

HTML5 & CSS3: New Markup & Styles for the Emerging Web

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New Semantic Markup Elements

Tag	Description
<article>	For external content, like text from a news-article, blog, forum, or any other content from an external source
<aside>	For content aside from the content it is placed in. The aside content should be related to the surrounding content
<command>	A button, or a radiobutton, or a checkbox
<details>	For describing details about a document, or parts of a document
<summary>	A caption, or summary, inside the details element
<figure>	For grouping a section of stand-alone content, could be a video
<figcaption>	The caption of the figure section
<footer>	For a footer of a document or section, could include the name of the author, the date of the document, contact information, or copyright information
<header>	For an introduction of a document or section, could include navigation
<hgroup>	For a section of headings, using <h1> to <h6>, where the largest is the main heading of the section, and the others are sub-headings
<mark>	For text that should be highlighted
<meter>	For a measurement, used only if the maximum and minimum values are known
<nav>	For a section of navigation
<progress>	The state of a work in progress
<ruby>	For ruby annotation (Chinese notes or characters)
<rt>	For explanation of the ruby annotation
<rp>	What to show browsers that do not support the ruby element
<section>	For a section in a document. Such as chapters, headers, footers, or any other sections of the document
<time>	For defining a time or a date, or both
<wbr>	Word break. For defining a line-break opportunity.

New Media Elements

Tag	Description
<audio>	For multimedia content, sounds, music or other audio streams
<video>	For video content, such as a movie clip or other video streams
<source>	For media resources for media elements, defined inside video or audio elements
<embed>	For embedded content, such as a plug-in

The Canvas Element

Tag	Description
<canvas>	For making graphics with a script

New Form Elements

Tag	Description
<datalist>	A list of options for input values
<keygen>	Generate keys to authenticate users
<output>	For different types of output, such as output written by a script

New Form Input Elements

Type	Description
tel	The input value is of type telephone number
search	The input field is a search field
url	The input value is a URL
email	The input value is one or more email addresses
datetime	The input value is a date and/or time
date	The input value is a date
month	The input value is a month
week	The input value is a week
time	The input value is of type time
datetime-local	The input value is a local date/time
number	The input value is a number
range	The input value is a number in a given range
color	The input value is a hexadecimal color, like #FF8800

A Minimal HTML5 Document

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>title</title>
  <link rel="stylesheet" href="style.css">
  <script src="script.js"></script>
</head>
<body>
  <!-- page content -->
</body>
</html>
```

The HTML 5 specification

The HTML 5 specification (<http://dev.w3.org/html5/spec/Overview.html>) goes into great detail to list the multitude of additions and extensions. Read it at your convenience, but it's really kind of a sleeper. The more exciting features, like native audio and video, have been covered and implemented by some of the web's largest companies (Apple and Google have been early proponents). Here's a quick distillation of some of the top level features of the standard.

- Semantic and Functional Markup
 - New markup tags such as header, footer, nav, section, article, aside, figure, and the contenteditable attribute allow for better divisions of content and provide meaningful human and machine readable tags to help better understand the types of content that make up an HTML document.
- Smart Forms
 - New field types like email and date allow search boxes and text inputs access to better tools for validating and interacting with user requests.
- Geolocation
 - Part of the location API maintained by World Wide Web Consortium (w3c) which does what you would expect: allows your browser (and therefore, your web app) to track a user's physical location. Imagine customized search results based on where you are sitting or Facebook notifications to friends located near you.
- Native Video and Audio
 - Simple markup that allows embedding, streaming, and playback of video and audio. Markup like `<video src="turkish.mp4" controls></video>` will create a video player right in your browser without the need for a plugin.
- Offline Storage
 - Think of this like "Cookies on Steroids". This new functionality enables full, persistent database-like storage within the browser. You can take your apps offline and still be making edits and changes to your data. Google made waves earlier this year when they demoed a full gmail client using HTML 5 and offline storage.

- Canvas Element
Developers can create graphics, images, games, and visualizations by using the <canvas> tag to draw elements into the browser using simple programming and markup. Again, there is no need for a plugin.
- Drag and Drop, Web Workers
A focus on common user interface conventions such as drag and drop as well as threaded processing of data behind the scenes with Web Workers make it easy to build common web apps like real-time chat into your site.

Further Reading and Resources

Dive into HTML 5

<http://diveintohtml5.org/>

HTML 5 Demos and Examples (from Remy Sharp)

<http://html5demos.com/>

HTML5ROCKS

<http://www.html5rocks.com/>

HTML5 Tag Reference (W3Schools)

w3schools.com/html5/html5_reference.asp

Cross Browser Support Tables

www.findmebyip.com/litmus/

HTML5 Doctor

html5doctor.com

CSS3 Previews (CSS3.info)

www.css3.info/preview/

HTML5 & CSS3 Cheat Sheets

webresourcesdepot.com/html-5-and-css3-cheat-sheets-collection/

HTML5 Boilerplate

<http://html5boilerplate.com/>

Modernizr

<http://www.modernizr.com/>