

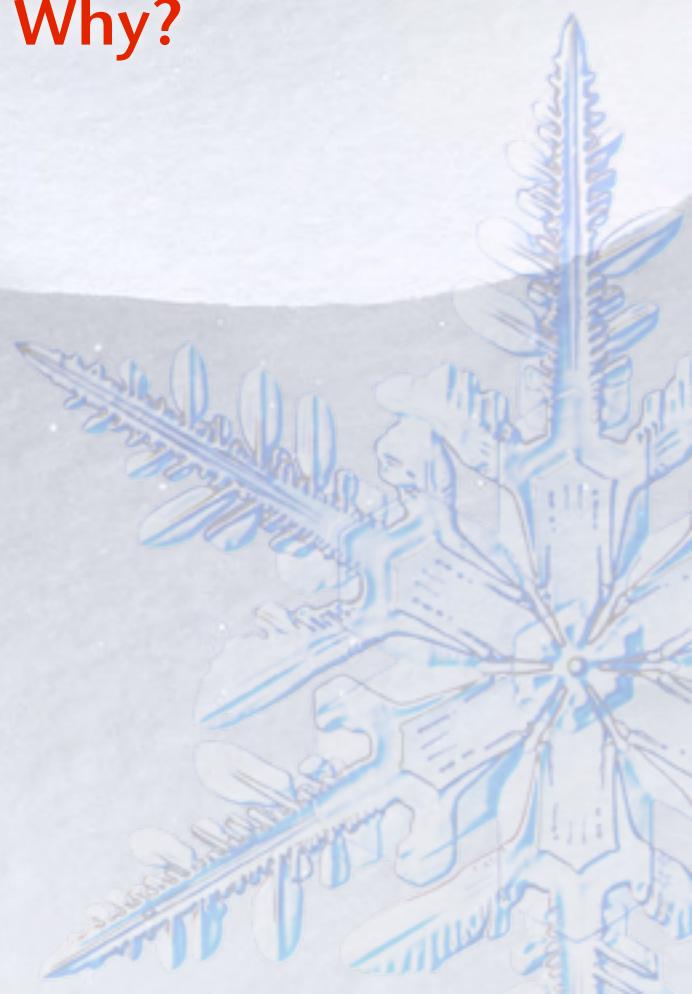
Lecture 4

Getting Started with HTML5





Outline



- ❖ **HTML5—What and Why?**
- ❖ **HTML5 Features**
- ❖ **HTML5 Toolkit**

Word on the Street...

"The world is moving to HTML5"

—Steve Jobs, Apple

"The Web has not seen this level of transformation, this level of acceleration, in the past ten years... we're betting big on HTML5"

—Vic Gundotra, VP of Engineering, Google

"If you want to do something universal, there is no question, the world is going HTML5. That is clear...The world is just pushing down this HTML5 path and so are we."

—Steve Ballmer, CEO Microsoft

"I had no idea there was so much HTML5 already in play"

—Tim O'Reilly

"HTML5's impact on Tech Com will be bigger than DITA"

—Peter Lubbers



Job Trend 2015



Top Job Trends

1. [HTML5](#)
2. [MongoDB](#)
3. [iOS](#)
4. [Android](#)
5. [Mobile app](#)
6. [Puppet](#)
7. [Hadoop](#)
8. [jQuery](#)
9. [PaaS](#)
10. [Social Media](#)

"HTML5" is the #1 job trend - the fastest growing keyword found in online job postings—indeed.com

What is HTML5?

- * The new major milestone for HTML
- * Focused on Web Applications
- * Web apps are rapidly becoming first class apps, on par with desktop and native apps
- * W3C Recommendation
28 October 2014



Why HTML5?

* 5 Reasons why you should care!



1) HTML5 Paves the Cow Paths

- ❖ Because HTML5 takes a pragmatic approach, fixing common real-world problems



Paved Cow Path

HTML4

```
<form>
```

```
<input name="email" type="text">
```



upload of
validation code
or extra js lib

```
(?:[a-zA-Z!#$%&'*+/=?^`{|}~-]+(?:\.[a-zA-Z!#$%&'*+/=?^`{|}~-]+)*|"(?:[\x01-\x08\x0b\x0c\x0e-\x1f\x21\x23-\x5b\x5d-\x7f]|\\"[\x01-\x09\x0b\x0c\x0e-\x7f])*")@(?:(:[a-zA-Z-]*[a-zA-Z-]*[a-zA-Z-])?\.)+[a-zA-Z](?:[a-zA-Z-]*[a-zA-Z-])?|\\[(?:(:25[0-5]|2[0-4][0-9]|0[1]?[0-9][0-9]?|\\.){3}(?:25[0-5]|2[0-4][0-9]|0[1]?[0-9][0-9]?|[a-zA-Z-]*[a-zA-Z-]):(?:[\x01-\x08\x0b\x0c\x0e-\x1f\x21-\x5a\x53-\x7f]|\\"[\x01-\x09\x0b\x0c\x0e-\x7f])+)\])
```



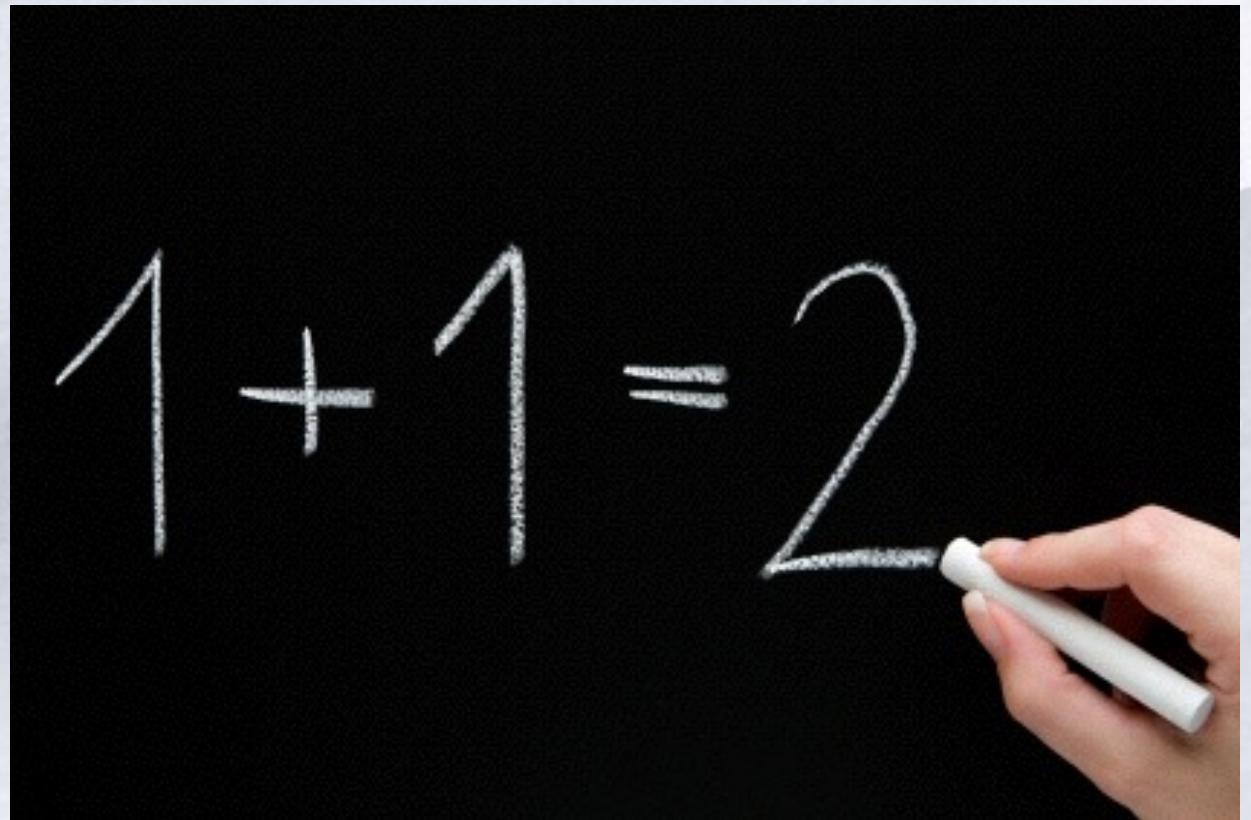
HTML5



```
<input type=email required>
```

