HTML5

REVISED 2017, ISABEL REICHERT

What is HTML?

- HTML stands for HyperText Markup Language. Developed by scientist Tim Berners-Lee in 1990, HTML is the "hidden" code that helps us communicate with others on the World Wide Web.
- When writing HTML, you add "tags" to the text in order to create the structure. These tags tell the browser how to display the text or graphics in the document.

Let's Get Started!

```
<!DOCTYPE html>
<html>
</html>
```

The Bare Bones

```
<!DOCTYPE html>
<html>
<head> </head>
<body> </body>
</html>
```

Add A Title Between The "Head" Tags

```
<!DOCTYPE html>
<html>
<head><title>My Web Page!</title></head>
<body> </body>
</html>
```

Add A Heading in the "Body" Tags

```
<!DOCTYPE html>
<html>
<head><title>My Web Page!</title></head>
<body><h1>Hello World!</h1></body>
</html>
```

Now Add A Paragraph…

```
<!DOCTYPE html>
<html>
<head><title>My Web Page!</title></head>
<body><h1>Hello World!</h1><p>Meet your new web designer!</p></body>
</html>
```

Managing Files And Folders

Create a new folder on your computer’s desktop and save your index.html document into it. This is your "site root folder".

Inside, next to index.html, create a new folder called "styles". This is where your CSS styles will go.

Create another folder next to "styles" called "images". This is where all your images will go. Copy your image and paste it in the "images" folder.

Preview your file

- Open your file in a browser, and give yourself a pat on the back! YOU HAVE JUST CREATED A WEB PAGE!

HTML Element

An element is usually composed of content (words, images, numbers, or even other elements), and HTML tags. We create elements by "wrapping" chunks of content inside an opening tag and a matching closing tag. Example: <p>Words within a paragraph.</p>

Container Elements

Container elements contain content along with an opening and a closing tag. Commonly used container elements: <p> (paragraph) <h1> (heading levels 1 - 6) <table> (table) <ul> (unordered list) <ol> (ordered list) <li> (list item) <a> (link)

Empty Elements

- If the element does not contain content, it is said to be an empty element. "<br>" is an empty element that tells the browser to insert a line break in a sentence. It can be written three different ways: <br></br> (open and close tag, no content) <br /> (self-closing tag) <br> (just an opening tag).

Empty Elements

Commonly used empty elements: <br /> (break tag) <img /> (image tag) <input /> (form input) <button /> (form button) <hr /> (horizontal rule)

Nesting Elements

All elements "nest" inside other elements...except the HTML element! (everything else nests inside of it) Your "p" element nests inside your "body" element, which nests inside your "html" element. Whichever element OPENS first CLOSES last!

Be A Good Nester!

If you consistently indent your code, you will avoid "bad nesting"! For example”

```
<p><ul><li>list item</ul></li></p>
```

Is wrong!

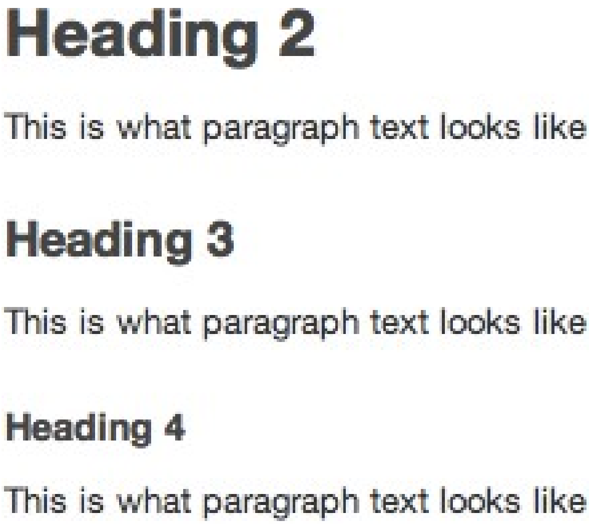
```
<p><ul><li>list item</li></ul></p>
```

Is correct!

Headings

<h1>Heading 1</h1> <h2>Heading 2</h2>… <h6>Heading 6</h6>

Heading number indicates hierarchy, not size. Important for accessibility



Heading 2

This is what paragraph text looks like

Heading 3

This is what paragraph text looks like

Heading 4

This is what paragraph text looks like

Unordered and ordered lists

```
<ul>
<li>List Item</li>
<li>Another List Item</li>
</ul>

<ol>
 <li>List Item</li>
<li>Another List Item</li>
</ol>
```

Unordered list (bullets)

- List Item
- Another List Item

Ordered list (sequence)

1. List Item
2. Another List Item

Blocklevel vs. Inline Elements

Block-level: So far we've just talked about block-level elements. Block level elements begin on a new line, and their default width is usually the width of the browser! Browsers give them default padding on top and bottom.

Blocklevel Vs. Inline Elements

Commonly used block-level elements:

<h1> thru <h6> (headings)

<ol> and <ul> (lists)

<li> (list items)

<table> (tables)

<form> (forms)

<div>

<p>

Blocklevel Vs. Inline Elements

Inline: Inline elements do not start on a new line and their default width is only as wide as their contents. They must be nested inside a block-level element.

Blocklevel Vs. Inline Elements

Commonly used inline elements: <img> (images) <a> (links or "anchors") <em> (emphasize) <strong> (make strong) <span> (has no effect by itself)

"Deprecated" (Obsolete) Elements:

Deprecated elements are elements that have been phased out and will eventually no longer be supported by browsers. Examples: <i> (italicize) <b> (bold) <i> and <b> both "style" the content so they are discouraged in favor of using CSS.

