

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

Saturday, August 14, 2010

3

First up, quick tips and tricks for improving your web app's performance

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: `indexOf('html5')`, `lastIndexOf('webgl')`

The browser vendors are also hard at work implementing new features of the JavaScript language itself. Many of EcmaScript's 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 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

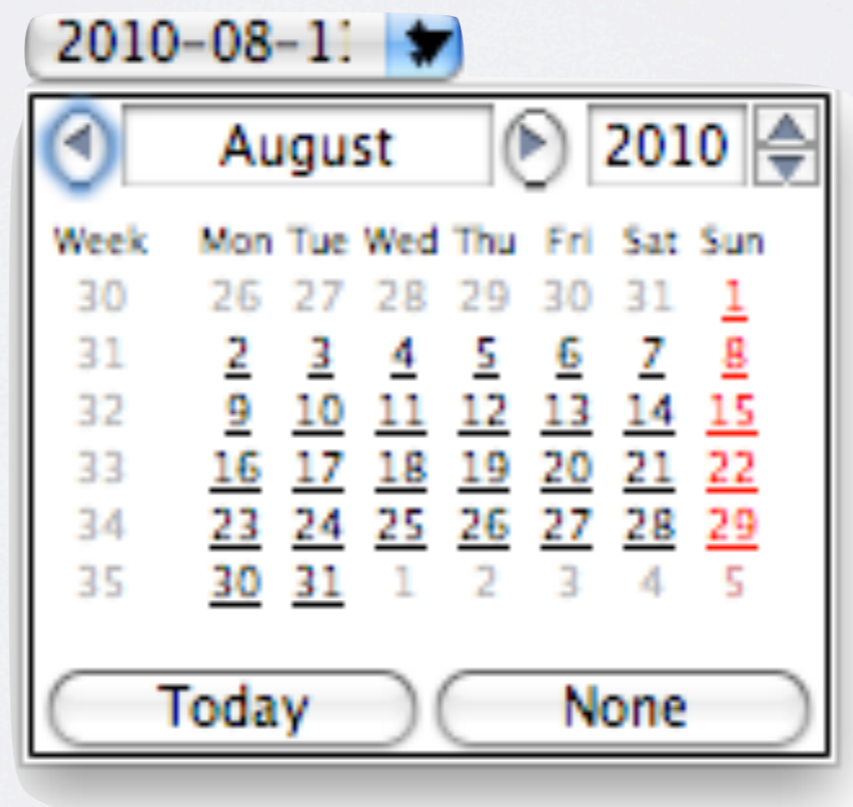
```
<a rel="pingback" href="http://blog.blogspot.com">A Blog</a>
```

- `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



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 appache 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

```
Q html body
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
```

```
>
Application Cache Cached event
Application Cache Progress event (4 of 4)
Application Cache Progress event (3 of 4) http://www.html5rocks.com/tutorials/offline/todo/index.html
```

Chrome Dev Tools just added console logging to give you better insight into what the browser is doing.