2) HTML5 Simplifies

- ❖ Because HTML5 is, well, simpler



Simplified Doctype

HTML4/XHTML

- HTML 4.01 Strict
- HTML 4.01 Transitional
- HTML 4.01 Frameset
- XHTML 1.0 Strict
- XHTML 1.0 Transitional
- XHTML 1.0 Frameset
- XHTML 1.1



```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01  
Transitional//EN"  
"http://www.w3.org/TR/html4/loose.dtd">
```

HTML5

```
<!DOCTYPE html>
```

Simplified Character Set

HTML4

```
<meta http-equiv="Content-Type"  
content="text/html; charset=utf-8">
```



HTML5

```
<meta charset=utf-8>
```

Simplified Markup

HTML5

```
<!DOCTYPE html>  
<meta charset=utf-8>  
<title>HTML5</title>  
<h1>HTML5!</h1>
```

70 characters!

DOM

```
<!DOCTYPE html>  
└<html>  
  └<head>  
    <meta charset="utf-8">  
    <title>HTML5</title>  
  </head>  
  └<body>  
    <h1>HTML5!</h1>  
  </body>  
</html>
```

3) HTML5 is Universal

Because HTML5
works in all
languages and
accessibility is built in
from the ground up



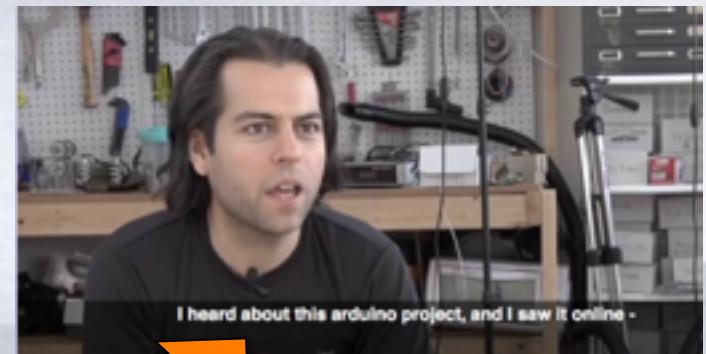
Universal Access

* Support for all world languages

- * For example, the new <ruby> element

* Accessibility

- * Semantic markup
- * WebVTT



```
<video controls  
    preload="metadata">  
    <source src="rocpoc.mp4">  
    <track label="English"  
        kind="subtitles"  
        src="subtitles_en.vtt">  
</video>
```

WEBVTT

1
00:00:01,000 --> 00:00:03,050
What do I think about HTML 5?...

2
00:00:04,000 --> 00:00:07,100
It's pretty sweet. I just hope that
people use the new features
thoughtfully.

[http://html5videoguide.net/presentations/
WebVTT](http://html5videoguide.net/presentations/WebVTT)

4) HTML5 Means Less Plugins

Because HTML5 provides native support for many features that were possible only with plugins or complex hacks (audio/video, drawing, sockets)



Plugins are on the way out

- ❖ Built-in is better than bolt-on —@brucel
- ❖ Plugins may not be installed (for long)
- ❖ Plugins can be an attack vector (Proxy poisoning)
- ❖ “Whenever a Mac crashes, more often than not is because of Flash” —Steve Jobs

[Home](#) > [Industry News](#) > [Adobe kills mobile Flash, blames iPhone and iPad, "Occupy Flash" rises](#)

Adobe kills mobile Flash, blames iPhone and iPad, "Occupy Flash" rises

November 14, 2011 by Bill Palmer

by Bill Palmer

Data Storage Solutions

Best-in-class data storage products for AV, Enterprise and Home Users.
[www.powerandtech.com](#)

AdChoices >



Adobe has discontinued its much maligned Mobile Flash Player software for smartphones and tablets, after years of bizarrely pushing forward with the the 1990s-era web development tool still had a place in the twenty-first century after the internet had passed it by. But just when it was starting to lose, Adobe finally figured out what everyone else had known about Flash for a long time: the company had to go and crush that notion by stating that it only killed off Flash because Apple's refusal to allow the buggy and resource-hogging plugin onto its iPhone and iPad. In other words, Adobe never did figure out that

News

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[print](#)

Microsoft has Abandoned Silverlight and All Other Plugins in Metro IE

Posted by Jonathan Allen on Sep 15, 2011

Sections Development Topics [Silverlight](#) , [.NET](#) , [Javascript](#) , [HTML5](#) , [Web 2.0](#) Tags [Windows 8](#) , [Flash](#)

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[Bookmark this!](#)

Though it has been hard, we have been trying to avoid reporting on rumors about the death of Silverlight for quite some time. As in all things, rumors tend to be exaggerated or out-right false. A good example of this is the idea that Web Forms has entered maintenance mode and would never be updated to HTML5. Unfortunately the end of Silverlight is no rumor; if Microsoft doesn't change course it, as well as Flash and other plugin technologies, will be effectively unusable when Windows 8 is released.

<http://goo.gl/mzFjM>

<http://www.infoq.com/news/2011/09/Metro-Plug-ins>

5) HTML5 is Secure by Default

- * HTML5 uses origin-based security
- * Defines secure cross-origin sharing
- * Issues in HTML5 are fixed quickly



enable cross-origin resource sharing

What is this about?

Cross-Origin Resource Sharing (CORS) is a [specification](#) that enables a truly open access across domain-boundaries. With this site we want to support the adoption of CORS. [\[more...\]](#)

If you have [public content](#) that doesn't use require cookie or session based authentication to see, then please consider opening it up for universal JavaScript/browser access. [\[more...\]](#)

Why is CORS important?

