

# HTML5: BUILDING THE NEXT GENERATION OF WEB APP

Features   Performance   Tools   Compatibility

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COSCUP / GNOME.Asia - Taipei, Taiwan  
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# AGENDA

- Quick Performance Wins
- New HTML5 Markup ( for web apps )
- Web Storage APIs
- Web Workers & Web Sockets
- Compatibility
- Tools & Resources

Saturday, August 14, 2010

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I'm going to cover a bunch of stuff today. It's really difficult to give an HTML5 talk because there is SO much to cover. However, if you take anything away from this talk, it's really meant to get you thinking about what is possible with some of HTML5's features. I'll cover some of the lesser known aspects of HTML5.

First, I'll talk about some techniques and APIs to consider for creating faster, and more feature-rich applications.

Of course fast web apps are good, but it's also important that they're compatible across the different browsers. We'll look at Google's Closure Tools and Chrome Frame for that reason.

# PERFORMANCE WINS

# DON'T UNDERESTIMATE CSS!

- Rounded corners, box shadows, reflection, rotations, alpha, css masks
- CSS animations & transitions

```
div.box {  
    left: 40px;  
    -webkit-transition: left 0.3s ease-out;  
    -moz-transition: left 0.3s ease-out;  
    -o-transition: left 0.3s ease-out;  
}  
div.box.totheleft { left: 0px; }  
div.box.totheright { left: 80px; }
```

- 3D transforms trigger HW compositing in the GPU

```
-webkit-transform: translate3d(10px, 0, 0);
```

- pseudo-selectors are your friend ( :hover, :active, :valid, :invalid, :focus, :empty )
- web fonts

At the presentation level, we can gain some quick wins from css3.  
There's large amount of low hanging fruit here that you can use for optimizing a UI.  
Before you start implementing things in JavaScript, I encourage you to try and find a CSS solution. It's likely one exists!

# NATIVE IS BETTER!

- Use native methods ( not libraries )!

```
JSON.parse() ;      JSON.stringify() ;  
String.trim('          too much padding        ') ;
```

- Query, don't walk the DOM!

```
document.querySelector('#links') ;  
document.querySelectorAll('.myclass > span') ;
```

- Paint, don't download

```
canvas.toDataURL() ;
```

# DON'T FORGET ABOUT JAVASCRIPT 1.6+

- Array iterative methods: `map()`, `filter()`, `forEach()`, `every()`, `some()`

```
[5,6,7,8].map(function(value){ // [50,60,70,80]
    return value * 10;
});

// Return a new array of all mathematical constants
under 2
[3.14, 2.718, 1.618].filter(function(number){
    return number < 2;
});
// [1.618]

['html5','css3','webgl'].forEach(function(value){
    // use value
});
```

- Array item location methods: `index0f('html5')`, `lastIndex0f('webgl')`

The browser vendors are also hard at work implementing new features of the JavaScript language itself. Many of EcmaScript improvements are a direct result of the popularity of libraries like Jquery, dojo, and prototype. So why not bake that functionality directly into the browser if developers are going to use it. Again, use the native functionality if it that option is available. In some cases it can be an was performance win.

# HTML5 MARKUP FOR WEB APPS

...more than just semantics

# REL ATTRIBUTES

- rel="pingback"
  - enables reverse linking
  - automatically notifies original blog when other sites link to it

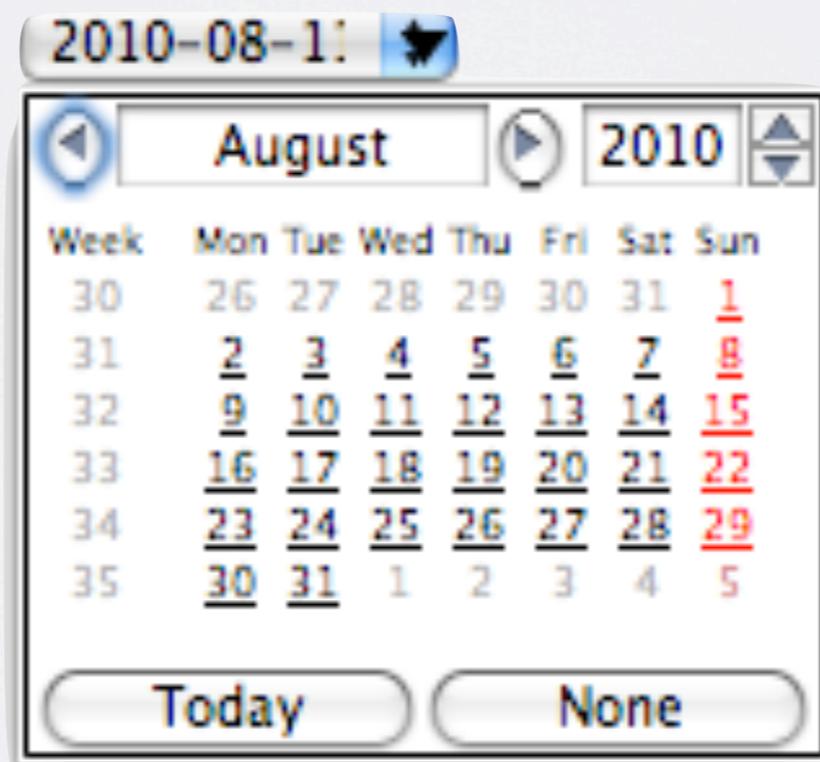
```
<a rel="pingback" href="http://blog.blogspot.com">A Blog</a>
```

- rel="prefetch"
  - hint for the browser that the resource is likely to be used

```
<link rel="prefetch" href="URL to top of search result"/>  
<a rel="prefetch" href="next_page.html">Next page &gt;</a>
```

# HTML5 FORMS

- New <input> types mean you don't need bloated JS libraries!
- tel, email, url, datetime, date, month, week, time, datetime-local, number, range, color
- Attributes: placeholder, required, autofocus, pattern, min, max, step



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Staying in the team of new markup, another overlooked feature in HTML5 is new form functionality. Forms are seeing a lot of love. Browser implementation for these varies, but support is getting there. Webkit and opera have a number of the new input types supported.

