

# HTML5 & Future of Web Media

Streaming Media West Workshop, Nov. 2010

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# Single Platform Provider

vs.

# Multiple vendors



# Why a single platform provider is nice

Worldwide Ubiquity of Adobe Flash Player by Version - June 2010

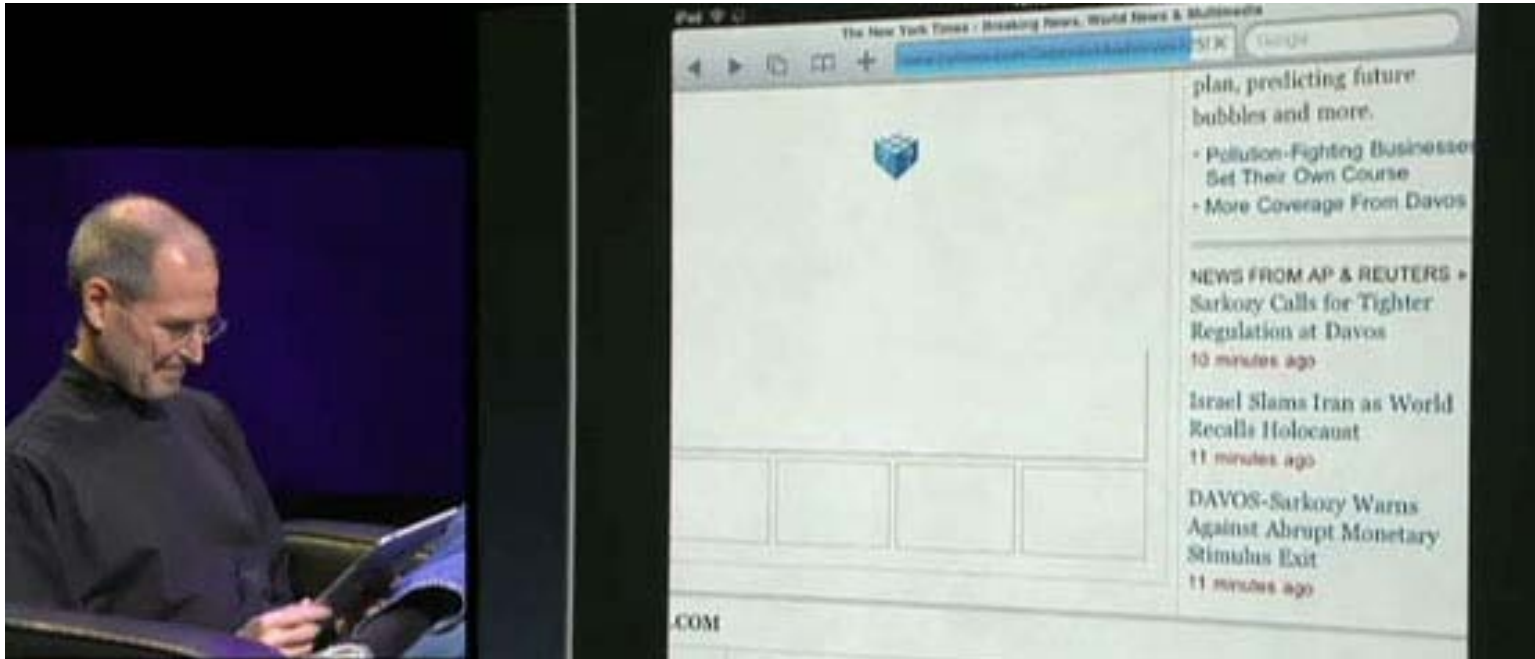
	Flash Player 8 & below	Flash Player 9	Flash Player 10
Mature Markets <sup>1</sup>	99.3%	99.2%	97.5%
US/Canada	99.1%	99.1%	97.5%
Europe <sup>2</sup>	99.3%	99.0%	97.9%
Japan	99.7%	99.7%	97.1%
Australia/New Zealand <sup>4</sup>	99.7%	99.7%	96.8%
Emerging Markets <sup>3</sup>	99.0%	98.9%	96.1%

# Single target platform

Platform provider can direct complicated top down innovation on both “authoring tools” and “player”

