

HTML5

The Future of HTML

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Warning!

All of this may change!

The spec is still in development!

Bye Bye

Elements

<basefont>

Use CSS instead

<big>

<center>

<s>

<strike>

<tt>

<u>

Use CSS instead

<frame>

<frameset>

<noframes>

Removed due to
poor usability & accessibility

<acronym>

Use <abbr> instead

<applet>

Use <object> instead

`<dir>`

Use `` instead

`<isindex>`

Use form controls instead

Attributes

align

bgcolor

height & on <td> & <th>

hspace & vspace

nowrap

valign

width

on <hr>, <table>, <td>, & <th>

New Elements

Metadata

HTML 4.01 elements

<head>

<title>

<base>

<link>

<meta>

<style>

Scripting

HTML 4.01 elements

`<script>`

`<noscript>`

Sections

HTML 4.01 elements

`<body>`

`<h1>-<h6>`

`<address>`

`<address>`

“contact information
for [the] nearest
article or body element ancestor”

“must not be used
to represent arbitrary addresses
(e.g. postal addresses)”

Use `<p>` instead

<http://dev.w3.org/html5/spec-author-view/sections.html#the-address-element>

<section>

“The **section** element represents a generic document or application section ... The **section** element is not a generic container element. When an element is needed for styling purposes or as a convenience for scripting, authors are encouraged to use the **div** element instead.”

You should almost always
start a section with a header

```
<section>  
<h2>Header</h2>  
<p>...</p>  
</section>
```

<article>

“a section of content that forms an independent part of a document or site”

In other words, content that can stand on its own, a specialized kind of <section>

<http://dev.w3.org/html5/markup/article.html>

`<article>`

An independent, self-contained
block of related content
“Can it stand on its own?”

`<section>`

A block of related content
“Is it related content?”

`<div>`

A block of content
“Is it a block of content?”

For more on when to use what,
see
“HTML5 articles and sections:
what’s the difference?”
[www.brucelawson.co.uk/2010/
html5-articles-and-sections-
whats-the-difference/](http://www.brucelawson.co.uk/2010/html5-articles-and-sections-whats-the-difference/)

Examples

Forum post

Magazine or newspaper article

Blog entry

User-submitted comment

Interactive widget

Any independent item of content

“Authors are encouraged to use the article element instead of the section element when it would make sense to syndicate the contents of the element.”

Typically has a header
& sometimes a footer

Use `<section>` to split `<article>`
into logical groups of content

```
<article>
  <h1>Cthulhu Mythos</h1>
  <p>Lorem ipsum</p>
  <section>
    <h2>Yog-Sothoth</h2>
    <p>Lorem ipsum</p>
  </section>
  <section>
    <h2>Nyarlathotep</h2>
    <p>Lorem ipsum</p>
  </section>
</article>
```

Use `<article>` to split `<section>`
into logical groups of content


```
<section>
  <h1>Articles on Cthulhu</h1>
  <article>
    <h2>Yog-Sothoth</h2>
    <p>Lorem ipsum</p>
  </article>
  <article>
    <h2>Nyarlathotep</h2>
    <p>Lorem ipsum</p>
  </article>
</section>
```

<aside>

Tangentially related content

- ✓ Sidebars
- ✓ Pull quotes
- ✓ Glossary
- ✓ Related links

<hgroup>

“... used to group a set of h1–h6 elements when the heading has multiple levels, such as subheadings, alternative titles, or taglines.”

<http://www.w3.org/TR/html5/semantics.html#the-hgroup-element>

<hgroup>

<h1>Dr. Strangelove</h1>

<h2>Or: How I Learned to Stop
Worrying and Love the Bomb</h2>

</hgroup>

<hgroup>

<h1>Google Apps Deciphered</h1>

<h2>Compute in the Cloud to
Streamline Your Desktop</h2>

</hgroup>

Do not use `<hgroup>`
if you have only one header element

~~`<hgroup>`
`<h1>Google Apps Deciphered</h1>`
`</hgroup>`~~

<header>

Introductory or navigational aids

Usually contains

- ✓ A section's heading
(<h1>-<h6> or <hgroup>)
- ✓ Table of contents
 - ✓ Logos
 - ✓ Search form

Does not introduce a new section;
it is the head of a section

`<footer>`

Replaces `<div id="footer">`

Footer not just for pages,
but also for sections too

Info such as

- ✓ Author
- ✓ Copyright
- ✓ Links to related content
- ✓ Contact info (in `<address>`)

`<nav>`

“a section of a page
that links to other pages
or to parts within the page:
a section with navigation links.”