# DEMOS

open

# WEB STORAGE

Not Just For Offline

# WEB STORAGE APIs

## localStorage

- key/value pairs
- great for storing user preferences

```
localStorage.dateOfBirth = '1984-07-22';
delete localStorage.dateOfBirth;
```

```
localStorage['user'] = JSON.stringify({username: john, id: 100});
var retrieved = JSON.parse(localStorage['user']);
```

## sessionStorage

- non-persistent key/value pairs (e.g. sensitive data)

## Web SQL DB

- 5MB of persistent storage
- reduces round trips to the server

As of right now, there's really 3 option.

Remember cookie data is sent on every request. Save some overhead by using one of the web storage APIs

sessionStorage – great for sensitive data that should be cleared after a user session. Think a public computer, or a banking session when a user logs out.

# EXAMPLE

```
var webdb = {};  
  
webdb.open = function() {  
    var dbSize = 5 * 1024 * 1024; // 5MB  
    webdb.db = openDatabase('Todo', '1.0', 'todo manager', dbSize);  
}  
  
webdb.onError = function(tx, e) {  
    alert('Something unexpected happened: ' + e.message);  
}  
  
webdb.onSuccess = function(tx, r) {  
    // re-render all the data in the DOM  
}  
  
webdb.createTable = function() {  
    webdb.db.transaction(function(tx) {  
        tx.executeSql('CREATE TABLE IF NOT EXISTS ' +  
            'todo(ID INTEGER PRIMARY KEY ASC, todo TEXT, added_on DATETIME)', []);  
    });  
}  
  
webdb.addTodo = function(todoText) {  
    webdb.db.transaction(function(tx){  
        var addedOn = new Date();  
        tx.executeSql('INSERT INTO todo(todo, added_on) VALUES (?,?)',  
            [todoText, addedOn], webdb.onSuccess, webdb.onError);  
    });  
}
```

# A 4TH STORAGE OPTION...

## Indexed DB

- Hybrid of localStorage/sessionStorage APIs and Web SQL DB.
  - In-order retrieval
  - Faster search - Index on any keys
- Browser support is still sparse
  - Implemented in FF4
  - landing in Chrome soon...

# APPLICATION CACHE

- Caches entire web app locally

- Why?

- 1.HTML, CSS, and JS stay fairly consistent

- 2.Native browser caching is unreliable

- 3.Caching resources creates speedier apps

- Native iPhone & Android Gmail app uses AppCache

also not just for offline! A way to programmatically cache the assets of your web app. Best part about it, is that you have complete control over when and what is cached locally. There's 3 big reasons to use app cache.

# CACHE MANIFEST FILE

```
<html manifest="example.manifest">  
  ...  
</html>
```

```
CACHE MANIFEST  
# 2010-08-10-v0.0.1  
  
# Explicitly cached entries  
CACHE:  
index.html  
stylesheet.css  
images/logo.png  
scripts/main.js  
  
# static.html will be served if the user is offline  
FALLBACK:  
/ /static.html  
  
# Resources that require the user to be online.  
NETWORK:  
*  
# login.php  
# http://api.twitter.com
```

What is cached is determined in the cache manifest file.

tips:

- don't cache your cache manifest file!
- create manifest using a script that walks the tree of your site
- include a version number in the manifest when you change a resource so browser will re-cache site.

# JAVASCRIPT API

```
var appCache = window.applicationCache;
```

```
if (appCache.status == window.applicationCache.UPDATEREADY) {
    appCache.swapCache(); // Fetch was successful, swap the new cache.
}

// Events for everything!
appCache.addEventListener('cached', handleCacheEvent, false);

appCache.addEventListener('checking', handleCacheEvent, false);

appCache.addEventListener('downloading', handleCacheEvent, false);

appCache.addEventListener('error', handleCacheError, false);

appCache.addEventListener('noupdate', handleCacheEvent, false);

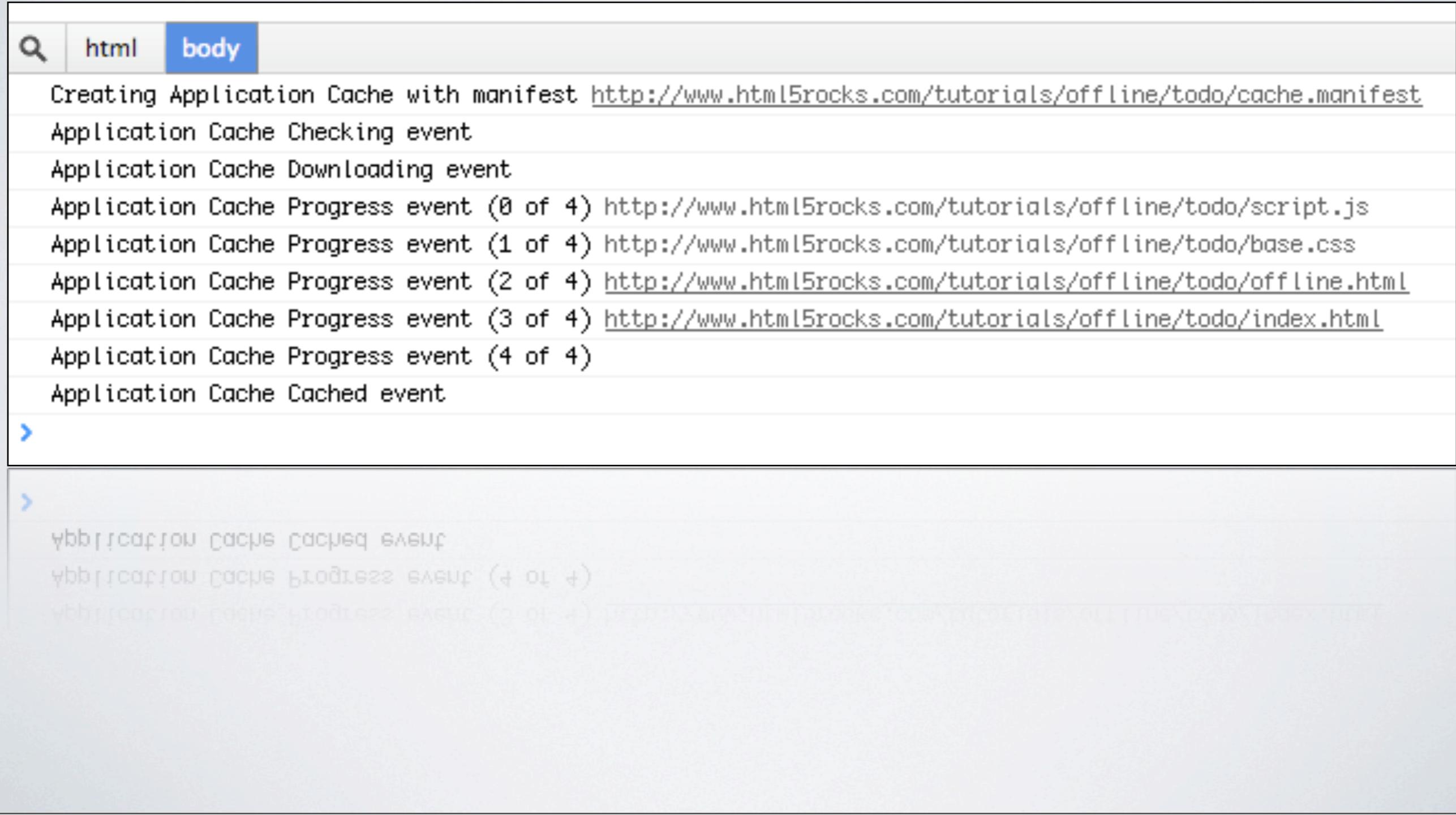
appCache.addEventListener('obsolete', handleCacheEvent, false);

appCache.addEventListener('progress', handleCacheEvent, false);

appCache.addEventListener('updateready', handleCacheEvent, false);
```

