

Mobile HTML5



Scott Davis
ThirstyHead.com

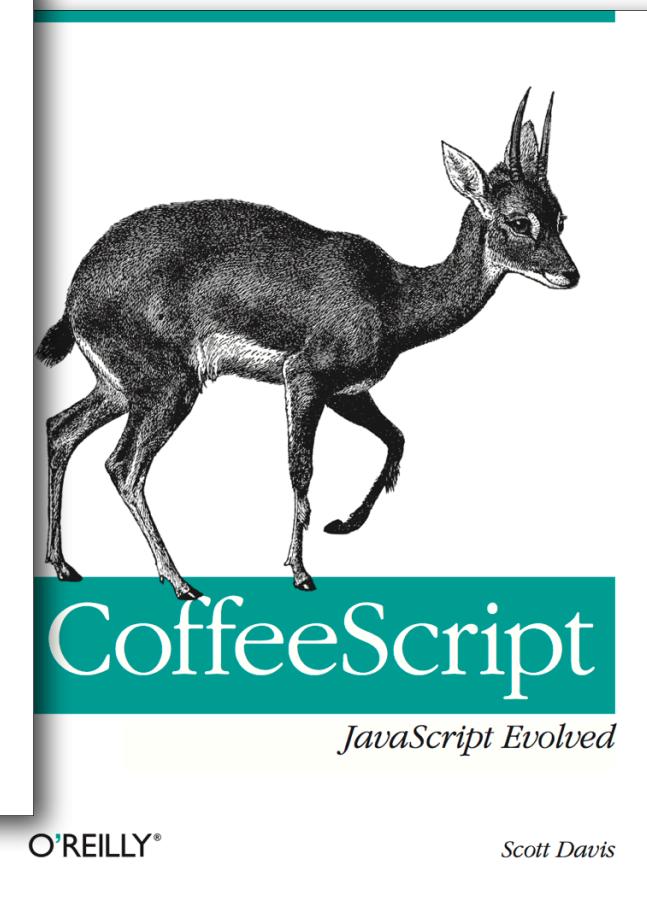
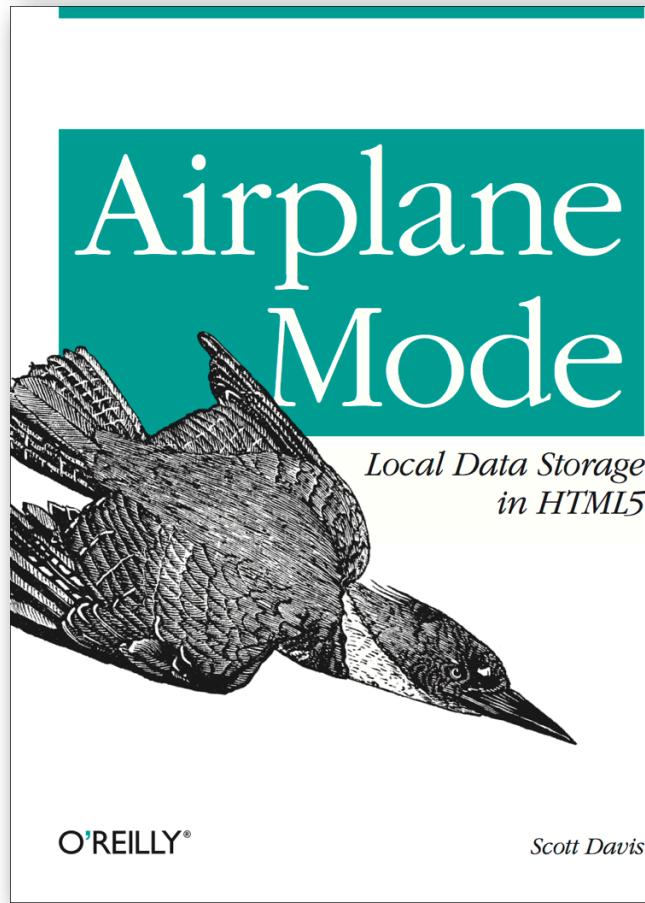


ThirstyHead.com

training done right.



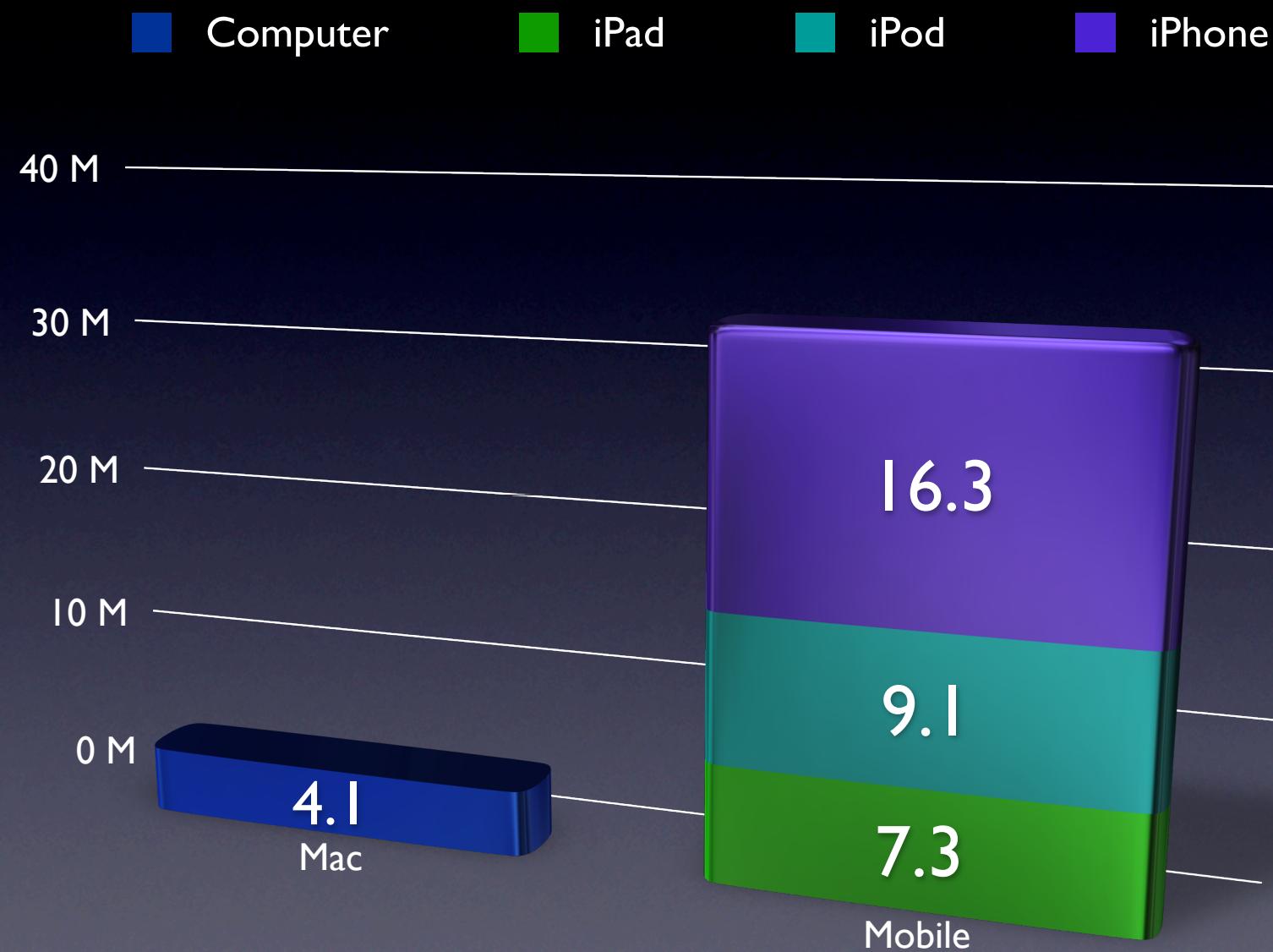
ThirstyHead.com
training done right.



Scott Davis
@scottdavis99



Apple Sales, Q4 2010



Smartphones Outsell PCs

By Sarah Perez / February 8, 2011 7:17 AM / [8 Comments](#)

[Tweet](#)

[Hacker News](#)



According to IDC, smartphone manufacturers [shipped](#) 100.9 million devices in the fourth quarter of 2010, while PC manufacturers [shipped](#) 92.1 million units worldwide. Or, more simply put, smartphones just outsold PCs for the first time ever.

The number of smartphones sold in Q4 2010 was up 87.2% from the 53.9 million sold in Q4 2009. For the year, vendors shipped 302.6 million smartphones - an increase of 74.4% from the 173.5 million in 2009.

PC sales were up in Q4, too, but just barely. From Q4 2009 to Q4 2010, the increase was only 5.5%. When looking at the yearly totals, however, PCs were still king. Manufacturers shipped 346.2 million units during 2010, compared with the 302.6 million mentioned above from smartphone makers.

Tablet Shipments May Exceed Netbook Sales in Q4 2010

Apple Dominates Tablet Sales During Q4 2010

Posted on March 11, 2011 10:40 AM by Rob Williams

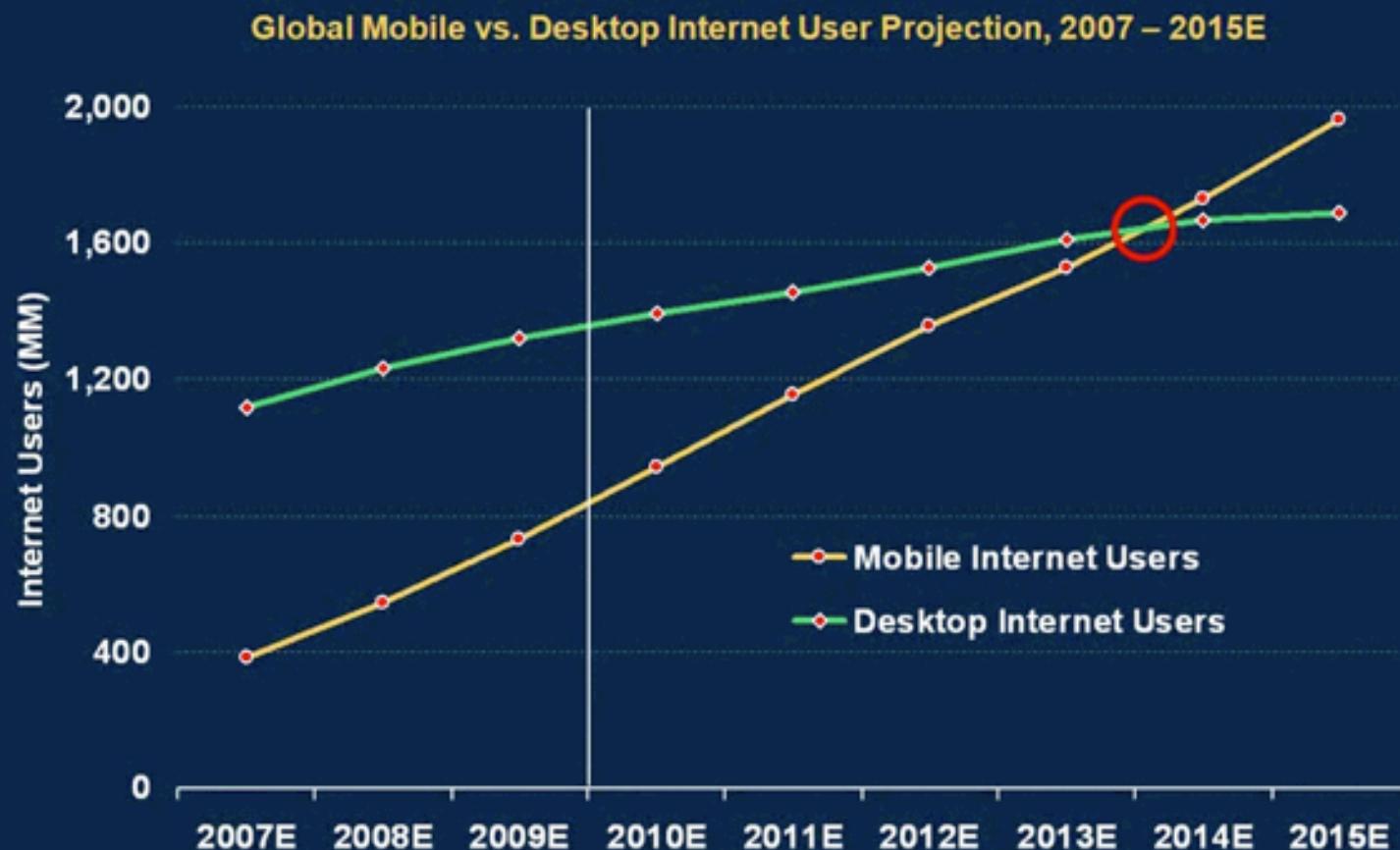


About a year ago, Apple released its iPad 'tablet' to the world, and in doing so started a chain reaction. At first, many were skeptical to believe that tablets could hold a real market, but it didn't take long before it was proven that yes, many people do want tablets. Not long after the iPad's launch, companies like Samsung, Motorola and even BlackBerry announced plans to release their own tablets, and as of the time of writing, most of these are commercially available today.