Only “major navigation blocks”

No need for `<nav>` in `<footer>`

<http://www.w3.org/TR/html5/semantics.html#the-nav-element>

Grouping Content

HTML 4.01 elements

<p>

<hr>

<pre>

<blockquote>

<dl>

<dt>

<dd>

`<hr>`

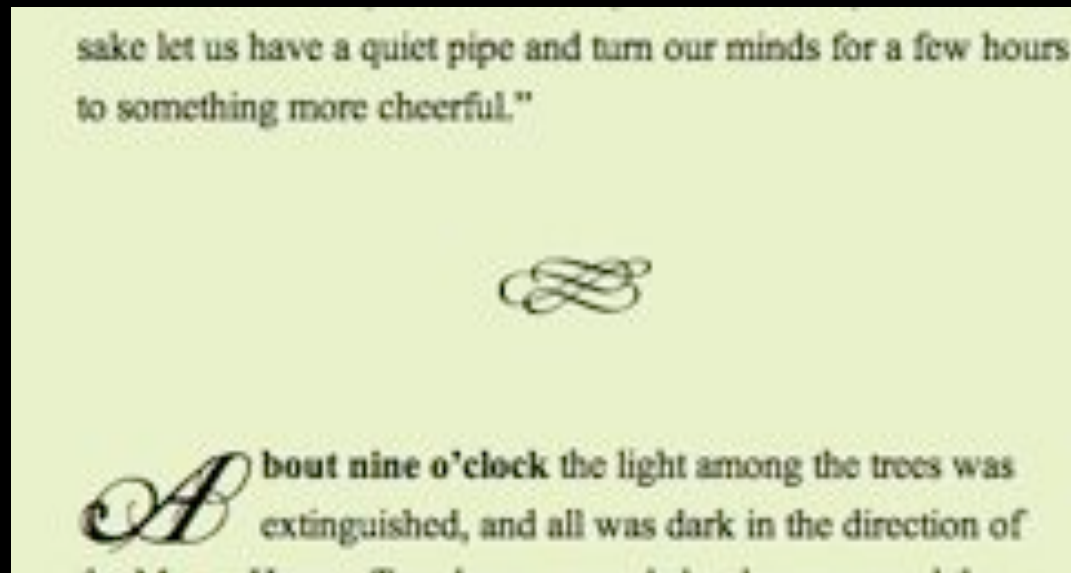
In HTML 4, inserted horizontal rule

In HTML5, indicates
“paragraph-level thematic break”
(not sections—use `<section>`)

Use to separate topics or scenes

<http://dev.w3.org/html5/markup/small.html>

Replace boring browser rendering with CSS



```
hr {height: 24px; background: url  
("flourish.png") no-repeat 50% 50%;  
margin: 3em 0; border: 0;}
```

Text-Level Semantics

HTML 4.01 elements

<a>

<var>

<samp>

<kbd>

<small>

<sub>

<cite>

<sup>

<q>

<i>

<dfn>

<abbr>

<bdo>

<code>

<i>

HTML 4: italic

HTML5: text in an “alternate voice”

Examples

Foreign words <i lang=“fr”>

Technical terms

Ship names

Stage directions

Typographically italicized text

HTML 4: bold

HTML5: “stylistically offset” text
that’s not more important

Examples

Keywords

Product names in a review
Typographically emboldened text

I t was nearly one o'clock when Sherlock Holmes returned from his excursion. He held in his hand a sheet of blue paper, scrawled over with notes and figures.