Debugging apache is painful. If any part of the manifest fails to download, the entire cache update fails. But using the JS api, you have event information for just about everything that the browser is doing behind the scenes.

# DEBUGGING APP CACHE



The screenshot shows the Chrome Dev Tools console tab with the 'body' tab selected. The console output displays a series of logs related to the creation and management of an Application Cache:

```
Creating Application Cache with manifest http://www.html5rocks.com/tutorials/offline/todo/cache.manifest
Application Cache Checking event
Application Cache Downloading event
Application Cache Progress event (0 of 4) http://www.html5rocks.com/tutorials/offline/todo/script.js
Application Cache Progress event (1 of 4) http://www.html5rocks.com/tutorials/offline/todo/base.css
Application Cache Progress event (2 of 4) http://www.html5rocks.com/tutorials/offline/todo/offline.html
Application Cache Progress event (3 of 4) http://www.html5rocks.com/tutorials/offline/todo/index.html
Application Cache Progress event (4 of 4)
Application Cache Cached event
```

Below this, there are two blue arrows pointing right, indicating more content is available if scrolled.

# DEMO

<http://3.ly/timer>

# WEB WORKERS

## GETTING STUFF DONE

- Take advantage of multi-core CPUs
- Use cases:
  - Text formatting of a long document
  - Syntax highlighting
  - Audio synthesis
  - Image processing
  - Processing large arrays or other computational tasks

Webworkers is a bit of a shift in paradigm. As many of you may know, JS runs single-threaded in the rendering process of the browser. However, the idea behind webworkers is enable the ability to spawn multiple threads in JS. That means you can finally take advantage of a user's multi-core CPU in your web app.

So what would you use a webworker for? Here are some possible uses cases.

# JAVASCRIPT API

```
<output id="result"></output>

<script>
  var worker = new Worker('task.js');

  worker.addEventListener('message', function(e) {
    document.getElementById('result').textContent =
      JSON.stringify(e.data);
  }, false);

  worker.postMessage({ 'cmd': 'start', 'msg': 'Hi' });
</script>
```

```
// task.js
self.addEventListener('message', function(e) {
  var data = e.data;
  switch (data.cmd) {
    case 'start':
      self.postMessage('WORKER STARTED: ' + data.msg);
      break;
    case 'stop':
      self.close(); // Terminates the worker.
  };
}, false);
```

