CIS 4004: Web Based Information Technology Fall 2013

Inside HTML5 – Part 2

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Inside HTML5 – Part 2

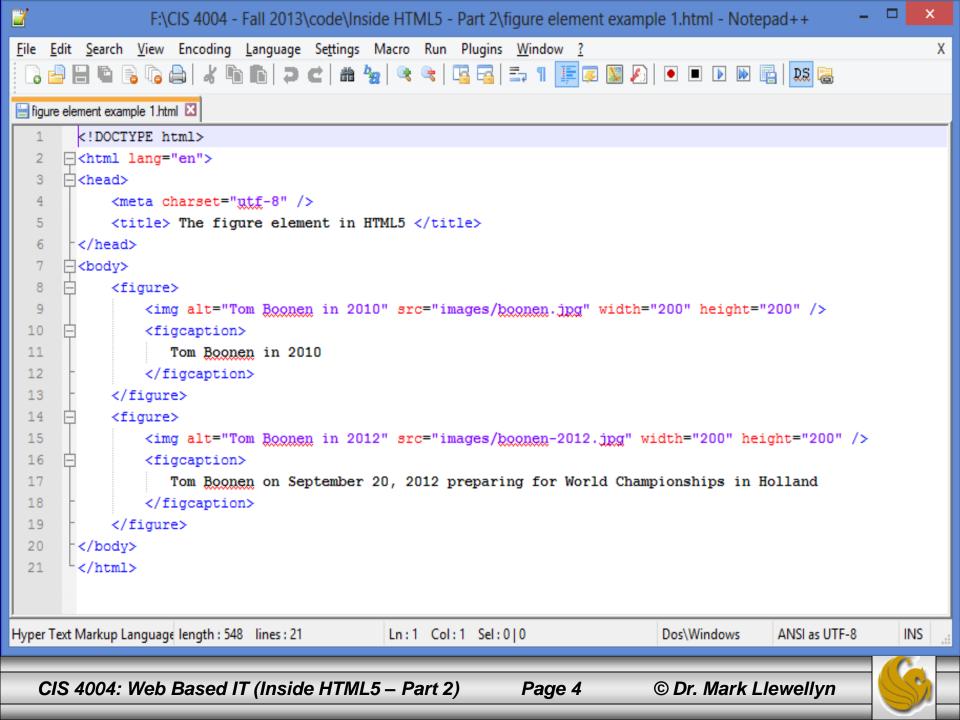


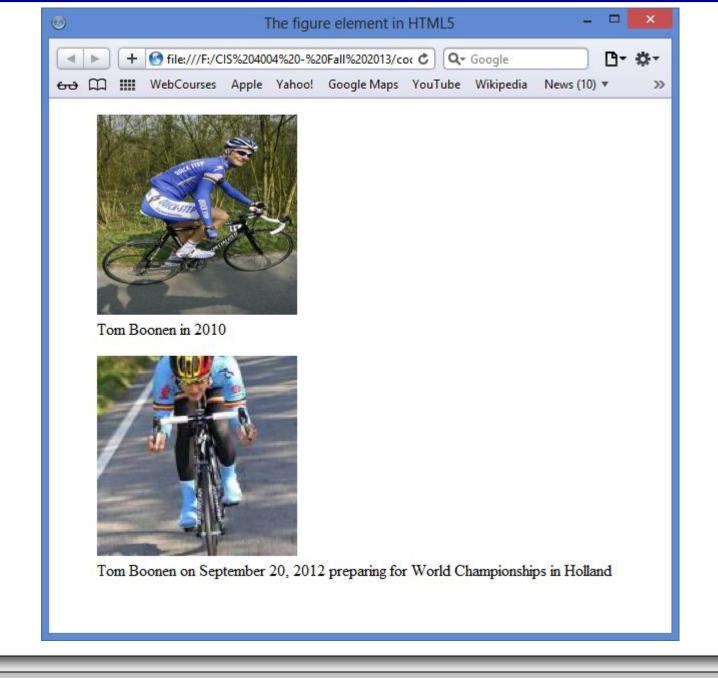
- In the first section of these notes, we looked at several new HTML5 elements that were not part of either XHTML or HTML4. Those new elements dealt with the main structure of the page.
- In this second section of notes, we'll look at some more new HTML5 elements as well as some elements that were part of XHTML and HTML4 that have been redefined in HTML5.
- The elements in this section of notes are known as *grouping* or *text-level* elements and deal with the content of the page.



- The new HTML5 figure element allows you to wrap an image and give it a description.
- Previously, you would have had to use a div or something similar and then add the text to the page, and doing this meant that there was no semantic link between the image and the caption.
- The figure element does not always have to include an image; it can be used for sections of code, tabular data, audio, or video. Typically, though, figure would be used for an image.
- The markup on the following page illustrates an example.