This is bold only for stylistic reasons,
not because it is more important

``

HTML 4: emphasis (italic)

HTML5: “stress emphasis” text

Examples

Something pronounced differently

“Come here *now!*”

``

HTML 4: strong emphasis (bold)

HTML5: “strong importance” text

Examples

Warning: Do not feed the bears.

`<small>`

In HTML 4, made text smaller

In HTML5, indicates
side comments & small print

Examples:

legal disclaimers, disclaimers,
copyright & licensing info,
& attributions

Inline equivalent of `<aside>`

<http://dev.w3.org/html5/markup/small.html>

<mark>

“a highlight that was not originally present but which has been added to bring the reader’s attention to a part of the text that might not have been considered important by the original author when the block was originally written, but which is now under previously unexpected scrutiny.”

<http://dev.w3.org/html5/spec/Overview.html#the-mark-element>



Scott Granneman

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Photos

www.flickr.com



Scott Granneman is an [author](#), [educator](#), and entrepreneur in St. Louis, Missouri. Scott has written three books - *Don't Click on the Blue E!: Switching to Firefox*, *Hacking Knoppix*, and *Linux Phrasebook* - and contributed to two: *Ubuntu Hacks* and *Microsoft Vista for the IT Security Professional*. In addition, he is a monthly columnist for SecurityFocus, and for Linux Magazine. He is an Adjunct Professor at Washington University in St. Louis, [teaching courses](#) on technology, security, and the Internet. As a Principal of [WebSanity](#), he plans, develops, and hosts websites for clients in nine states using a Unix-based content management system. He has given [presentations](#) all over the United States, and loves speaking to people.

Scott's Latest Book

The idea behind *Linux Phrasebook* is to give practical examples of Linux commands and their myriad options, with examples for everything. Too often a Linux user will look up a command in order to discover how it works, and while the command and its many options will be detailed, something vitally important will be left out: examples. That's where *Linux Phrasebook* comes in. I cover a huge number of different commands and their options, and for every single one, I give an example of usage and results that makes it clear how to use it.

[Buy Linux Phrasebook from Amazon!](#)

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Indicate the importance of words,
like errors or warning messages

**

Stress words to adapt meaning

<progress>

Represents task's progress

Can be

- ✓ Indeterminate
("I'm working but I don't know how long it'll take")
- ✓ Number in range
("I'm 75% done")

<http://www.w3.org/TR/html5/text-level-semantic.html#the-progress-element>

`<meter>`

“Scalar measurement within
a known range,
or a fractional value”

Must have minimum & maximum



Correct

You scored `<meter>75%</meter>`

Incorrect


You scored `<meter value="75">
</meter>`


`<meter value="0.5">`Moderate activity,
`</meter>` Usenet, 618 subscribers


`<meter value="0.25">`Low activity,
`</meter>` Usenet, 22 subscribers

`<meter value="0.25">`Low activity,
`</meter>` Usenet, 66 subscribers

Suggested groups - [Hide suggested groups](#)

[comp.infosystems.www.authoring.stylesheets](#) - [join](#)
Group description: Layout/presentation on the WWW.
 Usenet, 618 subscribers

[netscape.public.mozilla.xpinstall](#) - [join](#)
Group description: Mozilla XPInstall discussion.
 Usenet, 22 subscribers

[mozilla.dev.general](#) - [join](#)
 Usenet, 66 subscribers

<time>

“either a time on a 24 hour clock,
or a precise date
in the proleptic Gregorian calendar
... intended as a way
to encode modern dates and times
in a machine-readable way
so that user agents
can offer to add them
to the user’s calendar”

<http://www.w3.org/TR/html5/text-level-semantic.html#the-time-element>

“not intended for encoding times
for which a precise date or time
cannot be established”

<http://www.w3.org/TR/html5/text-level-semantic.html#the-time-element>

<ruby>

Ruby markup

<rp>

Ruby parenthesis

<rt>

Ruby text

```
...  
<ruby>  
漢 <rt> かん </rt>  
字 <rt> じ </rt>  
</ruby>  
...
```

This might be rendered as:

かん じ
... 漢字 ...