{There is no GOOD alternative}

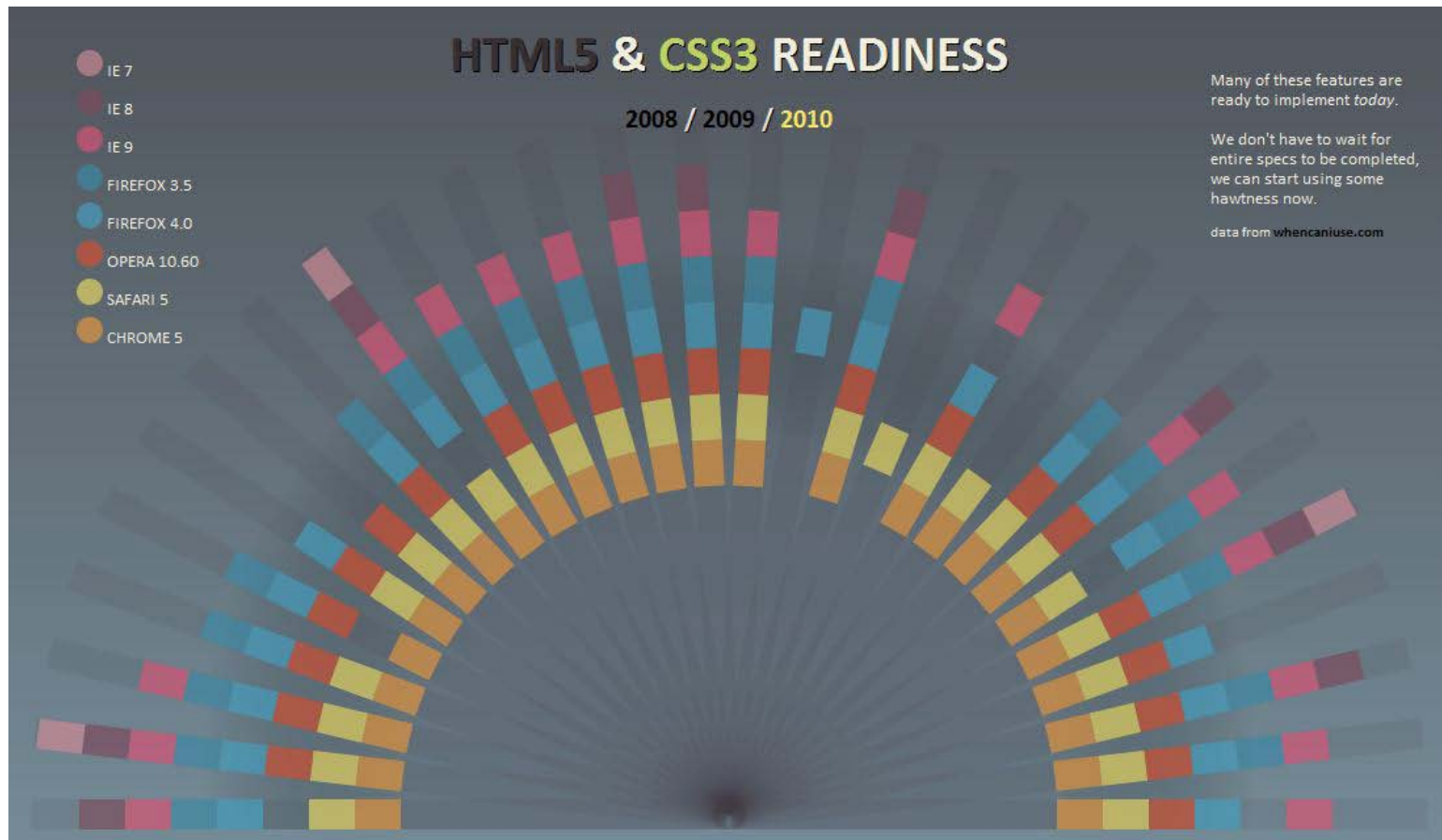
# What happens when the market change?



**#FAIL**

# Enter HTML5

A “single” platform with multiple “providers”





standards

# Open standard process

Standard process: political, difficult and slow

{too} Many stake holders.

Different implementations

DRM, Media URL obfuscation, Device layer,

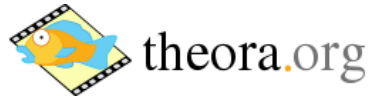
Codecs...