<http://enable-cors.org/>

How to choose

* Native App

- * 提供最佳的用户体验，最优质的用户界面，最华丽的交互；针对不同平台提供不同体验；可节省带宽成本；可访问本地资源；盈利模式明朗
- 移植到不同平台上比较麻烦；维持多个版本的成本比较高；需要通过store或market的确认；盈利需要与第三方分成

* Web App

- * Write once, run anywhere
- * 开发成本低；适配多种移动设备成本低；跨平台和终端；迭代更新容易；无需安装成本
- 浏览的体验短期内还无法超越原生应用；不支持离线模式（html5将会解决这个问题）；消息推送不够及时；调用本地文件系统的能力弱

* Hybrid App

- ✿ Hybrid App is a mobile application that is coded in both browser-supported language and computer language. They are available through application distribution platforms such as the Apple App Store, Google Play etc. Usually, they are downloaded from the platform to a target device, such as iPhone, Android phone or Windows Phone. The subscribers need to install to run them.
- ✿ 用户可以离线使用
- ✿ 更新下载量及少，可以全部更新，也可以选择替换部分文件
- ✿ 代码很安全安全，众所周知Web应用有一个很大的问题就是代码安全的问题，但现在我们可以将Web代码全部加密，本地应用解密后再运行，大大的提供了代码的安全性。
- ✿ 可以通过浏览器作为中介充分利用Native的好处，比如说可以使用GPS、照相机、本地相册、读取本地联系人，也可以使用推送功能等，最重要的是，某些Web无法实现的功能，我们可以利用Native来实现。
- ✿ 跨平台，多数核心代码不用重写，Javascript的代码用得好的话，在许多地方都可以用到，包括移动应用、移动网站、PC网站、各种浏览器插件，甚至可以用WebKit封装作为跨平台的应用程序。诚然，这种方式并非完全跨平台，但这样也足以减少很多工作量了，特别是后期的维护。而且完全的跨平台是没有意义的，不同平台有自己的风格，为了更好的用户体验，界面层还是需要针对性开发的。
- 最大的坏处是技术难度高
- 就是它不能满足所有的需要，并不能代替Native

HTML5 At a Glance



Semantic Markup & Microdata



New HTML5 Elements

Layout (semantics)		Multimedia	Other
article	section	audio, video	command, menu*
aside	nav	source	embed
figure	figcaption		
header	footer	Graphics	Forms
details	summary	canvas	datalist
wbr	hgroup	svg	progress
time	mark		output
meter	ruby, rp, rt		keygen

* menu redefined from HTML 4

dev.w3.org/html5/markup/elements.html

Obsolete Elements

Presentational	Frames	Other
basefont	frame	acronym
big	frameset	applet
center	noframes	isindex
font		
strike		
tt		

<http://www.w3.org/TR/html5-diff/#obsolete-elements>

Semantic Markup Benefits

- ❖ Based on research (Opera, Google studies on commonly used div class and id names)
- ❖ Cleaner, less verbose markup (replace div and span elements with meaningful elements)
- ❖ Machine readable:
 - * Search engines
 - * Syndication

Semantic Markup

Header

Subtitle

Nav

- Link 1
- Link 2
- Link 3
- Link 4
- Link 5

Article Header

HTML5 nunc aut nunquam sit amet, consectetur adipiscing elit. Vivamus at est eros, vel fringilla urna. Pellentesque odio diam, rhoncus nec congue in, Class aptent taciti sociosqu ad litora torquent per conubia nostra. Per inceptos himenaeos. Quisque feugiat, justo at vehicula pellentesque, turpis lorem dictum nunc...

Article Footer

Article Header

figure and figcaption



Article Footer

Aside

HTML5: "Lorem ipsum dolor nunc aut nunquam sit amet, consectetur adipiscing elit. Vivamus at est eros, vel fringilla urna. Pellentesque odio diam, rhoncus nec congue in, pellentesque sed tortor. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque feugiat, justo at vehicula pellentesque, turpis lorem dictum nunc."

Footer

Moving to Structural/ Semantic Markup

- ❖ Identify functional areas/use structural tags
- ❖ Separate content from presentation
 - * Move styles to CSS file
 - * Use a reset stylesheet
 - * Consider a grid system for layout
- ❖ Consider alternate layouts (e.g. mobile)

The screenshot shows the Kaazing website homepage. At the top, there is a navigation bar with links for PRODUCTS, DOWNLOAD, DEMO, TECH, NEWS, SUPPORT, ABOUT US, and CONTACT. The word "nav" is written in blue next to the SUPPORT link. Below the navigation bar, the main content area has a yellow header with the text "Kaazing. Connect. Everything." and a subtext about HTTP. The word "section" is written in blue next to the subtext. The main content area contains a news item about GOTO Aarhus, Denmark, dated October 19, 2011. The word "article" is written in blue next to this news item. To the right of the main content, there are several promotional boxes: one for "KAAZING WEB SOCKET GATEWAY DOWNLOAD" (with a "FREE" download button), one for "Gartner | 2011 COOL VENDOR", one for "HTML5 TRAINING", and one for "HTML5 LIVE" with text about a London event on Oct 19, 2011, and a New York event on Nov 1, 2011. The footer at the bottom of the page also includes the word "nav".

Details Element

HTML

```
<!-- Progressive Information Disclosure -->
<details>
  <summary>What are my download options?</summary>
  <ul>
    <li><strong>Base:</strong> Contains a minimal
       download...</li>
    <li><strong>Full:</strong> Contains the Base
       download plus documentation and demos.</li>
  </ul>
</details>
```

Progressive Info. Disclosure

To set up the Gateway on your local computer, perform the following steps:

1. Ensure your system meets the system requirements. See the [README.txt](#) file for specific environment and operating system information.
2. Download the full Kaazing WebSocket Gateway - HTML5 Edition from the [Kaazing download](#) page.
 - ▶ [What are my download options?](#)
3. Unpack the Kaazing WebSocket Gateway distribution into a directory of your choice (for example, C:\kaazing or



To set up the Gateway on your local computer, perform the following steps:

1. Ensure your system meets the system requirements. See the [README.txt](#) file for specific environment and operating system information.
2. Download the full Kaazing WebSocket Gateway - HTML5 Edition from the [Kaazing download](#) page.

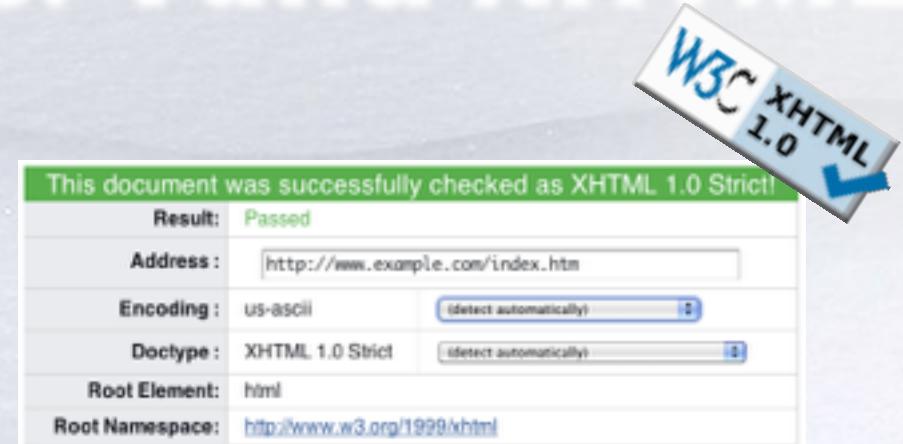
▼ What are my download options?

