gets domain name from URL

Browser sends **HTTP request** message

Server sends back requested resource, along with **headers** that describe it and **HTTP status code**

Browser sends additional requests for related resources, like images in the HTML document

Server sends back other resources

HTTP TRANSACTIONS

Browser's request

+

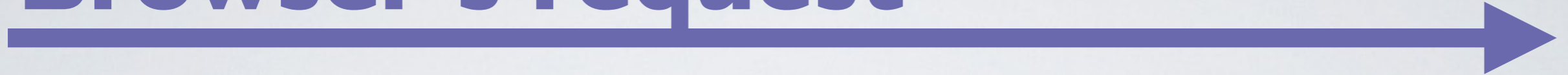
Server's response

Always initiated by client

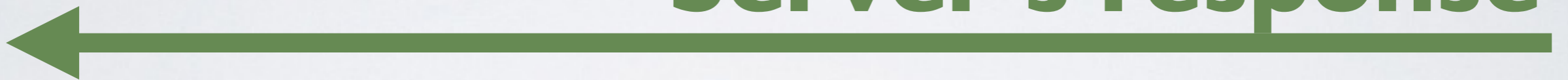
This is a problem for some kinds of applications, like a text chat: there's no way for the server to notify a client if there's a new message.

HTTP TRANSACTIONS

Browser's request



Server's response



HTTP is a stateless protocol

The server doesn't remember anything about previous requests from any client.

WEB 2.0

AND OTHER BUZZWORDS



Using the web as a platform

Do you agree with this description?

Is “Web 2.0” significant, or mostly hype?

How do web applications compare to conventional desktop applications?

Another buzz word:

Rich Internet Applications (RIAs)

THIS IS NOT A CLASS IN GRAPHIC DESIGN...

...but you should be aware of some design issues and pay attention to the design of sites that you see on the Web.

What works?

What doesn't work so well?

How would you change the site?

HTML



Major changes from earlier versions of HTML

<http://diveintohtml5.info>

offline applications

local storage

web sockets

`<audio>`

`<video>`

`<canvas>`

geolocation