H.264

FIVE...  
MILLION...  
DOLLARS...

# Firefox, Chrome and Opera will support the WebM IE9 / Safari will support it if the user has the codec installed



Target Platform / Browser	Status	Notes	Fallback?
IE6-IE8	not supported	Supported through Chrome Frame	Flash
IE9	supported	H264 (WebM if codec is installed, only desktop)	
Minefield (Firefox Nightly)	supported	WebM, Theora	
Firefox WebM Build 4	supported	WebM, Theora	
Firefox 3.6	supported	Theora	
Firefox 3.5	supported	Theora	
Firefox 3	not supported	-	Flash
Opera 10	supported	WebM, Theora	
Chromium 6 (Chrome Nightly)	supported	WebM, H264	
Chrome 3+	supported	WebM, H264	
Safari 4, 5 (Mac)	supported	H264 (WebM if codec is installed, only desktop)	
Safari 3 (PC)	not supported		Flash
iPad (3.2)	supported	H264 full profile up to 720P	
iPhone OS 4.x	supported	H264 full profile on iPhone 4 devices ( 720P )	
iPhone OS 3.x	supported	H.264 base profile ( 480P ) on any thing older than 3GS )	
iPhone OS 2	not supported		No
Android 2.2	supported	only plays in full-screen no overlays, canPlayType api not support ( so we just low end h.264 video )	
Android 2.1	mostly supported	Same restrictions as above.	
Android < 2	not supported		No

**No custom codecs  
in QuickTime**



Ummm.... What about symbian, blackberry, palm...?

# <video>

<video

src=""

The url to the video stream

width=""

The width of the video element

height=""

The height of the video element

poster=""

The url to the thumbnail of the video

preload=""

none, metadata, auto

autoplay

Video should play immediately

loop

Video should return to start and play

controls

Will show controls (play, pause...)

>

...

</video>

# <source>

```
<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>
```

```
AddType video/ogg .ogv  
AddType video/mp4 .mp4  
AddType video/webm .webm
```