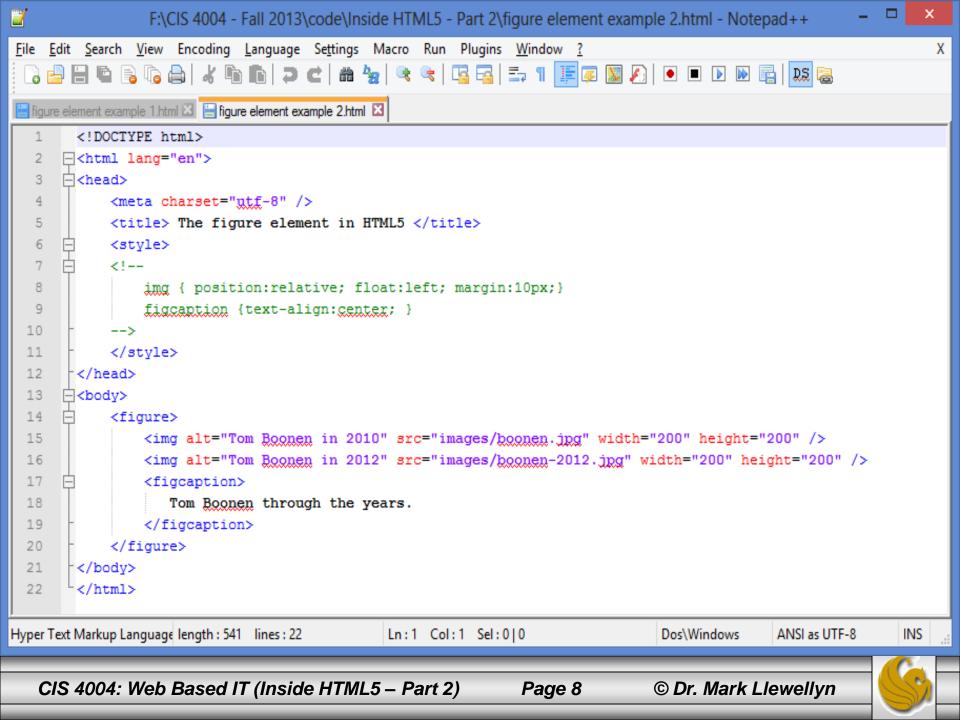


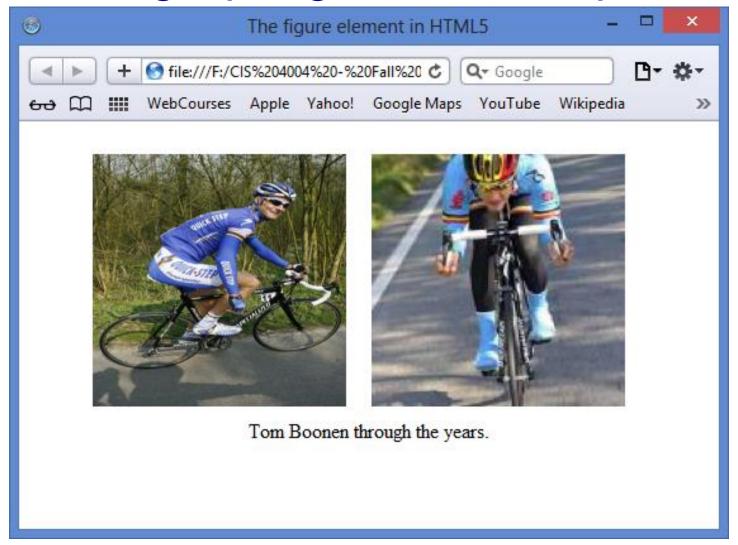
- There has been some discussion on the W3C forums as to whether an alt text (the text alternative for browsers that does not support graphics) is still needed in a figure element.
- Outside of a figure element, an img element always needs an alt attribute. If the image is purely presentation and it does not need to be identified by assistive technology, the an empty alt attribute can be applied.
- With a figure element, if the caption is a suitable description, then no alt is needed. However, because of lack of browser and assistive technology support, this currently hinders accessibility.
- I would suggest erring on the side of caution here and always provide an alt attribute



- You are not limited to a single image with a figure element; you can use the figure element to display multiple images.
- The markup on the next page illustrates such an example.
- The use of a figcaption element is not always required. If the image is for purely presentational reasons, then just use a normal img element. However, if it has additional information and is beneficial to the content, then it would likely require a description to go with it, so in these cases, use figure and figcaption.
- A figure element can have only one figcaption element.
- If you include a figcaption, it must be either the first or last element of the encompassing figure element.







The time Element

- The time element allows you to code dates and times that are readable by machines but are displayed to users in a readable fashion.
- You can timestamp things such as publishing dates or events that can populate other technologies, such as a calendar.
- The time element is intended to show precise dates, such as "27th August 2013," not vague dates such as "some point in 2013."
- The datetime attribute (see next page) must be in the format of the Gregorian calendar: YYYY-MM-DD, with time coded as T00:00.



The time Element

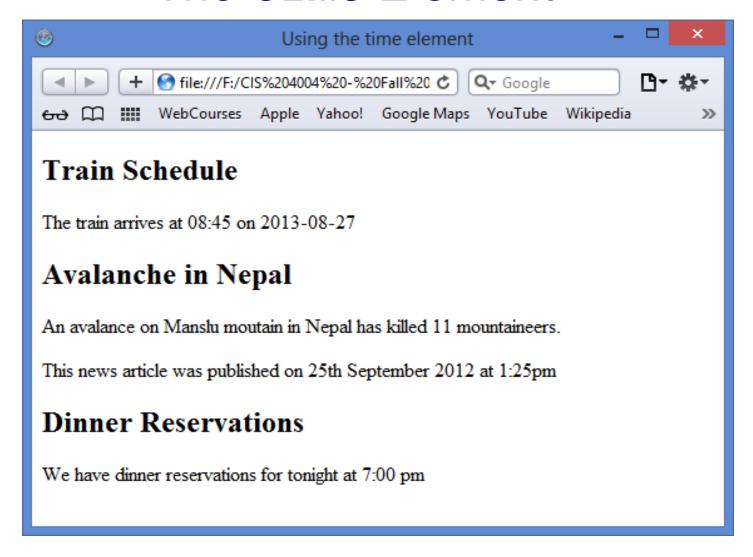
- The time element has two optional attributes:
 - datetime: The end user will see the content inside the time element, but a machine will be able to read the datetime value: dateime="2013-08-27T13:00Z". The time part of this value (T13:00) is optional. You can also add a time zone offset: T13:00+04:00. The "Z" represents Universal Coordinated Time (UTC), which is the same as adding a time zone offset of +00:00.