Up to this point, Samsung has been the company to demand the most attention and market-share against Apple. During Q4 2010, the company secured a 17% share, which may look paltry compared to Apple's 73%, but Samsung's Tab hasn't been available for nearly as long. "Other" tablets accounted for the other 10%.

Although the selling performance of Samsung's Tab is good, analysts seem to be in agreement that it's unlikely that it, or others, will gain much of a marketshare in 2011. Instead, thanks in part to Apple's iPad 2 follow-up, the Cupertino company is likely to reach and retain an 80% marketshare throughout the year.

Mobile Users > Desktop Internet Users Within 5 Years



Morgan Stanley

Source: Morgan Stanley Research.





Native
or
HTML 5 ?

Native

Yelp for Mobile

Yelp for Mobile

http://www.yelp.com/yelpmobile

Search for (e.g. taco, cheap dinner, Max's)

Near (Address, Neighborhood, City, State or Zip)

San Francisco, CA

Search

Welcome About Me Write a Review Find Reviews Invite Friends Messaging Talk Events Member Search

Yelp Mobile

Yelp for iPhone & iPod Touch



5:49 PM

AT&T

Filter Restaurants List

3. The Sentinel 4.5 360 Reviews Food Stands Close

California St

Pine St

Post St

Grant Ave

Union Square

Four Seasons

Powell St

Mission St

St. BART

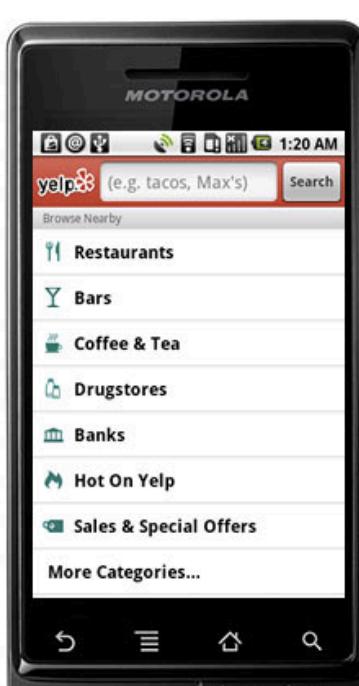
Cartoon Art Mu

San Francisco Museum of Modern Art

Redo Search In This Area

Nearby Feed Search Bookmarks More

Yelp for Android



1:20 AM

MOTOROLA

yelp (e.g. tacos, Max's) Search

Browse Nearby

Restaurants

Bars

Coffee & Tea

Drugstores

Banks

Hot On Yelp

Sales & Special Offers

More Categories...

Yelp for BlackBerry



BlackBerry

yelp Kokkari Estiato...

Review Highlights

Their lamb chops were fabulous and cooked to perfection. (in 162 reviews)

Your zucchini cakes are to die for and so is the amazing Greek salad. (in 86 reviews)

The grilled octopus was tender with just the right touch of lemon. (in 79 reviews)

Recent Reviews

Christina C

YSlow

HTML 5

Basecamp for iPhone, Android, Blackberry, and Palm.

Basecamp for iPhone, Android, ... +

http://basecamphq.com/mobile

Google

The perfect design for small screens

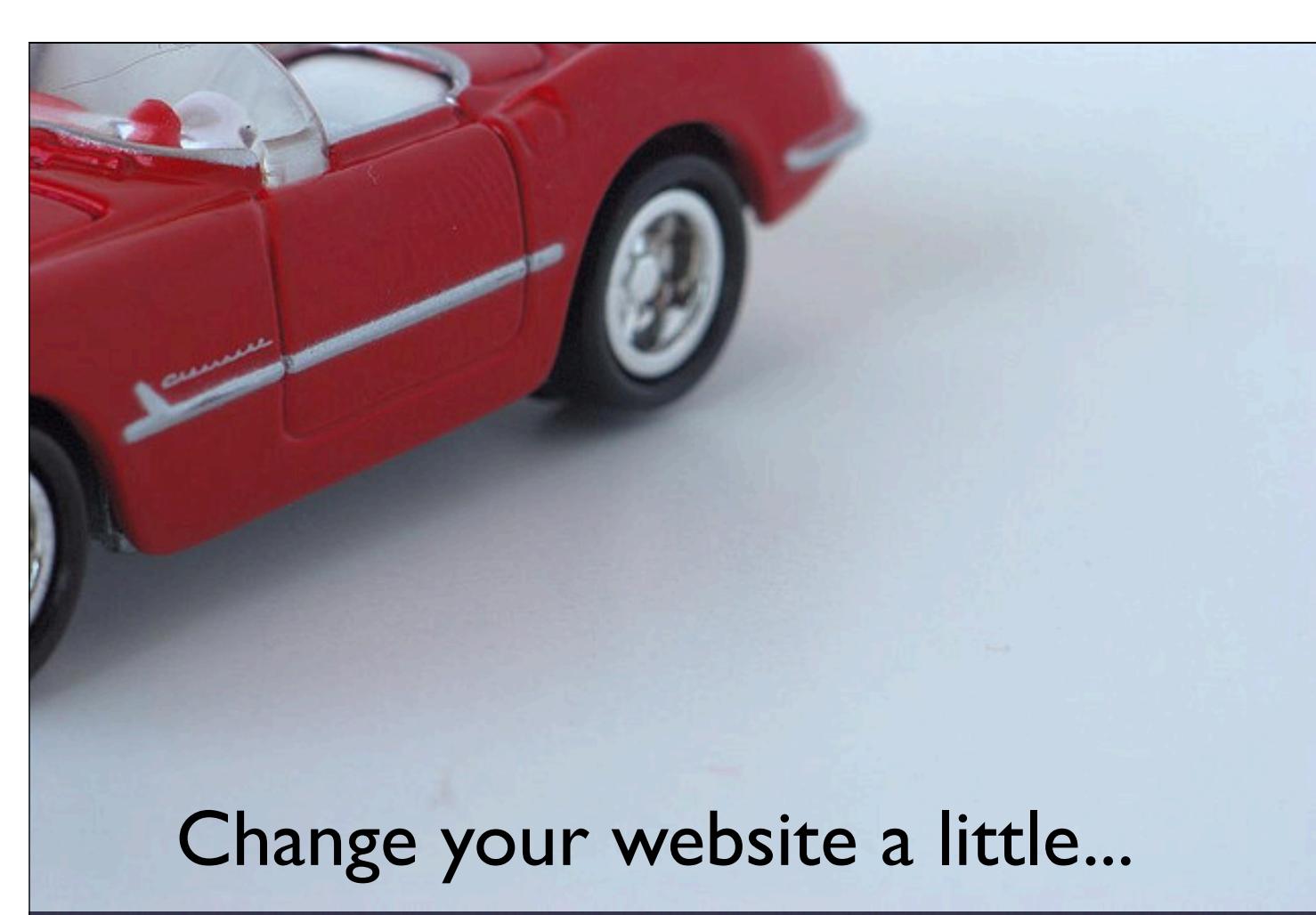
The entire Basecamp mobile interface was designed for small screens. It's easy to read, easy to tap, and fine-tuned for speed. Carefully crafted and elegantly presented, Basecamp mobile is a pleasure to use when you're on the go.

No apps to install. It's HTML 5.

Basecamp mobile is designed for use with your phone's web browser. You don't need to download an app from an app store. Just visit basecamphq.com on your phone's browser, and you're good to go!

**WORKS
WITHOUT APPS**





Change your website a little...

... or change it a lot

A close-up photograph of the front-left corner of a red toy car, possibly a Ferrari, showing the headlight, front wheel, and side mirror. The car is positioned on a plain white surface.

a little...

Screen / Window Size

Portrait / Landscape

Form Elements

Stupid Link Tricks

Touch Events



Desktop Screen != Window

Web Inspector — http://oreilly.com/

[Elements](#)[Resources](#)[Network](#)[Scripts](#)[Search](#)[All](#)[Errors](#)[Warnings](#)[Logs](#)