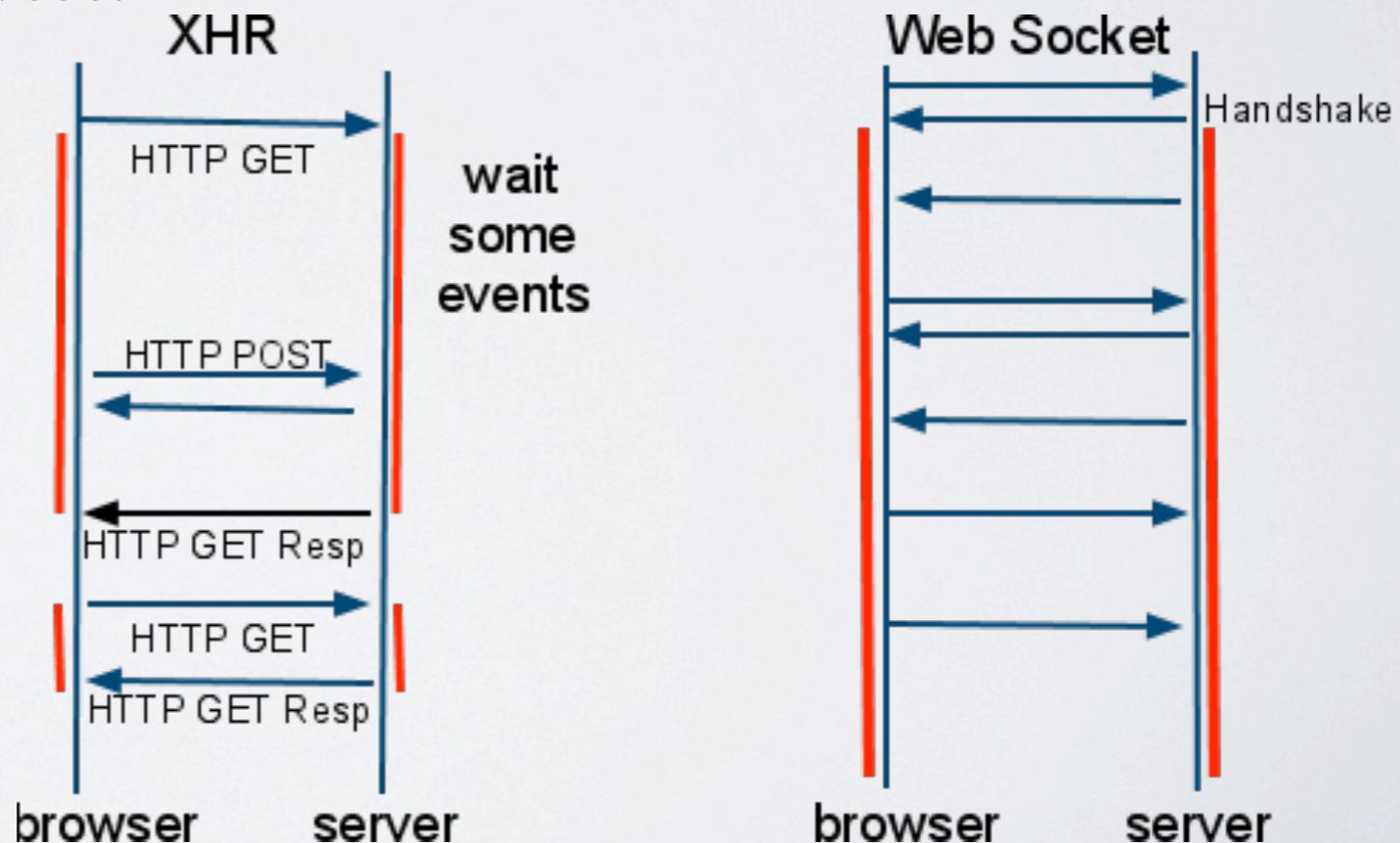
# WEBSOCKETS

## REALTIME

- Bi-directional communication
  - Eliminates need for XHR polling!
  - Close as we can get to TCP/IP socket connections in JS

- Use cases:

- chat rooms
- white boarding
- games



# JAVASCRIPT API

```
var ws = new WebSocket("ws://www.example.com/path") ;  
  
ws.onopen = function () { // connection established  
  ws.send("Hello, WebSocket") ;  
}  
  
ws.onmessage = function(evt) {  
  alert(evt.data) ;  
  ws.close() ;  
}  
  
ws.onclose = function () {  
  // connection closed  
};
```

# DEMO

<http://mrdoob.com/projects/multiuserpad/>

# TOOLS & COMPATIBILITY

Saturday, August 14, 2010

How about browser compatibility? It's a big issue, especially since many HTML5 features are still being spec'd out.

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# GOOGLE FONTS API

[code.google.com/apis/webfonts/](http://code.google.com/apis/webfonts/)

**Google font directory** beta [« Back to font list](#)

## Droid Sans Mono

Designer: [Steve Matteson](#)  
Font API parameter name: **Droid+Sans+Mono**  
License: [Apache License, version 2.0](#)  
Download Size: **74kb compressed**



[Specimen](#) [Character Set](#) [Description](#) [Get the code](#)

36px The quick brown fox jumps over the lazy dog

30px The quick brown fox jumps over the lazy dog

24px The quick brown fox jumps over the lazy dog

21px The quick brown fox jumps over the lazy dog

18px The quick brown fox jumps over the lazy dog

16px The quick brown fox jumps over the lazy dog

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I briefly mentioned web fonts early. I think one of the more exciting features of HTML5 are webfonts. This is an area the **web has been lacking** in for quite some time. Some **browser vendors have tried** to push web fonts in the past, but it's never stuck. Finally, we have a solution to having beautiful (and native) typography on the web.

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# The Daily Times

[Home](#) [Archives](#) [About](#) [Contact](#)

## Article Title Goes Here

**Subtitle goes here**

By: Eric Bidelman

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Thursday, May 10, 2010

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Saturday, August 14, 2010

Here's a news site that's not using webfonts. With HTML5, we can transform this news article into something beautiful. This sample is taking advantage of webfonts, html5 markup for columns and css for rounded corners and shadows. The beauty of this is that the **everything on this page is selectable**. That means **search engines can crawl and index this site**, more easy, and more effectively, making your content discoverable.

# The Daily Times

Home Archives About Contact

## Article Title Goes Here

### Subtitle goes here

By: Eric Bidelman

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Here's a news site that's not using webfonts. With HTML5, we can transform this news article into something beautiful. This sample is taking advantage of webfonts, html5 markup for columns and css for rounded corners and shadows. The beauty of this is that the **everything on this page is selectable**. That means **search engines can crawl and index this site**, more easy, and more effectively, making your content discoverable.

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# GOOGLE FONTS API

```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" type="text/css"
      href="http://fonts.googleapis.com/css?family=Tangerine|Inconsolata"/>
    <style>
      h1 {
        font-family: 'Tangerine', serif;
        font-size: 48px;
        text-shadow: 4px 4px 4px #aaa;
      }
    </style>
  </head>
  <body>
    <h1>Making the Web Beautiful!</h1>
  </body>
</html>
```



Making the Web Beautiful!

The Fonts API is dead simple to use! There's also a JS font loader API available in the common Google Ajax APIs loader. You can hook into things like onload events. An example use case is mobile. You could display a lower quality font or native browser font when the page first loads. Then, when your webfont has been downloaded, switch over to it by changing the font-family style of the your <body> tag.