<http://www.w3.org/TR/html5/text-level-semantic.html#the-ruby-element>

Edits

HTML 4.01 elements

`<ins>`

``

Embedded Content

HTML 4.01 elements

<iframe>

<object>

<param>

<source>

<map>

<area>

<figure>

“annotate illustrations, diagrams, photos, code listings, etc, that are referred to from the main content of the document, but that could, without affecting the flow of the document, be moved away from that primary content, e.g. to the side of the page, to dedicated pages, or to an appendix.”

<http://www.whatwg.org/specs/web-apps/current-work/multipage/embedded-content-1.html#the-figure-element>

<dt>

Caption

<dd>

Contents

```
<figure>
  <dd><video src="basterds.mov"></
video>
  <dt>Figure 6. The
<cite>Inglourious Basterds</cite>
trailer.
</figure>
```

```
<figure>
  <dd>
    <p>'Twas brillig, and the
slithy toves
    <br>Did gyre and gimble in the
wabe;</p>
  </dd>
  <dt><cite>Jabberwocky</cite>.
Lewis Carroll, 1832-98</dt>
</figure>
```

<canvas>

“a resolution-dependent
bitmap canvas,
which can be used for
rendering graphs,
game graphics,
or other visual images
on the fly.”

<http://www.w3.org/TR/html5/the-canvas-element.html#the-canvas-element>

“a rectangle in your page
where you can use JavaScript
to draw anything you want ...

[using]

a set of functions (“the canvas API”)
for drawing shapes,
defining paths,
creating gradients,
and applying transformations.”

<http://diveintohtml5.org/detect.html>

`<embed>`

Insert external (typically non-HTML)
application or interactive content

`<audio>`

Play audio without plugins

Embed Flash as a fallback

<http://www.w3.org/TR/html5/video.html#audio>
<http://html5doctor.com/native-audio-in-the-browser/>

```
<audio src="elvis.ogg" controls  
autobuffer></audio>
```

autoplay

autobuffer

Download file in background

loop

| | | | | | |
|-----|---|--|---|---|--|
| Ogg |  | | |  | |
| MP3 |  |  | | | |
| WAV | |  |  |  | |

`<video>`

Play video without Flash
or other plugins

```
<video width="640" height="360"  
src="http://www.youtube.com/demo/  
google_main.mp4" controls></video>
```






autoplay

autobuffer

No autoplay,
so video downloaded in background

poster="action.png"

Display image if video doesn't load

| | | | | | |
|-------------|---|--|---|---|---|
| Ogg |  | |  |  | |
| H.264 (MP4) |  |  | | |  |
| WebM |  | |  |  | |

`<source>`

“allows authors
to specify multiple media resources
for media elements.

It does not represent anything
on its own.”

Always a child of media elements
`<video>` & `<audio>`

<http://www.w3.org/TR/html5/video.html#the-source-element>


```
<video>
```

```
...
```

```
  <source src="video.mp4"  
type="video/mp4">
```

```
  <source src="video.ogv"  
type="video/ogg; codecs='theora,  
speex'">
```

```
</video>
```

Tabular Data

HTML 4.01 elements

| | |
|-------------------------------|----------------------------|
| <code><table></code> | <code><thead></code> |
| <code><caption></code> | <code><tfoot></code> |
| <code><colgroup></code> | <code><tr></code> |
| <code><col></code> | <code><td></code> |
| <code><tbody></code> | <code><th></code> |

Forms

HTML 4.01 elements

<form>

<select>

<fieldset>

<optgroup>

<label>

<option>

<input>

<textarea>

<button>

<datalist>

“ a set of option elements that represent predefined options for other controls.

The contents of the element represents fallback content for legacy user agents, intermixed with option elements that represent the predefined options.”

<http://www.w3.org/TR/html5/forms.html#the-datalist-element>

<keygen>

“... a key pair generator control.
When the control’s form
is submitted,
the private key
is stored in the local keystore,
and the public key
is packaged and sent to the server.”