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);
```

based off of the CORS (cross origin resource sharing) spec, which is a way to pass messages between origins using a `postMessage()` API.

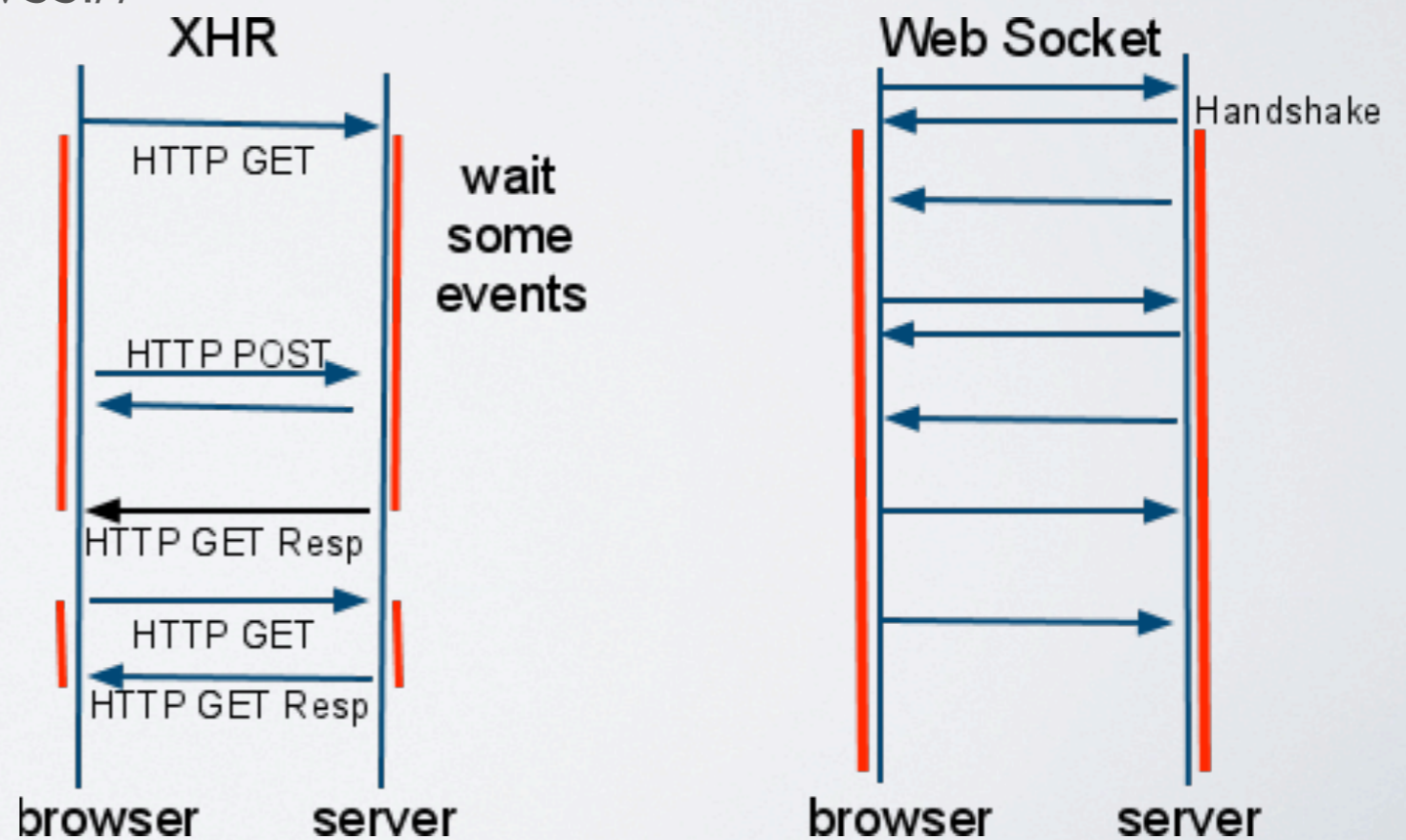
WEBSOCKETS

REALTIME

- Bi-directional communication
 - Eliminates need for XHR polling!
 - Close as we can get to TCP/IP socket connections in JS
 - Port 80 with scheme ws://, wss://

- 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


GOOGLE FONTS API

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 t

30px The quick brown fox jumps over the lazy

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

14px Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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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.