# DEMO

[www.gobiernodechile.cl](http://www.gobiernodechile.cl)



# GOOGLE CHROME FRAME

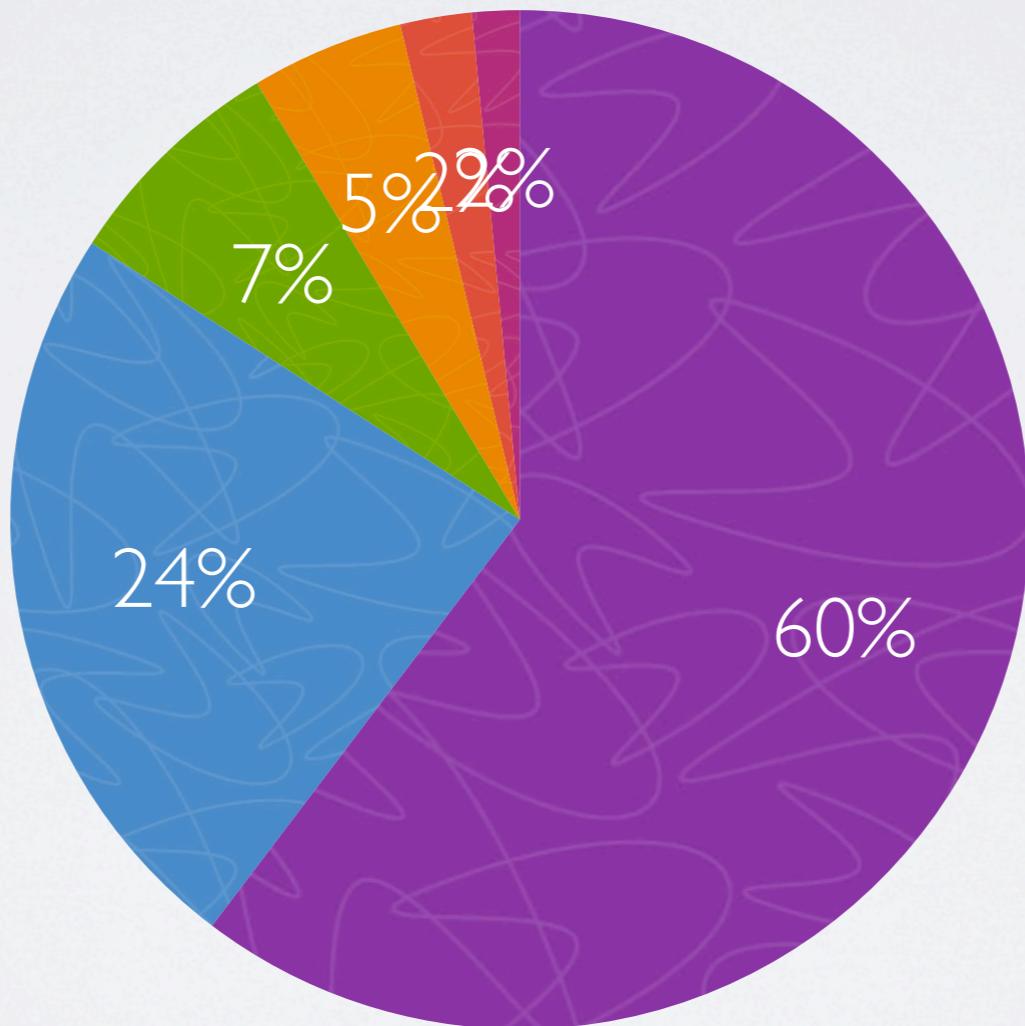
## Compatibility

So I mentioned Google's Closure Library has reusable UI widgets. That's great for cross-browser compatibility, but that only gets us so far. What if my new web app relies on newer HTML5 features like canvas, audio, or video? Sure, you could write wrapper libraries to fake of this behavior and fallback to things like Flash, but what if I need something webworkers or websockets? That's not so easy. The answer is, we can do better.