Span Element

<span> has no other purpose than to provide a "hook" to text that can't be otherwise targeted. Most often used for styling or scripting. By itself, has no visible or interactive affect on content. <p>Here is a paragraph with <span>span tags</span> in the middle.</p>

Let's try it!

Select a couple of words or phrases in your content that could be emphasized and put <em> and <strong> tags around them.

Attributes

Two important elements of web pages — links and images — require attributes. Attributes are components of an elements (just like eyes are components of a human). You describe an attribute by using a value (like saying "Her eyes are brown"). think ~ person: eyes = "brown"

Attributes

For example: Links require an href attribute to tell where they link to (href stands for "hypertext reference"). Here's how that looks: <a href = "http://www.ohlone.edu">

think ~ person: address = "123 Main Street" Attributes are always placed inside an opening tag, before the right angle bracket.

Links

The <a> (anchor) tag surrounds text or images to turn them into links. Links have three components:

- □ tag: <a></a>
- □ href attribute: http://www.ohlone.edu <a href =http://www.ohlone.edu></a>
- □ Clickable link: href attribute: http:// www.ohlone.edu <a href ="http:// www.ohlone.edu">Ohlone</a>

Links

Using target="_blank" causes the link to open in a new window/tab. example: <a href="home.html" target="_blank">Link Text</a>

Inserting mailto:some_email_address.com into the href attribute causes the link to open the default mail client. example:

<a href="mailto:info@girldevelopit.com">E- mail us!</a>

Let’s try it!

Within your content, add a link to your web page <a href ="http://www.ohlone.com">Ohlone College</a>

Image element

<img> is an empty element. It is also an inline element. Image elements have three components

- Tag: <img/>
- Src attribute: “images/ logo.png"
- Alt attribute: “logo" <img src ="images/ logo.png" alt = “Logo"/>

Relative vs. Absolute Paths For Links & Images

Absolute: Refer to a specific location of a file on a server src = "http://www.ohlone.edu/images/ ohlonelogo-notagline-fortemplates-tealonwhite.gif/"

Typically used when pointing to a link that is not within your domain.

Relative vs. Absolute Paths For Links & Images

Relative: Refer to a local file in your site root folder src = "images/myimage.jpg" Describes the location of the file relative to the file you're coding in.

Let’s try it!

Add an image to your webpage by putting this code somewhere in a paragraph or heading! <img src =”images/image.jpg" alt = ”image of…"/>

Leave Yourself Notes!

- You can add comments to your code. The browser ignores them, but you (or another coder) can see them. <!-- Comment goes here -->

Leave Yourself Notes!

Use them to organize your code:

```
<!-- Beginning of header -->
<div id="header">Header Content </div>
<!-- End of header -->
```

Or 'comment out' code (to hide it from the browser):

```
<!-- <ol> <li>List Item</li> <li>Another List Item</li> </ol> -->
```

What is HTML5?

What is HTML5?

HTML5 is the new standard for HTML.

The previous version of HTML was – HTML 4.01, came in 1999.

HTML5 is designed to deliver almost everything you want to do online without requiring additional plugins. It does everything from animation to apps, music to movies, and can also be used to build complicated applications that run in your browser.

HTML5 is also cross-platform (it does not care whether you are using a tablet or a smartphone, a notebook, notebook or a Smart TV).

Differences Between HTML4 and HTML5

Differences Between HTML4 & HTML5

1. HTML5 is a work in progress
2. Simplified Syntax
3. The New <canvas> Element for 2D drawings
4. New content-specific elements, like <article>, <header>, <footer>, <nav>, <section>
5. New <menu> and <figure> Elements
6. New <audio> and <video> Elements
7. New form controls, like calendar, date, time, email, url, search
8. No More <frame>, <center>, <big>, and <b>, <font>
9. Support for local storage

Browser Support for HTML5

Browser Support for HTML5

HTML5 is an official standard, and most browsers have full HTML5 support.

Major browsers (Safari, Chrome, Firefox, Opera, Internet Explorer) continue to add new HTML5 features to their latest versions.

http://caniuse.com/

HTML5 Document

The HTML5 <!DOCTYPE>

In HTML5 there is only one **<!doctype>** declaration, and it is very simple:

```
<!DOCTYPE html>
```

Minimum HTML5 Document

Below is a simple HTML5 document, with the minimum of required tags:

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Title of the document</title>
</head>

