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Creating web pages HTML5 Video

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Introduction

- This presentation includes additional information about HTML5 `<video>` tag
- Sources:
 - Mark Pilgrim, “HTML5: Up and Running”, O’Reilly Media. 2010. <http://diveintohtml5.org>
 - Wikipedia
 - CNET.com





<video> tag

- <video> tag is intended for including video in a web page without the need of an external plug-in
- Unfortunately HTML5 did not define any mandated video format to be supported by all HTML5 browsers.
- Browsers that support <video> tag:
 - IE 9.0+
 - FireFox 3.5+
 - Safari 3.0+
 - Chrome 3.0+
 - Opera 10.5+
 - iOS ALL
 - Android 2.0+





Video Formats

- Video files (AVI, MPG, MP4, M4V...) are just container formats (more similar to ZIP files)
- Video files contain multiple "tracks":
 - Video track (without audio)
 - Several audio tracks (different languages)
- Video tracks may come compressed with several codecs.



Video Formats

.mpg .mpeg – MPEG 2, typical of DVDs

.mp4 .m4v – MPEG 4, based on Apple's older QuickTime (.mov)

.ogv– OGG container. Typically uses video Theora and audio Vorbis.


.webm – WebM container. Video comes **always** in VP8 format and audio in Vorbis

.avi – Old Microsoft format without official support for modern video and audio codecs.





Video codecs



- H.264

- also known as MPEG-4 part 10, or MPEG-4 AVC
- Capable of different levels of quality (mobile or broadband)
- Subject to patents MPEG LA
- Very extended. Dedicated chips available.
- Included in all iOS devices, Android, all blu-ray



- VP8

- similar technical characteristics as H.264
- No chips available yet. Not very extended.
- Google bought it for \$124 million and made it royalty-free



Browser support

VIDEO CODEC SUPPORT IN UPCOMING BROWSERS

CODECS/CONTAINER	IE	FIREFOX	SAFARI	CHROME	OPERA	IPHONE	ANDROID
Theora+Vorbis+Ogg	·	3.5+	†	5.0+	10.5+	·	·
H.264+AAC+MP4	9.0+	·	3.0+	5.0+	·	3.0+	2.0+
WebM	9.0+*	4.0+	†	6.0+	10.6+	·	‡

Google recently announced that is going to remove H.264 support in Chrome 6 (not in Android).



Advanced <video> tab

```
<video width="320" height="240" controls>  
  <source src="pr6.mp4" type='video/mp4; codecs="avc1.42E01E, mp4a.40.2"'>  
  <source src="pr6.webm" type='video/webm; codecs="vp8, vorbis"'>  
  <source src="pr6.ogv" type='video/ogg; codecs="theora, vorbis"'>  
</video>
```