The Daily Times

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Article Title Goes Here

Subtitle goes here

By: Eric Bidelman

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Thursday, May 10, 2010

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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.

The Daily Times

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Article Title Goes Here

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By: Eric Bidelman

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Posted: Thursday, May 10, 2010

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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



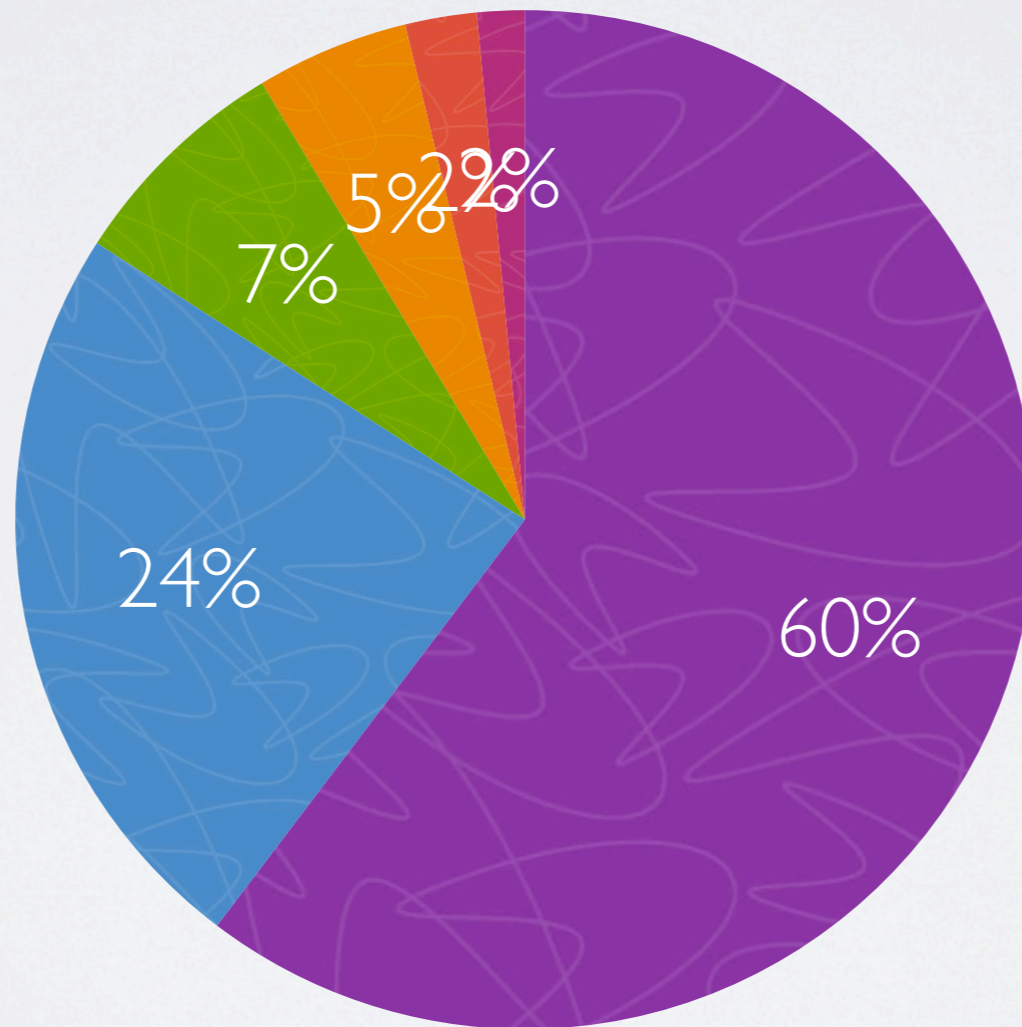
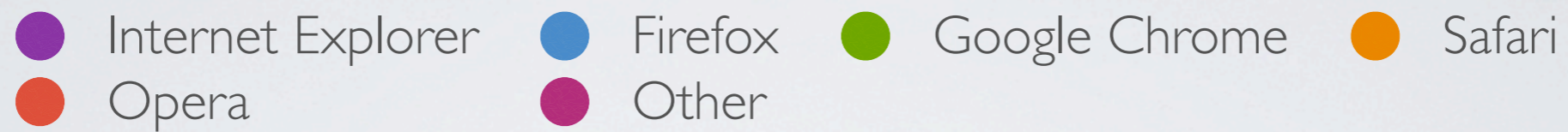
GOOGLE CHROME FRAME