 - pubdate: This is a boolean attribute. It indicates the date, and possible time, of the publication of its nearest parent article element. If there is no parent article element, then the pubdate refers to the whole document. Each article must have only one time element with a pubdate.
- See the markup on the next page for some examples.



```
Х
   Edit Search View Encoding Language Settings Macro Run Plugins Window ?
         💾 figure element example 1.html 🗵 📙 figure element example 2.html 🗵 📙 time element example.html 🗵
       <!DOCTYPE html>
      --<html lang="en">
      ⊟<head>
           <meta charset="utf-8" />
           <title> Using the time element </title>
  6
       </head>
      lody>
  8
           <article>
  9
               <h2>Train Schedule</h2>
                   The train arrives at <time>08:45</time> on <time>2013-08-27</time>
 10
 11
           </article>
 12
           <article>
 13
               <h2>Avalanche in Nepal</h2>
                    An avalance on Manslu moutain in Nepal has killed 11 mountaineers.
  14
 15
                   <footer>
                       This news article was published on <time datetime="2012-09-24T13:25">
 16
 17
                           25th September 2012 at 1:25pm</time>
 18
                       19
                   </footer>
 20
           </article>
 21
           <article>
 22
               <h2>Dinner Reservations</h2>
 23
                   We have dinner reservations for <time datetime="2013-08-26T23:00-04:00">
 24
                      tonight at 7:00 pm</time>
 25
                   26
           </article>
 27
       </body>
       </html>
 28
Hyper Text Markup Language length: 749 lines: 28
                                           Ln:1 Col:16 Sel:0|0
                                                                           Dos\Windows
                                                                                        ANSI as UTF-8
                                                                                                       INS
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                                                          Page 12
                                                                          © Dr. Mark Llewellyn
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F:\CIS 4004 - Fall 2013\code\Inside HTML5 - Part 2\time element example.html - Notepad++

The time Element

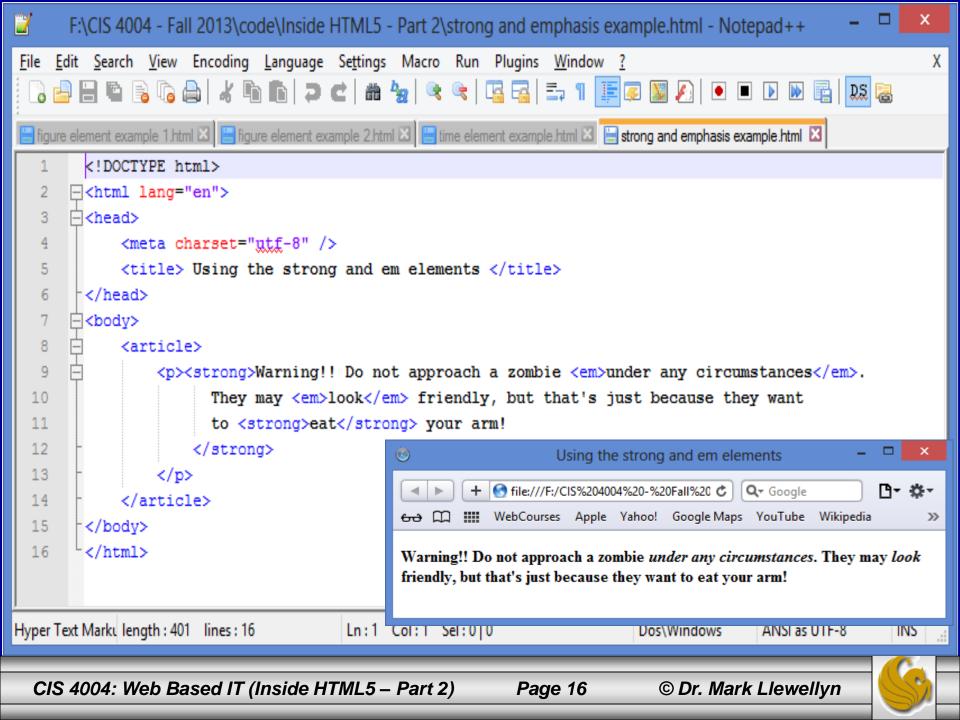




The time Element

- The time element's time is based on a 24-hour clock with an optional time-zone offset from UTC.
- Times may be stated as: YYYY-MM-DDThh:mm:ss or YYY-MM-DDThh:mm.sss. The second form allowing for millisecond precision. Note the period before the milliseconds not a colon as with seconds.
- The time-zone offset can be either positive or negative from UTC. See the example on the previous page which uses current DST in eastern United States as being UTC-04:00.
- If you use time with publicate to indicate an article's publication date, its common, but not mandatory to place it in either a header or footer element of the article element.
- You may not nest a time element inside another time element.

- The HTML5 elements strong, em, b, and i all appeared in XHTML and earlier versions of HTML, but the b and i elements have been redefined in HTML5.
- Semantically, the strong element denotes important text, while em conveys emphasis. They can be used individually or together as your content requires.
- You may nest strong text inside a phrase that is also marked with strong. If you do, the importance (semantically) of strong text increases each time it's a child of another strong. The same is true for em. See the example on the next page.