# BROWSER SHARE

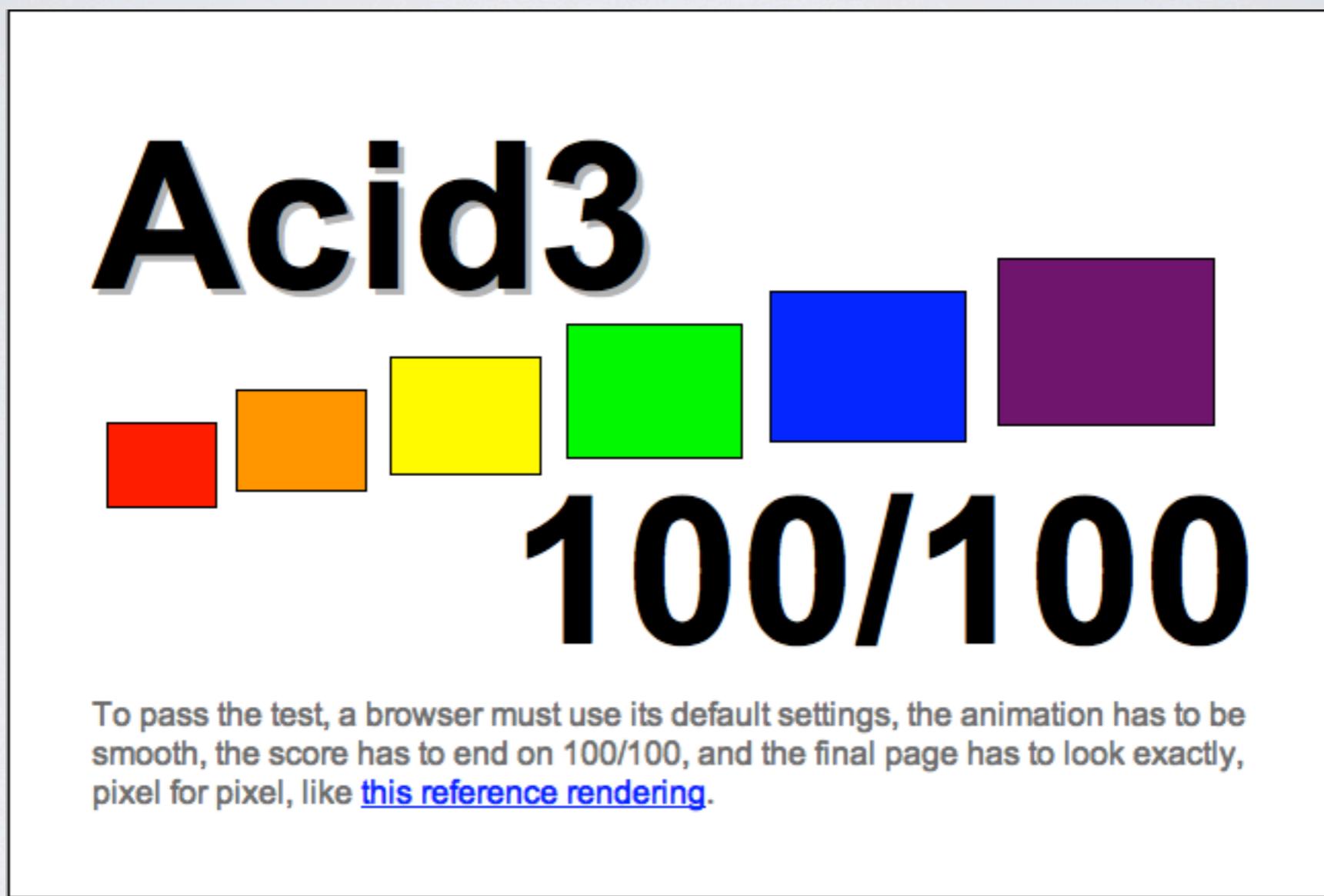
## JULY 2010

Internet Explorer   Firefox   Google Chrome   Safari  
Opera   Other

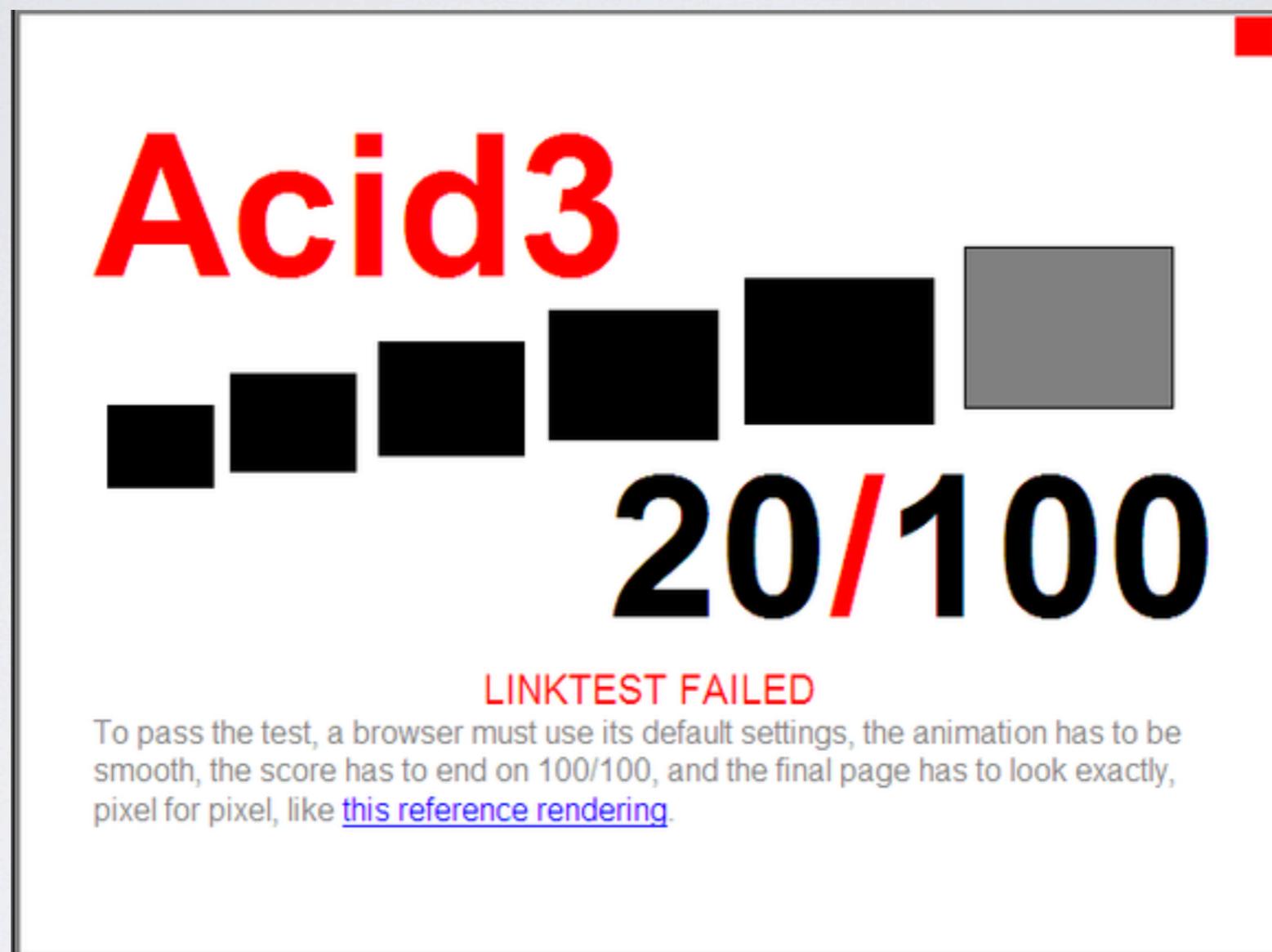


<http://marketshare.hitslink.com/report.aspx?qprid=0>

<http://acid3.acidtests.org/>



<http://acid3.acidtests.org/>



## Google Wave – please install Google Chrome Frame

To use Google Wave in Internet Explorer you need to install the [Google Chrome Frame](#) browser plugin:

[Install Google Chrome Frame](#)

Or, you can use one of these browsers:



[Google Chrome](#)



[Safari 4](#)



[Firefox 3.5](#)

If you want to continue at your own peril, [go ahead](#).

It's not recommended to continue using Internet Explorer.

[Goodbye](#)

[Cancel](#)

[OK](#)

What developers end up having to do is code around older browsers. Doing so is often nontrivial and costly. You lose functionality, speed, and security. For example, recent sites like Google Wave has chosen to stop supporting IE (at least older versions of IE) because it limits the cool features they can crank out.