- **Base:** Contains a minimal download of the Gateway for experienced users who are ready to use the Gateway in production.
- **Full:** Contains the Base download plus the Gateway documentation and the services needed to run the Gateway demos.

3. Unpack the Kaazing WebSocket Gateway distribution into a directory of your choice (for example, C:\kaazing or

Valid HTML vs. Valid XHTML

* So you created XHTML...



This document was successfully checked as XHTML 1.0 Strict!

Result:	Passed
Address:	<input type="text" value="http://www.example.com/index.htm"/>
Encoding:	us-ascii <input type="button" value="detect automatically"/>
Doctype:	XHTML 1.0 Strict <input type="button" value="detect automatically"/>
Root Element:	html
Root Namespace:	http://www.w3.org/1999/xhtml

* But did you know that:

- * Over 90% of XHTML is delivered with the text/html
- * Delivering XHTML as application/xhtml+xml is risky (not supported in old IE)

* Instead, use HTML5 and create valid HTML

- * <http://html5.validator.nu/> and <http://validator.w3.org>

* HTML5 allows XML syntax from XHTML 1.0 for backward compatibility

Microdata



- ❖ Emphasis on machine readability
- ❖ SEO advantages
- ❖ Use Microdata embed machine-readable data in HTML documents
- ❖ Easy-to-write syntax (add to any element)
- ❖ Compatible with other data formats such as RDF and JSON
- ❖ Use microdata vocabularies:
<http://data-vocabulary.org>



HTML5 Microdata Example

HTML

```
<section itemscope>
  <article id="html5-fast-track"
            itemtype="http://data-vocabulary.org/Product">
    <header>
      <h1 itemprop="name">HTML5 Fast Track</h1>
    </header>
    <p itemprop="description">The HTML5 Fast Track
       training course is a two day experience...
    </p>
  </article>
</section>
```

Microdata Testing

Google webmaster tools

Rich Snippets

Help with:
[Documentation](#)
[Troubleshooting Help](#)

Rich Snippets Testing Tool Beta

Use the Rich Snippets Testing Tool to check that Google can correctly parse your structured data.

Test your website

Enter a web page URL to see how it may appear in search results:

[Preview](#)

Examples: [Authors](#), [Reviews](#), [People](#), [Events](#), [Recipes](#), [Product](#)

Google search preview

[HP Officejet 6000 Wireless Printer | HP Official Store](#)
www.shopping.hp.com/product/printer/inkjet/1/storefronts/C9295A%2523B1H - [Cached](#)
★★★☆☆ 60 reviews - \$79.99 - In stock

The excerpt from the page will show up here. The reason we can't show text from your webpage is because the text depends on the query the user types.

Note that there is no guarantee that a Rich Snippet will be shown for this page on actual search results.

Extracted Author for this page

Page does not contain authorship information ([learn more](#))

Extracted rich snippet data from the page

```
hproduct
  availability = In stock
  fn = HP Officejet 6000 Wireless Printer
  identifier
    type = SKU
    value = C9295A#B1H
  price = 79.99
  review hreview-aggregate
    item fn = HP Officejet 6000 Wireless Printer
    rating
      average = 3.5
    count = 60
```

<http://www.google.com/webmasters/tools/richsnippets>

HTML5 Forms

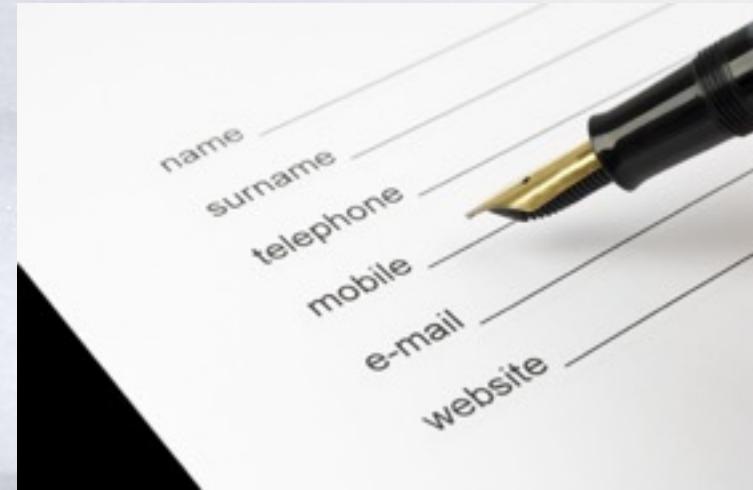
* New form functionality:

- * No JavaScript required 
- * Native date and color pickers
- * Search, e-mail, web address
- * Client side validation
- * Spin boxes and sliders

* Features degrade gracefully 旧浏览器中新的表单控件会平滑降级(unknown input types are treated as text)

* Benefits:

- * Virtual keyboard support
- * Native widgets and error messages are internationalized



Build Mobile Web with HTML5

* Advanced Forms in Mobile

```
<input type="number" pattern="[0-9]*" />
<input type="email" required />
<input type="url" />
<input type="tel" />
<input type="time" />
<input type="date" />
<input type="month" />
<input type="week" />
<input type="datetime" />
<input type="datetime-local" />
<input type="color" />
```



[http://jquerymobile.com/demos/1.1.0-rc.1/
docs/forms/textinputs/](http://jquerymobile.com/demos/1.1.0-rc.1/docs/forms/textinputs/)

Example HTML5 Form

HTML

```
<form>
  <p><label for="phone">Telephone number:</label>
    <input type=tel
      placeholder="(xxx) xxx-xxx" required></p>
  <p><label for="emailaddress">E-mail address:</label>
    <input id="emailaddress" name="emailaddress"
      type=email required></p>
  <p><label for="dob">DOB:</label><input id="dob"
      name="dob" type=date value=1944-06-06
      max=1992-05-01></p>
  <p><label for="color">Shirt Color:</label>
    <input id="color" name="color" type="color"></p>
```

New Input Types

Runner: @peterlubbers

Tel #: 1-877-KAAZING

E-mail: peter Please enter a valid email address

DOB: 1944-06-06 Please enter a valid date

T-shirt Size:

Small

Medium

Large

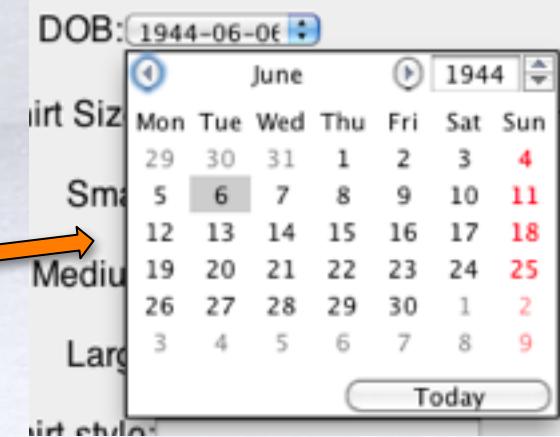
Shirt style:

Shirt Color:

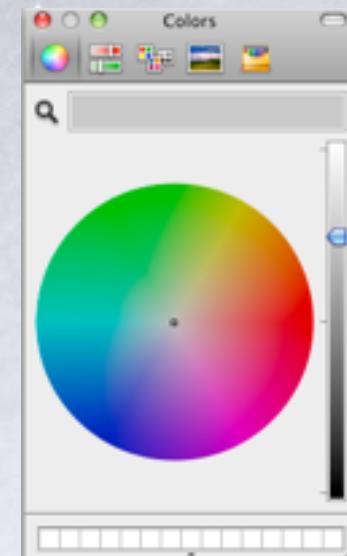
Expectations:

Confidence: 0%

Notes:



Date picker



Color picker

Multimedia



HTML5 Audio and Video

- ❖ New HTML5 media elements
 - * <audio> and <video>
- ❖ Native audio and video  (no plugins required)
- ❖ Programmable with JavaScript
- ❖ Style with CSS
- ❖ Add videos and audio as if it was an image
- ❖ Codec support varies, but multiple source elements and fallback
- ❖ content can be used
- ❖ Complete JavaScript API available



HTML5 Video Example

HTML

```
//Basic Video
<video controls src="goldrush.mp4">
    A movie about HTML5
</video>

// Video with additional attributes
<video id="movies"
    controls preload="metadata"
    width="400px" height="300px"
    poster="html5.png" >
    <source src="goldrush.webm">
    <source src="goldrush.mp4">
    <track label="English" kind="subtitles"
        srclang="en" src="subtitles_en.vtt">
    A movie by Rocky Lubbers
</video>
```

Graphics and 3D



HTML5 Canvas and SVG

- ❖ Provide native drawing functionality
 - * Previously possible only with plugins (Flash, Silverlight)
- ❖ Completely integrated into HTML5 documents (part of DOM)
 - * Can be styled with CSS
 - * Can be controlled with JavaScript
- ❖ Use for animation, charts, images, pixel manipulation, and so on
- ❖ Canvas supports 2D and 3D (WebGL)
- ❖ Will impact animated graphics and diagrams soon (use libraries)



Differences Between SVG and Canvas



- ❖ SVG is a language for describing 2D graphics in XML.
- ❖ Canvas draws 2D graphics, on the fly (with a JavaScript).
- ❖ SVG is XML based, which means that every element is available within the SVG DOM. You can attach JavaScript event handlers for an element.
- ❖ In SVG, each drawn shape is remembered as an object. If attributes of an SVG object are changed, the browser can automatically re-render the shape.
- ❖ Canvas is rendered pixel by pixel. In canvas, once the graphic is drawn, it is forgotten by the browser. If its position should be changed, the entire scene needs to be redrawn, including any objects that might have been covered by the graphic.

Comparison of Canvas and SVG

Canvas

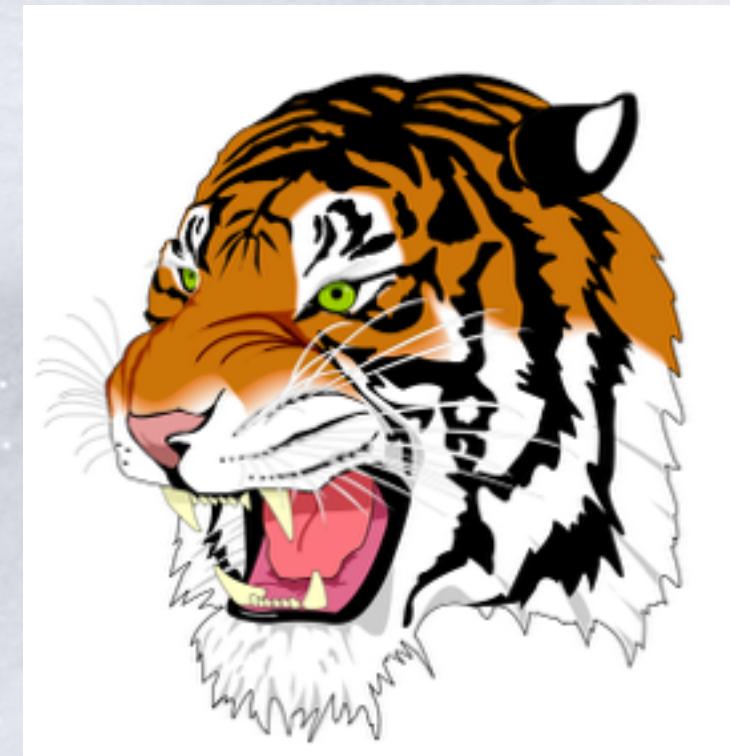
- Resolution dependent
- No support for event handlers
- Poor text rendering capabilities
- You can save the resulting image as .png or .jpg
- Well suited for graphic-intensive games

SVG

- Resolution independent
- Support for event handlers
- Best suited for applications with large rendering areas (Google Maps)
- Slow rendering if complex (anything that uses the DOM a lot will be slow)
- Not suited for game applications

SVG

* "Scalable" Vector Graphics (not bitmaps)



[http://www.croczilla.com/bits_and_pieces/svg/
samples/tiger/tiger.svg](http://www.croczilla.com/bits_and_pieces/svg/samples/tiger/tiger.svg)

Device Access



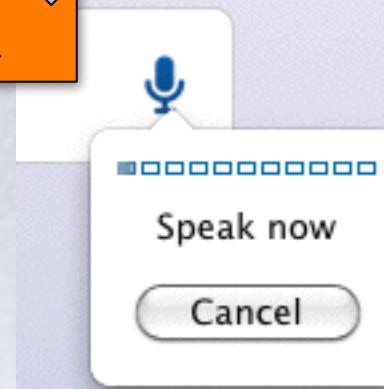
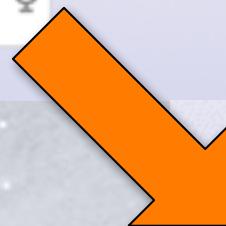
Speech Input

HTML

Speech Input

```
<input type="text" x-webkit-speech />
```

html5



<http://slides.html5rocks.com/#speech-input>

Accelerometer/WebSocket



<http://demo.kaazing.com/racer/>

Offline and Storage



Offline Web Applications

- ❖ Use complete web sites (documentation sets) in offline mode
- ❖ Cache pages that have not been visited yet
- ❖ Browsers cache data in an Application Cache
- ❖ HTML5 allows online and offline detection
- ❖ Allows prefetching of site resources (can speed up pages)
- ❖ Simple manifest mechanism



Example appcache File

appcache File

```
CACHE MANIFEST
# manifest version 1.0.1
# Files to cache
index.html
cache.html
html5.css
image1.jpg
img/foo.gif
http://www.example.com/styles.css

# Use from network if available
NETWORK:
network.html

# Fallback content
FALLBACK:
/ fallback.html
```

HTML5 Local Storage

- ❖ With local storage, web applications can store data locally within the user's browser.
- ❖ Before HTML5, application data had to be stored in cookies, included in every server request. Local storage is more secure, and large amounts of data can be stored locally, without affecting website performance.
- ❖ Unlike cookies, the storage limit is far larger (at least 5MB) and information is never transferred to the server.
- ❖ Local storage is per origin (per domain and protocol). All pages, from one origin, can store and access the same data.