- DO NOT use the b and i elements as replacements for strong and em. Although they may look similar in a browser, their meanings are very different.



- The b, and i elements have been redefined in HTML5 since strong and em are not always semantically correct.
- Some typographic conventions in traditional publishing fall through the cracks of available HTML semantics. Among these are italicizing certain scientific names, named vehicles (e.g. "We rode the *Orient Express*."), and foreign (to English) language phrases (e.g., "they exhibited a *joie de vivre* that was infectious."). These terms aren't italicized for emphasis, just stylized per convention.
- Rather than create several new semantic elements to address cases like these, HTML5 took the practical approach and redefined the b and i elements to handle this "through the cracks" cases.



- The notion is that although b, and i don't carry explicit semantics, the reader will recognize that a difference is implied because they differ from the surrounding text.
- You can still change their appearance from bold and italics with CSS.
- HTML5 emphasizes that you use b and i only as a last resourt when another element (such as strong, em, cite, and others) won't do.
- The "official" use of the b and i elements in HTML5 are shown on the next page.



The **b** element represents a span of text to which attention is being drawn for utilitarian purposes without conveying any extra importance and with no implication of an alternate voice or mood, such as key words in a document abstract, product names in a review, actionable words in interactive text-driven software, or an article lede.

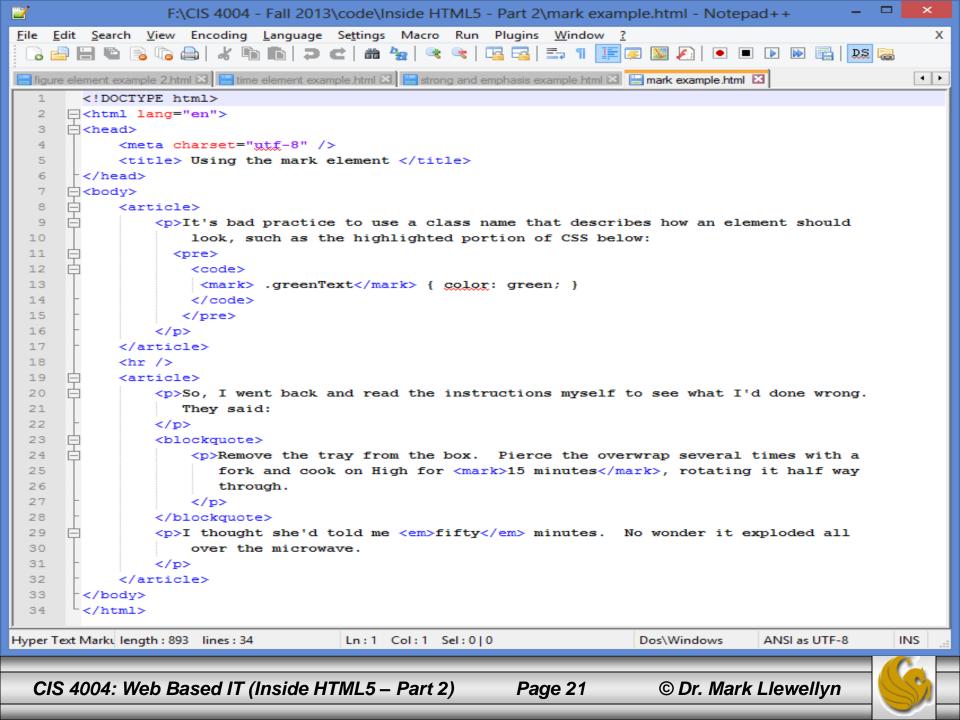
The **i** element represents a span of text in an alternative voice or mood, or otherwise offset from the normal prose in a manner indicating a different quality of text, such as a taxonomic designation, a technical term, an idiomatic phrase from another language, a thought, or a ship name in western texts.



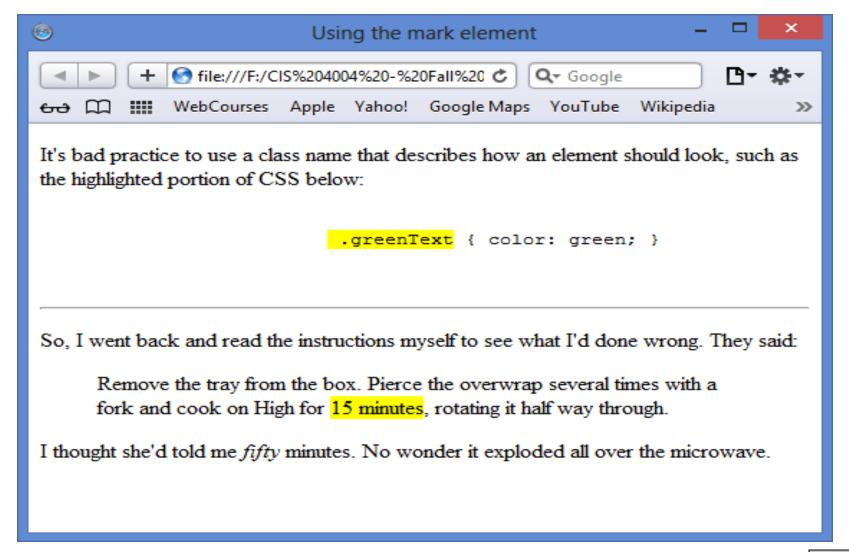
Highlighting Text With The mark Element

- Everyone has probably used a highlighter pen at some point. You used it to mark key words or phrases that were relevant, perhaps when you were studying for an exam.