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

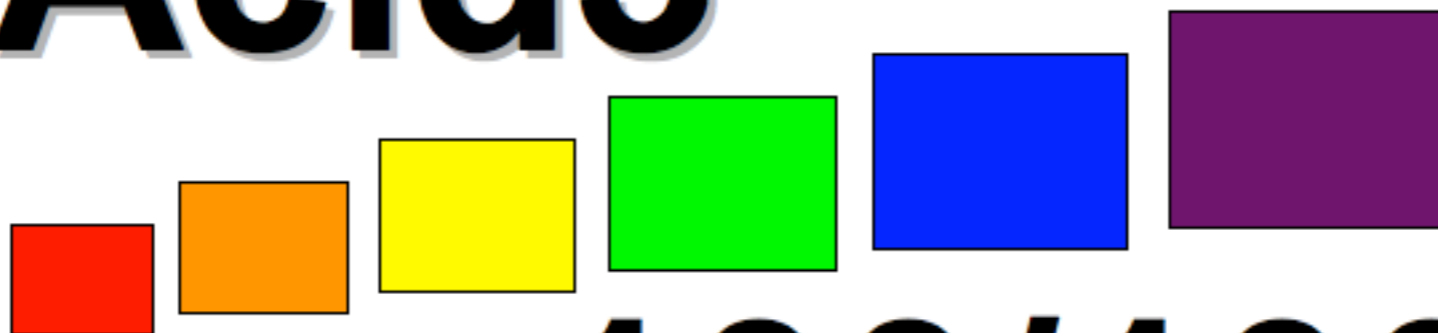


<http://marketshare.hitslink.com/report.aspx?qprid=0>

Here is a current breakdown of the browser share for July of this year. I wanted to show you this chart as a reminder of where we're at today regarding browsers. We've been talking a lot about innovation and moving the web forward, but the sad reality is that a majority of users are still use outdated, insecure browsers. Chrome Frame is all about bringing older browsers up to speed.

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

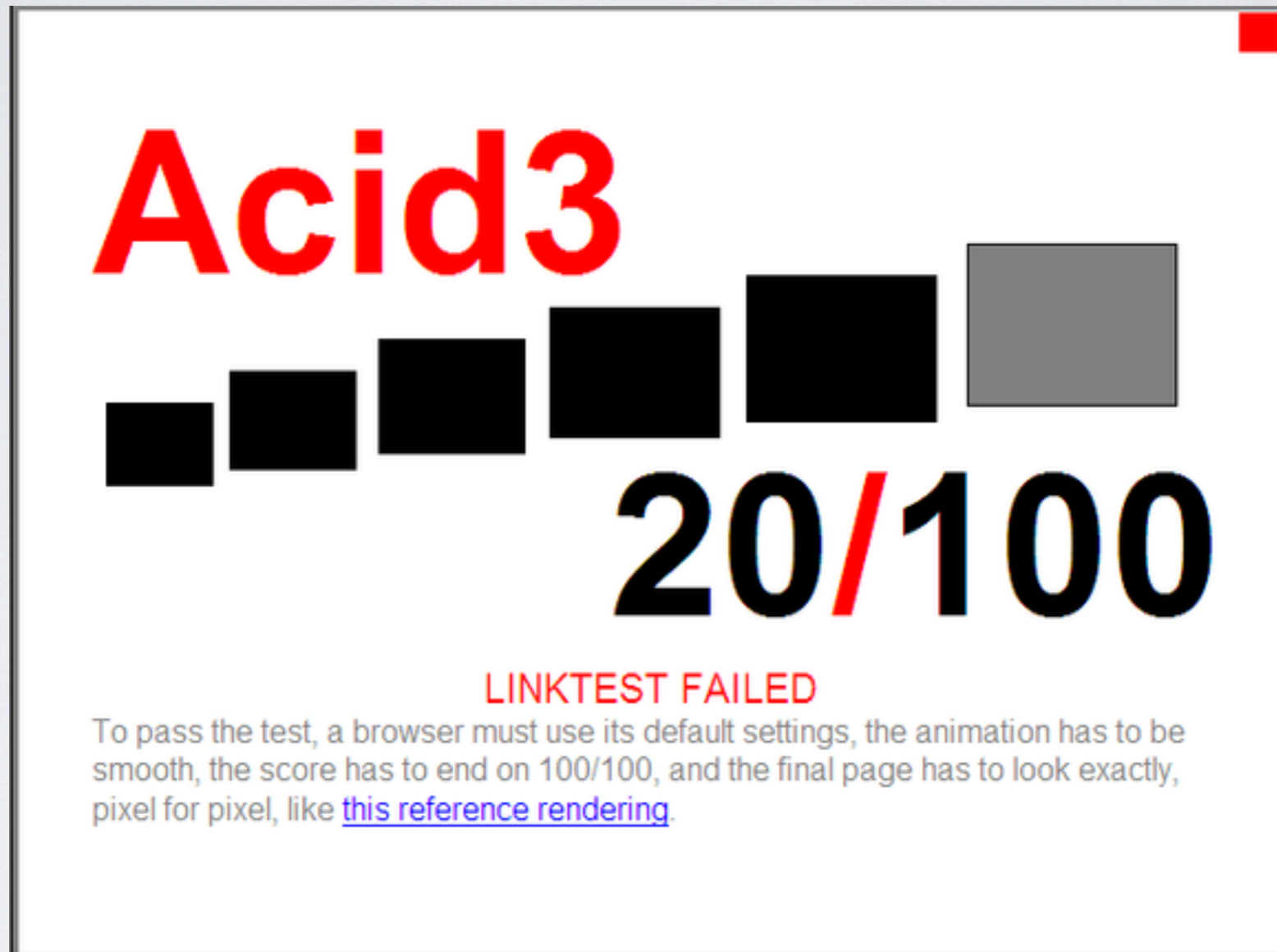
Acid3



100/100

To pass the test, a browser must use its default settings, the animation has to be smooth, the score has to end on 100/100, and the final page has to look exactly, pixel for pixel, like [this reference rendering](#).

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



Acid3

20/100

LINKTEST FAILED

To pass the test, a browser must use its default settings, the animation has to be smooth, the score has to end on 100/100, and the final page has to look exactly, pixel for pixel, like [this reference rendering](#).

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](#).

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

[Google Chrome](#)

[Safari 4](#)

[Firefox 3.5](#)

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 long need to target your site with different versions for each particular browser. This is ideal for something like the Chrome Web Store.

ENABLING

1. 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
```

