

CS 146: Intro to Web Programming and Project Development

Instructor: Iraklis Tsekourakis

Lieb 213

Email: itsekour@stevens.edu



Introduction to HTML5



HTML Block and Inline Elements

- A block-level element always starts on a new line and takes up the full width available (stretches out to the left and right as far as it can)
- Examples:
 - `<div>`
 - `<h1>` - `<h6>`
 - `<p>`
 - `<form>`



HTML Block and Inline Elements

- An inline element does not start on a new line and only takes up as much width as necessary
- Examples:
 - ``
 - `<a>`
 - ``



The <div> Element

- The <div> element is often used as a container for other HTML elements
- The <div> element has no required attributes, but both **style** and **class** are common
- When used together with CSS, the <div> element can be used to style blocks of content:

```
<div style="background-color:black;color:white;padding:20px;">
  <h2>London</h2>
  <p>London is the capital city of England. It is the most populous city in
the United Kingdom, with a metropolitan area of over 13 million inhabitants.
</p>
  <p>Standing on the River Thames, London has been a major settlement for
two millennia, its history going back to its founding by the Romans, who
named it Londinium.</p>
</div>
```



The Element

- The element is often used as a container for some text
- The element has no required attributes, but both **style** and **class** are common
- When used together with CSS, the element can be used to style parts of the text:

```
<h1>My <span style="color:red">Important</span> Heading</h1>
```



HTML Classes

- The HTML class attribute makes it possible to define equal styles for elements with the same class name
- Easier to show in an example:
 - Assume we have three `<div>` elements that point to the same class name
 - The HTML class attribute can also be used for inline elements



HTML Classes

```
<!DOCTYPE html>
<html>
<head>
<style>
div.cities {
    background-color: black;
    color: white;
    margin: 20px 0 20px 0;
    padding: 20px;
}
</style>
</head>
<body>

<div class="cities">
<h2>London</h2>
<p>London is the capital of England. It is the most populous city in the United Kingdom, with a
metropolitan area of over 13 million inhabitants.</p>
</div>
```




HTML Classes

```
<div class="cities">  
<h2>Paris</h2>  
<p>Paris is the capital and most populous city of France.</p>  
</div>
```

```
<div class="cities">  
<h2>Tokyo</h2>  
<p>Tokyo is the capital of Japan, the center of the Greater Tokyo Area,  
and the most populous metropolitan area in the world.</p>  
</div>
```

```
</body>  
</html>
```



HTML Iframes

- An iframe is used to display a web page within a web page
- An HTML iframe is defined with the **<iframe>** tag
 - `<iframe src="URL"></iframe>`
 - The **src** attribute specifies the URL (web address) of the inline frame page
- Use the **height** and **width** attributes to specify the size of the iframe
- The attribute values are specified in pixels by default, but they can also be in percent (like "80%")
 - `<iframe src="demo_iframe.html" height="200" width="300"></iframe>`



HTML Layout

- Websites often display content in multiple columns (like a magazine or newspaper)
- HTML5 offers new semantic elements that define the different parts of a web page:
 - `<header>` - Defines a header for a document or a section
 - `<nav>` - Defines a container for navigation links
 - `<section>` - Defines a section in a document
 - `<article>` - Defines an independent self-contained article
 - `<aside>` - Defines content aside from the content (like a sidebar)
 - `<footer>` - Defines a footer for a document or a section
 - `<details>` - Defines additional details
 - `<summary>` - Defines a heading for the `<details>` element



The <header> Element

- The <header> element represents a container for introductory content or a set of navigational links
- A <header> element typically contains:
 - one or more heading elements (<h1> - <h6>)
 - logo or icon
 - authorship information
- You can have several <header> elements in one document
- **Note:** A <header> tag cannot be placed within a <footer>, <address> or another <header> element



The <nav> Element

- The <nav> tag defines a set of navigation links
- Notice that NOT all links of a document should be inside a <nav> element
- The <nav> element is intended only for major block of **navigation links**.

```
<nav>  
  <a href="/html/">HTML</a> |  
  <a href="/css/">CSS</a> |  
  <a href="/js/">JavaScript</a> |  
  <a href="/jquery/">jQuery</a>  
</nav>
```



The <section> Element

- The <section> tag defines sections in a document, such as chapters, headers, footers, or any other sections of the document

```
<section>
  <h1>WWF</h1>
  <p>The World Wide Fund for Nature (WWF) is....</p>
</section>
```