- HTML5 replicates this with the new mark element. Think of mark as a semantic version of a highlighter pen. In other words, what's important is that you're noting certain words; how they appear is irrelevant.
- Style the highlighted text as you please with CSS (or not at all), but use mark only when its pertinent to do so.
- Use the mark element when you want to draw a reader's attention to a particular text segment.
- The example on the next page illustrates the mark element.





Highlighting Text With The mark Element





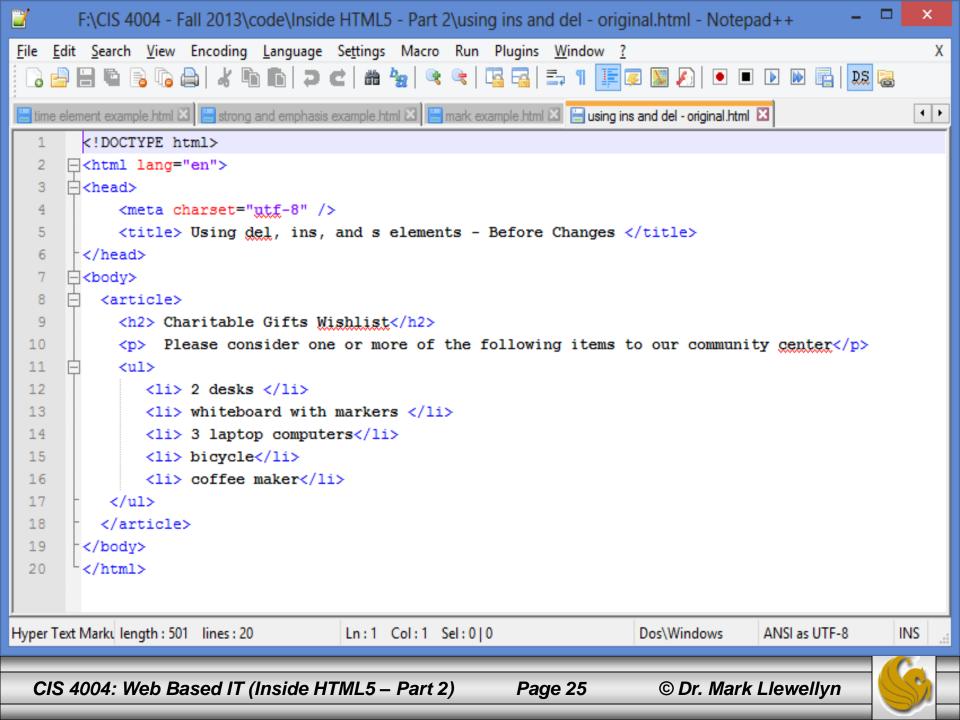
Highlighting Text With The mark Element

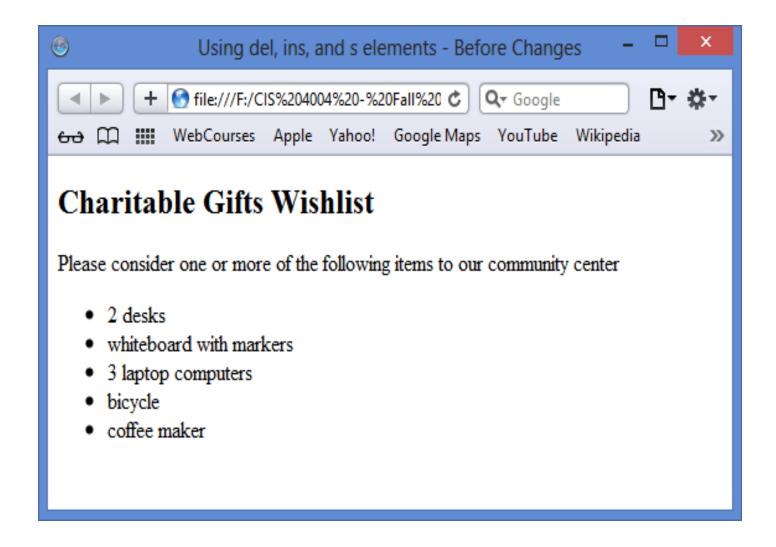
- The second article element in the markup on the previous page illustrates a less common usage of the mark element. In this case, the phrase "15 minutes" was not highlighted in the instructions on the original packaging. Instead, the author uses the mark element to call out the phrase as part of the story.
- Since the mark element is a new HTML5 element, older browsers don't render a background color by default. You can instruct them to do so via CSS by adding: mark {background-color: yellow;} to your stylesheet.
- Be sure not to use mark simply to give text a background color or other visual treatment. It all you're looking for is a means to style text and there is no proper semantic HTML5 element with which to wrap it, use the span element and style it with CSS.