**Due to bug in iPad, mp4 should always be first  
Android doesn't like type (remove it from the h264 source)**

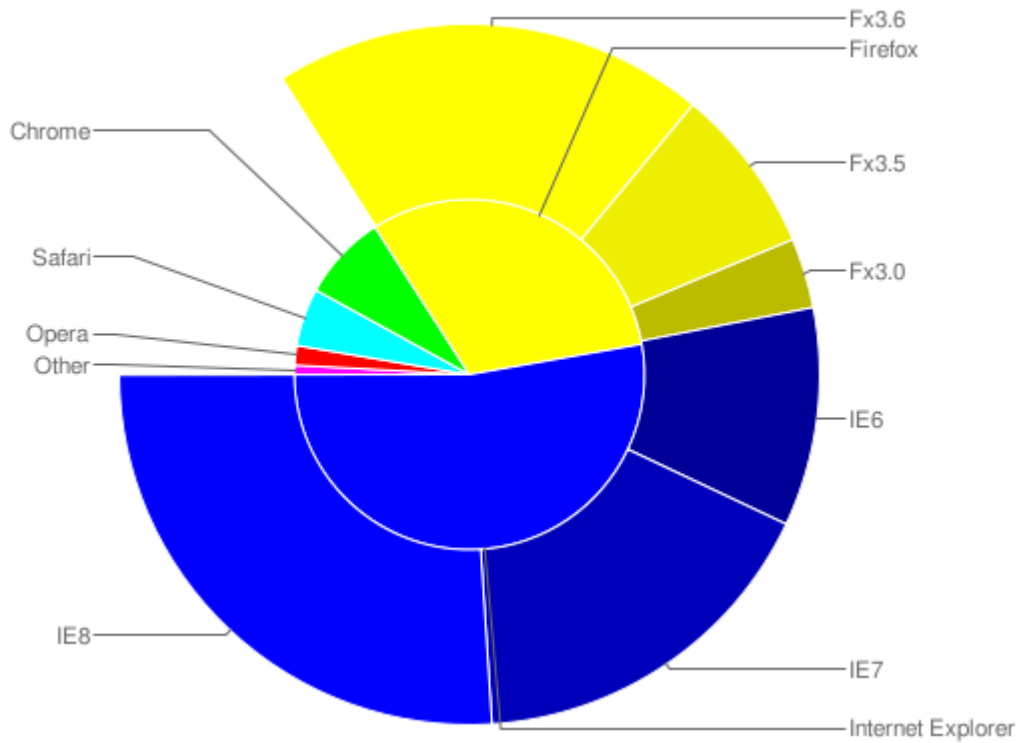
# Challenges in consistent experience

iPhone iOS 4 != iPhone iOS 3 != iPad iOS3  
Android 2.x != Android 1.7 != Firefox 4 != firefox  
3.6 != Chrome 7 != Desktop Safari Windows !=  
Desktop safari mac != playback format: h.264  
base profile != h.264 iTouch profiles != webM !=  
ogg != apple http adaptive streaming != adobe  
adaptive != silverlight sooth stream.

*... this situation is almost as ugly as this slide.*

# Extremely Slow upgrade path for IE

Usage Share of Web Browser Versions: April 2010



## English



**You are using an outdated browser**  
For a better experience using this site, please upgrade to a modern web browser.



```
<!--[if lt IE 7]>  
<div style='border: 1px solid #F7941D; background: #FFEEFA; text-align: center;  
clear: both; height: 75px; position: relative;'>
```

## Spanish



**Usted está usando un navegador obsoleto.**  
Para navegar mejor por este sitio, por favor, actualice su navegador.



```
<!--[if lt IE 7]>  
<div style='border: 1px solid #F7941D; background: #FFEEFA; text-align: center;  
clear: both; height: 75px; position: relative;'>
```

