

HTML5

CS 146

Intro to Web Programming and Project Development

What is HTML?

- HyperText Markup Language
- It is based on the use of tags to format content as in all other markup languages,
 - SGML – Standard Generalized Markup Language (1986)
 - XML – eXtensible Markup Language (1998)
 - XHTML - eXtensible HyperText Markup Language (2000)
- Relies on the use of Universal Resource Identifiers (like for example URLs)

What's Special about HTML5?

- HTML5 is the new standard.
- The specification was finalized and published on October 28th 2014 by the World Wide Web Consortium (W3C).
- Most browsers already support a large portion of the new tags that have been created.
- Improves the language with support for the latest multimedia while keeping it easily readable by humans and consistently understood by computers and devices.

Should We Still Learn HTML4?

- While it would be easier to learn a mature standard (and necessary for supporting old web sites), you might as well learn the current standard.
- It will prevent you from using features that have been removed, like frames.
- There are exciting new features in HTML5 worth learning:
 - `<canvas>`, `<audio>`, `<video>` elements
 - SVG
 - MathML

The Basics

- Every HTML5 page should have the same skeleton. Here it is:

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <meta charset="utf-8" />
    <title>First Example!</title>
  </head>
  <body>
    <!-- Code goes here -->
  </body>
</html>
```

Formatting Your Content

- After getting the basic elements in place, the next thing to do is decide how to organize your page.
- For now we will constrain ourselves to have good structure in our code.
- Styling will come later with the use of CSS3.
- HTML5 introduces meaningful tags to explain portions of your page.

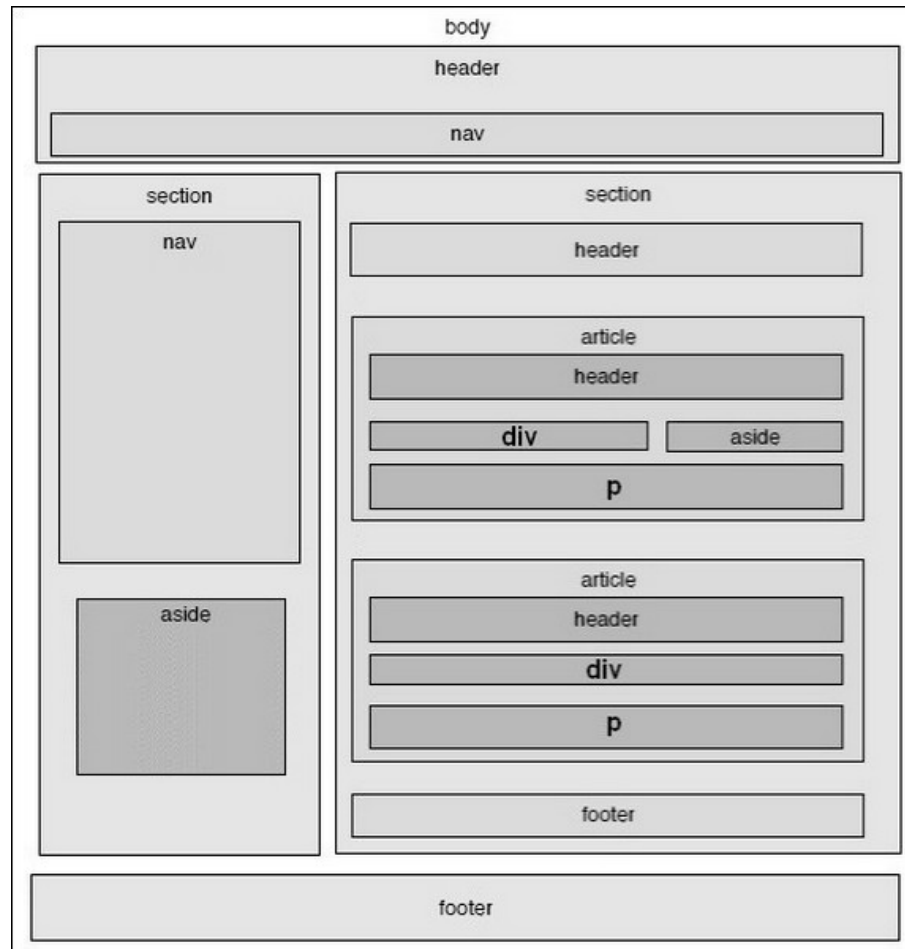
Organizational Tags

- In order to write clean HTML, you must structure your code correctly. HTML5 achieves this through new tags:
 - `<header>`
 - `<footer>`
 - `<nav>`
 - `<article>`
 - `<section>`
 - `<aside>`
 - `<figure>`
 - `<details>`

Structure of a Simple Document



Slightly More Complicated



White Space

- When writing HTML, be aware that a group of white spaces (including new lines, tabs, and regular white spaces) will always translate to a single space.
- `<p>For`

Example`</p>`

Will show as “For Example”.

- To force a line break, use `
`.

Formatting Tags

- Once your site is properly organized, you need to format your data.
- `<p></p>` for paragraphs
- `<h1></h1>` through `<h6></h6>`
 - These allow the declaration of different levels of headings.
- `<blockquote></blockquote>`
 - Automatically indents anything inside of it.

Creating Links

- `Link`
- Address can be a URL or for example a <mailto:bborowsk@stevens.edu>
- Can also be used as
`here`
allowing you to place anchors on your
page (that you can access as #name)

Inserting an Image

- ``
- Width and height should no longer contain percentages.
- Can contain a longdesc attribute (URL or a document containing a description of the image).

Lists

- Ordered Lists: `...`
- Unordered Lists: `...`
- Every item in the list should be wrapped in `...`

Tables

- `<table>...</table>`
 - width (in pixels or %)
 - border (“1” or “”)
 - summary
 - rules (none, groups, rows, cols, all)
- Rows are defined with `<tr>...</tr>`
- Cells are defined with `<td>...</td>` or `<th>...</th>`
 - rowspan (number)
 - colspan (number)
 - abbr (text)
 - align (left, right, center, justify, char)
 - valign (top, middle, bottom, baseline)

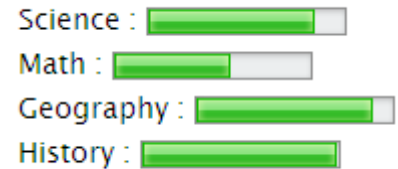
A test table with merged cells

	Average		Red eyes
	height	weight	
Males	1.9	0.003	40%
Females	1.7	0.002	43%

Inline Frames

- `<iframe>...</iframe>`
 - src (url)
 - name
 - height
 - width
- Also contains new attributes called sandbox, seamless, and srcdoc for sandboxing content (but is not widely supported at this time).

Meter Tag



- `<meter title="" id="" value="" min="" max="">text for non-supporting browsers</meter>`
- Allows to have a progress bar shown.
- Value can be fed from a database.
- With technologies like AJAX, the bar can be updated in real time.

What About MSIE 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]-->
```