

HTML



HTML, Part 1: Introduction

In this slide show...

Intro and Concepts: introduction to HTML, history of HTML, and HTML5

Syntax: tags and elements, attributes and values, readable code, and a basic HTML document

Text, Images, and Links: HTML tags and attributes for formatting text, inserting images, and creating hyperlinks

HTML



Intro and Concepts

HTML: Hypertext Markup Language

Hypertext: links documents together

Markup: annotation of content

The lingua franca of the web

Structures/organizes content/pages

Allows websites and computers to talk

Works in conjunction with CSS, JavaScript,
and other languages to create fully
functional websites

A brief history of HTML

Developed in 1989 and 1990 by Tim Berners-Lee

Originally consisted of 18 different tags, primarily `<h1-6>`, `<p>`, and `<a>`

HTML2.0, the first true standard for HTML, approved in 1995

HTML used to be responsible for content and presentation, but has gradually ceded presentation to CSS



The newest version: HTML5

Approved in October 2014

Supported in current version of all major
browsers

Introduces semantic markup, simplified audio
and video embeds, simplified DTD,
animations, transitions, and web apps

HTML



Syntax

Tags and elements

Elements are the building blocks of HTML

Composed of two tags: a start/open tag and an end/close tag

Tags are wrapped around content to form a complete element

Always open and close with the same name

`<p>Content</p>`

`<div>Q: HOW DO YOU ANNOY A WEB DEVELOPER?`

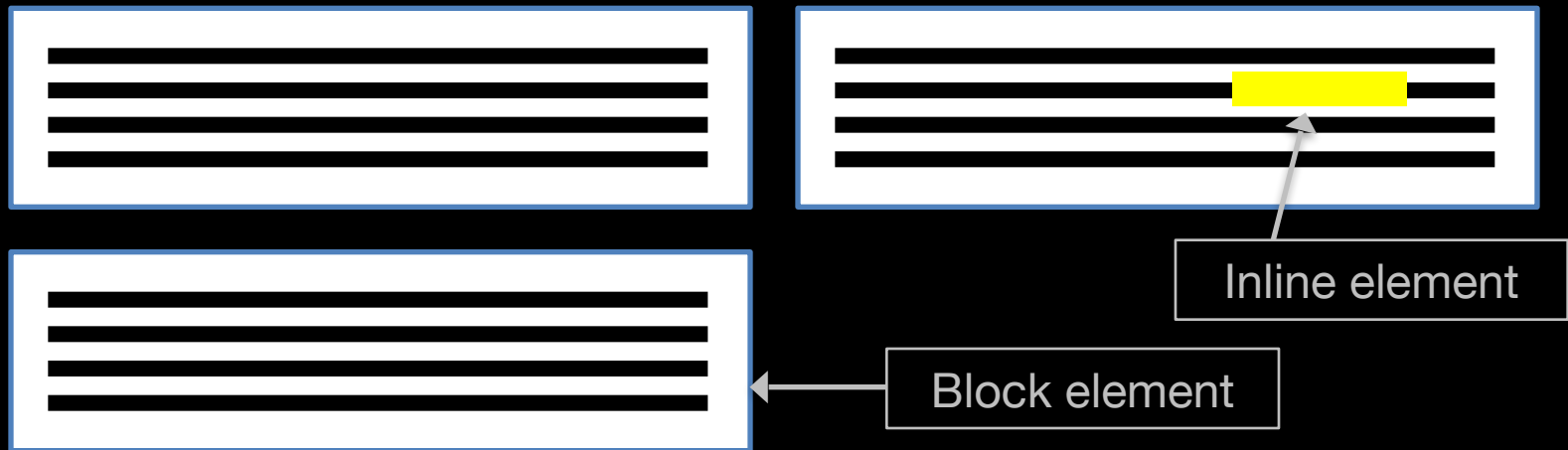
Open tag: `<tag>`

Close tag: `</tag>`

Block and inline elements

Block elements (e.g., `<p></p>`) create a new line (i.e., block)

Inline elements (e.g., ``) markup content inside a block



Attributes and values

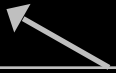
Sometimes the tag alone is not enough to describe the content

Attributes provide more information about a tag

Always appear in the open tag only

Always accompanied by a value

```
<a href="http://www.google.com">
```



Open tag with attribute/value pair:
<tag attribute="value">

Attribute

Altogether now

Value

Click
here to go to Google.