# WHAT IS IT?

- Plug-in that brings Chrome's OWT to IE 6,7,8
  - V8 JS engine
  - Chrome's CSS/HTML rendering engine
  - Security ( sandbox ), performance, stability benefits of Chrome
- If your site works in Chrome, it works in GCF
  - New features show up when they become available in Chrome. Auto update!
  - That also means the built-in plugins like Flash and PDF viewer
- Open source

So what is Chrome Frame? Well, the simplest explanation is that it is a browser plugin that gives you the benefits of the latest improvements to webkit, chrome, and the super fast v8 js engine. As a web developer you've probably told yourself, "The HTML5 features that Jeremy showed us earlier will be great to use...someday". Well, that's basically where Chrome Frame steps in. It lets us use HTML5, today! What this means is that you no longer need to target your site with different versions for each particular browser. This is ideal for something like the Chrome Web Store.

# ENABLING

## I.Add a single meta tag to your site

- if !installed: direct users to download
- else: your site ‘just works’

```
<meta http-equiv="X-UA-Compatible" content="chrome=1">
```

## 2.Add a response header

X-UA-Compatible: chrome=1

# DETECTING

```
<html>
<body>
<!--[if IE]>
<script
  src="http://ajax.googleapis.com/ajax/libs/chrome-frame/1/CFInstall.min.js">
</script>
<style>
  .chromeFrameInstallDefaultStyle {
    width: 100%; /* default is 800px */
    border: 5px solid blue;
  }
</style>
<div id="prompt">
  <!-- if IE without GCF, prompt goes here -->
</div>
<script>
  window.attachEvent("onload", function() {
    CFInstall.check({mode: "inline", node: "prompt"});
  });
</script>
<![endif]-->
</body>
</html>
```

There are a couple of things going on here. First, you'll notice that the entire GCF section is wrapped in a if IE conditional. That means this markup and code will only ever been rendered by an IE browser. Other browsers will just ignore this section, saving us a HTTP trip for the library, unused markup, and attaching the event listener to the page.

As a developer, you have full control over styling of the GCF install prompt.

Lastly, we're using IE's window.attachEvent to add an onload event handler to the page. We know attachEvent is available to use because again, this section is wrapped in an if IE conditional.

# THINGS WORK THE WAY YOU EXPECT

- Uses IE's network stack
  - Same cache behavior
  - Same cookies
  - Same SSL behavior
- Respects In-Private mode
- Respects cache clearing

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So far, I've said that Chrome Frame is a little rendering engine that sits inside of IE. But the integration actually goes deeper than that.

We use IE's network layer. If you have special proxies or certs installed, we'll use those. That means that Chrome Frame's network behavior is a bit different than that of the Chrome browser. For example, IE7 only allows 2 network connections open to any particular host. Chrome allows for 6. The result is that we'll get that 2 connection limit enforced even though Chrome can do more.

We use the same cookies. When you request cookies in JS, you see the same cookies as seen in IE for an earlier session. Also, when you make a request to a document that came across the wire earlier, you'll get that document in the cache. It's IE's cache, not Chrome's. That means that when you clear the cache or cookies we're not leaving any trails behind.

In-Private browsing results in Chrome's incognito mode

# MODERNIZR LIBRARY

- **BAD:** checking `navigator.userAgent`

- Unreliable - some users change this to get around poorly designed sites that otherwise block certain UAs.

- **BETTER:** Feature detection!

- Tests 20+ HTML5/CSS3 features by:

1. `document.createElement('nav')`
2. set a style
3. retrieve that style

- Creates a global **Modernizr** object to store the test results
- Adds classes to the `<html>` element that explain precisely what features are (and are not) natively supported

Modernizr detects support for:	
@font-face	✓
CSS Transitions	✓
Canvas	✓
Geolocation API	✓
Canvas Text	✓
localStorage	✓
HTML5 Audio	✓
sessionStorage	✓
HTML5 Video	✓
SVG	✓
SMIL	✓
rgba()	✓
SVG Clipping	✓
hsia()	✓
Drag and Drop	✓
border-image:	✓
hashchange	✓
border-radius:	✓
X-window Messaging	✓
box-shadow:	✓
History Management	✓
opacity:	✓
Multiple backgrounds	✓
applicationCache	✓
CSS Animations	✓
Web Sockets	✓
CSS Columns	✓
Web Workers	✓
CSS Gradients	✓
Web SQL Database	✓
CSS Reflections	✓
IndexedDB	
CSS 2D Transforms	✓
Input Types†	
CSS 3D Transforms	
Input Attributes‡	

What Modernizr does is, very simple. It tells you whether the current browser has a feature natively implemented or not. Unlike GCF (which ‘adds’ new HTML5 and rendering capabilities to older browsers, Modernizr simply tells you what is available natively in the browser.

# USAGE

```
<!-- In your HTML: -->
<div id="audio">
  <audio>
    <source src="mySong.ogg" />
    <source src="mySong.mp3" />
  </audio>
  <button id="play">Play</button>
  <button id="pause">Pause</button>
</div>

/* In your CSS: */
.no-audio #audio {
  display: none; /* Don't show Audio options */
}
.audio #audio button {
  /* Style the Play and Pause buttons nicely */
}

// In your JavaScript:
if (Modernizr.audio) {
  // Hook up functionality to Play and Pause buttons
}
```

[Compatibility tables](#)[Browser comparison](#)

## Category

- All
- [PNG](#)
- [HTML5](#)
- [DOM](#)
- [Other](#)
- [CSS3](#)
- [CSS2](#)
- [SVG](#)
- [Canvas](#)
- [Summary](#)

## Web Browser

- All
- [Internet Explorer](#)
- [Firefox](#)
- [Safari](#)
- [Chrome](#)
- [Opera](#)

## Time period

- All
- Two versions back
- Previous version
- Current
- Near Future (2010)
- Future (2011 or later)

## Status

- All
- Recommendation
- Proposed Recommendation
- Candidate Recommendation
- Working Draft
- IETF standard
- Unofficial / Note

## Alternatives

- Accept plug-ins
- Accept JS solution

## Search

transition

1 result found

## Sort

Most supported first

## Other options

- Detailed tables
- Accessible colors
- Show conclusions

[Ads by Google](#)[Foxfire Web Browser](#)[Free Browsers](#)[Download Opera Browser](#)[HTML5 Specification](#)