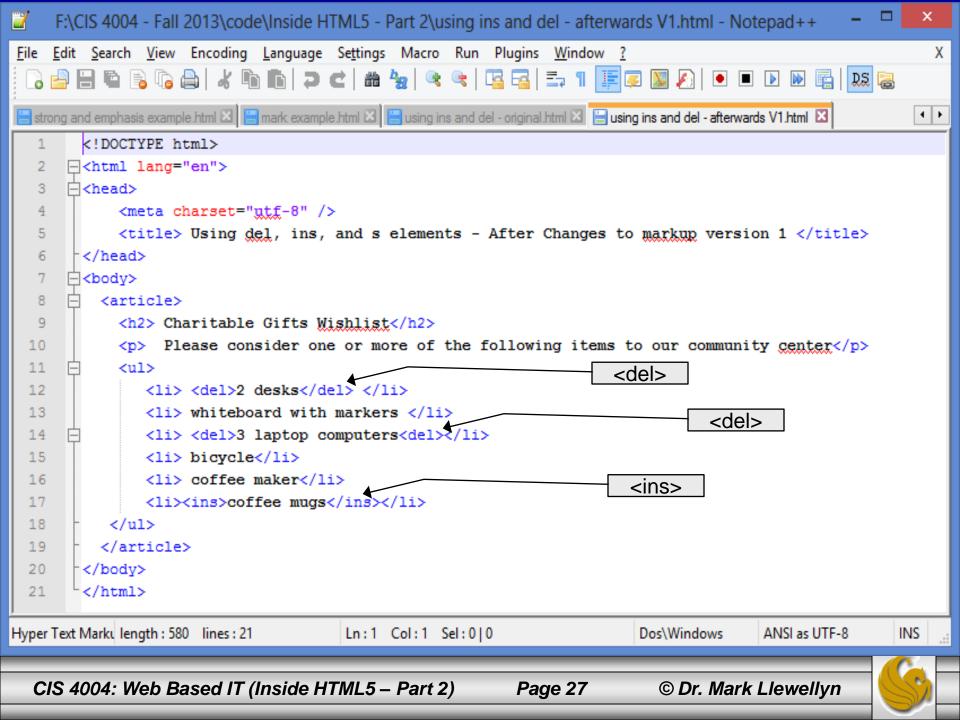
- Sometimes you might want to indicate content edits that have occurred since the previous version of your page, or mark up text that is no longer accurate or relevant.
- There are two new elements in HTML5 for denoting edited content: ins and del, and one element denoting content that is no longer accurate or relevant: s.
- The ins element represents content that has been added to a page, and the del element represents content that has been removed from a page. The s element represents content that is no longer accurate or relevant. Think s for "strike".
- Before we explore the semantic differences between del and s, let's look at a couple of examples.

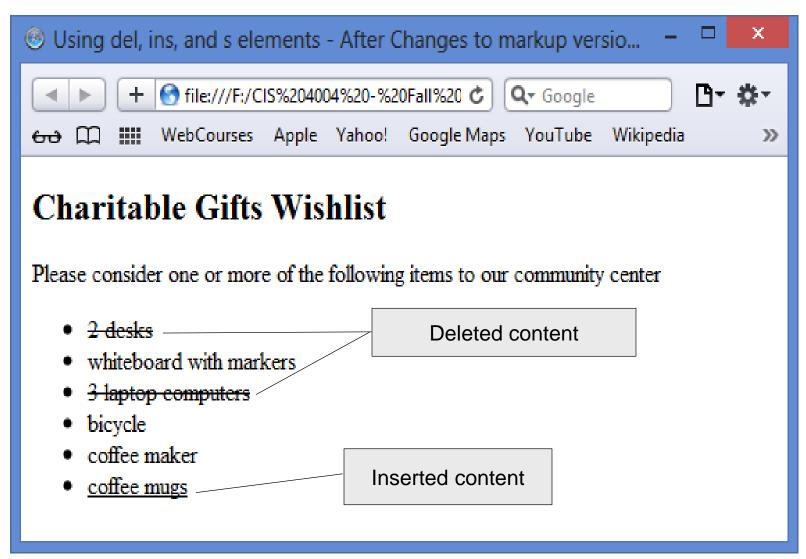






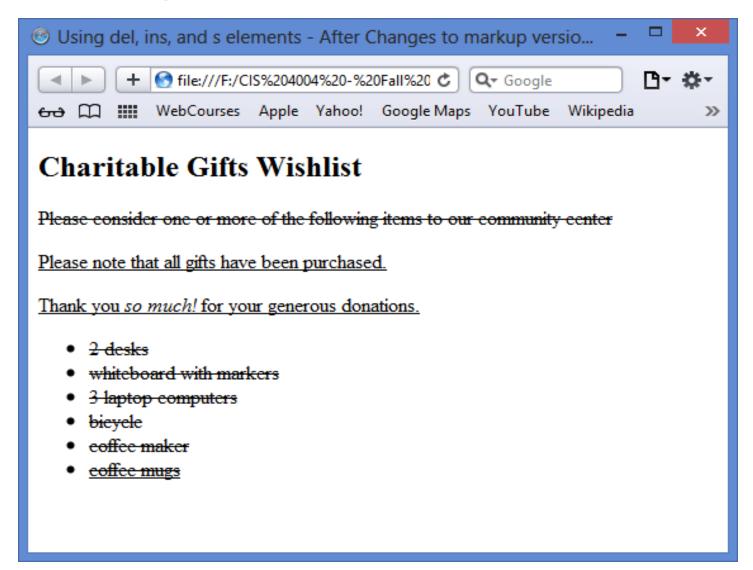








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    Edit Search View Encoding Language Settings Macro Run Plugins Window ?
                                                                                                Х
    📑 mark example.html 🖾 📙 using ins and del - original.html 🖾 📙 using ins and del - afterwards V1.html 🖾 📙 using ins and del - afterwards V2.html 🖾
                                                                                              4 F
       <!DOCTYPE html>
     2
      一<head>
           <meta charset="utf-8" />
           <title> Using del, ins, and s elements - After Changes to markup version 2 </title>
  5
  6
       </head>
  7
      ⊟<body>
         <article>
  8
           <h2> Charitable Gifts Wishlist</h2>
  9
 10
          <del>
 11
              Please consider one or more of the following items to our community center
 12
           </del>
 13
           <ins>
 14
              Please note that all gifts have been purchased.