<body>
Content of the document......
</body>

</html>
```

HTML5 Semantic Elements

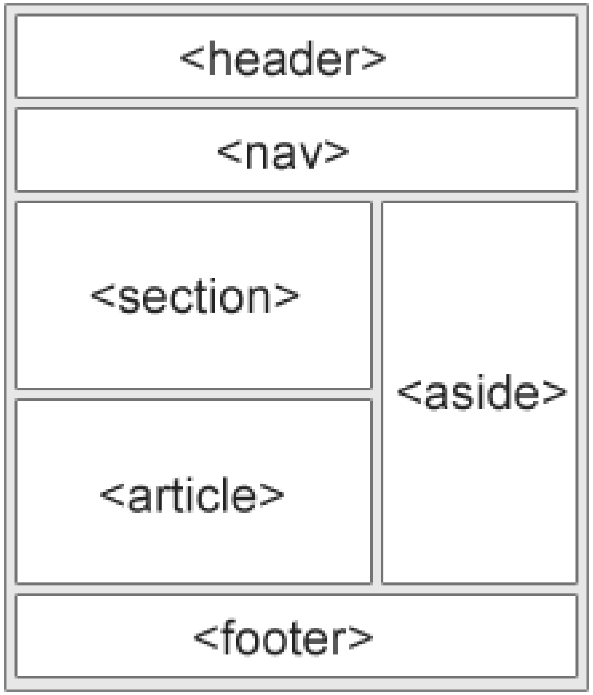
HTML5 Semantic Elements

- A semantic element clearly describes its meaning to both the browser and the developer.
- Examples of **non-semantic** elements: <div> and <span> - Tells nothing about its content.
- Examples of **semantic** elements: <form>, <table>, and <img> - Clearly defines its content.

HTML5 Semantic Elements

HTML5 offers new semantic elements to clearly define different parts of a web page:

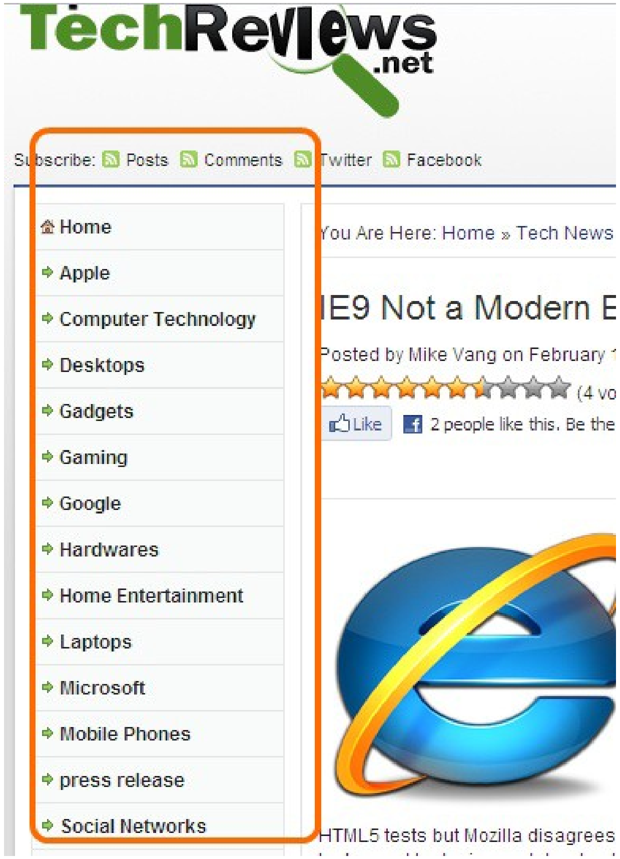
- <header>
- <nav>
- <section>
- <article>
- <aside>
- <figcaption>
- <figure>
- <footer>



New Semantic/Structural Elements

<nav>: Represents a major navigation block. It groups links to other pages or to parts of the current page.

```
<nav>
<ul>
<li><a href="/">Home</a></li>
<li><a href="/events">Current Events</a></li>
<li><a href="/contact">Contact us</a></li>
</ul>
</nav>
```



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Posted by Mike Vang on February 1

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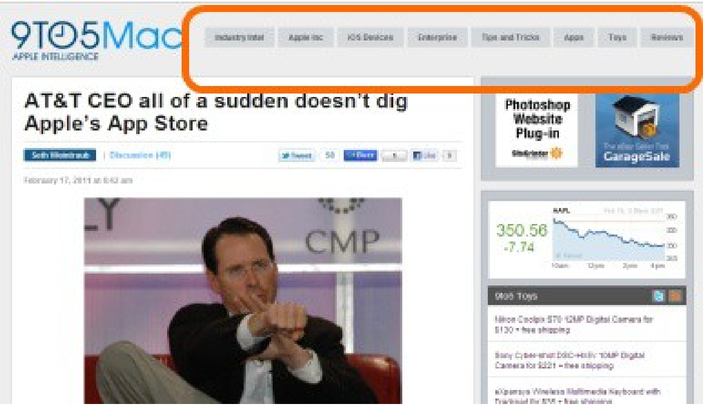
HTML5 tests but Mozilla disagrees



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Seth Weintraub | Discussion (45)

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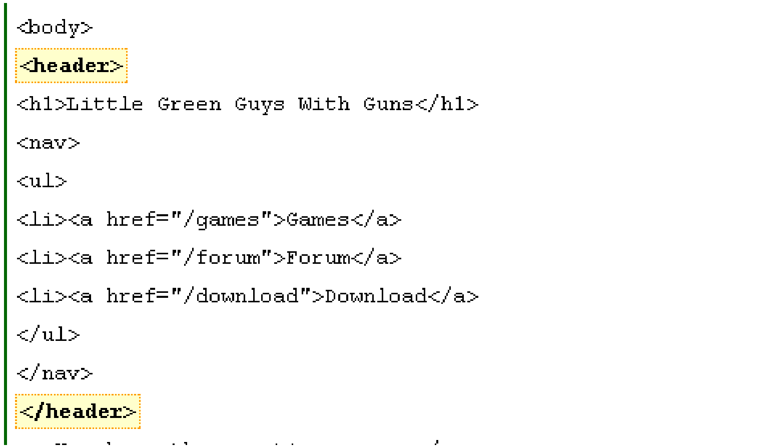
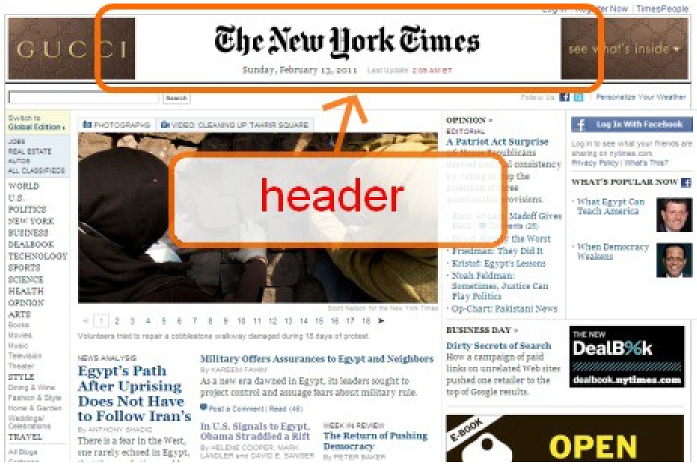
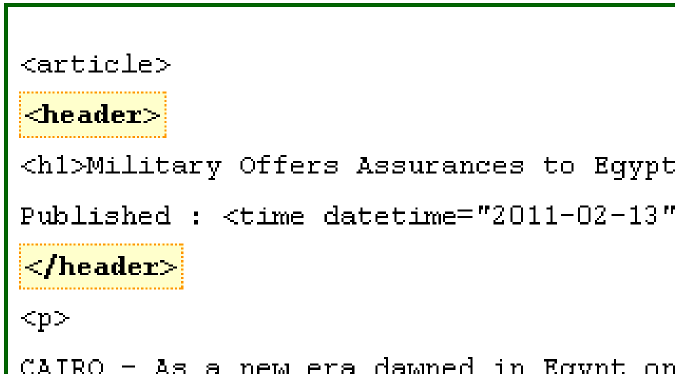
New Semantic/Structural Elements

<Header>

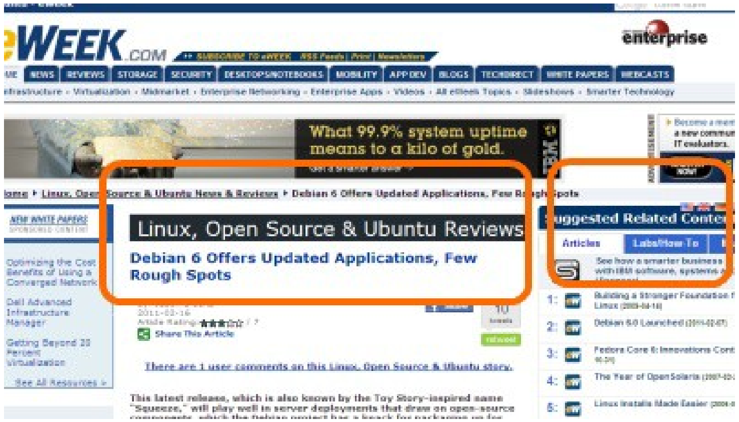


