

# Building Web Applications with HTML5, CSS3, and Javascript:

## An Introduction to HTML5

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[pinboard.in #tag](#)

[pinboard.in/u:jasonclark/t:lita-html5/](#)

twitter #hashtag

#litahtml5

# Overview

- Where does HTML5 go from here?
- New Features and Functions
- Demos
- Getting Started
- Questions



# Links and Anchors

A link is the connection between one piece of hypertext and another.

```
1 <title>Hypertext Links</title>
2 <h1>Links and Anchors</h1>
3 A link is the connection between one piece of
4 <a href=WhatIs.html>hypertext</a> and another.
```

# HTML5 spec from WHATWG

“The World Wide Web's markup language has always been HTML. HTML was primarily designed as a language for semantically describing scientific documents, although its general design and adaptations over the years has enabled it to be used to describe a number of other types of documents.

The main area that has not been adequately addressed by HTML is a vague subject referred to as Web Applications. This specification attempts to rectify this, while at the same time updating the HTML specifications to address issues raised in the past few years.”

[www.whatwg.org/specs/web-apps/2005-09-01/#introduction](http://www.whatwg.org/specs/web-apps/2005-09-01/#introduction)

# Future(s) of HTML5

The Web Browser as Platform

**DCL eReader** [My Account](#) [Log Out](#)

[Return To Catalog](#)

Pride and Prejudice by Jane Austen

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### Chapter 1

It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife.

However little known the feelings or views of such a man may be on his first entering a neighbourhood, this truth is so well fixed in the minds of the surrounding families, that he is considered the rightful property of some one or other of their daughters.

"My dear Mr. Bennet," said his lady to him one day, "have you heard that Netherfield Park is let at last?"

Mr. Bennet replied that he had not.

"But it is," returned she; "for Mrs. Long has just been here, and she told me all about it."

Mr. Bennet made no answer.

"Do you not want to know who has taken it?" cried his wife impatiently.

"You want to tell me, and I have no objection to hearing it."

This was invitation enough.

"Why, my dear, you must know, Mrs. Long says that Netherfield is taken by a young man of large fortune from the north of England; that he came down on Monday in a chaise and four to see the

Hide Controls

[catalog.douglascountylibraries.org/EcontentRecord/19339/Viewer?item=3439864](http://catalog.douglascountylibraries.org/EcontentRecord/19339/Viewer?item=3439864)



# Cross-Origin Resource Sharing

## CORS (for short)

- HTTP request from client to external server which required workaround (JSONP)
- Create, Read, Update, Delete -> allowed

```
var xhr = new XMLHttpRequest();  
xhr.open('GET', 'https://api.com/user1/?  
alt=json', true);
```

[www.lib.montana.edu/~jason/files/web-services/html5-cors-youtube-api.html](http://www.lib.montana.edu/~jason/files/web-services/html5-cors-youtube-api.html)

# Web Workers API

Run scripts in background threads

- Polling of web services
- Process image while user works with UI
- Prefetching and/or caching data

```
var worker = new Worker( 'getFeed.js' );
```

# Single Page Applications

Complete web apps built within a single page where new views of data are placed

- Backbone.js
- Ember.js

# Web Components

- Suite of technologies: Custom Elements, Shadow DOM, HTML Templates, HTML Imports, and Decorators.

```
<!-- Import it: -->
```

```
<link rel="import" href="new-module.html" />
```

```
<!-- Use it: -->
```

```
<custom-module />
```

# HTML Imports

- Include HTML documents in other HTML documents
- Load related HTML/CSS/JS

```
<head>  
<link rel="import" href="/path/to/  
  imports.html">  
</head>
```

# <template> tag

- Markup is hidden DOM
- Inert until activated

```
<section>
<template id="result">
  <img src="" alt="thumbnail">
  <div class="query"></div>
</template>
</section>
```

# Custom Elements

- Define new HTML/DOM elements
- Build custom functionality into a single tag
- Expand HTML's existing vocabulary

```
<link rel="import" href="my-tabs.html">
<my-tabs>
  <hgroup>
    <h2>Title</h2>
    ...
  </hgroup>
</my-tabs>
```

# <srcset> attribute

- Draft for responsive images solution
- <http://www.w3.org/html/wg/drafts/srcset/w3c-srcset/>

```

```



# @viewport

- Specify size, zoom factor, and orientation of the viewport, similar to what's done with the `viewport <meta>`

```
@viewport {  
    width: device-width;  
    zoom: 1.0;  
    user-zoom: zoom;  
}
```

# Variables in CSS

- Set global values
- Syntax is still in flux

```
:root
{
  var-mycolor: #334;
}
```

```
section {border-color: var(mycolor);}
h1 {color: var(mycolor);}
p {background-color: var(mycolor);}
```

# Integration & Current Tools

## Wordpress

- Plugins
- Themes including new markup
- Frameworks

# Integration & Current Tools

## Drupal

- HTML5 Initiative, Drupal Group
- HTML5 Themes
- Best support in Drupal 8?