 15
              Thank you <em> so much!</em> for your generous donations.
 16
           </ins>
 17
           <del>
 18
             <u1>
 19
                <del>2 desks</del> 
 20
                whiteboard with markers 
 21
                <del>3 laptop computers</del>
 22
               bicycle
 23
                coffee maker
 24
                <ins>coffee mugs</ins>
 25
             </del>
 26
 27
         </article>
 28
       </body>
 29
      </html>
Hyper Text Marku length: 798 lines: 29
                                  Ln:1 Col:1 Sel:0|0
                                                                 Dos\Windows
                                                                              ANSI as UTF-8
                                                                                            INS
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                                                                   © Dr. Mark Llewellyn
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- Browsers typically display a line through deleted text and underline inserted text. You can of course, override this default effect via CSS.
- As illustrated in version 2 of the previous example, del and ins elements are rare in HTML5 in that they can surround both phrasing ("inline" in XHTML parlance) content and blocks of content. However, there is a difference in how the various browsers will interpret this. For example, Chrome and Safari will render this as shown on the previous page correctly interpreted for both phrases and blocks. Firefox on the other hand will render the lines for del and ins text phrases only within encompassing elements. See next page for illustration of Firefox's version of the previous example.

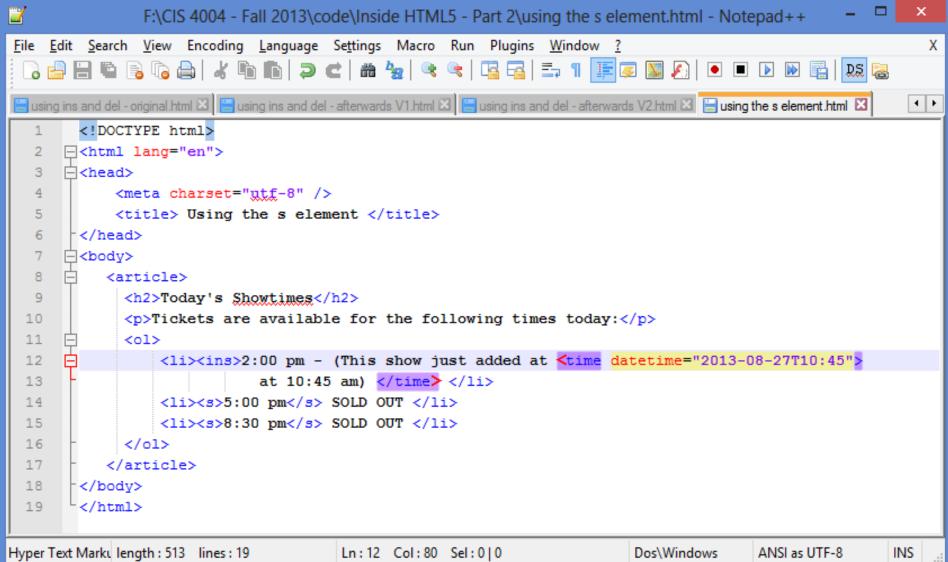


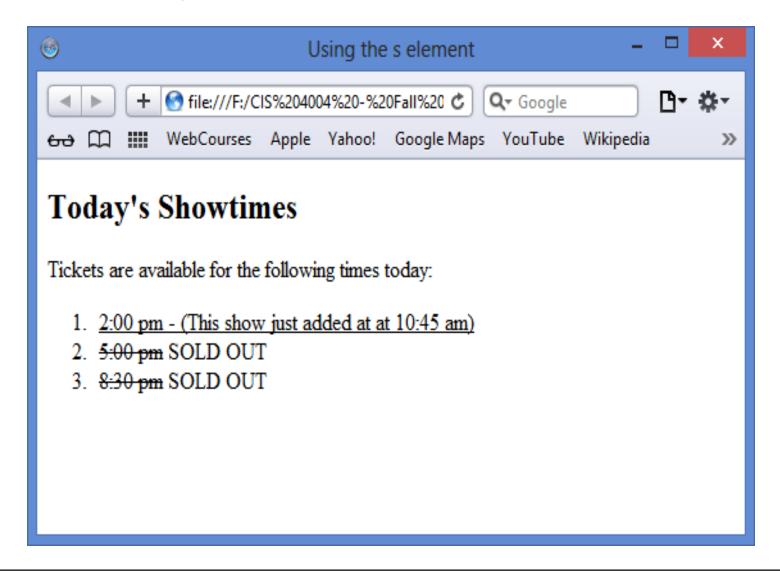




- For marking content that is no longer relevant or accurate, the selement should be used in this context.
- The HTML5 documentation states that "The s element is not appropriate when indicating document edits; to mark a span of text as having been removed from a document, use the del element."
- The example on the following page might help to clarify this distinction between deleted content and no longer relevant content.









- The del and ins elements both support two attributes: cite and datetime.
- The cite attribute (not the same as the cite element) us for providing a URL to a source that explains why and edit was made.
- Use the datetime attribute to indicate the time of the edit.
- Browsers do not display the values you assign to either of these attributes, so their use will not be widespread, but feel free to include them as they add context to your content. The values could be extracted via JavaScript or a program that parses through your page.