Example

```
// Store  
localStorage.lastname = "Smith";  
// Retrieve  
document.getElementById("result").innerHTML = localStorage.lastname;
```

CSS3



CSS Level 3

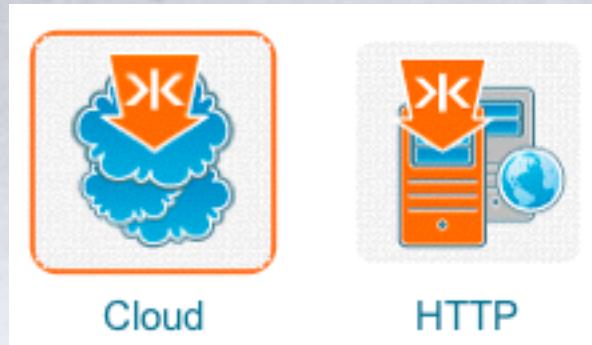
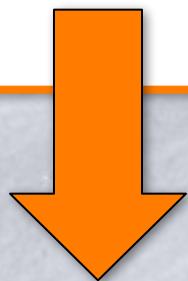
- * Modularized for easier browser uptake
- * Almost 50 modules (readiness varies)
- * Use browser-specific prefixes until finalized
- * Dramatically improves performance
- * Examples:
 - * Border radius (rounded corners) without images
 - * Gradients
 - * Multi-column layout
 - * Transformations and transitions
 - * Web Fonts
 - * Media Queries



Rounded corners

CSS

```
a:hover img {  
    border-radius: 10px;  
    border: 2px solid #F47D31;  
    -webkit-transform: scale(1.05);  
}
```

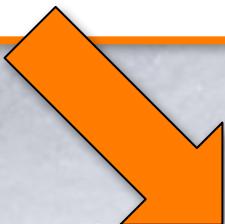


HTML4
css Sprites

Web Fonts

HTML

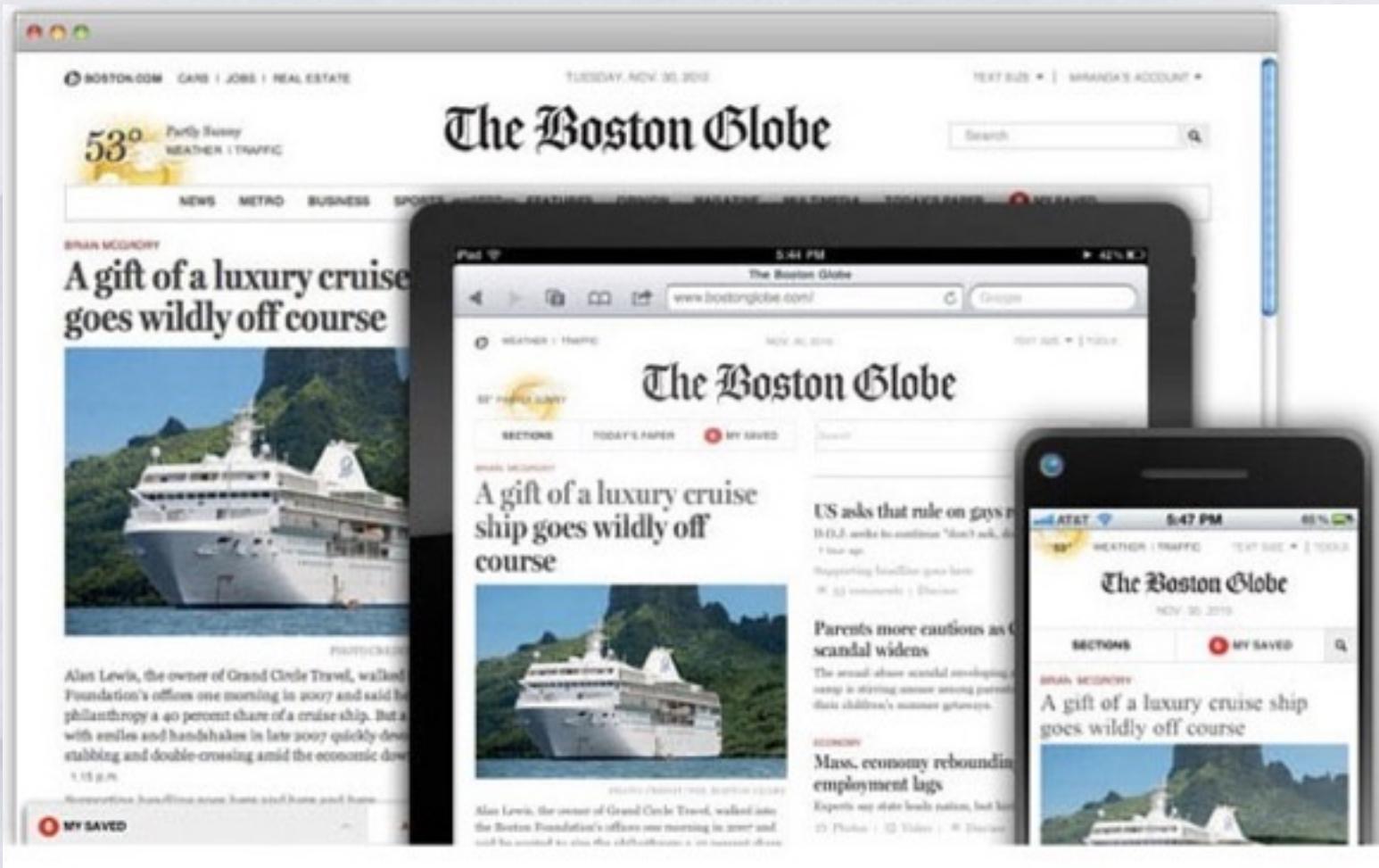
```
<html>
<head>
  <link rel="stylesheet" type="text/css" href="http://
fonts.googleapis.com/css?family=Tangerine">
  <style>
    h1 {
      font-family: 'Tangerine', serif;
      font-size: 48px;
    }
  </style>
</head>
<body><h1>Making the Web Beautiful!</h1></body>
```



Making the Web Beautiful!

http://code.google.com/apis/webfonts/docs/getting_started.html#Quick_Start

Responsive Web Design



<http://www.boston.com/bostonglobe/features/>

Nowadays

- ❖ Different Platform:Windows,Mac,Linux,iOS,Android,W P 7,WebOS,Chrome OS...
- ❖ Plenty of devices
- ❖ Multiple resolutions
- ❖ Landscape & portrait
- ❖ Smart devices increasing quickly.
- ❖ Cloud Computing,browser is the future,iOS5 take Nitro engine to web app





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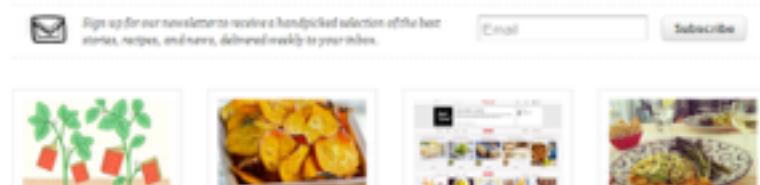
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2012's Best Summer Cookbooks

With the best of the season coming from "orchards, farms and gardens," NPR has put together an impressive

How to Make Vegetable Chips

About a month ago, I ate almost an entire box of kale chips. My brother and I were visiting our cousin in Brooklyn, and

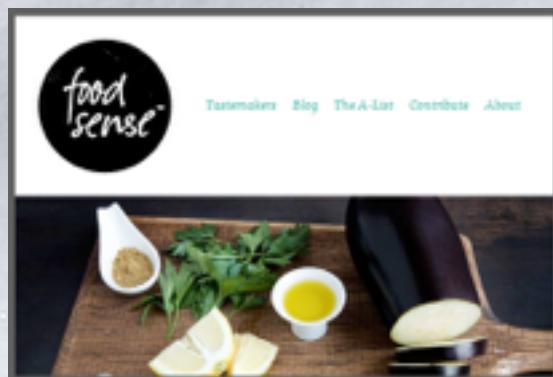
Join us on Pinterest!