```
<body>
<header>
<h1>Little Green Guys With Guns</h1>
<nav>
<ul>
<li><a href="/games">Games</a>
<li><a href="/forum">Forum</a>
<li><a href="/download">Download</a>
</ul>
</nav>
</header>
```


The New York Times
Sunday, February 13, 2011
header
Egypt's Path After Uprising Does Not Have to Follow Iran's
Military Offers Assurances to Egypt and Neighbors
OPINION
BUSINESS DAY
WHAT'S POPULAR NOW
DealBook



```
<article>
<header>
<h1>Military Offers Assurances to Egypt
Published : <time datetime="2011-02-13"
</header>
<p>
CAIRO - As a new era dawned in Egypt on
```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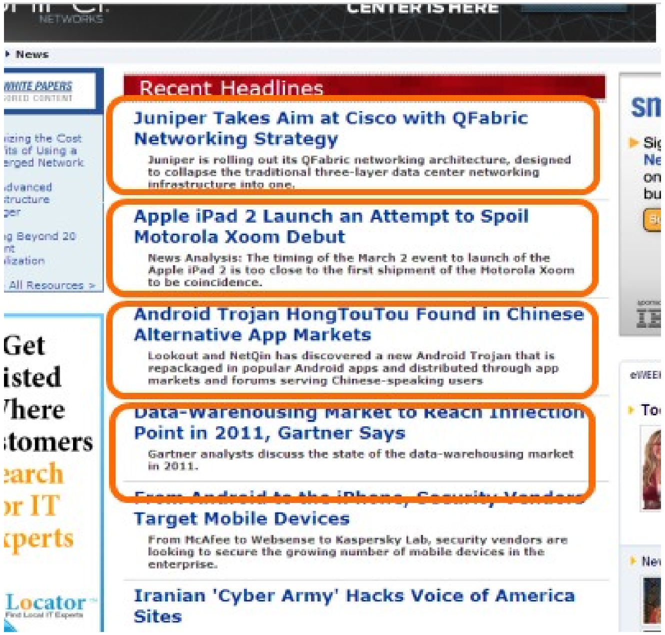
New Semantic/Structural Elements

<article>

- For news articles and blog entries.
- "article" element can be nested in another "article" element.
- An article element doesn't just mean article content..



Recent Headlines

Juniper Takes Aim at Cisco with QFabric Networking Strategy

Juniper is rolling out its QFabric networking architecture, designed to collapse the traditional three-layer data center networking infrastructure into one.

Apple iPad 2 Launch an Attempt to Spoil Motorola Xoom Debut

News Analysis: The timing of the March 2 event to launch of the Apple iPad 2 is too close to the first shipment of the Motorola Xoom to be coincidence.

Android Trojan HongTouTou Found in Chinese Alternative App Markets

Lookout and NetQin has discovered a new Android Trojan that is repackaged in popular Android apps and distributed through app markets and forums serving Chinese-speaking users

Data-Warehousing Market to Reach Inflection Point in 2011, Gartner Says

Gartner analysts discuss the state of the data-warehousing market in 2011.