The <article> Element

- The <article> tag specifies independent, self-contained content
- An article should make sense on its own and it should be possible to distribute it independently from the rest of the site
- Potential sources for the <article> element:
 - Forum post
 - Blog post
 - News story
 - Comment



The <footer> Element

- The <footer> tag defines a footer for a document or section
- A <footer> element should contain information about its containing element
- A <footer> element typically contains:
 - authorship information
 - copyright information
 - contact information
 - sitemap
 - back to top links
 - related documents
- You can have several <footer> elements in one document



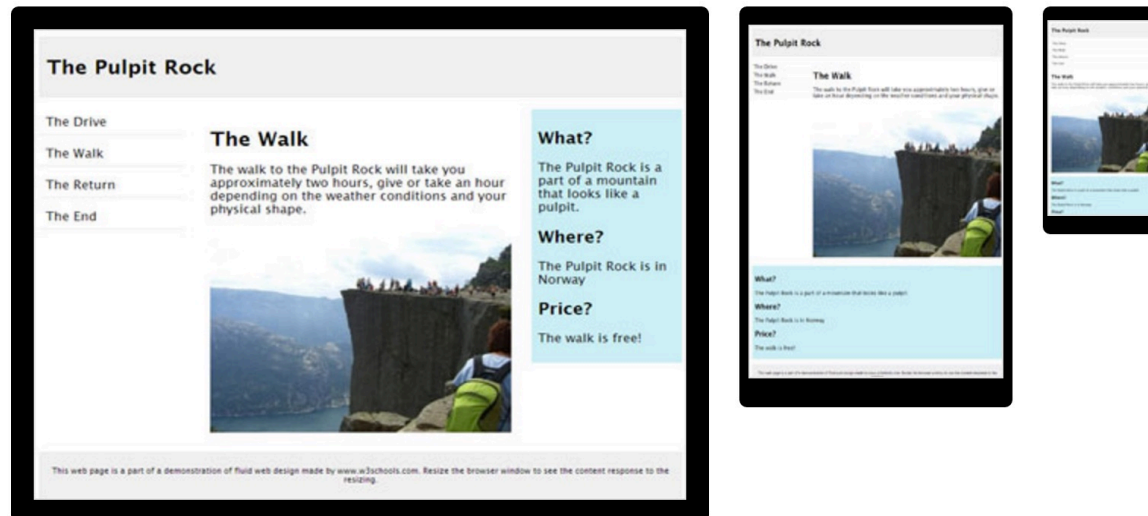
The <details> and <summary> Elements

- The <details> tag specifies additional details that the user can view or hide on demand
- The <details> tag can be used to create an interactive widget that the user can open and close; any sort of content can be put inside the <details> tag
- The content of a <details> element should not be visible unless the open attribute is set
- The <summary> tag defines a visible heading for the <details> element.

```
<details>
  <summary>Copyright 1999-2014.</summary>
  <p> - by Herc Inc. All Rights Reserved.</p>
  <p>All content and graphics on this web site are the property of the
company Herc Inc.</p>
</details>
```

What is Responsive Web Design?

- Responsive Web Design makes your web page look good on all devices (desktops, tablets, and phones)
- Responsive Web Design is about using CSS and HTML to resize, hide, shrink, enlarge, or move the content to make it look good on any screen:





One more tag! The <meter>

- The <meter> tag defines a scalar measurement within a known range, or a fractional value
- Examples: Disk usage, the relevance of a query result, etc.
- **Note:** The <meter> tag should not be used to indicate progress (as in a progress bar); for progress bars, use the <progress> tag

```
<p>Display a gauge:</p>  
<meter value="2" min="0" max="10">2 out of 10</meter><br>  
<meter value="0.6">60%</meter>
```



What about IE users?

- MSIE 9 should support everything presented
- People still use older MSIEs (like MSIE6! Yikes!)
- If you want to support them, add this code at the top of your header:
- ```
<!--[if lt IE 9]>
<script type="text/javascript" >
 document.createElement("nav");
 document.createElement("header");
 document.createElement("footer");
 document.createElement("section");
 document.createElement("aside");
 document.createElement("article");
</script>
<![endif]-->
```



# Want to get more ideas?

- Check out the HTML source code of your favorite webpages to get more ideas
- How?
  - Google it!
  - On Chrome: right click->view page source