If I could curate a cookbook for you, this would be it.

May 16, 2012 / [Read +](#)

Recipes from a Sunday Supper

I could not figure out what to do with the delectable slices of Pear Cake that I bought home from this wonderful



响应式Web设计(Responsive Web Design)

- * Recently, an emergent discipline called “responsive architecture” has begun asking how physical spaces can respond to the presence of people passing through them. Through a combination of embedded robotics and tensile materials, architects are experimenting with art installations and wall structures that bend, flex, and expand as crowds approach them. Motion sensors can be paired with climate control systems to adjust a room’s temperature and ambient lighting as it fills with people. Companies have already produced “smart glass technology” that can automatically become opaque when a room’s occupants reach a certain density threshold, giving them an additional layer of privacy.(<http://www.alistapart.com/articles/responsive-web-design/>)
- * Responsive web design (RWD) is a web design approach aimed at crafting sites to provide an optimal viewing experience—easy reading and navigation with a minimum of resizing, panning, and scrolling—across a wide range of devices (from mobile phones to desktop computer monitors).
– – Ethan Marcotte

Fluid Grid

* Fluid grid:using percentage length

The screenshot shows a web browser displaying the "Fluid 960 Grid System" website at www.designinfluences.com/fluid960gs/. The page title is "Fluid 960 Grid System". Below the title, there are tabs for "Fluid 12-column", "Fluid 16-column", "Fixed 12-column", "Fixed 16-column", "Download / Forum", and "The 960 Grid System". The main content area is titled "Templates for Rapid Interactive Prototyping". It features four columns: "DESIGN PROCESS", "DESIGN INFLUENCES", "INSPIRATION", and "CONTRIBUTION". The "DESIGN INFLUENCES" section contains text about the words "design influences" and their meaning. The "INSPIRATION" section lists several individuals who have inspired the work. The "CONTRIBUTION" section details the creation of the templates based on Nathan Smith's 960 Grid System. At the bottom of the page, the browser's developer tools are open, specifically the "Elements" tab. The "Elements" panel shows the DOM structure of the page, including various div elements with classes like "grid_16", "grid_4", and "grid_2". The "Styles" panel shows the CSS rules applied to these elements. A specific rule for ".grid_4" is highlighted, showing the declaration "width: 23%;". The status bar at the bottom of the browser window shows the path "div.container_16 div.grid_4".

```
<div class="grid_16"></div>
<div class="clear"></div>
<div class="grid_4"></div>
<div class="grid_4"></div>
<div class="grid_4"></div>
<div class="grid_4"></div>
<div class="clear"></div>
<div class="box grid_16" style="padding:0;"></div>
<div class="clear"></div>
<div style="margin-top: 0px; margin-right: 0px; margin-bottom: 0px; margin-left: 0px; position: static; overflow-x: hidden; overflow-y: hidden; height: 0px; "></div>
<div class="grid_16"></div>
<div class="clear"></div>
<div class="grid_4"></div>
<div class="grid_2"></div>
```

```
element.style { }

}
Matched CSS Rules
media="screen"
.container_12 .grid_3, .container_16 .grid_4 {
    width: 23%
}
media="screen"
.grid_1, .grid_2, .grid_3, .grid_4, .grid_5, .grid_6, .grid_7, .grid_8, .grid_9, .grid_10, .grid_11, .grid_12, .grid_13, .grid_14, .grid_15, .grid_16 {
    display: inline;
    float: left;
}
```

s/

Liquid Image

- * Does the image convey information that I ought to put as text in an alt attribute?
 - * Do I want to make sure the image always prints because without it the printout wouldn't make sense or be complete?
 - * Do I want to link the image?
-
- * If the answer to any of these questions is yes, the image is content and should be kept in the (X)HTML.



Css3 media queries

```
@media (max-width: 400px) {  
  .figure,  
  li#f-mycroft {  
    margin-right: 3.317535545023696682%; /* 21px / 633px */  
    width: 48.341232227488151658%; /* 306px / 633px */  
  }  
}  
  
@media (min-width: 1300px){  
  .figure,  
  li#f-mycroft {  
    margin-right: 3.317535545023696682%; /* 21px / 633px */  
    width: 13.902053712480252764%; /* 88px / 633px */  
  }  
}
```

The mobile version of the website displays a sidebar on the left containing illustrations of Holmes and Watson. The main content area features a large title "The Baker Street INQUIRER" and a quote: "Give me problems, give me work." Below the quote is a paragraph of text about Sir Arthur Conan Doyle's life. At the bottom of the sidebar, there are links to "victors & villains" and a list of characters with their names below them.

The desktop version of the website has a two-column layout. The left column contains the same sidebar with illustrations and a quote. The right column contains the main content area with the quote and the paragraph of text. At the bottom of the right column, there are links to "victors & villains" and a list of characters with their names below them.

The desktop version of the website has a two-column layout with a sidebar on the left. The sidebar contains illustrations of Holmes and Watson. The main content area on the right contains the quote and the paragraph of text. At the bottom of the right column, there are links to "victors & villains" and a list of characters with their names below them.

Responsive Design in 3 Steps

– Step 1

- * **Meta Tag** Most mobile browsers scale HTML pages to a wide viewport width so it fits on the screen. You can use the viewport meta tag to reset this. The viewport tag below tells the browser to use the device width as the viewport width and disable the initial scale. Include this meta tag in the <head>.