There are 2 ways to enable GCF on a site. The simplest is to add a single meta tag to your site. However, the best way is to add the X-UA-Compatible extension header to your server's responses. Sometimes it isn't practical to add a header to every page of your site. It's worth no

If you're familiar with this extension header, you'll recognize that flag as the way to trigger what version of the IE rendering engine to use for a particular page

You can also use server-side detection. `navigator.userAgent` will return Google Chrome's user agent string.

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 be 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.

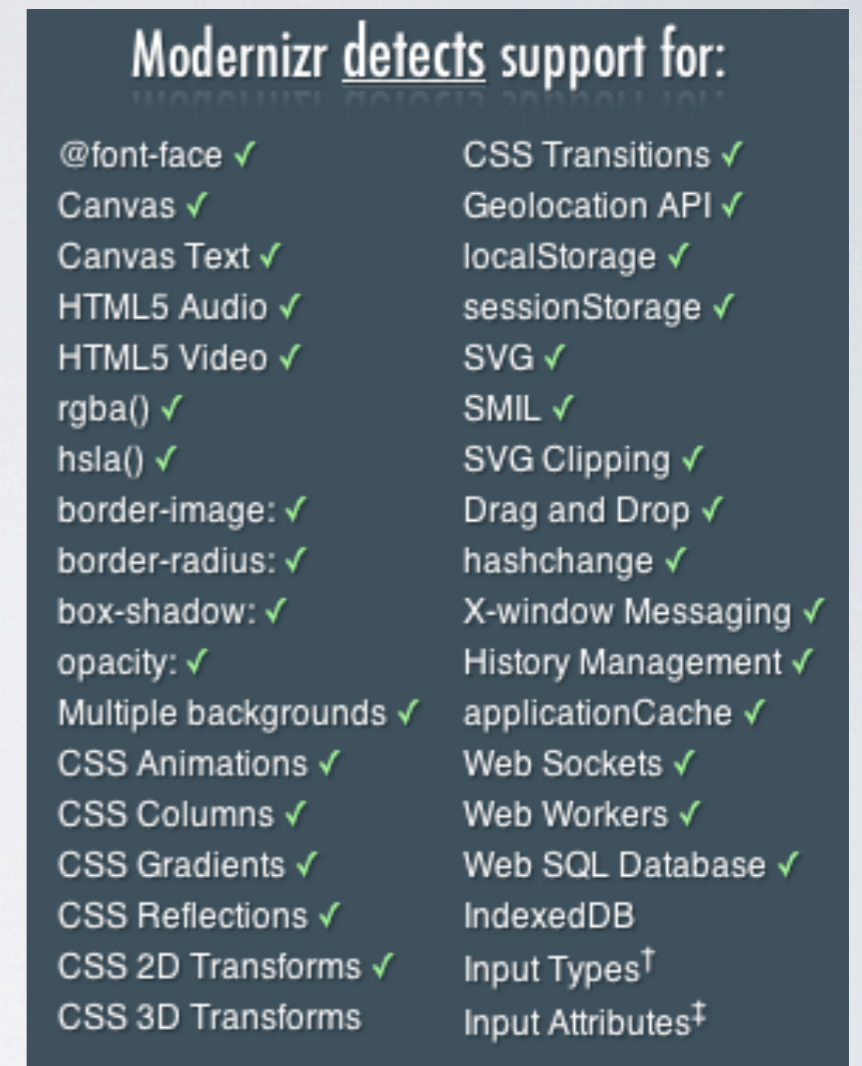
We use IE's network layer. If you have special proxies or certs installed, we'll use those. That means that Chrome Frame's network behavior is a bit different than that of the Chrome browser. For example, IE7 only allows 2 network connections open to any particular host. Chrome allows for 6. The result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



