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CS472 WAP

Structure of a Page

Introduction to Web Programming

Layers of Abstraction

Maharishi International University
Fairfield, Iowa © 2020

Main Point Preview

- The Hyper Text Markup Language uses tags to demarcate different sections of a text. An HTML page always starts with a <html> tag, inside of which it has a <head> tag to describe the page, and a <body> tag of the contents that will actually be displayed. These are the tags you will use for every HTML page. This is a foundational concept

- *Well begun is half done. Start with a good foundation and build upon that.*

Hypertext Markup Language (HTML)

- Describes the content and structure of information on a web page
- Surrounds text content with opening and closing tags
- Each tag and its content is called an element
  - Syntax: **<element>**content **</element>**
  - Example: **<p>**This is a paragraph**</p>**
- Most whitespace is insignificant in HTML
  - (ignored or collapsed to a single space)
- The newest version is HTML5

Structure of an HTML5 page

- An HTML page is saved into a file ending with extension **`.html`**
- **DOCTYPE** tag tells browser the HTML version.
  - In this case, HTML5.
- The **head**er describes the page and the **body** contains the page's contents

```
<!DOCTYPE html>
<html lang=“en”>
 <head>
    <meta charset="utf-8"/>
    <title></title>
 </head>
 <body>
    Page contents
 </body>
</html>
```

Metadata

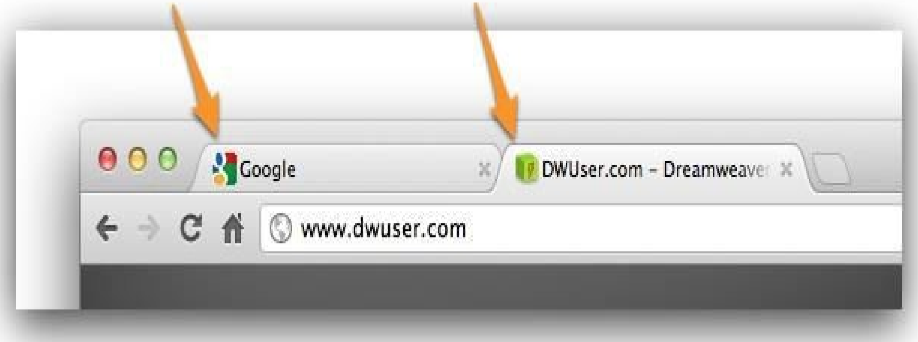
- Data about data - Information describes the page itself
  - Placed in the head section of your HTML page
- meta tags often have both the name and content attributes
- HTML5 introduced a way for designers to control the viewport
  - (the user's visible area of a web page), through the <meta> tag

```
<meta charset="utf-8"/>
<meta name="description" content="Learn HTML"/>
<meta name="keywords" content="HTML,CSS"/>
<meta name="viewport" content="width=device-width, initial-scale=1.0"/>
```

Favorites Icon (favicon)

- The link tag, in the head section, attaches another file to the page
- In this case, an icon for the browser title bar and bookmarks
  - E.g. https://www.w3schools.com/tags/tryit.asp?filename=tryhtml5_link_sizes

```
<link href="filename" type="MIME type" rel="relationship"/>
<link href="yahoo.gif" type="image/gif" rel="shortcut icon"/>
```



Relative vs Absolute URL

- **Relative URL**
  - index.html (path relative)
  - graphics/image.png
  - ../about.html (directory relative)
  - ../../stories/stories.html
  - /image.png (root relative)
- **Absolute URL**
  - http://www.mysite.com
  - C:\website\images\image.png

Why won’t this work when we move our code to production?

Common Mistake

- Placing a leading “/” on a relative URL
- Say you are at index.html and want to link to smiley which is at:
  - http://www.myexample.com/mysite/files/index.html
  - http://www.myexample.com/mysite/files/images/smiley.gif

- The following fails:

  <img src=“/images/smiley.gif” alt=“smiley face”/>

Tries to GET:
http://www.myexample.com/images/smiley.gif

- The following works:

  <img src=“images/smiley.gif” alt=“smiley face”/>   (correct for ‘mysite’)

Block Level 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 of block-level elements:

```
<div>
<h1> - <h6>
<p>
<form>
```

Paragraph <p>

- Creates a paragraph in a block of text
  - Placed in the body of the page
  - See examples at w3schools

```
<p>
Lorem quis lorem.  Pellentesque ultrices nunc id mauris
 posuere pulvinar.
</p>
```

Headings <h1>,<h2>, …, <h6>

- Headings are use to give a title (heading) to major areas of the page (block)

Note: only use one <h1> tag
per page, as it describes “the page”

```
<h1>Maharishi University</h1>
<h2>Department of Computer   Science</h2>
<h3>WAP Course</h3>
```

Maharishi University

Department of Computer Science

WAP Course

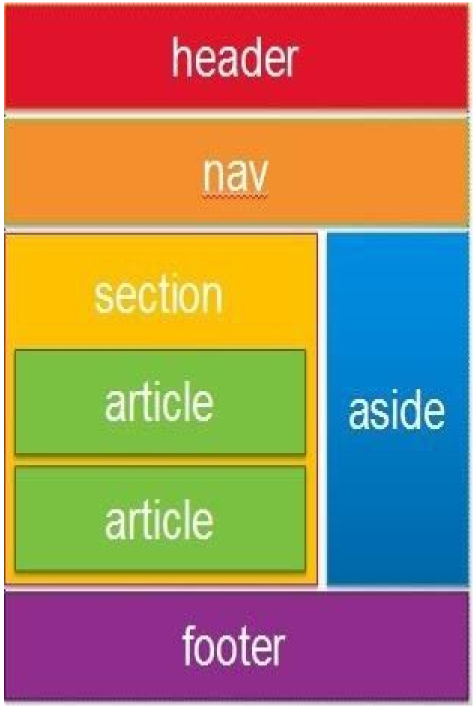
Horizontal Rule <hr />

- A line to separate sections
  - It represents a paragraph-level thematic break, e.g. a scene change in a story, or a transition to another topic within a section of a reference book

```
<h1>CS472 Web Programming</h1>
<p>Very good, fun course - HTML, CSS, JavaScript, JSP, Servlets</p>
<hr />
<h1>CS421 Modern Programming Practices</h1>
<p>Profound course - OOAD, Java8 features</p>
```

HTML5 New Semantic Elements

- They generally have no default outward appearance on the page, instead they give insight into the structure of the page.
  - section: defines a section in a document.
  - header: specifies a header for a document or section.
  - footer: specifies a footer for a document or section.
  - nav: defines a set of navigation links.
  - aside: defines some content aside from the content it is placed in (like a sidebar).
  - article: specifies independent, self-contained content.
  - More Semantic Tags



Main Point

- The Hyper Text Markup Language uses tags to demarcate different sections of a text. An HTML page always starts with a <html> tag, inside of which it has a <head> tag to describe the page, and a <body> tag of the contents that will actually be displayed. These are the tags you will use for every HTML page. This is a foundational concept

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