

# HTML 5 Specification

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HTML5 is the next major revision of the HTML standard, currently under development. Like its immediate predecessors, HTML 4.01 and XHTML 1.1, HTML5 is a standard for structuring and presenting Internet content.

HTML and XHTML comprise a mixture of features introduced by various specifications, including those introduced by software products such as web browsers and those established by common practice. HTML5 is a single markup language that can be written in either HTML or XHTML syntax. It includes detailed processing models to encourage more interoperable implementations. It extends and improves the markup available for documents and introduces markup and APIs for complex web applications.

Most of the new features of HTML5 are supported by common browsers such as Mozilla Firefox, Google Chrome, Internet Explorer, Opera and mobile browsers.

HTML5 supports:

All the form controls from HTML 4. All applications working on HTML4 work on HTML5.

New input controls such as:

Sliders and date pickers.

Email, which looks just like a text box, but can be customized. For example, mobile browsers can customize their onscreen keyboard to make it easier to type e-mail addresses. In older browsers that do not support the email, the input type is treated as a regular text field and the form works without requiring markup changes or scripting hacks.

## HTML5 Markup and APIs

HTML5 introduces a number of new elements and attributes. Some of them are semantic replacements for common uses of generic blocks (`<div>`) and inline (`<span>`) elements, for example:

`<nav>`

A website navigation block

`<footer>`

Usually referring to the bottom of a web page or to the last lines of HTML code.

`<audio>`

Embeds an audio file on a web page. Replaces `<object>` used in previous HTML versions. More information:

[http://en.wikipedia.org/wiki/HTML5\\_audio](http://en.wikipedia.org/wiki/HTML5_audio)

`<video>`

Embeds a video file on a web page. Replaces `<object>` used in previous HTML versions. More information:

[http://en.wikipedia.org/wiki/HTML5\\_video](http://en.wikipedia.org/wiki/HTML5_video)

In addition to specifying markup, HTML5 specifies scripting application programming interfaces (APIs). Existing document

object model (DOM) interfaces are extended and defacto features documented.

# HTML5 and Samsung Smart TV SDK

Samsung Smart TV SDK supports HTML5, including the canvas, audio and video tags.

## Canvas Tag

The <canvas> tag allows for dynamic, scriptable rendering of 2D shapes and bitmap images. It is a low-level, procedural model that updates a bit map and doesn't have a built-in scene graph.

The following code creates a canvas element in an HTML page:

```
<canvas id="example" width="200" height="200">  
    This text is displayed if your browser does NOT support HTML5 canvas.  
</canvas>
```

You can write text inside the <canvas> tag to show older browsers that the <canvas> tag is not supported.

For example, use JavaScript to draw on the canvas:

```
var example = document.getElementById('example');  
var context = example.getContext('2d');  
context.fillStyle = "rgb(255,0,0)";  
context.fillRect(30, 30, 50, 50);
```

## Audio Tag

The <audio> tag defines sound, such as music or other audio streams. For example:

```
<audio src="example-sound.mp4">  
    Your browser does NOT support the audio element.  
</audio>
```

You can write text inside the <audio> tag to show older browsers that the <audio> tag is not supported.

New Attributes of <audio> tag in HTML5

Attribute	Value	Description
Autoplay	autoplay	If present, the audio starts playing as soon as it is ready.
Loop	loop	If present, the audio starts over again, every time it is finished.
Preload	auto\metadata\none	Specifies if the audio should be loaded when the page loads. Ignored if autoplay is present.
Src	url	Defines the URL of the audio to play

## Video Tag

Before HTML5, there was no standard for showing video on a web page or in an application. In most applications videos are shown through a plugin (like Flash). Now, the <video> tag provides a standard way to include video.

Currently the SDK supports the following video formats for use with the <video> tag:

Format	IE 8	Firefox 3.5	Opera 10.5	Chrome 3.0	Safari 3.0
Ogg	No	Yes	Yes	Yes	No
MPEG 4	No	No	No	Yes	Yes

Ogg

Ogg files with Theadora video codec and Vorbis audio codec

MPEG4

MPEG 4 files with H.264 video codec and AAC audio codec

In the following example the control attribute is for adding play, pause and volume controls.

Note that it is recommended that you specify the width and height attributes and that you insert appropriate text between the <video> and </video> tags for browsers that do not support the video element:

```
<video src="movie.mp4" width="320" height="240">
```

Your browser does not support the video tag.

```
</video>
```

The following table lists the <video> attributes.

Attribute	Value	Description
autoplay	autoplay	Specifies that the video will start playing as soon as it is ready.
controls	controls	Specifies that controls will be displayed, such as a play button.
Height	pixels	Specifies the height of the video player.
Loop	loop	Specifies that the media file will start over again, every time it is finished.
Preload	preload	Specifies that the video will be loaded at page load and ready to run. Ignored if "autoplay" is present.
Src	url	Specifies the URL of the video to be played.
Width	pixels	Specifies the width of the video player.

## Specification table

The following table illustrates the specifications for HTML5. **Test site:** <http://html5test.com/>

<b>Doctype</b>	<!DOCTYPE html> triggers standards mode	Yes
<b>Canvas</b>	canvas element	Yes
	2D context	Yes
	Text	Yes
<b>Video</b>	video element	Yes
	H.264 codec support	Yes
	Ogg Theora codec support	No
<b>Audio</b>	audio element	Yes
	MP3 codec support	Yes
	Ogg Vorbis codec support	No
	AAC codec support	Yes
	WAV codec support	Yes
<b>Geolocation</b>	Geolocation	Yes
<b>Storage</b>	Session Storage	Yes
	Local Storage	Yes
<b>Offline Web Applications</b>	Application Cache	Yes
	Web SQL Database	Yes
<b>Workers</b>	Web Workers	Yes
<b>Section elements</b>	section element	Yes
	nav element	Yes
	article element	Yes
	aside element	Yes
	hgroup element	Yes

	header element	Yes
	footer element	Yes
<b>Grouping content elements</b>	figure element	Yes
	figcaption element	Yes
<b>Text-level semantic element</b>	mark element	Yes
	ruby element	Yes
	rt element	Yes
	rp element	Yes
	time element	No
<b>Forms</b>	search input type	Yes
	tel input type	Yes
	url input type	Yes
	email input type	Yes
	datetime input type	Yes
	date input type	Yes
	month input type	Yes
	week input type	Yes
	time input type	Yes
	datetime-local input type	Yes
	number input type	Yes
	range input type	Yes
	color input type	Yes
	autocomplete input attribute	Yes
	autofocus input attribute	Yes
	list input attribute	Yes
	placeholder input attribute	Yes
	max input attribute	Yes
	min input attribute	Yes
	multiple input attribute	Yes
	pattern input attribute	Yes
	required input attribute	Yes
	step input attribute	Yes
	keygen element	Yes
	output element	Yes
	progress element	Yes
	meter element	Yes
<b>User interaction</b>	hidden attribute	Yes

Scroll into view	Yes
contenteditable attribute	Yes
Drag and drop	No
Undo manager	No