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 simple 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
}
```

When can I use...

[Comments](#)

[Feed](#)

[Twitter](#)

920
tweets

[retweet](#)

Compatibility tables for features in HTML5, CSS3, SVG and other upcoming web technologies

[FAQ](#)

[Resources](#)

Compatibility tables

Browser comparison

Category <input checked="" type="checkbox"/> All <input checked="" type="checkbox"/> PNG <input checked="" type="checkbox"/> HTML5 <input checked="" type="checkbox"/> DOM <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> CSS3 <input checked="" type="checkbox"/> CSS2 <input checked="" type="checkbox"/> SVG <input checked="" type="checkbox"/> Canvas <input checked="" type="checkbox"/> Summary	Web Browser <input checked="" type="checkbox"/> All <input checked="" type="checkbox"/> Internet Explorer <input checked="" type="checkbox"/> Firefox <input checked="" type="checkbox"/> Safari <input checked="" type="checkbox"/> Chrome <input checked="" type="checkbox"/> Opera Other options <input checked="" type="checkbox"/> Detailed tables <input type="checkbox"/> Accessible colors <input type="checkbox"/> Show conclusions	Time period <input checked="" type="checkbox"/> All <input checked="" type="checkbox"/> Two versions back <input checked="" type="checkbox"/> Previous version <input checked="" type="checkbox"/> Current <input checked="" type="checkbox"/> Near Future (2010) <input checked="" type="checkbox"/> Future (2011 or later)	Status <input type="checkbox"/> All <input checked="" type="checkbox"/> Recommendation <input checked="" type="checkbox"/> Proposed Recommendation <input checked="" type="checkbox"/> Candidate Recommendation <input checked="" type="checkbox"/> Working Draft <input checked="" type="checkbox"/> IETF standard <input type="checkbox"/> Unofficial / Note	Alternatives <input type="checkbox"/> Accept plug-ins <input type="checkbox"/> Accept JS solution Search <input type="text" value="transition"/> 1 result found Sort Most supported first
--	--	---	--	---

[Ads by Google](#)

[Firefox 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

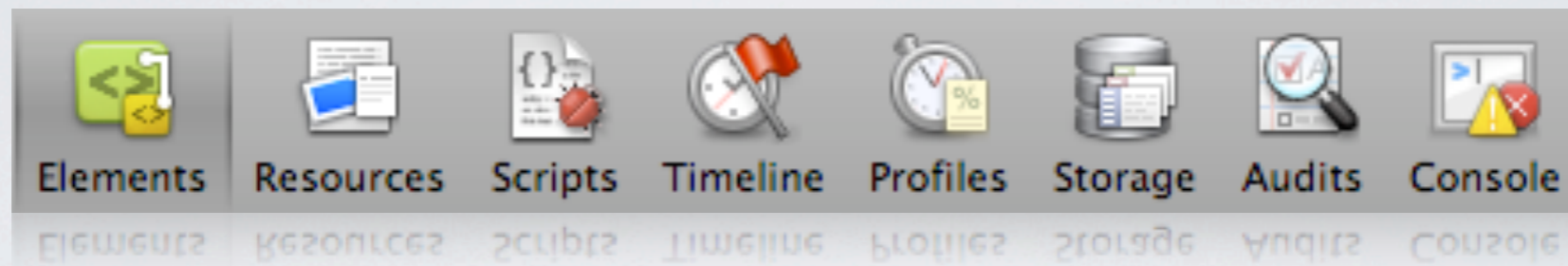
Resources: [Article on usage](#) [Webkit blog post](#) [Examples on timing functions](#)

	Internet Explorer	Firefox	Safari	Chrome	Opera
Two versions back	6.0	3.0	3.2	3.0	10.1
Previous version	7.0	3.5	4.0	4.0	10.5
Current	8.0	3.6	5.0	5.0	10.6
Near Future (2010)				6.0	
Future (2011 or later)	9.0	4.0	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

The screenshot shows the HTML5ROCKS website interface. At the top left is the logo 'HTML5ROCKS' and 'Presentation Playground' links. Below the logo is a 'Pick an API' section with a search bar and a tree view of API categories: JavaScript APIs, Web Storage (localStorage, sessionStorage, Web SQL Database), Basic, XDomain Communication (postMessage), Notifications (Simple Notifications, Web Notifications), Geolocation API (Get Current Position), HTML, and CSS. To the right is an 'Edit Code' section with a code editor showing JavaScript code for saving text locally using localStorage. Below the code editor is an 'Output' section with a text input field containing 'yoasdf' and a 'last saved: 1047527.084s ago' timestamp.

The screenshot shows the HTML5ROCKS website homepage. At the top left is the logo 'HTML5ROCKS' and navigation links: 'Presentation', 'Playground', 'Studio', 'Tutorials', and 'Resources'. Below the navigation are four featured content cards: 'INTERACTIVE PRESENTATION' (with a slide icon and description: 'Watch the slideshow that lets you play with HTML5 features.'), 'CODE PLAYGROUND' (with a slide icon and description: 'Jump headfirst into HTML5 by experimenting with each API.'), 'SAMPLES STUDIO' (with a whiteboard icon and description: 'A showroom of content that you can reuse in your own site.'), and 'STEP BY STEP TUTORIALS' (with a notebook icon and description: 'Take a guided tour through code that uses HTML5 features.'). Below these cards are two columns of content: 'LATEST TUTORIALS' with a list of articles (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) and 'ADDITIONAL RESOURCES' with links to 'HTML5 Readiness', 'Dive into HTML5', and 'Modernizr'. At the bottom, there is a 'CONTRIBUTE' section with a paragraph about open source projects and a link to '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:'.

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



The Future

NEXT EXIT

