

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

- Revolution or Evolution?
- New Features and Functions
- Demos
- Getting Started
- Questions

Hello, My Name is...

- Background, Position
- HTML, Programming experience?
- Experience with CSS3?
- What do you want to learn most?

Terms: HTML, CSS, API

Does everybody know what these elements are?

CSS

- style rules for HTML documents

HTML

- markup tags that structure docs
- browsers read them and display according to rules

API (application programming interface)

- set of routines, protocols, and tools for building software applications



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.
```

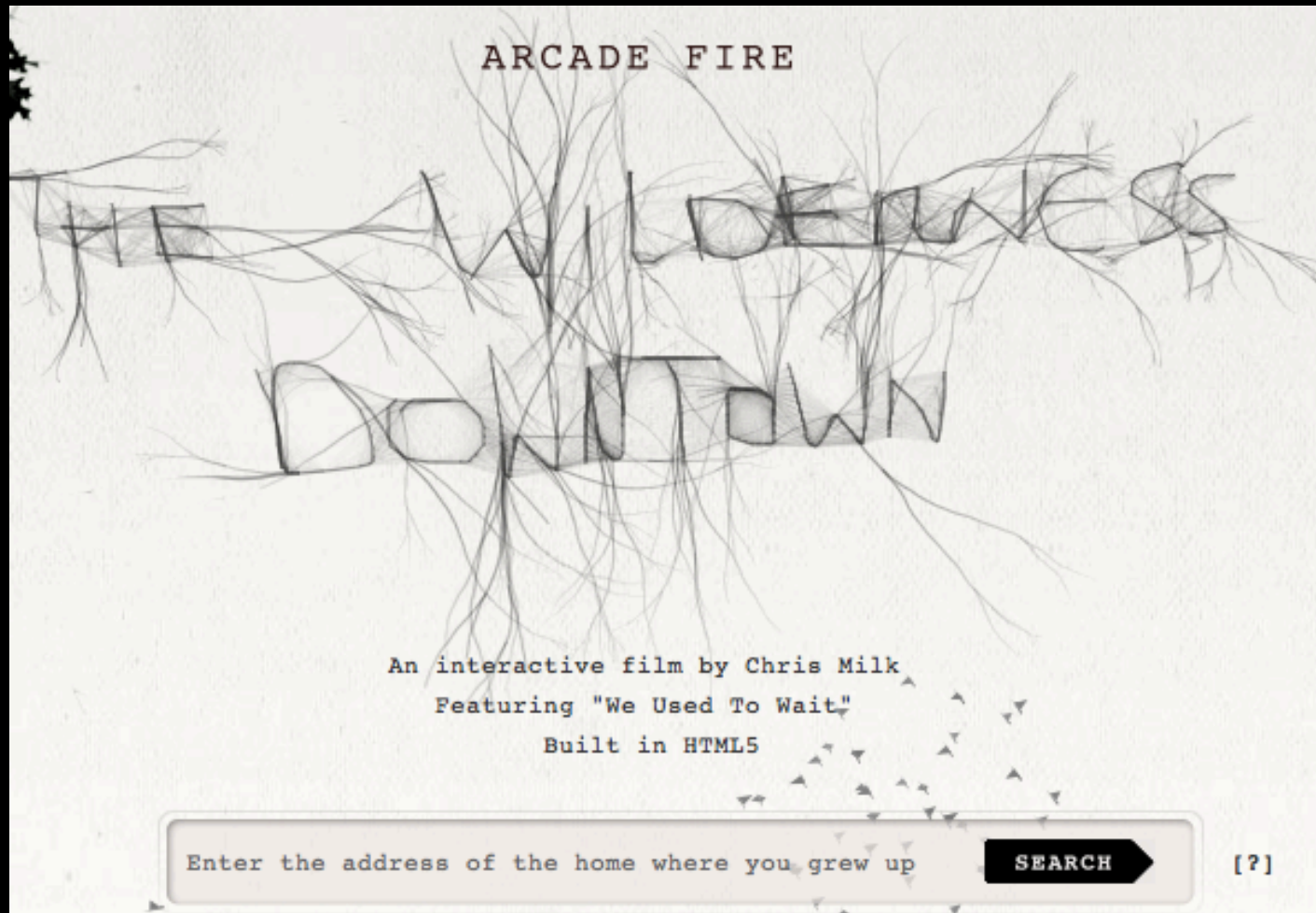

HTML5 spec from WHATWG

“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

Chrome Experiments



Arcade Fire - The Wilderness Downtown
<http://www.chromeexperiments.com/arcadefire/>

HTML5 Working Examples

HTML5 Mobile Feed Widget

www.lib.montana.edu/~jason/files/html5-mobile-feed/

BookMeUp

www.lib.montana.edu/beta/bookme/

- Learn more by viewing source

OR

- Downloading from jasonclark.info or github.com/jasonclark

HTML5 as "umbrella" Term

- Changes to HTML spec
- Additions to CSS spec
- New Javascript APIs

Evolution into HTML5

Reacting to how the web is used

A Minimal HTML5 Document

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>title</title>
  <link rel="stylesheet"
  href="style.css">
  <script src="script.js"></script>
</head>
<body>
  <!-- page content -->
</body>
</html>
```