From Android to the iPhone, Security Vendors Target Mobile Devices

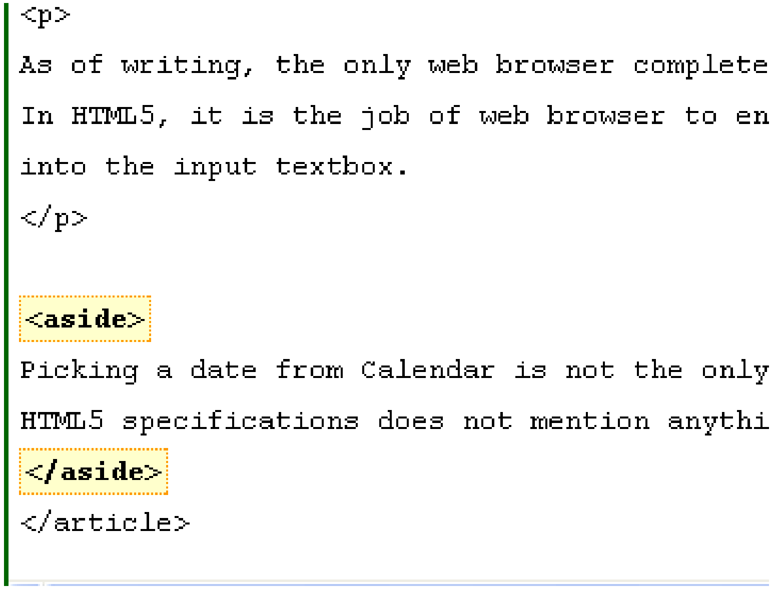
From McAfee to Websense to Kaspersky Lab, security vendors are looking to secure the growing number of mobile devices in the enterprise.

Iranian 'Cyber Army' Hacks Voice of America Sites

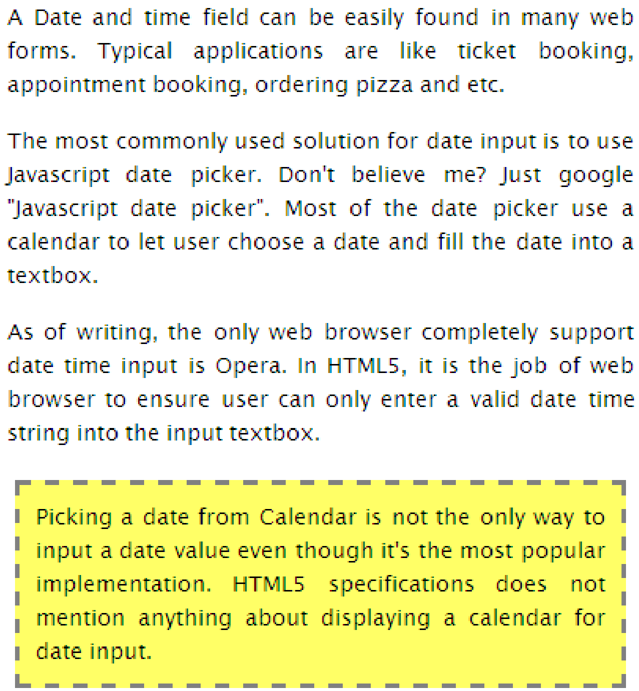
New Semantic/Structural Elements

<aside>

Information either unrelated or loosely related to the main content of a page should go in aside tags”.



```
<p>
As of writing, the only web browser complete
In HTML5, it is the job of web browser to en
into the input textbox.
</p>

<aside>
Picking a date from Calendar is not the only
HTML5 specifications does not mention anythi
</aside>
</article>
```



A Date and time field can be easily found in many web forms. Typical applications are like ticket booking, appointment booking, ordering pizza and etc.

The most commonly used solution for date input is to use Javascript date picker. Don't believe me? Just google "Javascript date picker". Most of the date picker use a calendar to let user choose a date and fill the date into a textbox.

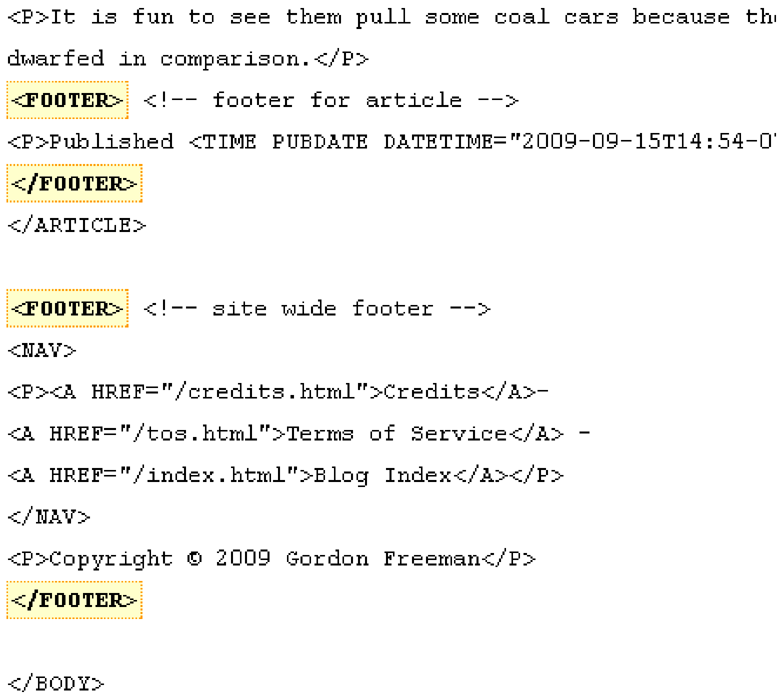
As of writing, the only web browser completely support date time input is Opera. In HTML5, it is the job of web browser to ensure user can only enter a valid date time string into the input textbox.

Picking a date from Calendar is not the only way to input a date value even though it's the most popular implementation. HTML5 specifications does not mention anything about displaying a calendar for date input.

New Semantic/Structural Elements

<footer>

Similarly to "header" element, "footer" element is often referred to the footer of a web page.

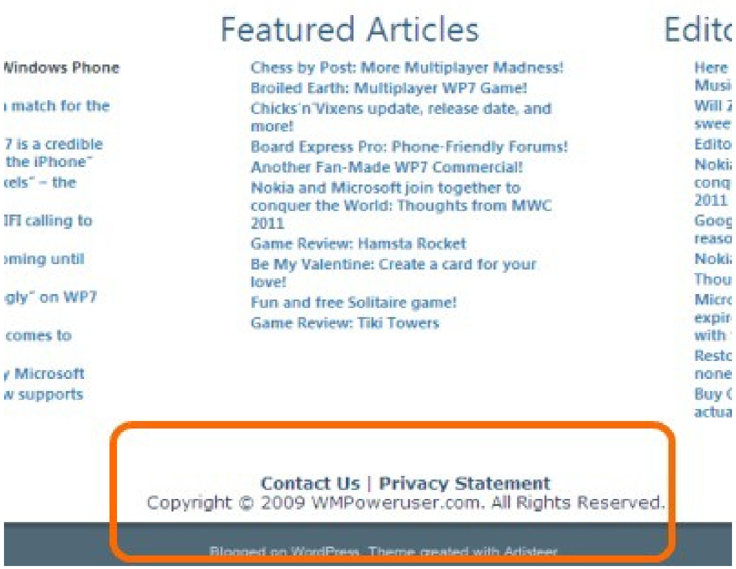