# Accessibility and HTML5

Making HTML accessible/meaningful for screen readers & other assistive devices

- WAI ARIA “role” attribute
  - Define what an HTML element is being used for

```
<nav role="navigation">
```

# Accessibility and HTML5

Making HTML accessible/meaningful for screen readers & other assistive devices

- HTML5 global "tabindex" attribute
  - Set focus priority for any HTML element

```
<nav role="navigation">
<ul id="nav">
<li><a tabindex="1" href="#h">Home</a></li>
<li><a tabindex="2" href="#s">Search</a></li>
...
```

# ~~<main> tag~~

~~Main content of the body of a document or application (allowed once in doc/app)~~

```
<main>  
<article>  
  <h1>My article</h1>  
  <p>Content</p>  
</article>  
<aside>  
  <p>More information</p>  
</aside>  
</main>
```

~~...~~

# Web Intents (\*proposal)

- Framework for client-side service discovery and inter-application communication
- Connect common actions:
  1. Share, Edit, View, Pick, Subscribe, Save

```
<intent
  action="http://webintents.org/share"
  type="image/*"
  href="share.html"
  disposition="window|inline"
/>
```

\* Implemented by twitter in their “web intents” service



# Paged Media in CSS

- Create paged views for print (primarily)
- \* Opera is testing `@media -o-paged` for screens

```
@page { size:8.5in 11in; margin:2cm; }  
h1 { page-break-before:right; }  
table { page-break-inside:avoid; }
```

# Offline Storage - IndexedDB

My browser can haz database!

- Simple key/value store within browser
- NoSQL object type data store
- Up to 5 MB of data storage
  - W3C discontinued Web SQL Database spec

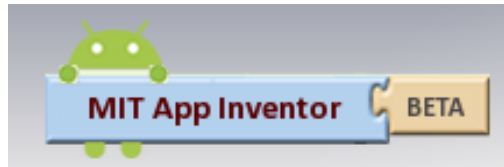
# Polyfill in action (Webshim example)

- Scripts that emulate parts of the HTML5 or CSS3 specification
- Webshims Lib
  - <http://afarkas.github.com/webshim/demos/>

# Polyfill in action (Webshim example)

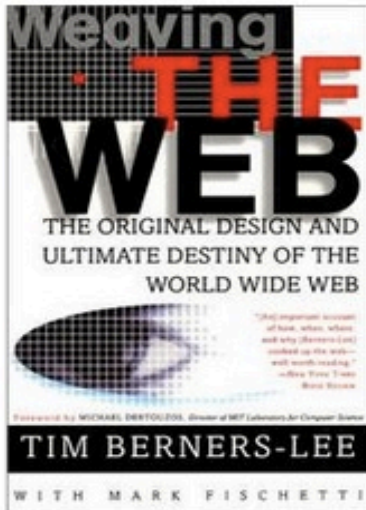
```
<!DOCTYPE html>
<html>
<head>
  <title>Video including polyfill</title>
  <script src="scripts/jquery-1.8.2.min.js"></script>
  <script src="scripts/modernizr-custom.js"></script>
  <script src="scripts/webshim/polyfiller.js"></script>
  <script>
    $.webshims.polyfill('mediaelement');
  </script>
</head>
<body>
  <video width="480" height="360" controls="controls">
    <source src="Video.mp4" type="video/mp4">
    <source src="Video.webm" type="video/webm">
  </video>
</body>
</html>
```

# HTML5 & mobile development frameworks



Mobilize.js





Weaving the Web : the original design and ultimate destiny of the World Wide Web by its inventor / Tim Berners-Lee with Mark Fischetti.