› screen.height

768

› screen.width

1366

› window.innerHeight

658

› window.innerWidth

1313

›

resizeMyBrowser

<http://resizemybrowser.com/>

bit.ly Google delicious resizeMyBrowser AsciiDoc JS Bin

resizeMyBrowser

320 x 480
iPhone 3G/3GS

480 x 320
iPhone 3G/3GS

1024 x 600
Most Netbooks

+ create a new preset

480 x 720
Meizu M8

720 x 480
Meizu M8

1280 x 800
MacBook Air 08

480 x 800
Google Nexus one

800 x 480
Google Nexus one

1366 x 768
Some Laptops

640 x 960
iPhone 4

960 x 640
iPhone 4

1440 x 900
MacBook Pro 15 inches

768 x 1024
iPad

1024 x 768
iPad

Maximum
Resize to Maximum

Current Inner **798 x 608**

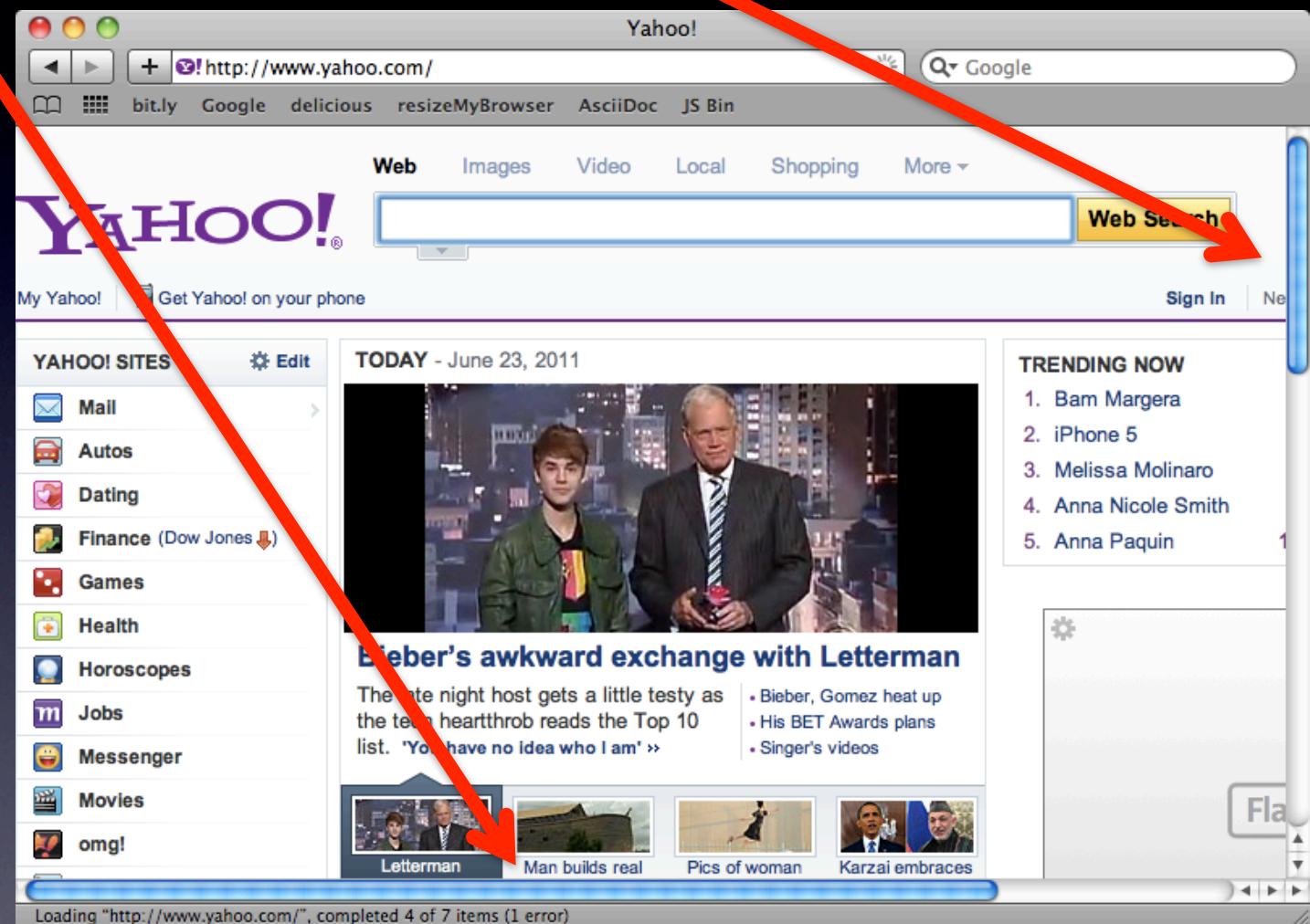
Outer means outerWindow size (including toolbar, addressbar and such),
Inner means innerWindow size (interior of the browser window).

Inner Outer

© Chen Luo, 2010-2011.

Smaller **New** Resize Release notes About

But there's a third thing...



Screen

Viewport (doc)

Window



(Scrollbars)

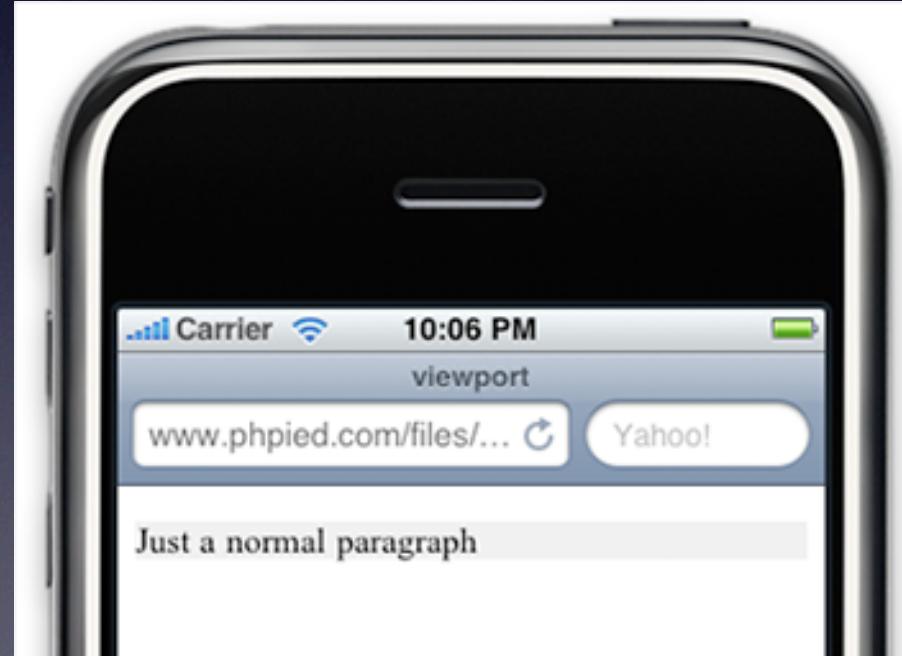
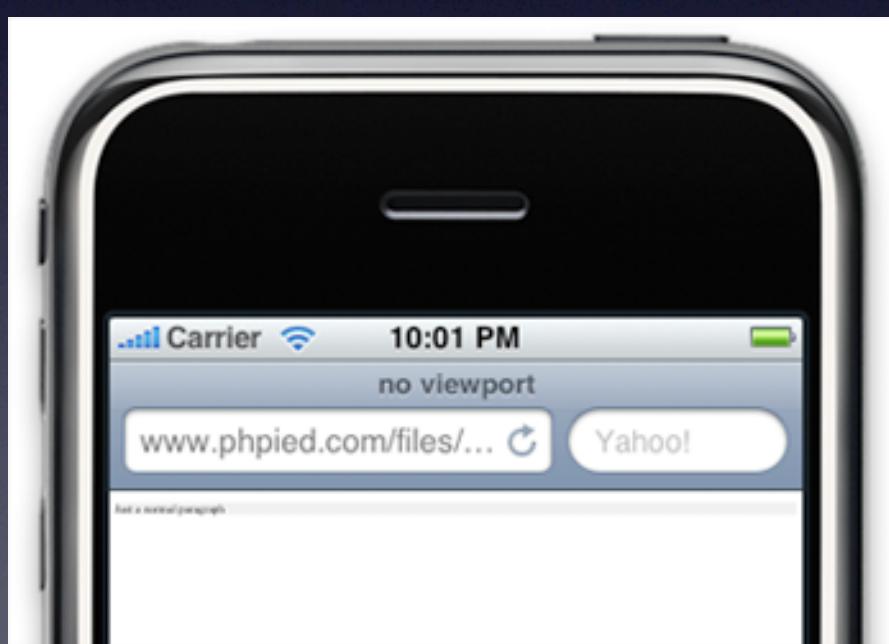


3: The Viewport Meta Element

By default, Safari on the iPhone will render your page as if it was a desktop browser on a big screen, it will scale down the content so that it fits the small screen. As a result, the user sees your page with interesting parts. This might be okay for your web pages, but if you're designing a web app that aims

Luckily, this is easy to correct using the special viewport `meta` element:

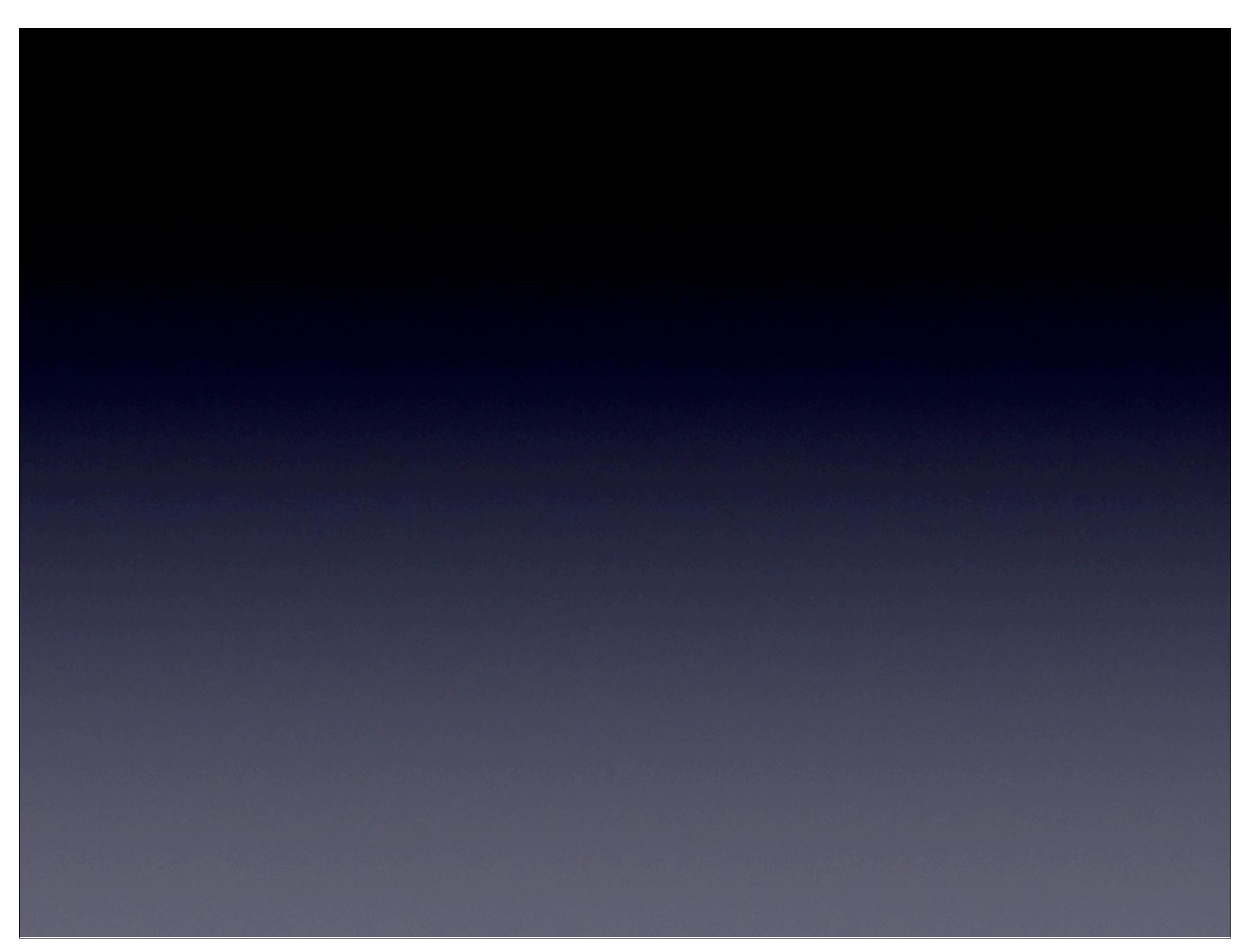
```
<meta name="viewport" content="width=device-width" />
```



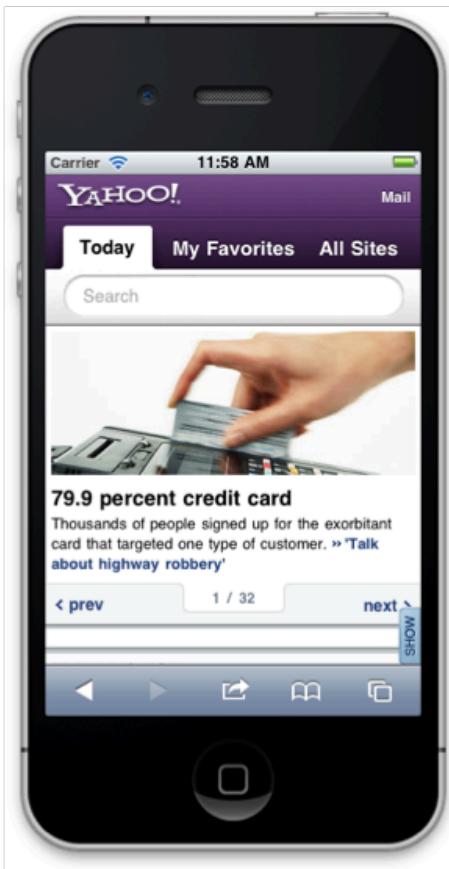
```
<meta name="viewport"  
      content="width=device-width,  
              initial-scale=1,  
              user-scalable=no" />
```

The screenshot shows a web browser window with the following details:

- Address Bar:** HTML <meta/> Meta Tag List
- Page Title:** HTML <meta/> Meta Tag List
- Content:**
 - Metatags for HTML pages on Mobile / Handheld Devices:**
 - [<link rel="apple-touch-icon/> tag](#) for Web Clips
 - [<meta name="format-detection"/> tag](#)
 - [<meta name="HandheldFriendly"/> tag](#)
 - [<meta name="viewport"/> tag](#)
 - Metatags for Apps on Mobile / Handheld Devices:**
 - [<meta name="apple-mobile-web-app-capable"/> tag](#)
 - [<meta name="apple-mobile-web-app-status-bar-style"/> tag](#)
 - [<link rel="apple-touch-startup-image"/> tag](#)



Portrait vs. Landscape



4: Orientation Changes

Your pages and apps can be viewed in two orientation modes: portrait and landscape. It could be used

Using JavaScript you can access the property `window.orientation`, which can have these values:

- 0—normal portrait orientation (home button is at the bottom)
- -90—landscape after clockwise rotation from portrait (home button to the left)
- 90—landscape after counterclockwise rotation from portrait (home button to the right)
- 180—unsupported for now, but would be portrait-flipped so that the home button is at the top

There's also the `orientationchange` event you can use to perform an action when the user tilts the device. You can add an event listener to the window object and display an alert whenever the orientation changes, displaying the `window.orientation` value:

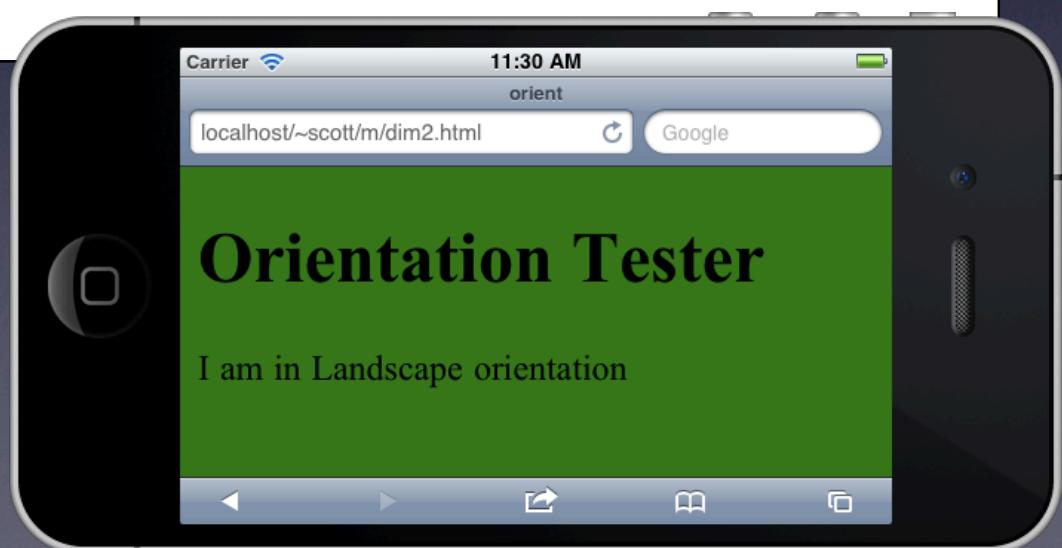
```
window.onorientationchange = function() {  
    alert(window.orientation);  
}
```

CSS3 Media Queries

```
@media all and  
  (orientation: portrait) {  
  ...  
}
```

```
<style type="text/css">
    /* Portrait - Orientation */
    @media screen and (orientation: portrait) {
        #orientation:after { content: " Portrait orientation"; }
        body{
            background-color: red;
        }
    }

    /* Landscape - Orientation */
    @media screen and (orientation: landscape) {
        #orientation:after { content: " Landscape orientation"; }
        body{
            background-color: green;
        }
    }
</style>
```



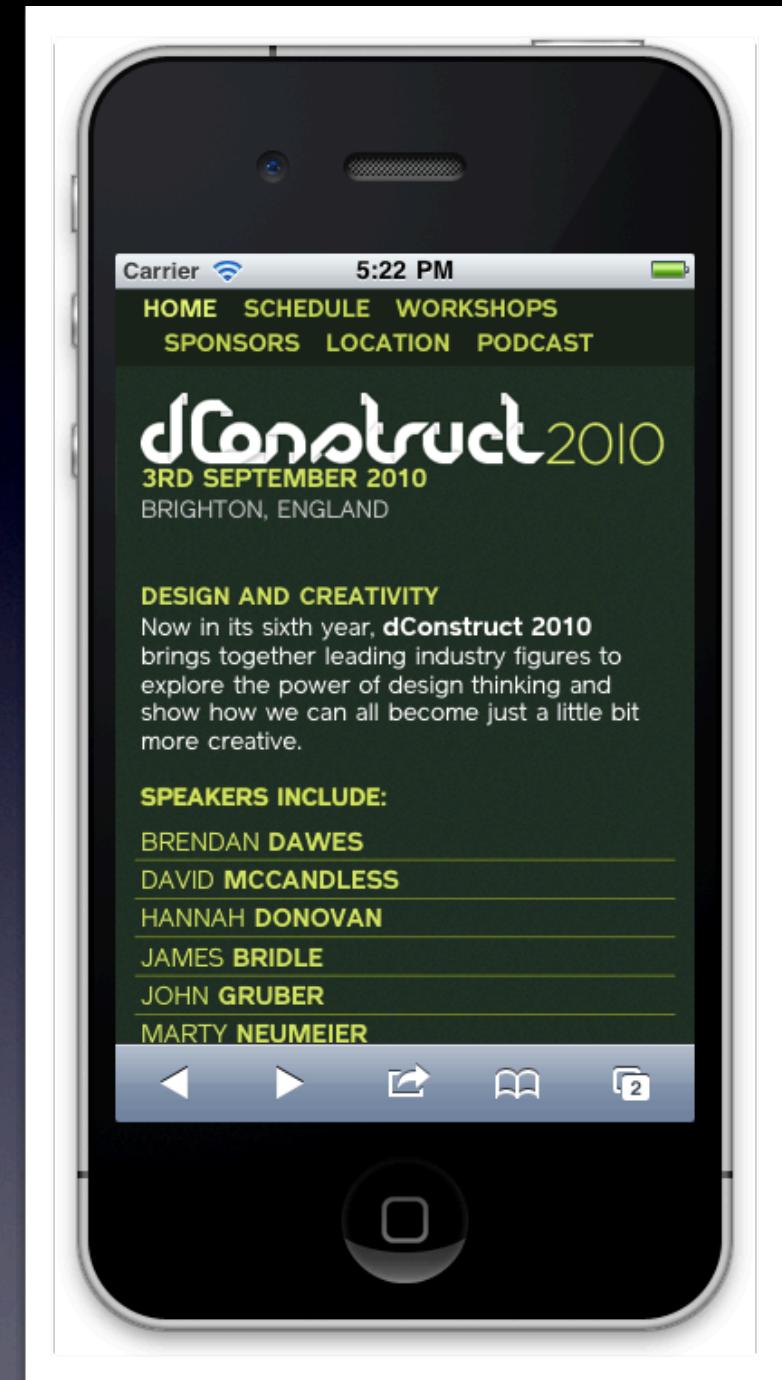
CSS3 Media Queries

```
<link media="screen and (...) and (...)" >
```

width (device-width)
height (device-height)
orientation (portrait | landscape)
aspect-ratio (device-aspect-ratio)
resolution
color, color-index, monochrome
scan (progressive | scan)
grid

<http://2011.dconstruct.org>

Media Queries Demo



Ethan Marcotte

RESPONSIVE WEB DESIGN

FOREWORD BY Jeremy Keith

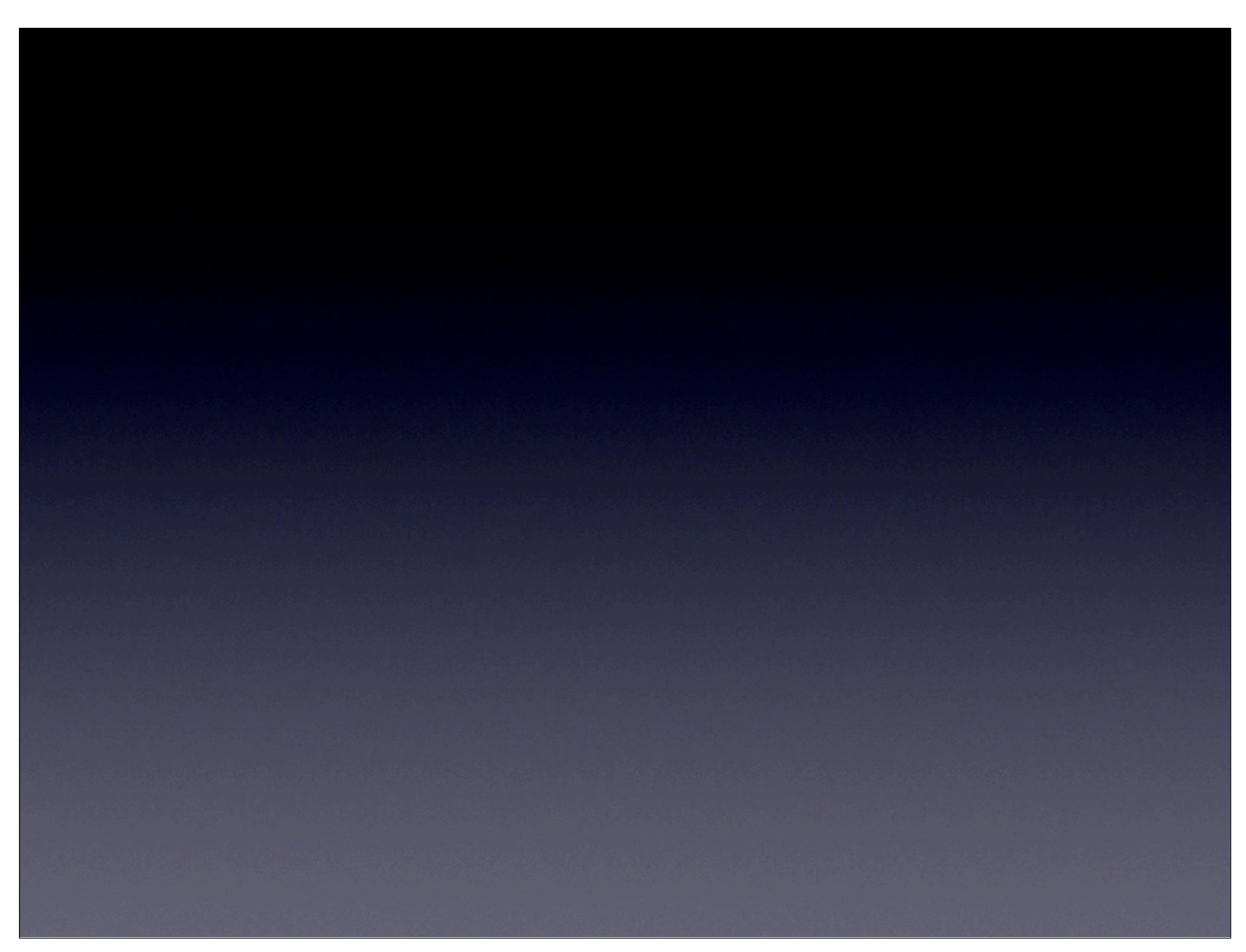
TABLE OF CONTENTS

1	CHAPTER 1 Our Responsi
13	CHAPTER 2 The Flexible C
42	CHAPTER 3 Flexible Image
64	CHAPTER 4 Media Queries
106	CHAPTER 5 Becoming Resp
140	Acknowledgements
142	Resources
144	References
147	Index

THE FLEXIBLE GRID

WHEN I WAS IN COLLEGE, a professor once told me that every artistic movement—whether musical, literary, or from the fine arts—could be seen as a response to the one that preceded it. Filmmakers of the sixties produced *Bonnie and Clyde* and *The Graduate* to counter such old Hollywood pictures as *The Sound of Music*. In *Paradise Lost*, John Milton actually writes his literary predecessors into the backdrop of hell—a not-so-subtle dig at their poetic street cred. And if it wasn't for the tight arrangements of Duke Ellington and Benny Goodman, Charlie Parker might never have produced the wild-eyed experimentation of bebop.