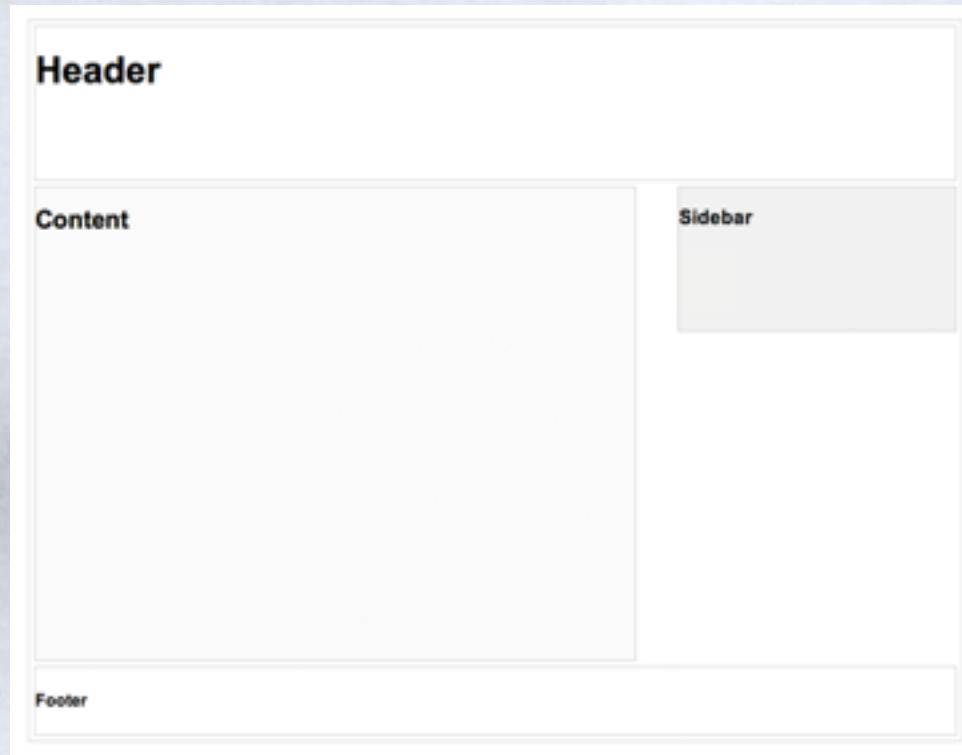
```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

- * Internet Explorer 8 or older doesn't support media query. You can use media-queries.js or respond.js to add media query support in IE.

```
<!--[if lt IE 9]>
    <script src="http://css3-mediaqueries-js.googlecode.com/svn/trunk/css3-
mediaqueries.js"></script>
<![endif]-->
```

Step 2 HTML Structure

* In this example, I have a basic page layout with a header, content container, sidebar, and a footer. The header has a fixed height 180px, content container is 600px wide and sidebar is 300px wide.



Step 3. Media Queries

- * CSS3 media query is the trick for responsive design. It is like writing if conditions to tell the browser how to render the page for specified viewport width.

```
/* for 980px or less */  
@media screen and (max-width: 980px) {  
  
    #pagewrap {  
        width: 94%;  
    }  
    #content {  
        width: 65%;  
    }  
    #sidebar {  
        width: 30%;  
    }  
  
}
```

These rules will be in effect if the viewport width is 980px or less

```
/* For 480px or less */  
@media screen and (max-width: 480px) {  
  
    #header {  
        height: auto;  
    }  
    h1 {  
        font-size: 24px;  
    }  
    #sidebar {  
        display: none;  
    }  
  
}
```

```
/* for 700px or less */  
@media screen and (max-width: 700px) {  
  
    #content {  
        width: auto;  
        float: none;  
    }  
    #sidebar {  
        width: auto;  
        float: none;  
    }  
  
}
```

Reset container to auto width

[http://webdesignerwall.com/tutorials/
responsive-design-in-3-steps](http://webdesignerwall.com/tutorials/responsive-design-in-3-steps)

Frameworks

* Bootstrap

- * Simple, fluid HTML/CSS/JS framework
- * from Twitter

* goldilocksapproach.com

- * Fixed width for medium & large screens,
fluid single column for small

* Foundation

- * Flexible 6 and 12-grid framework.

* Skeleton

- * Minimal responsive framework.
- * Includes Wordpress theme.

* ...and plenty more

Bootstrap, from Twitter

Simple and flexible HTML, CSS, and Javascript for popular user interface components and interactions.

The Goldilocks Approach

TO RESPONSIVE WEB DESIGN



Foundation

An easy to use, powerful, and flexible framework for building prototypes and production code on any kind of device.
[Start here, build everywhere.](#)

Skeleton



Browser Support

- * Modern browsers (incl. mobile) already support a lot of features, :
 - * <http://html5test.com>
- * Support varies widely for different features
 - * IE 6,7 and 8: minimal support
 - * Use support matrices:
 - * <http://caniuse.com>
 - * <http://mobilehtml5.org>



HTML5 Boilerplate

* The best way to get started



<http://html5boilerplate.com>

Modernizr



* Part of H5BP

* Download or create a custom build

* Use Modernizr.load to test for feature support

The screenshot shows the Modernizr website's feature detection interface. It consists of three main sections: CSS3, HTML5, and Misc., each with a 'TESTS' button at the top right. Below each section is a list of browser features with small square icons next to them. A fourth section, 'Extra', is shown below the others. At the bottom left is a large 'GENERATE!' button with a gear icon.

CSS3	HTML5	Misc.
■ @font-face ■ background-size ■ border-image ■ border-radius ■ box-shadow ■ Flexible Box Model (flexbox) ■ Isla ■ multiple backgrounds ■ opacity ■ rgba() ■ text-shadow ■ CSS Animations ■ CSS Columns ■ CSS Generated Content ■ CSS Gradients ■ CSS Reflections ■ CSS 2D Transforms ■ CSS 3D Transforms ■ CSS Transitions	■ applicationCache ■ Canvas ■ Canvas Text ■ Drag'n'Drop ■ hashchange ■ History (pushState) ■ HTML5 Audio ■ HTML5 Video ■ IndexedDB ■ Input Attributes <small>Note: does not test classes</small> ■ Input Types <small>Note: does not test classes</small> ■ localStorage ■ postMessage ■ sessionStorage ■ Web Sockets ■ Web SQL Database ■ Web Workers	■ Geolocation API ■ Inline SVG ■ SML ■ SVG ■ SVG clip paths ■ Touch Events ■ WebGL
Extra		
■ HTML5 Shim/EPP ■ Modernizr.load <small>(respond.js)</small> ■ MD Polyfill (respond.js) ■ Media Queries ■ Add CSS Classes		
» Extensibility		

GENERATE!

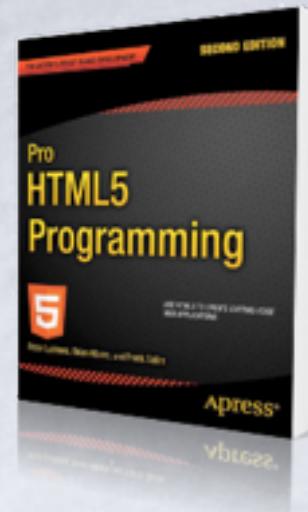
Who is Developing HTML5?

- ✿ Web Hypertext Application Technology Working Group (WHATWG)
 - * <http://www.whatwg.org/specs/web-apps/current-work/>
- ✿ World Wide Web Consortium (W3C)
 - * <http://dev.w3.org/html5/spec/Overview.html>
- ✿ Internet Engineering Task Force (IETF)
 - * <http://tools.ietf.org/html/draft-hixie-thewebsOCKETprotocol>



References

- * Pro HTML5 Programming (Apress, 2011)
 - * 50% off e-book coupon code:
<http://www.apress.com/9781430238645>
- * <http://html5doctor.com/element-index/>



Thanks!!!