```
<P>It is fun to see them pull some coal cars because th
dwarfed in comparison.</P>
<FOOTER> <!-- footer for article -->
<P>Published <TIME PUBDATE DATETIME="2009-09-15T14:54-0
</FOOTER>
</ARTICLE>

<FOOTER> <!-- site wide footer -->
<NAV>
<P><A HREF="/credits.html">Credits</A>-
<A HREF="/tos.html">Terms of Service</A> -
<A HREF="/index.html">Blog Index</A></P>
</NAV>
<P>Copyright © 2009 Gordon Freeman</P>
</FOOTER>

</BODY>
```

http://www.html5tutorial.info/html5-footer.php

New Semantic/Structural Elements

<footer>



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gly" on WP7
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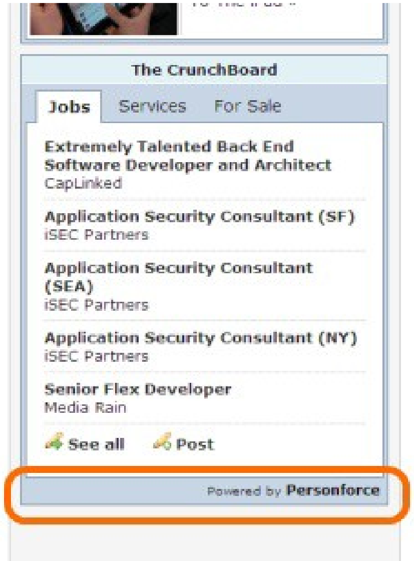

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iSEC Partners

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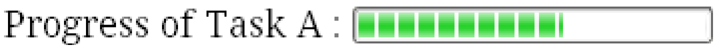
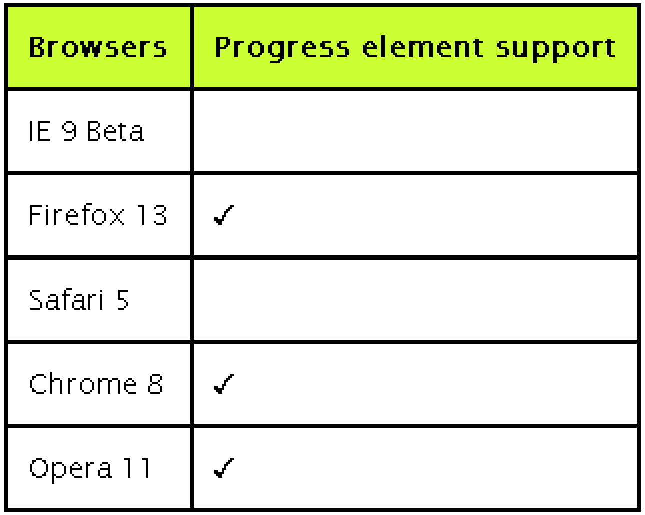
New Semantic/Structural Elements

<Progress>

Progress of Task A : <progress value="60" max="100">60%</progress>



Progress of Task A :



Browsers	Progress element support
IE 9 Beta	
Firefox 13	✓
Safari 5	
Chrome 8	✓
Opera 11	✓

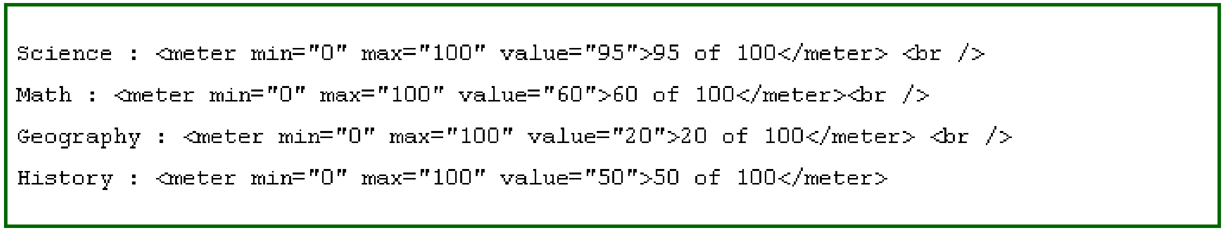
http://www.html5tutorial.info/html5-progress.php

New Semantic/Structural Elements

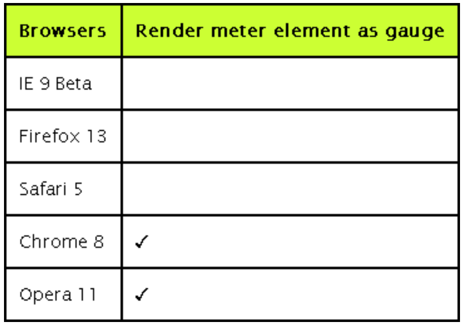
<meter>

"Meter" represents value of a known range as a gauge. One example is score of rating.

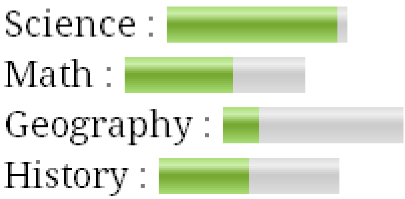
For example: I would rate this movie <meter min="0" max="10" value="8">8 of 10</meter>.