Open tag

Content

Close tag

Element

An exception: unary tags

Some elements do not technically have "content," but instead insert content of their own

Called unary tags, these tags are self-contained, meaning they open and close in the same tag

`` `
` `<hr />`

Open and close tag all in one: `<tag />`

Tree of elements

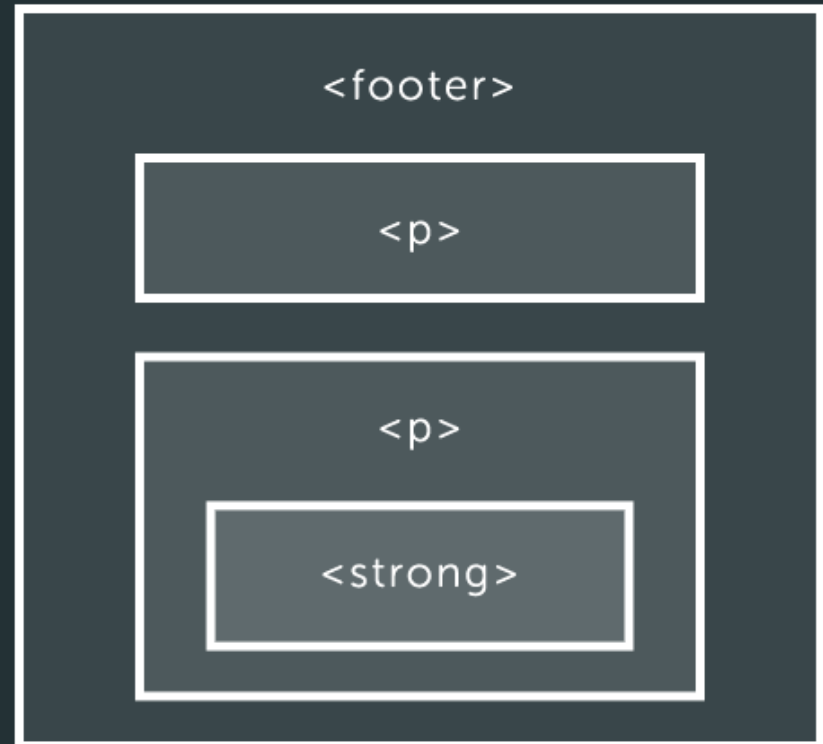
Elements are
nested to create
a hierarchy

Containers can
have other
containers in
them

Parent/child

Descendent

```
<footer>  
  <p>This is the first paragraph</p>  
  <p>This is the second - and it also  
contains <strong>something  
else!</strong></p>  
</footer>
```



Writing human-readable code

Anything more than a single space is invisible in HTML

Show hierarchy by placing each “level” of element on its own horizontal alignment (like an outline for a paper)

```
<parent>  
  <child>  
    <grandchild>  
    </grandchild>  
  </child>  
</parent>
```

Creating a basic HTML document

Always starts with a DTD (Doctype Declaration)

`<!DOCTYPE html>` (for HTML5)

Entire page is contained in `<html>` tags

Separate `<head>` and `<body>` sections

Bare minimum in `<head>` element: `<title>` element with title content

Bare minimum in `<body>` element: `<p>` element(s) with body text

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Basic HTML Document</title>
```