= Supported

= Not supported

= Partially supported

= Support unknown

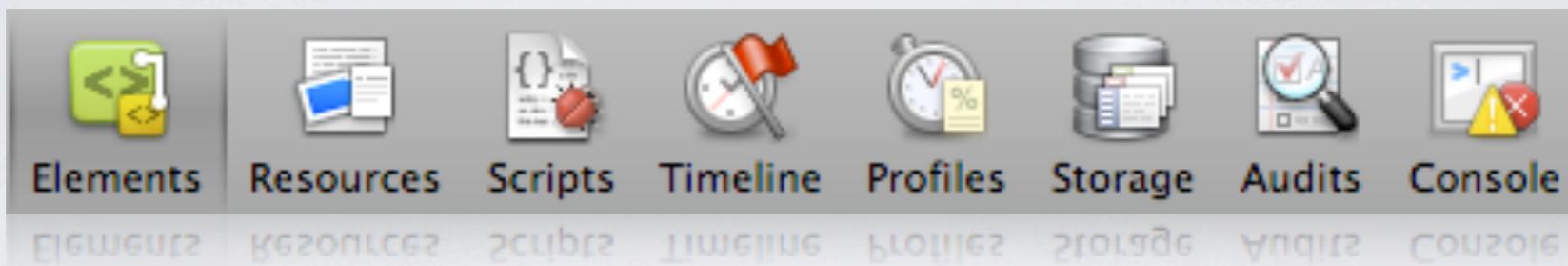
# CSS3 Transitions - [Working Draft](#)*Simple method of animating certain properties of an element*Resources: [Article on usage](#) [Webkit blog post](#) [Examples on timing functions](#)

	Internet Explorer	Firefox	Safari	Chrome	Opera
Two versions back	6.0		3.0	3.2	3.0
Previous version	7.0		3.5	4.0	4.0
Current	8.0		3.6	5.0	5.0
Near Future (2010)			4.0	6.0	10.6
Future (2011 or later)	9.0			5.*	7.0
					10.7

**Note:** Current implementations may change significantly from final specification, since W3C adoption is quite recent.

# CANIUSE.COM

Here's a site that I highly recommend, caniuse.com. It gives an up-to-date look at what HTML5 features are supported by which browsers. In this example here, I searched for css transitions which you can see are now supported in most browsers.



# CHROME DEVELOPER TOOLS

There is also the developer tools inside of Chrome/Webkit browsers. These tools are really fantastic and the community is actively contributing and improving them. They deserve an entire hour-long talk by themselves.

# HTML5ROCKS.COM

- Step-by-Step Tutorials
- Code Playground
- Interactive Presentation
- Studio / Gallery

Pick an API  Search

JavaScript APIs  
Web Storage  
localStorage  
sessionStorage  
Web SQL Database  
Basic  
XDomain Communication  
postMessage  
Notifications  
Simple Notifications  
Web Notifications  
Geolocation API  
Get Current Position  
HTML  
CSS

Edit Code

```
1 // Generate the little markup from javascript
2 document.querySelector('#content').innerHTML =
3   '<p><em>Save text locally (it will still be available after restarting
4 var area = document.createElement('textarea');
5 area.style.width = '300px';
6 area.style.height = '150px';
7 document.querySelector('#content').appendChild(area);
8
9 // place content from previous edit
10 if (!area.value) {
11   area.value = window.localStorage.getItem('value');
12 }
13
14 // your content will be saved locally
15 area.addEventListener('keyup', function () {
16   window.localStorage.setItem('value', area.value);
17   window.localStorage.setItem('timestamp', (new Date()).getTime());
18 }, false);
19
20
```

Output

Save text locally (it will still be available after restarting your browser)

Type yoasdif

last saved: 1047527.084s ago

# HTML5ROCKS

Presentation Playground Studio Tutorials Resources

INTERACTIVE PRESENTATION

Watch the slideshow that lets you play with HTML5 features.

CODE PLAYGROUND

Jump headfirst into HTML5 by experimenting with each API.

SAMPLES STUDIO

A showroom of content that you can reuse in your own site.

STEP BY STEP TUTORIALS

Take a guided tour through code that uses HTML5 features.

LATEST TUTORIALS

8/3 HTML5 Video  
8/2 "Offline": What does it mean and why should I care?  
8/2 Quick guide to webfonts via @font-face  
7/28 Auditing Your Web App For Speed  
7/26 The Basics of Web Workers  
6/18 Introduction to Chrome Developer Tools, Part One

See more =>

ADDITIONAL RESOURCES

HTML5 Readiness - visual timeline of HTML5 feature support.  
Dive into HTML5 - learn HTML5 and have fun reading a book at the same time.  
Modernizr - JavaScript library for feature detection and control fallback cases of HTML5.

See more =>

CONTRIBUTE

This site, the HTML5 Playground, Studio, and Presentation slides are all open source projects. Tweak the code or contribute new guides!

Ready to develop in HTML5 but worried about supporting older versions of Internet Explorer? Learn how Google Chrome Frame can help. It's easy to include on your site:

Saturday, August 14, 2010

Perhaps the most important part of our **commitment is to developers**. We just launched a new site **dedicated to all that is HTML5**, [html5rocks.com](http://html5rocks.com). It contains **tutorials**, an **interactive playground** where you can **experiment** with code, and **additional resources** that should help you get up and running with these technologies. I talk with a lot of developers and the **learning curve is steep** for some of this stuff. There are **so many new APIs to wrap your head around** and the last thing we want is for anyone to be left behind.

# THANKS!

- Tools
  - Google Fonts API: [code.google.com/apis/webfonts/](http://code.google.com/apis/webfonts/)
  - [html5rocks.com](http://html5rocks.com)
- Compatibility:
  - Google Chrome Frame: <http://code.google.com/chrome/chromeframe/>
  - [caniuse.com](http://caniuse.com)
  - [modernizr.com](http://modernizr.com)
- File bugs against Chrome: [crbug.com](http://crbug.com)
- Stay in Touch!
  - Twitter: @ChromiumDev
  - [groups.google.com/a/chromium.org/group/chromium-html5/](http://groups.google.com/a/chromium.org/group/chromium-html5/)



The Future

NEXT EXIT