```
Science : <meter min="0" max="100" value="95">95 of 100</meter> <br />
Math : <meter min="0" max="100" value="60">60 of 100</meter><br />
Geography : <meter min="0" max="100" value="20">20 of 100</meter> <br />
History : <meter min="0" max="100" value="50">50 of 100</meter>
```

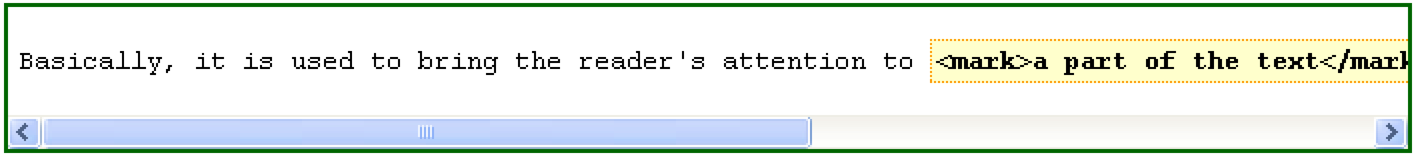


Browsers	Render meter element as gauge
IE 9 Beta	
Firefox 13	
Safari 5	
Chrome 8	✓
Opera 11	✓



New Semantic/Structural Elements

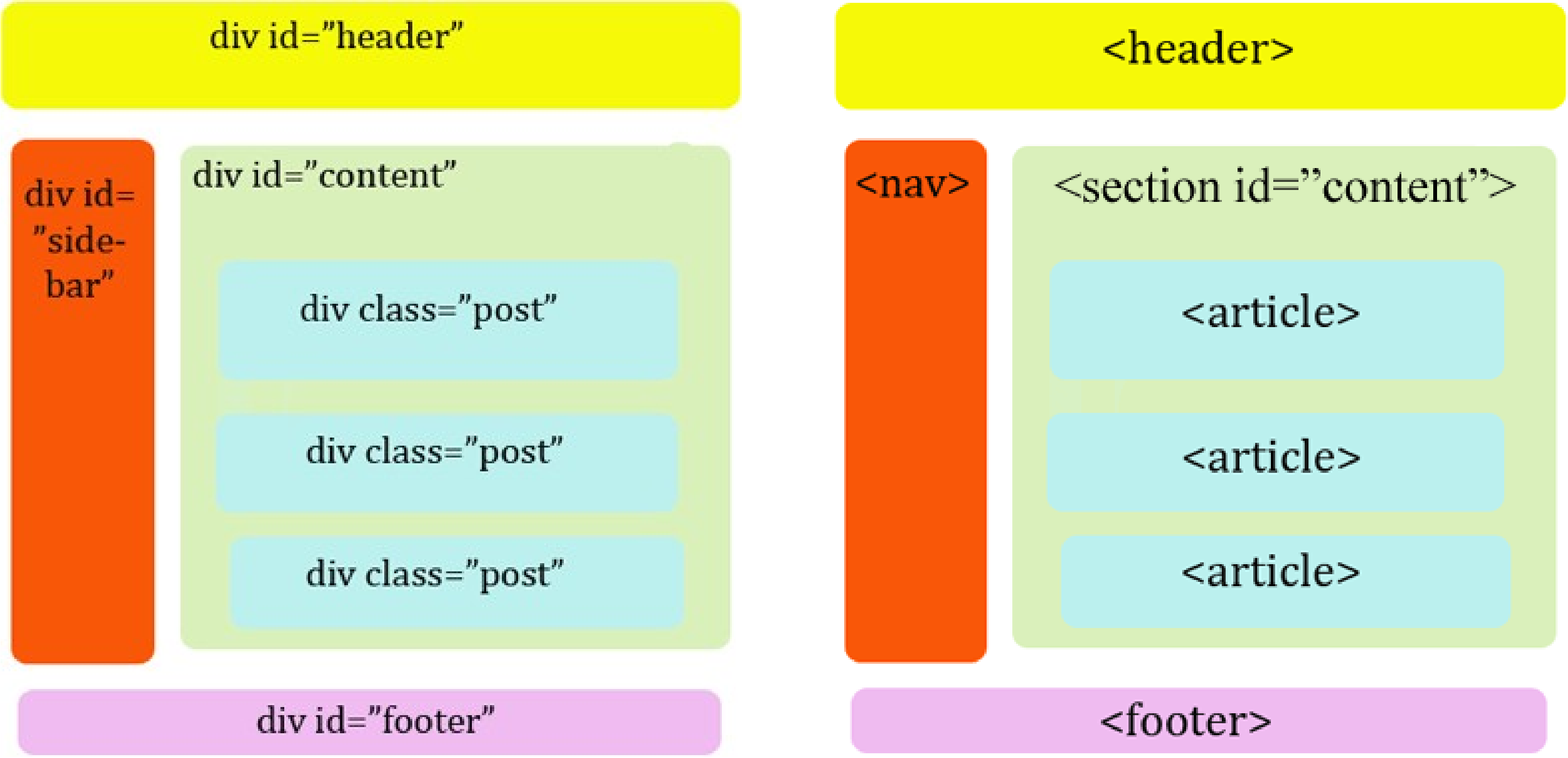
<mark>: The mark <mark> element represents a run of text in one document marked or highlighted for reference purposes, due to its relevance in another context.