```
  </head>
```

```
  <body>
```

```
    <p>Paragraph of body text.</p>
```

```
  </body>
```

```
</html>
```


HTML



Text, Images, and Links

Block text formatting

<p> for paragraphs

<h1> for level 1 heading

<h2> for level 2 heading (goes up to h6)

<blockquote> for block quotes

Inline text formatting

 for emphasis (*italics* by default)

 for strong emphasis (**bold** by default)

<i> for *italics*; for **bold**

<small> for smaller text and side comments

<sub> for subscript; <sup> for superscript

 for ~~deletions~~; <ins> for insertions

<mark> for **highlight** and other marks

<code> for code; <pre> for pre-formatted

Lists: bullets and numbers

`` to create an unordered (bulleted) list

`` to create an ordered (numbered) list

`<dl>` to create a definition list

`` for individual items in `` or ``

`<dt>` for term in `<dl>`; `<dd>` for definition

Lists can be nested in each other for multiple levels (e.g., outline)

Character encoding in HTML

Anything in body that is ASCII (7-bit) will
render just fine

' " < > / \ () [] \$ % # @ & , . : ; ! ? * + - = ^ _

Anything in body that is not ASCII must be
done with Unicode

```
<head>
```

```
  <meta charset="utf-8">
```

```
</head>
```

Unicode entities

Every possible character you could want is available using Unicode

Must enter an “entity” to display

&#d; ← Decimal → “

&#xhhh; ← Hex → “

&name; ← Named → “



Inserting images in HTML

 unary tag inserts an image

src= attribute locates the source of the image,
either external or internal

alt= attribute adds alternative text in case the
image doesn't display

Images will be automatically sized based on
original dimensions; change in HTML or CSS

Use width= and height= attributes to change size

```

```

Accessibility concerns with images

Images are not readable by screen readers

Always add alt text to an image to make it more accessible

Try to avoid using text-based images; text is more able: highlight-able, copy and paste-able, read-able

Audio, video, and inline frames

HTML5 audio and video are contained in simple `<audio>` and `<video>` tags

Must contain multiple source file types for browser compatibility

`<iframe>` element embeds a document inside your HTML document

Used for everything from Scribd embeds to YouTube embeds

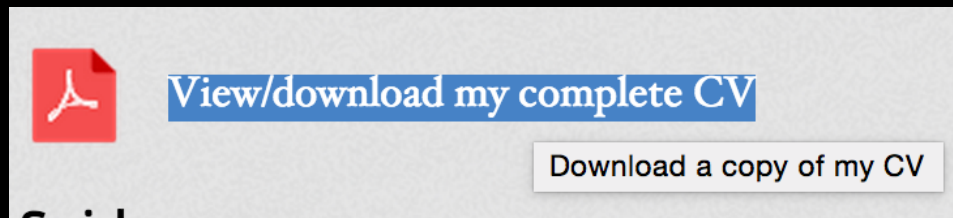
External/absoute hyperlinks

<a> tag denotes a hyperlink

<a> can be wrapped around text or images

Use href= attribute and full destination URL to link to external webpage

Use title= attribute to provide title for link (text appears on mouseover)



Local/relative hyperlinks

Hyperlinks can link to either external files/webpages with their own unique URLs or to local files/webpages

Local links provide a truncated path
(e.g., ``)

Online local links refer to the same path on the server; offline local links refer to the same path on the hard drive

Use `./` to move up a directory (# of `./`'s = # of directories up)

Use `/` at front to go to root (only on server)

File and folder structures

Use entirely lower-case

Don't use spaces (they have to be percent encoded)

Instead, use hyphens where you would use spaces

Keep your file names simple, short, and clear

Keep your folder structure clear, including a folder for styles and another one for images

E-mail hyperlinks

Use `<a>` tag with `href=` attribute and a value of `mailto:username@host.com`

`?subject=BlahBlahBlah` immediately after the e-mail address to add a subject line

`&body=BodyTextHere` immediately after the e-mail address/subject to add body text

Opening a link in a new window

Use `<a>` tag as normal

Include `target=` attribute with `_blank` value

```
<a href="http://www.google.com/"  
    target=_blank">Click here to go to  
    Google</a>
```

Internal hyperlinks

Internal (skip to) hyperlinks are a little more complicated

Have to provide both the link itself and where it leads to

Specify an anchor that the link will jump to with an `<a>` tag with a `name=` attribute

Use `<a>` tag with `href="#nameofanchor"` to link to that anchor

Next time on ENG 431...

Page Structures: filling out your `<head>`,
`<div>`, ``, and semantic
elements

Tables: creating HTML5 tables

Forms: creating interactive form fields
and buttons

HTML



Thanks for watching!