<http://www.w3.org/TR/html5/forms.html#the-keygen-element>

`<output>`

“the result of a calculation.”

<http://www.w3.org/TR/html5/forms.html#the-output-element>

Interactive

`<menu>`

Represents a list of commands

`<menu type="context|toolbar|list">`

```
<menu type="toolbar">
  <li>
    <menu label="File">
      ...
    </menu>
  </li>
  <li>
    <menu label="Edit">
      <button type="button" onclick="ecopy
()(">Copy</button>
      <button type="button">Cut</button>
    </menu>
  </li>
</menu>
```



```
<menu>
  <li>
    <menu label="Help">
      <li><a href="help.html">Help</a></
li>
      <li><a href="about.html">About</a></
li>
    </menu>
  </li>
</menu>
```

`<hr>` used as separator

`<command>`

A command that a user can run

<http://www.w3.org/TR/html5/interactive-elements.html#the-command>

`<details>`

“additional information or controls
which the user
can obtain on demand.”

<http://www.w3.org/TR/html5/interactive-elements.html#the-details-element>

Miscellaneous

HTML 4.01 elements

`<legend>`

`<div>`

Microformats

What's a *microformat*?

“web-based approach
to semantic markup
which seeks to re-use
existing HTML/XHTML tags
to convey metadata
& other attributes
in web pages”

Data encoded in webpages
(contact info, calendar events, etc.)
that allows software
to automatically process that data
for end-users

For more, see
microformats.org

hCard

Represents
people, companies,
organizations, & places

Uses a 1:1 representation of vCard

(1)

Find a photo of yourself
& name it your-name.jpg

(2)

Upload your-name.jpg
to your website

(3)

Create your own hCard
microformats.org/code/hcard/creator

(4)

Save the code to
your-name.htm

(5)

Upload your-name.htm
to your website

(6)

Enter the URL
pointing to your-name.htm
at h2vx.com/vcf/

(7)

Use the generated HTML
on your webpages
(Feel free to change the text
inside the `<a>`)

H2VX

Contacts Conversion Service

Download *hCard* contacts to your address book

Web address:

<http://www.granneman.com/scott-granneman-hcard.htm>

Download

URL <http://h2vx.com/vcf/www.granneman.com/scott-granneman-hcard.htm>

HTML `<a type="text/directory" href="http://h2vx.com/vcf/www.granneman.com/scott-granneman-hc`

Further reading

“hCard 1.0”

microformats.org/wiki/hcard

“hCard authoring”

[microformats.org/wiki/
hcard-authoring](http://microformats.org/wiki/hcard-authoring)

“hCard microformat Validator”

hcard.geekhood.net

hCalendar

Represents calendaring events
Uses a 1:1 representation
of iCalendar

(1)

Create your own hCard
[microformats.org/code/
hcalendar/creator](http://microformats.org/code/hcalendar/creator)

(2)

Save the code to
`your-event.htm`

(3)

Upload `your-event.htm`
to your website

(4)

Enter the URL
pointing to your-name.htm
at h2vx.com/ics/

(5)

Use the generated HTML
on your webpages
(Feel free to change the text
inside the `<a>`)

H2VX

Events Conversion Service

Download or subscribe to *hCalendar* events

Web address:

<http://microformats.org/wiki/events>

Download

Subscribe

URL <http://h2vx.com/ics/microformats.org/wiki/events>

HTML `Download iC`

subscribe `Subscribi`

Further reading

“hCalendar 1.0”

[microformats.org/wiki/
hCalendar](http://microformats.org/wiki/hCalendar)

“hCalendar authoring”
[microformats.org/wiki/
hcalendar-authoring](http://microformats.org/wiki/hcalendar-authoring)

Problems & Solutions

IE

```
<!--[if IE]>  
  <script src="http://  
html5shiv.googlecode.com/svn/  
trunk/html5.js"></script>  
<![endif]-->
```

Modernizr

Google Chrome Frame

Thank you!

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HTML5

The Future of HTML

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Questions? Email scott@granneman.com