One artist establishes a point; another sets the counterpoint. And this was especially true for the artists of the Modernist period in the mid-20th century. The Modernists were looking at the creative output of their predecessors, the Romantic period of the late 19th century, with, well, a little disdain. To them, Romantic art was just laden down with all this stuff—needless, embellished ornamentation that



Nº 10.

A FORM OF MADNESS

For over a decade, web forms comprised just a few kinds of fields. The most common kinds were

Field Type	HTML Code	Notes
checkbox	<code><input type="checkbox"></code>	can be toggled on or off
radio button	<code><input type="radio"></code>	can be grouped with other inputs
password field	<code><input type="password"></code>	echos dots instead of characters as you type
drop-down lists	<code><select><option>...</code>	
file picker	<code><input type="file"></code>	pops up an “open file” dialog
submit button	<code><input type="submit"></code>	
plain text	<code><input type="text"></code>	the type attribute can be omitted

All of these input types still work in HTML5. If you’re “upgrading to HTML5” (perhaps by [changing your DOCTYPE](#)), you don’t need to make a single change to your web forms. Hooray for backward compatibility!

<http://diveintohtml5.org/>

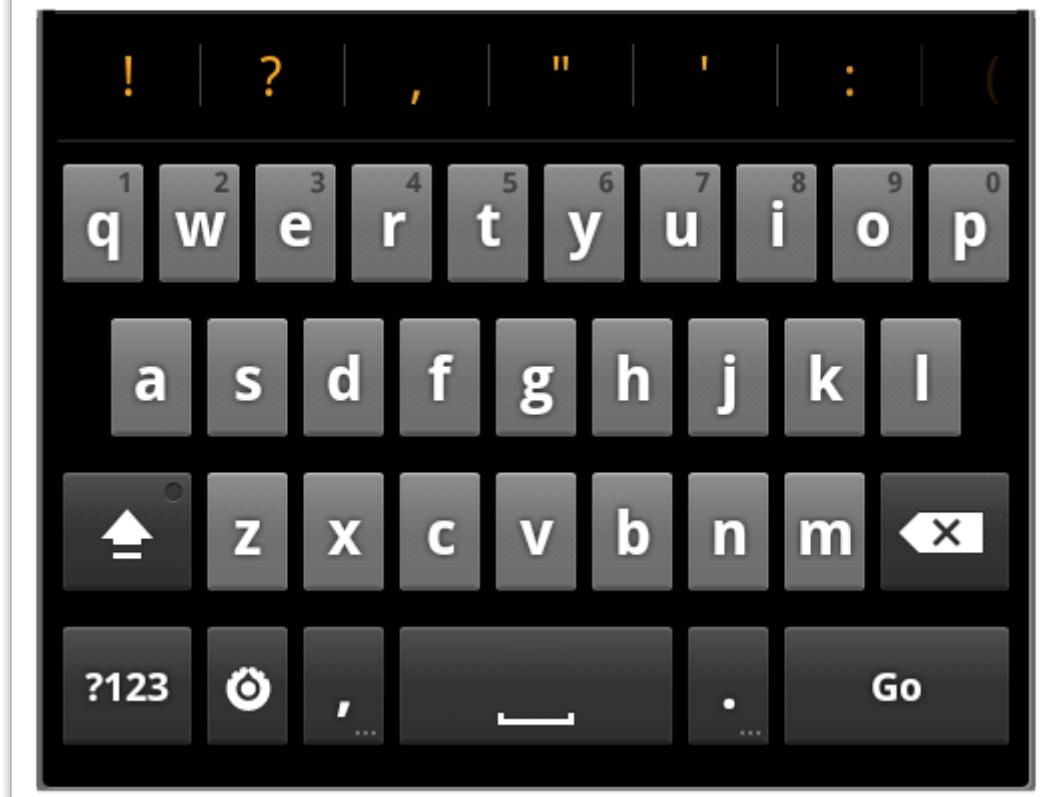
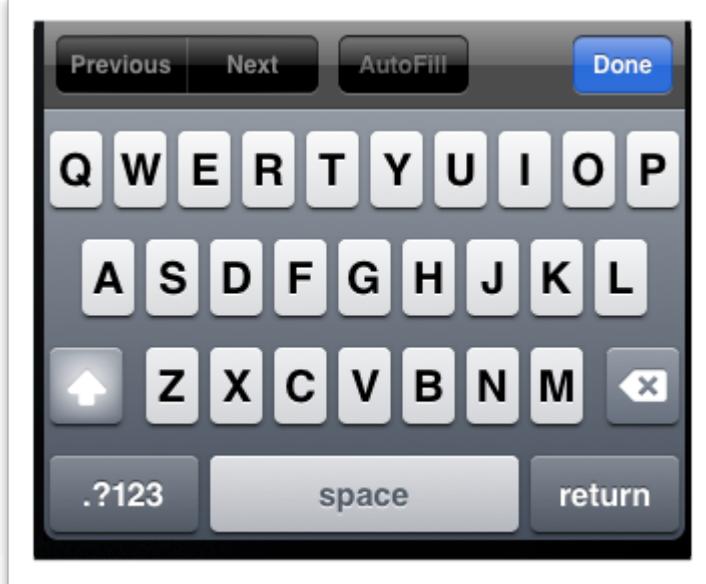
The `input` element's `type` attribute now has the following new values:

- `tel`
- `search`
- `url`
- `email`
- `datetime`
- `date`
- `month`
- `week`
- `time`
- `datetime-local`
- `number`
- `range`
- `color`

The idea of these new types is that the user agent can provide the user interface, such as a calendar date picker or integration with the user's address book, and submit a defined format to the server. It gives the user a better experience as his input is checked before sending it to the server meaning there is less time to wait for feedback.

text

```
<input type="text" />
```



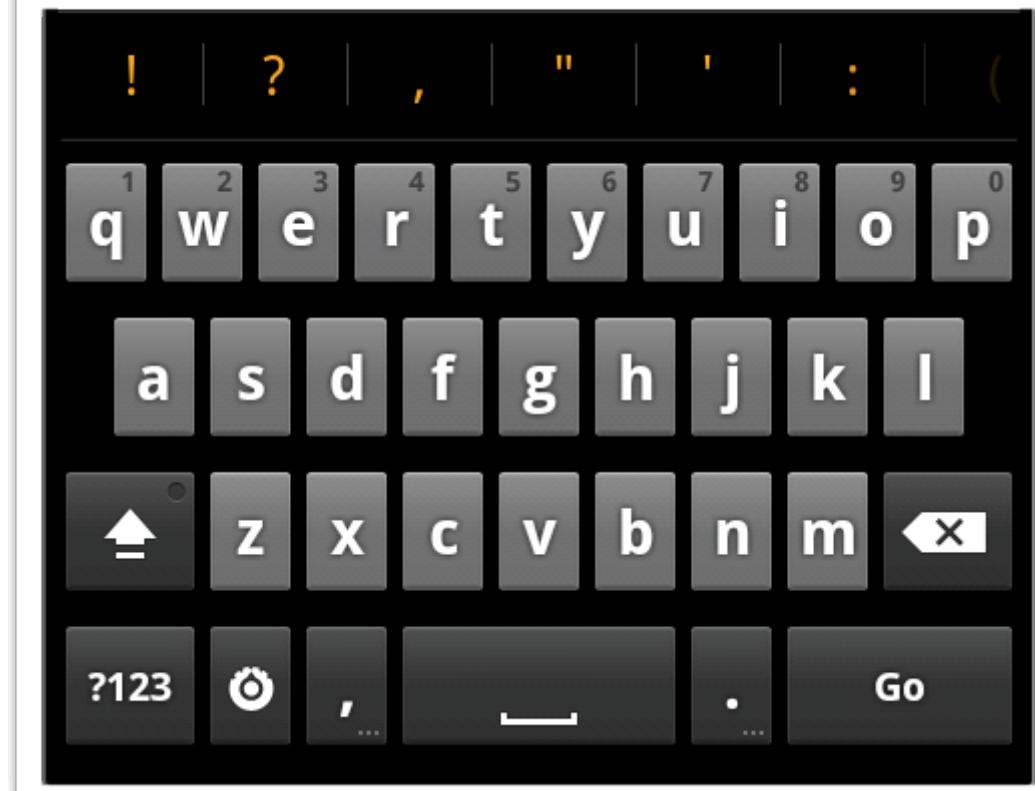
url

```
<input type="url" />
```



email

```
<input type="email" />
```



number

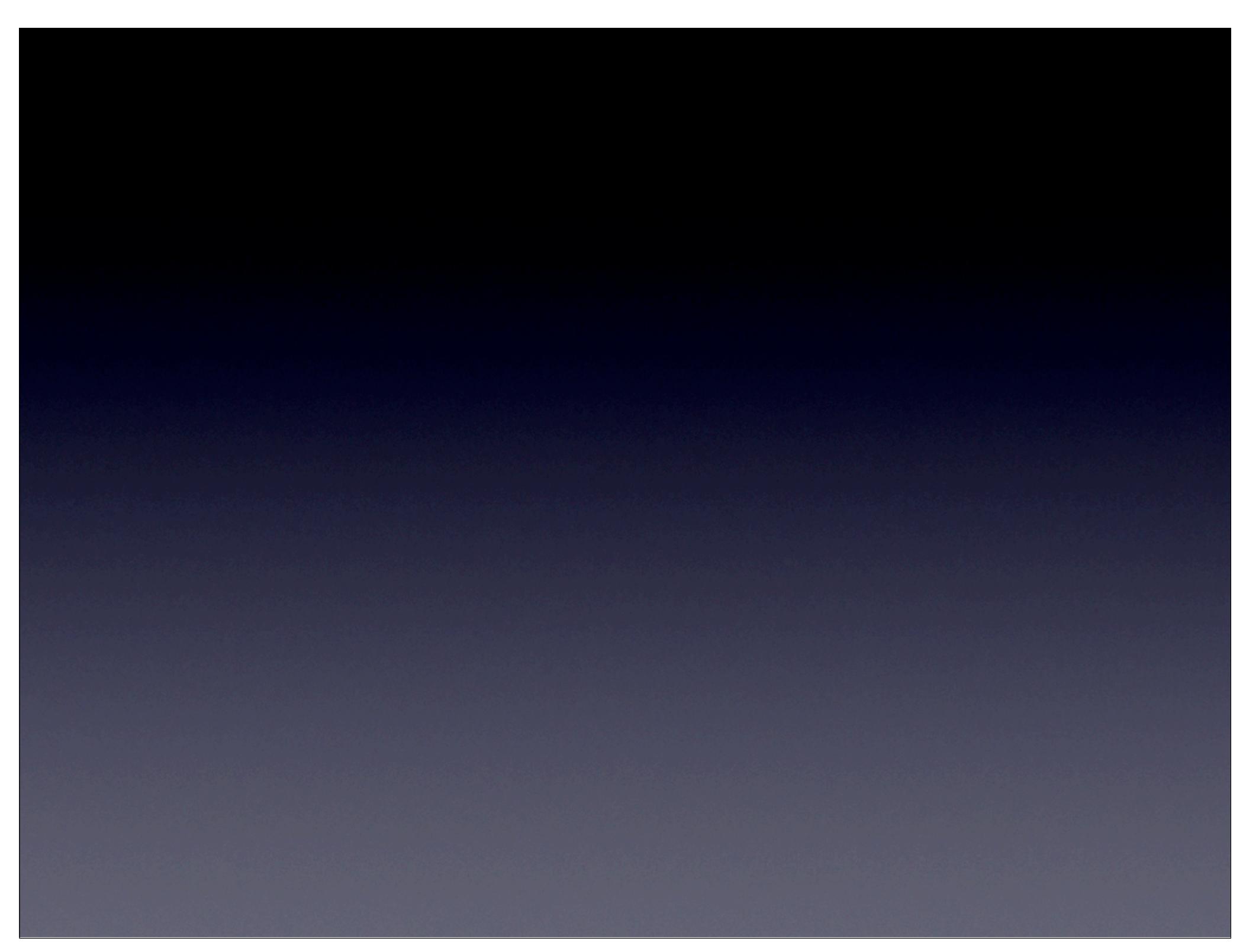
```
<input type="number" />
```



tel

<input type="tel" />





Stupid Link Tricks

Email:

```
<a href="mailto:scott@thirstyhead.com">email me</a>
```

Phone:

```
<a href="tel:13035551212">phone me</a>
```

SMS:

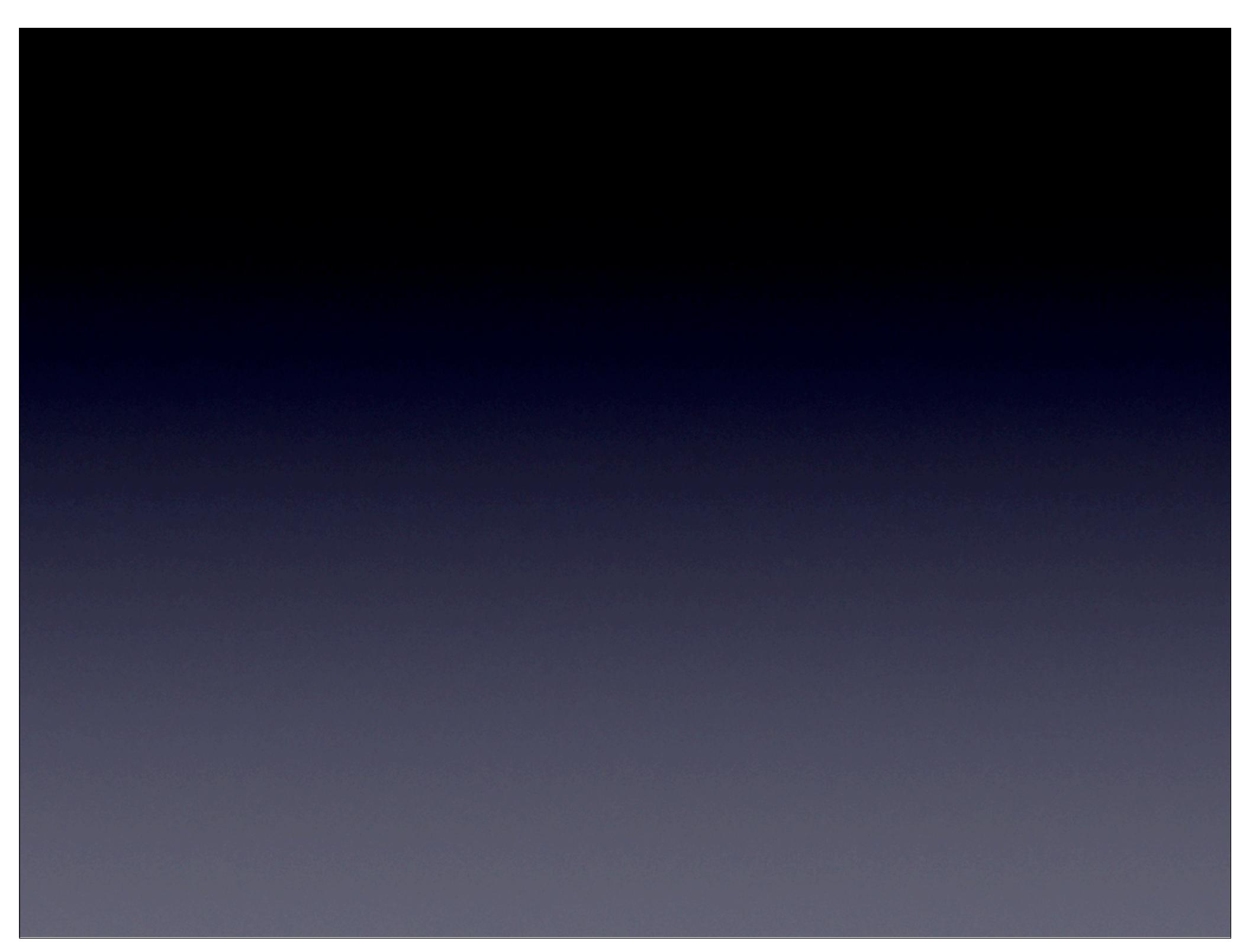
```
<a href="sms:13035551212">text me</a>
```

Map:

```
<a href="http://maps.google.com/maps?  
q=123+Main+Denver+CO+80020">find me</a>
```

Driving Directions:

```
<a href="http://maps.google.com/maps?  
daddr=123+Main+Denver+CO+80020&  
saddr=987+Center+St+Broomfield+CO+80020">visit me</a>
```



Touch Events



No Mouse == No Hover



*touch++
gesture++*

Gestures

Tap



Double tap



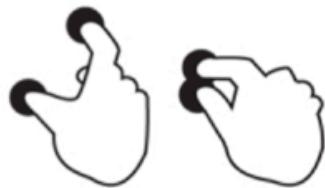
Drag



Flick



Pinch



Touch surface with two fingers and bring them closer together

Spread



Touch surface with two fingers and move them apart

Press



Touch surface for extended period of time

Press and tap



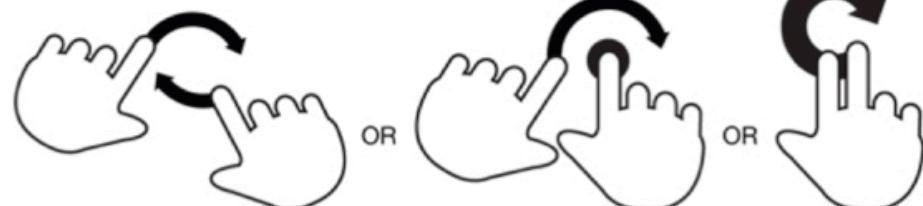
Press surface with one finger and briefly touch surface with second finger

Press and drag

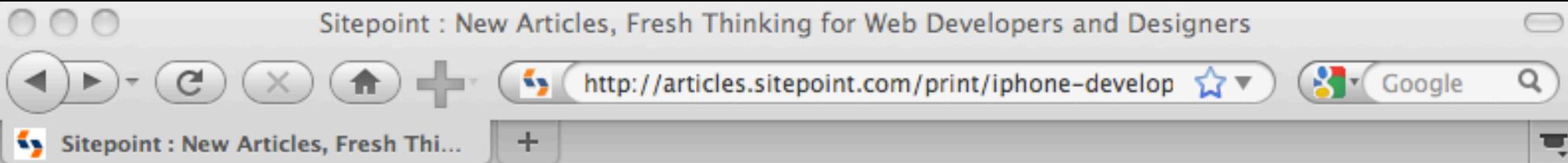


Drag surface with one finger and

Rotate



Touch surface with two fingers



8: Touch Events

Of course, you use your iPhone with a finger instead of a mouse; rather than clicking, you tap. What the iPhone, mouse events are replaced by touch events. They are:

- `touchstart`
- `touchend`
- `touchmove`
- `touchcancel` (when the system cancels the touch)

When you subscribe to any of those events, your event listener will receive an `event` object. The `e`

- `touches`—a collection of touch objects, one for each finger that touches the screen. The `touch` properties containing the coordinates of the touch within the page.
- `targetTouches`—works like `touches`, but only registers touches on a target element as opp

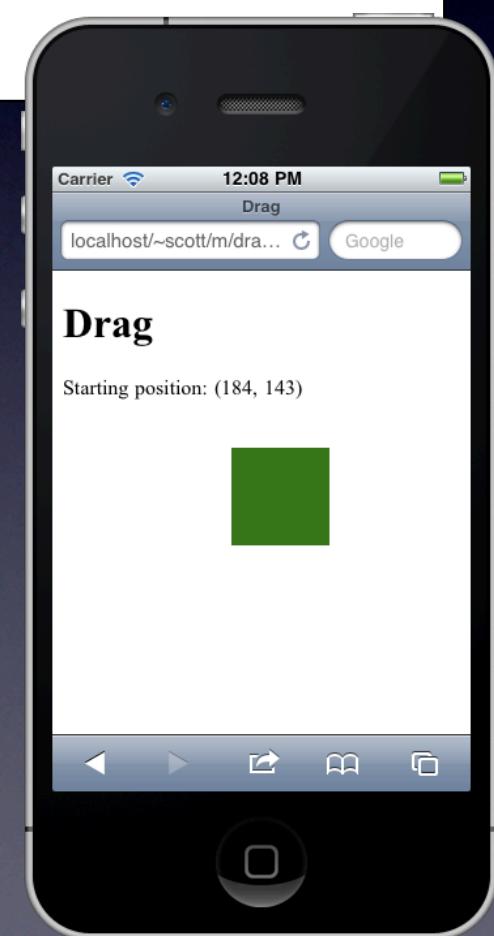
The next example is a simple implementation of drag and drop. Let's put a box on a blank page and

```
var square = document.getElementById("square")

square.addEventListener('touchmove', function(e) {
  //NOTE: comment this out to see default browser behavior
  // (viewport scroll)
  e.preventDefault();

  var square = document.getElementById("square")
  square.style.left = e.targetTouches[0].screenX + "px"
  square.style.top = e.targetTouches[0].screenY + "px"

},false);
```





9: Gestures

On the iPhone, gestures are two-finger actions: scaling (zoom in and zoom out) and rotation. We learned earlier that touch events contain information about each finger that touches the device. It's possible to use those events directly, but for this purpose, there are more convenient **gesture** events. You can listen to the following events:

- **gesturestart**
- **gestureend**
- **gesturechange**

In the next example, we'll listen to the **gesturechange** event, and then scale and rotate a **div** using the **transform** CSS property. As usual, the event listeners accept an **event** object parameter. The **event** object has the following properties:

- **event.scale**—a value of 1 when there's no scaling, less than 1 when zooming out (such as when you're zooming in).
- **event.rotate**—the rotation angle in degrees.