**HTML5 and Flash hybrid:  
Web multimedia  
for the foreseeable future**

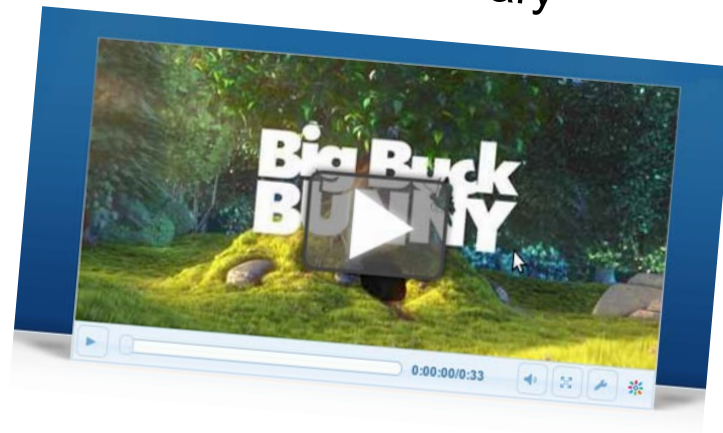
# Javascript libraries

bridge this gap for robust web media

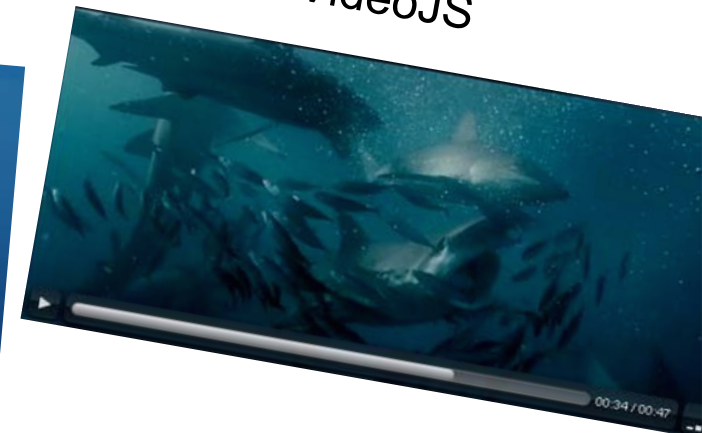
Oms media player



Kaltura html5 library



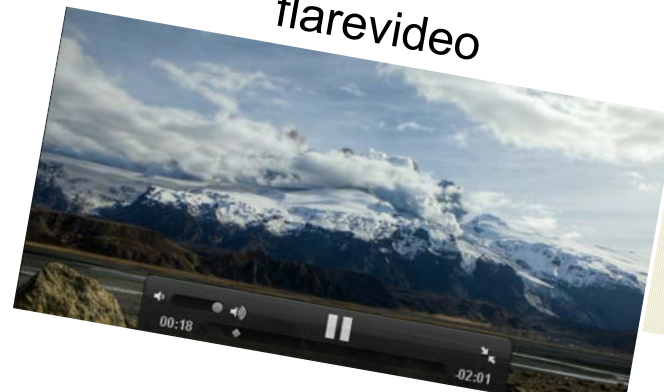
VideoJS



Sublime video



flarevideo



jme player



[http://www.kaltura.org/project/HTML5\\_Video\\_Media\\_JavaScript\\_Library](http://www.kaltura.org/project/HTML5_Video_Media_JavaScript_Library)

**Html**<sup>5</sup>*video.org*



**“Adobe announces the HTML5 Video Player Widget”**

**Adobe Dreamweaver Team**

**“Adobe's New HTML5 Video Player Widget, It's Kind Of A Big Deal”**

**TechCrunch**

**The player is only as good as the video platform that serves it**

# Kaltura HTML5 Player Delivery Options

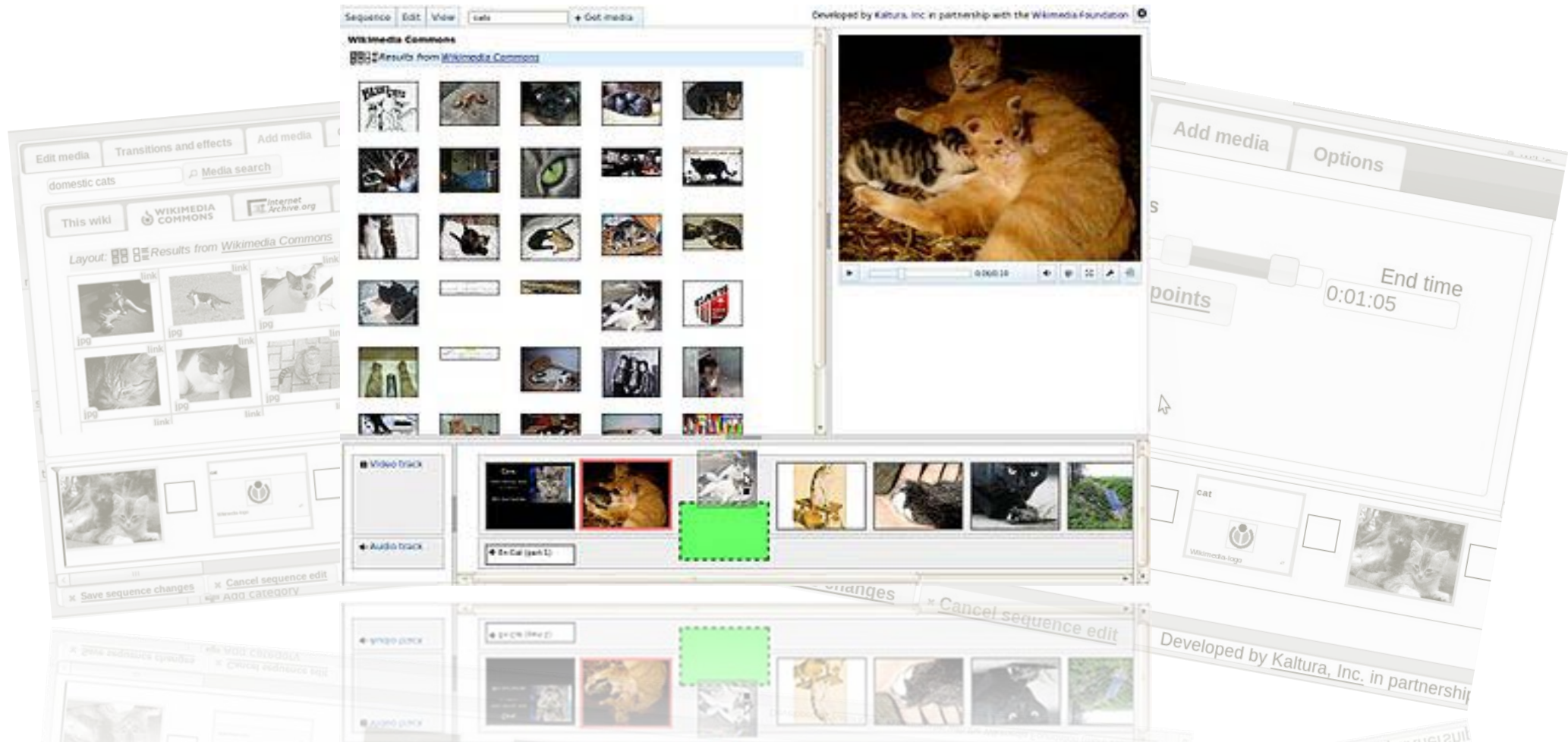
- **Fallforward ( kaltura api )**
  - Flash if possible, fall forward to html5 for mobile
  - `<embed data="kaltura.swf" />`
  - Kaltura Flash javascript api mapped to html5
  - [example](#)
- **Fallback**
  - HTML5 if possible, flash fallback for IE / old browsers
  - `<video />`
  - Normal video tag api mapped to flash player
  - [example](#)