Berners-Lee, Tim ; Fischetti, Mark  
1st ed.. San Francisco : HarperSanFrancisco, c1999. In English.  
ISBN 006251587X (paper) , 0062515861 (cloth)

View detailed description of this title in the [Aladin Catalog](#)

Location	Call Number	Status	Consortium Loan
<b>George Washington</b>			
Mt. Vernon campus stacks	TK5105.888 .B46 2000	Available	<a href="#">Request</a>
Gelman stacks	TK5105.888 .B46 1999	Available	<a href="#">Request</a>

view-source: http://findit.library.gwu.edu/item/3449994

# HTML5 right now? IE?

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8" />
<title>HTML5 right now</title>
<!--[if IE]>
<script src="http://html5shiv.googlecode.com/svn/
  trunk/html5.js"></script>
<![endif]-->
<style>
article, aside, figure, footer, header, hgroup,
  menu, nav, section {display:block;}
</style>
</head>
<body>
<!-- ready to roll with HTML5 now -->
</body>
</html>
```

# Demos & Examples

It's your call....



# Demos

- Infinite Scroll
  - <http://warpspire.com/experiments/history-api/>
- Magazine Layout
  - <http://www.html5rocks.com/en/tutorials/regions/adobe/>
- HTML5 Demos
  - <http://html5demos.com/>

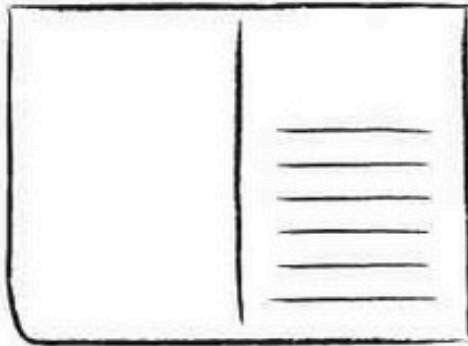


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## Books in Browsers 2012

Thursday, October 25, 2012 at 8:00 AM - Friday, October 26, 2012 at 6:00 PM (PDT)  
San Francisco, CA



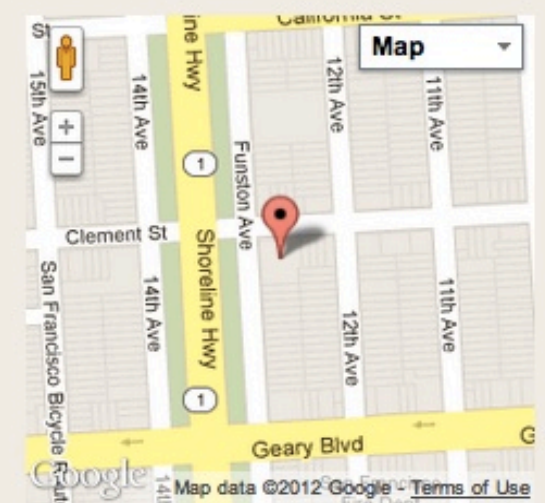
### Registration Information

REGISTRATION TYPE	SALES END	PRICE	FEE	QUANTITY
NFP, Govt <a href="#">more info</a>	Oct 15, 2012	\$195.00	\$0.00	0
Company <a href="#">more info</a>	Oct 19, 2012	\$395.00	\$0.00	0
Courtesy	Not Started	\$0.00	\$0.00	N/A



Register

### When & Where



Books in Browsers - <http://bib.archive.org/>

# Resources

- HTML5 Validator
  - <http://html5.validator.nu/>
- The HTML5 Test
  - <http://html5test.com/>
- Dive into HTML5
  - <http://diveintohtml5.info/>

# HTML5 Working Examples

HTML5 Mobile Feed Widget

[www.lib.montana.edu/~jason/files/html5-mobile-feed/](http://www.lib.montana.edu/~jason/files/html5-mobile-feed/)

BookMeUp

[www.lib.montana.edu/~jason/files/bookme/](http://www.lib.montana.edu/~jason/files/bookme/)

- Learn more by viewing source

OR

- Downloading from [jasonclark.info](http://jasonclark.info) or [github.com/jasonclark](https://github.com/jasonclark)



# Questions?

[twitter.com/jaclark](https://twitter.com/jaclark)

[www.lib.montana.edu/~jason/talks.php](http://www.lib.montana.edu/~jason/talks.php)

Episode IV

## A NEW HOPE

It is a period of civil war.  
Rebel spaceships, striking  
from a hidden base, have won  
their first victory against  
the evil Galactic Empire.

During the battle, Rebel  
forces managed to steal secret  
plans to the Empire's