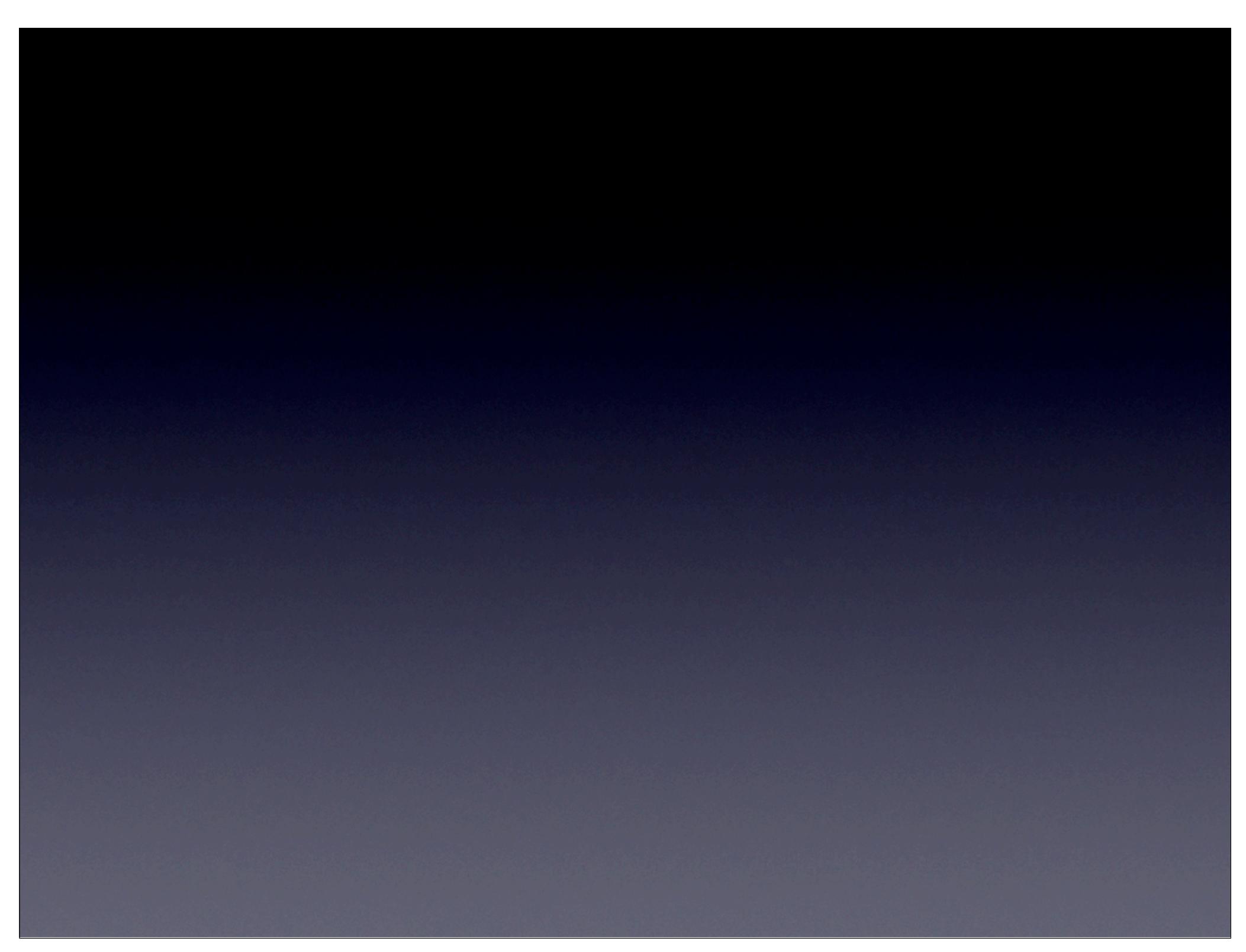
The code is very similar to the `touch-and-drag` code from the previous example.

```
var square = document.getElementById("square")
square.addEventListener('gesturechange', function(e) {
    e.preventDefault();

    var square = document.getElementById("square")
    square.style.webkitTransform = 'scale(' + e.scale + ') ' +
        'rotate('+ e.rotation + 'deg)';

}, false);
```





A close-up photograph of the front-left corner of a red toy car, possibly a Ferrari, showing the headlight, front wheel, and side mirror. The car is positioned on a plain white surface.

a little...

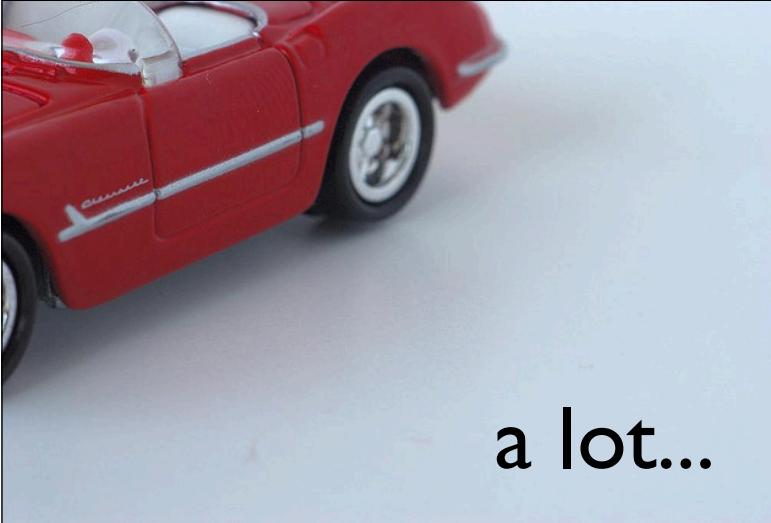
Screen / Window Size

Portrait / Landscape

Form Elements

Stupid Link Tricks

Touch Events

A close-up photograph of the front-left corner of a red toy car, possibly a Ferrari, with white racing stripes. The car is positioned on a plain white surface.

a lot...

Local Views,
Remote Data

Application Cache

Local Storage

Recipe for a single page mobile app:

- 1.) All “pages” are #divs in the same page
- 2.) All “links” simply show / hide #divs
- 3.) All “data” is an AJAX request away

Building iPhone Apps with HTML, CSS, and JavaScript

Making App Store Apps Without Objective-C or Cocoa

By [Jonathan Stark](#)

Publisher: O'Reilly Media

Released: January 2010

Pages: 192



4.4



12



66

[Read 17 Reviews](#) | [Write a Review](#)

[Description](#) | [Table of Contents](#) | [Related Content](#) | [Product Details](#)

[Customer Reviews](#) | [About the Author](#) | [Colophon](#)

Description

It's a fact: if you know HTML, CSS, and JavaScript, you already have what you need to develop your own iPhone apps. With *Building iPhone Apps w/ HTML, CSS, and JavaScript*, you'll learn how to use these open source web technologies to design and build apps for both the iPhone and iPod Touch, on the platform of your choice. Device-agnostic apps are the wave of the future, especially for mobile devices, and this book shows you how to create, test, and convert one product that can be used across multiple platforms.

[See larger cover](#)



Example 3-3. This bit of JavaScript in iphone.js converts the links on the page to Ajax requests

```
$(document).ready(function(){ ❶
    loadPage();
});
function loadPage(url) {❷
    if (url == undefined) {
        $('#container').load('index.html #header ul', hijackLinks);❸
    } else {
        $('#container').load(url + ' #content', hijackLinks);❹
    }
}
function hijackLinks() {❺
    $('#container a').click(function(e){❻
        e.preventDefault();❽
        loadPage(e.target.href);❾
    });
}
```

[Docs and Demos](#)[Download](#)[Platforms](#)[Contribute](#)[Forum](#)[E](#)**JQUERY MOBILE 1.0 ALPHA 3 RELEASED!**

jQuery Mobile: Touch-Optimized Web Framework for Smartphones & Tablets

A unified user interface system across all popular mobile device platforms, built on the rock-solid jQuery and jQuery UI foundation. Its lightweight code is built with progressive enhancement, and has a flexible, easily themeable design. [Alpha Release Notes](#)



```
<!-- home -->
<div data-role="page" id="home">
  <div data-role="content" class="gradient">
    <nav id="home-nav">
      <ul>
        <li><a href="#mytv">MyTV</a></li>
        <li><a href="#livetv">Live</a></li>
        <li><a href="#schedule">Schedule</a></li>
        <li><a href="#myplaylist">My Playlist</a></li>
        <li><a href="#help">Help</a></li>
      </ul>
    </nav>
  </div>
</div>

<!-- mytv -->
<div data-role="page" id="mytv">
  <div data-role="header">
    <h1>MyTV</h1>
    <a href="#home">Back</a>
  </div>
</div>
```

Application Cache

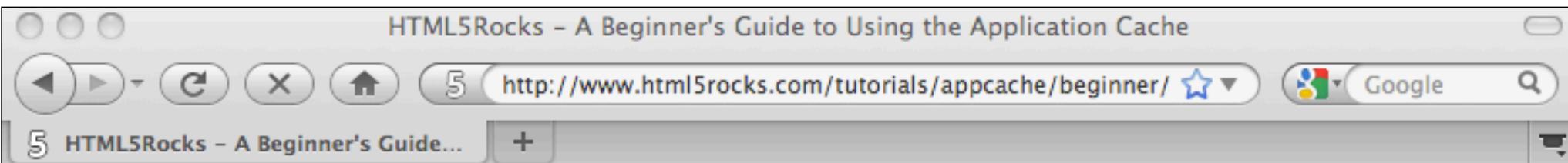


Then:

Server-side hints

Now:

HTML5 Application Cache



Presentation Playground Studio **Tutorials** Resources

[Home](#) > [Tutorials](#) > A Beginner's Guide to Using the Application Cache

A Beginner's Guide to Using the Application Cache

Eric Bidelman, June 18, 2010

Supported browsers:



70



2



1

Your browser appears to support all of the functionality used in this sample.

- [Introduction](#)
- [The cache manifest file](#)
 - [Referencing a manifest file](#)
 - [Structure of a manifest file](#)
- [Updating the cache](#)
- [References](#)

Transferring data from www.google.com...



YSlow

The cache manifest file

The cache manifest file is a simple text file that lists the resources the browser should cache for offline access.

Referencing a manifest file

To enable the application cache for an app, include the manifest attribute on the document's `html` tag:

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

5 HTML5Rocks – A Beginner's Guide...

+

Note: Sites are limited to 5MB worth of cached data.

Note: If the manifest file or a resource specified in it fails to download, the entire cache update process fails. The browser will keep using the old application cache in the event of failure.

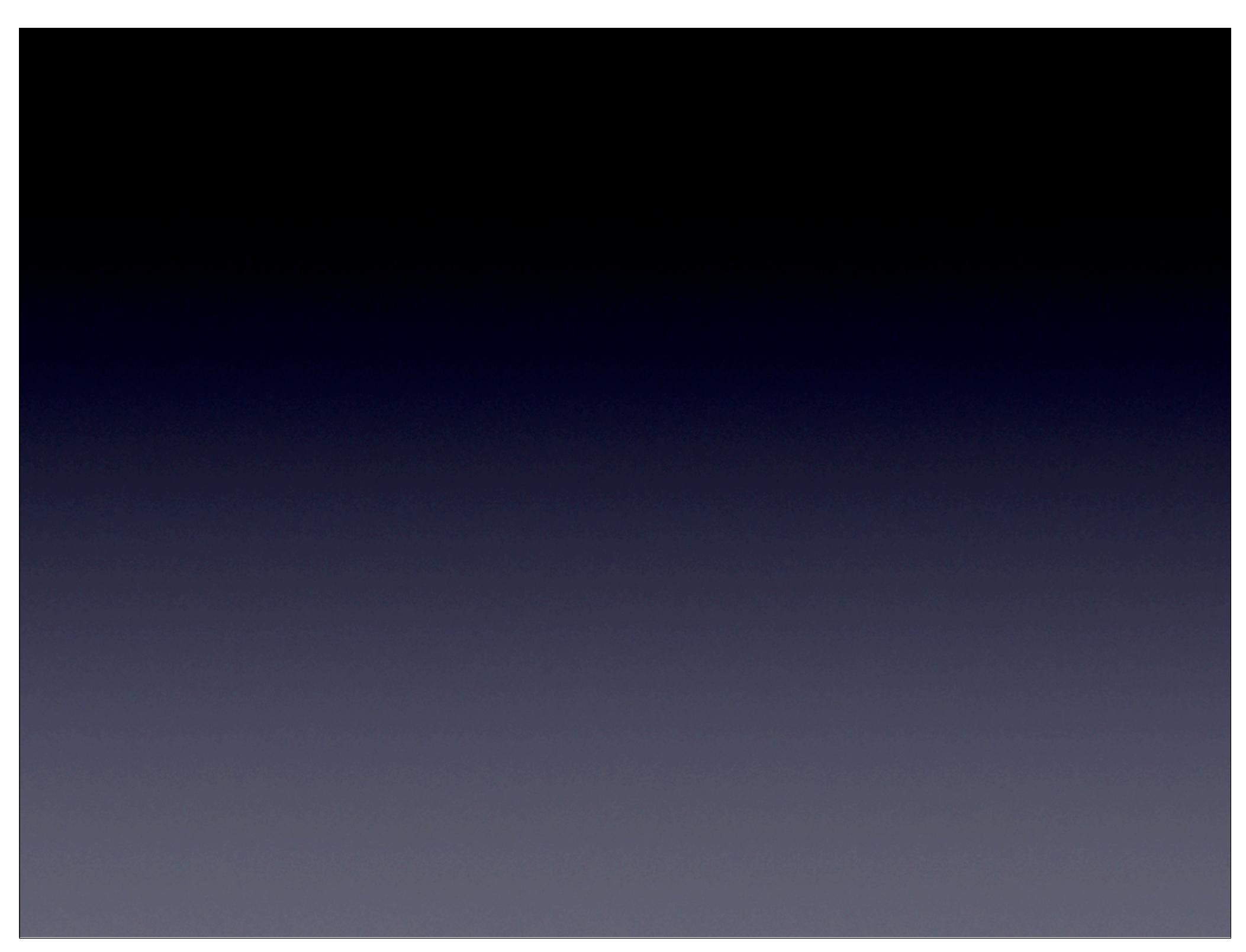
Lets take a look at a more complex example:

```
CACHE MANIFEST
# 2010-06-18:v2

# Explicitly cached entries
CACHE:
index.html
stylesheet.css
images/logo.png
scripts/main.js

# Resources that require the user to be online.
NETWORK:
login.php
/myapi
http://api.twitter.com

# static.html will be served if main.py is inaccessible
# offline.jpg will be served in place of all images in images/large/
FALLBACK:
/main.py /static.html
images/large/ images/offline.jpg
```