# Kaltura HTML5 player theming

- Custom CSS, Class selection ( [samples](#) )
- jQuery UI Themer ( [demo](#) )
- HTML AutoThemer ( [demo](#) )
- Kaltura KMC player studio ( coming soon )

# Kaltura HTML5 Playlist

- **Kaltura API**
  - Uses fall forward from Kaltura object
  - Adds scroll buttons for iOS
  - [example playlist](#)



**“Kaltura HTML5 Sequencer available on Wikimedia Commons”**

# Kaltura HTML5 Wikimedia

**Open source!**

**On wikipedia based the stand alone library:**

- P2P swarm “easy as a CDN” ( [demo](#) )
- W3C html5 'track' Timed Text ( [demo](#) )
- HTML5 sequencer ( [demo](#) )

# Kaltura HTML5 coming soon

## **More Kaltura flash feature bridging**

- Kaltura API ad server support - VAST compliant
- Kaltura JS support - mediaSpaces, custom JS applications

## **Improved device support beyond Android & iOS**

# What about?

- ❖ Web cam, camera capture support
- ❖ Streaming (Dynamic bitrate switch)
- ❖ Seek still suck
- ❖ No Full Screen, No GPU yet
- ❖ Older browsers & Mobile devices
- ❖ Player encapsulation, media rights management
  
- ❖ Authoring tools
- ❖ Existing flash apps



# Graphics

- \* SVG - Scalable Vector Graphics. HTML for graphics.
- \* The Canvas - Bitmap graphics
- \* CSS – Layout & Style, Effects, Transitions

# Video

- \* Client side transcoding (firefogg)
- \* Frame accurate seeking over http (no pricey specialized media server or complex CDN setup)
- \* P2P – P2P Next Community CDN for Video Distribution (Swarm)

# Authoring Tools

- \* The Dreamweaver CS5 HTML5 Pack
- \* HTML5 Pack for Adobe Illustrator CS5
- \* Flash Export to HTML5 (?)
- \* <http://smokescreen.us> (Convert Flash to HTML5/JS)

# Rights Management

\* Legal system

**This is still the domain of plugins due to:**

**Lack of agreement across the spec group members**

**Lack of free & open standard that make sense...**

# SEO

- \* The search spider: “Hey, that’s a video!”
- \* Use the Alternative content!
- \* <http://www.google.com/webmasters/videositemaps/>
- \* Descriptive Text (Transcripts, Subtitles)

# What can we do with it today?

- \* Really cool interfaces!
- \* Playback video/audio across all browsers (using JS)
- \* Real-Time interactive layers on top of the video
- \* Syndicating
- \* Location aware video websites (auto translation, related videos, etc.)

# Future of HTML 5

- \* Video in email
- \* Camera & devices integration, inside your webpage
- \* Write once, deploy anywhere
- \* Full accessibility elements
- \* Hardware acceleration makes smooth experience (WebGL?)
- \* Beyond the browser. Enter HTML5 Apps for mobile, TV...

*Plugins like Flash/Silverlight/Unity will still co-exist and in fact stay ahead in technology and innovation.*

*Standards are a natural evolution.*