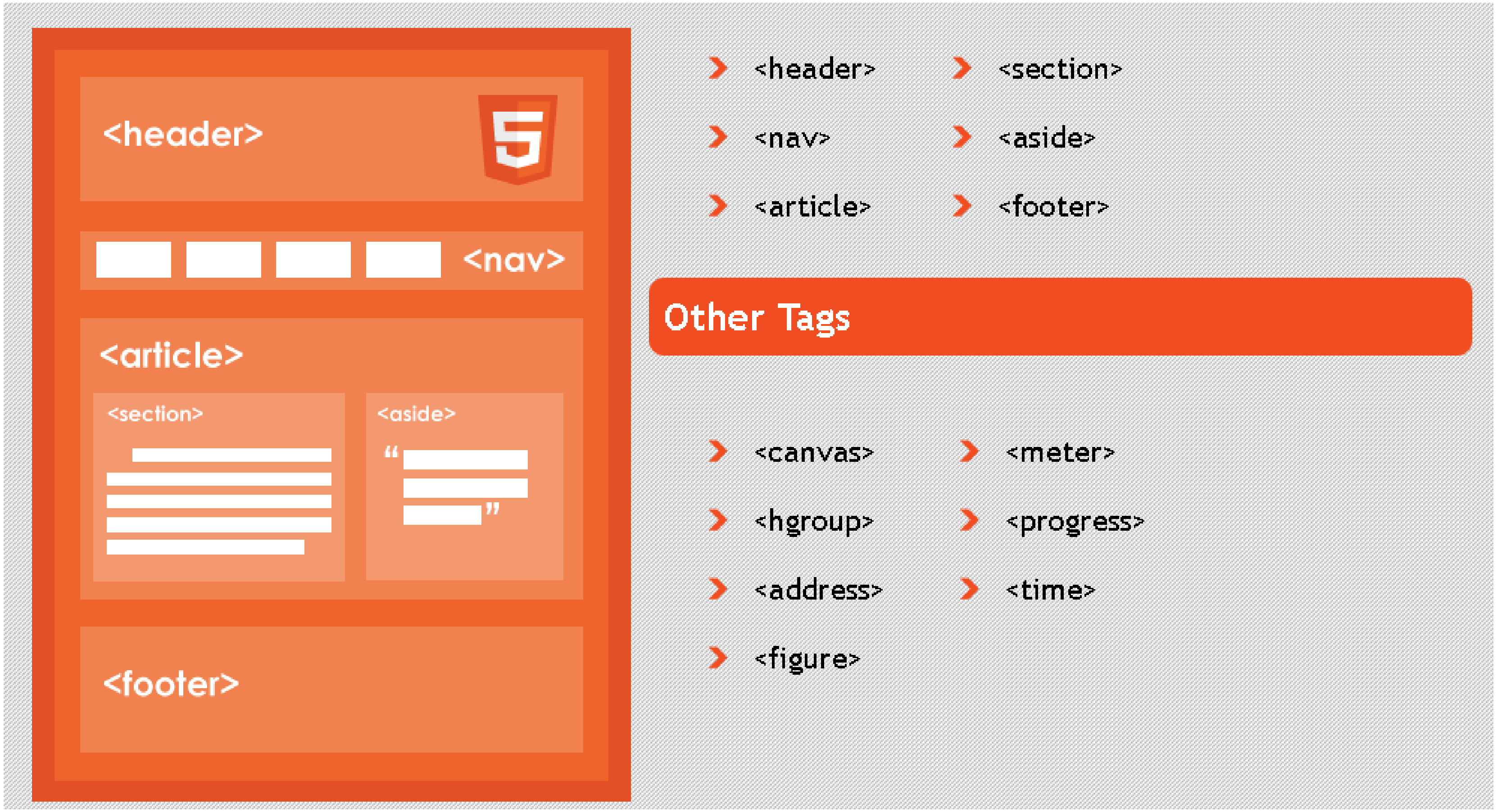
```
Basically, it is used to bring the reader's attention to <mark>a part of the text</mark
```

New Semantic/Structural Elements

The old vs. new



New Semantic/Structural Elements



- <header>
- <nav>
- <article>
- <section>
- <aside>
- <footer>

Other Tags

- <canvas>
- <hgroup>
- <address>
- <figure>
- <meter>
- <progress>
- <time>

Source: http://ftsanjuan.com/projects/html5/

Removed Elements

The following HTML 4.01 elements are removed from HTML5:

- <acronym>
- <applet>
- <basefont>
- <big>
- <center>
- <dir>
- <font>
- <frame>
- <frameset>
- <noframes>
- <strike>
- <tt>