A close-up photograph of a pair of blue denim jeans. The jeans feature a dark brown belt loop and a matching button. A red rectangular tab is visible on the right side of the waistband, with the white text "Levi's" and "506" printed on it. The denim has a classic twill texture and some minor wear and discoloration.

Levi's
506

Local Storage

Cookies



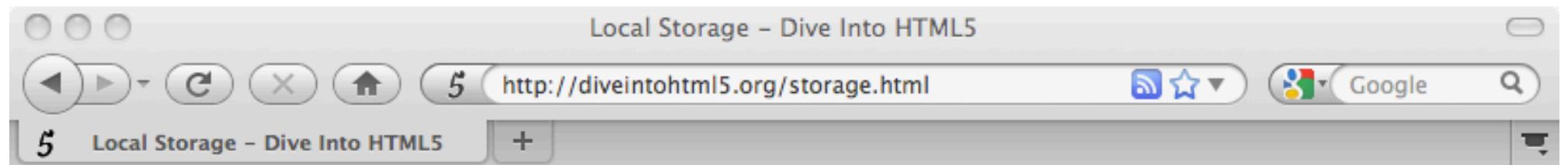
Persistent between requests

Sent back to server
with every HTTP
request

Limited to 4k







USING HTML5 STORAGE

HTML5 Storage is based on named key/value pairs. You store data based on a named key, then you can retrieve that data with the same key. The named key is a string. The data can be any type supported by JavaScript,



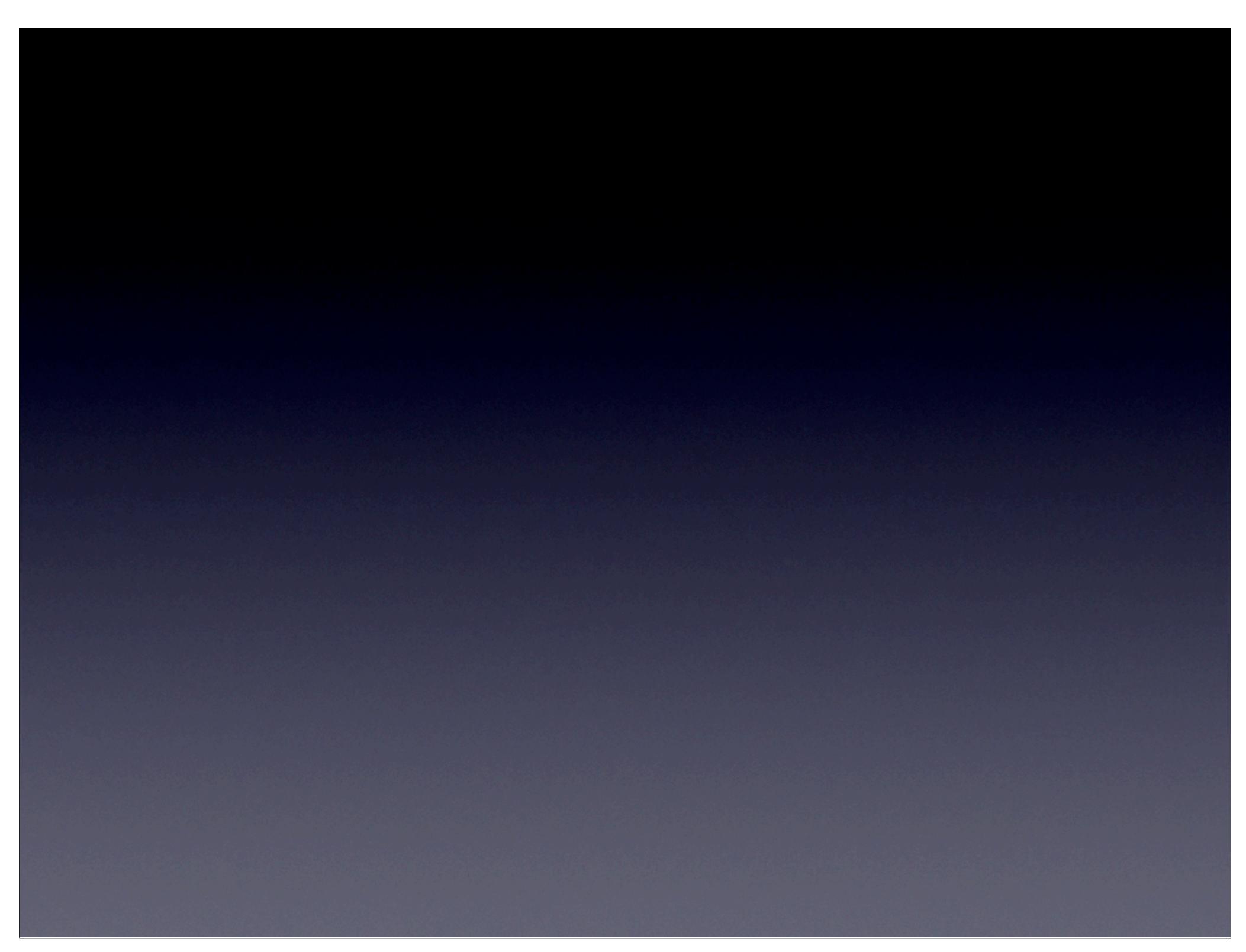
5 Local Storage – Dive Into HTML5



How does it work? Every time a change occurs within the game, we call this function:

```
function saveGameState() {  
    if (!supportsLocalStorage()) { return false; }  
    localStorage["halma.game.in.progress"] = gGameInProgress;  
    for (var i = 0; i < kNumPieces; i++) {  
        localStorage["halma.piece." + i + ".row"] = gPieces[i].row;  
        localStorage["halma.piece." + i + ".column"] = gPieces[i].column;  
    }  
    localStorage["halma.selectedpiece"] = gSelectedPieceIndex;  
    localStorage["halma.selectedpiecehasmoved"] = gSelectedPieceHasMoved;  
    localStorage["halma.movecount"] = gMoveCount;  
    return true;  
}
```

As you can see, it uses the `localStorage` object to save whether there is a game in progress (`gGameInProgress`, a Boolean). If so, it iterates through the pieces (`gPieces`, a JavaScript Array) and saves the row and column number



A close-up photograph of the front-left corner of a red toy car, possibly a Ferrari, with white racing stripes. The car is positioned on a plain white surface.

a lot...

Local Views,
Remote Data

Application Cache

Local Storage



Change your website a little...

... or change it a lot

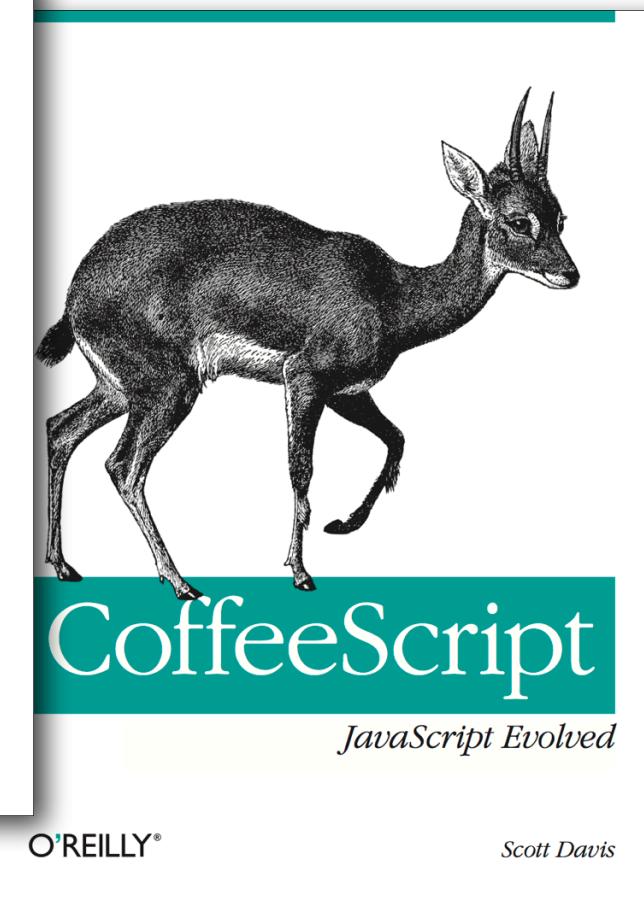
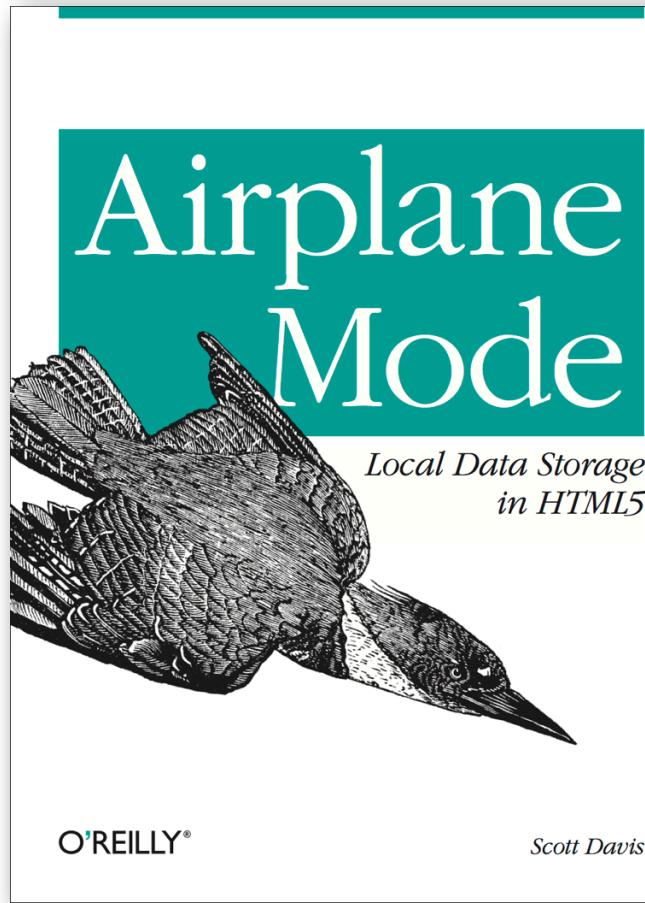
Mobile HTML5



Scott Davis
ThirstyHead.com



ThirstyHead.com
training done right.



Scott Davis
@scottdavis99