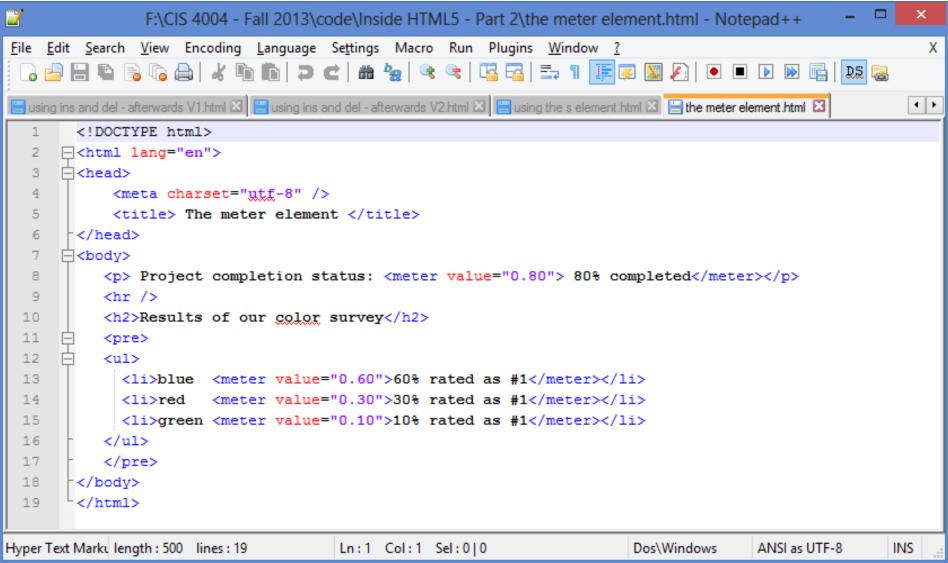


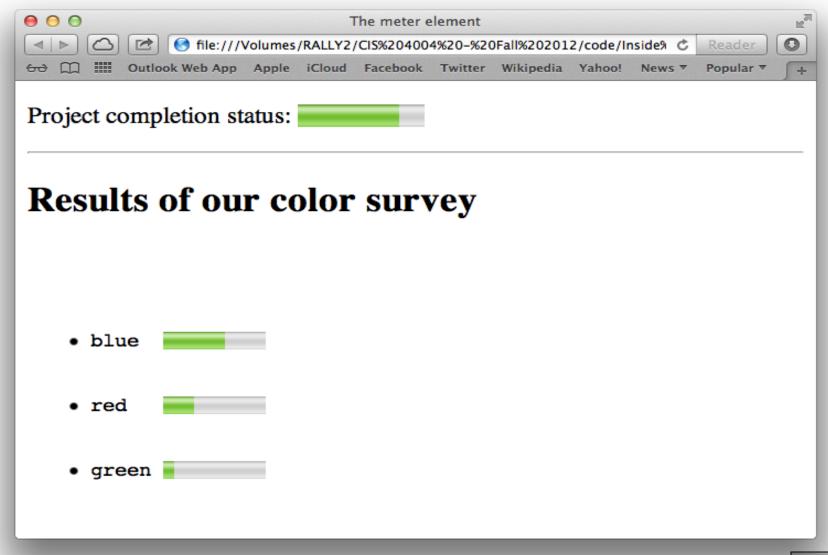
- Use the del and ins elements anytime that you want to inform your visitors of your content's evolution.
- For instance, you'll often see them uses in a Web development or design tutorial to indicate information learned since it was initially posted, while maintaining the copy as it originally stood for completeness. The same will be true for blogs, news sites, and so on.
- Text marked with a del element is generally struck out. You might ask why not just delete that content. The answer is that it depends on the context of your content. Striking it out makes it easy for sighted users to know what has changed. Also screen readers could announce the content as having been removed, unfortunately, their support for doing so has been lacking.



- HTML5 has a lot of new and neat features. Some of which we'll see later in the course. For now here is one that you might find quite useful.
- The meter element is a new element that can be used to indicate a fractional value or a measurement within a known range. Basically, its like a gauge that you could use for things like voting ranges, project completion reports, tickets sold, etc..
- HTML5 suggests that browsers render a meter "not unlike a thermometer laying on its side a horizontal bar with the measured value colored differently than the maximum value unless they are the same."
- The example on the next page illustrates the meter element.







- The meter element supports several attributes:
 - The value attribute is the only one that is required, and specifies the value of the meter display.
 - The min and max attributes, default to 0 and 1.0 respectively, if omitted.
 - The low, high, and optimum attributes work together to split the range into low, medium and high segments. Optimum specifies the optimum position within the range, such as "0 brake pad wear" in the following example (see next page). Set optimum in between if neither a low nor high value is optimal.
 - The example on the next page illustrates the use of the attributes for the meter element.

The meter Element Using Attributes

```
\Theta \Theta \Theta
                                                 the meter element with attributes.html
<!DOCTYPE html>
<html lang="en">
<head>
         <meta charset="utf-8" />
         <title> The meter element using attributes </title>
</head>
<body>
    Weekly Riding Mileage Goal Status - Week of September 23rd as of Tuesday:
      <meter min="0" max="260" value="110">110 miles of 260 completed</meter>
   <hr />
   Car brake pad wear: <meter low="0.25" high="0.75" optimum="0" value="0.22">
         22% worn as of now</meter</p>
</body>
</html>
0 0
                                                 The meter element using attributes
                                                                                                                     0
       🖒 🔯 🕙 file:///Volumes/RALLY2/CIS%204004%20-%20Fall%202012/code/Inside%20HTML5%20-%20Part%202/the%20meter%20element%20with%20attributes.htm 🐧 Reade
 ⇔ ☐ III Outlook Web App Apple iCloud Facebook Twitter Wikipedia Yahoo! News ▼
 Weekly Riding Mileage Goal Status - Week of September 23rd as of Tuesday:
 Car brake pad wear:
```