Semantic & Functional Markup

- header
- footer
- nav
- main
- section
- article
- aside
- figure
- figcaption
- details
- mark
- menu
- datalist
- contenteditable attribute
- data-* attributes

Microdata – RDFa Lite

RDFa markup for machine-readable HTML

- vocab
- typeof
- property

Microdata RDFa Lite - Book

```
<dl vocab="http://schema.org" typeof="Book">
<dt>Title</dt>
<dd property="title">A River Runs Through It
  and Other Stories</dd>
<dt>Author</dt>
<dd property="author">Norman Maclean</dd>
<dt>Publication date</dt>
<dd property="pubdate">October 1, 2001</dd>
<dt>ID</dt>
<dd property="isbn">0226500667</dd>
</dl>
```

Microdata 1.0

Markup for machine-readable HTML

- `itemscope`
- `itemtype`
- `itemprop`

Microdata 1.0 - Book

```
<dl itemscope itemtype="http://schema.org/  
  Book">  
  <dt>Title</dt>  
  <dd itemprop="name">A River Runs Through It  
    and Other Stories</dd>  
  <dt>Author</dt>  
  <dd itemprop="author">Norman Maclean</dd>  
  <dt>Publication date</dt>  
  <dd itemprop="datePublished">October 1,  
    2001</dd>  
  <dt>ID</dt>  
  <dd itemprop="isbn">0226500667</dd>  
</dl>
```

Link Relations

Explain why you're pointing to another page.
"I'm pointing to this other page because..."

```
<link rel="stylesheet" href="template.css"/>
```

```
rel=alternate
```

```
rel=archives
```

```
rel=author
```

```
rel=external
```

```
rel=icon
```

```
rel=license
```

```
rel=prefetch
```

```
rel=search
```

```
rel=sidebar
```

```
rel=tag
```

```
...
```

Native Video and Audio

- simple markup
- no plugin
- limited vid formats: .ogv, .mp4, webm

```
<video width="320" height="240" controls="controls">  
  <source src="film.mp4" type="video/mp4" />  
  Your browser doesn't support the video tag.  
</video>
```

Canvas

Draw into HTML elements via scripting
(usually JavaScript)

draw graphs, make photo compositions, create animations or even
do real-time video processing

```
<canvas id="canvas"></canvas>
```

Details

Widget functionality to obtain additional information or controls

- Create collapsible navigation menus, FAQ widgets, basic toggle functions, etc.

```
<details>  
  <summary>Question [toggle +/-]</summary>  
  <p>Answer to Question...</p>  
</details>
```

Forms <form>

- <input> field types - email, date, search
- validation
- regular expressions
- still need to watch for security/hacks

<form> Markup

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

```
<input type="date">
```

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

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

data-* Attributes

Store custom data private to the page or application, for which there are no more appropriate attributes or elements

- store anything which can be string encoded

```
<ul id="table-of-contents">  
  <li data-chapter="1" data-pages="6  
pages">Make Things</li>  
  <li data-chapter="2" data-pages="9  
pages">Do Stuff</li>  
</ul>
```

Data URIs

Embed small files inline in documents

```

```

```
data:[<mime type>][;charset=<charset>]  
  [;base64],<encoded data>
```

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, main,
  menu, nav, section {display:block;}
</style>
</head>
<body>
<!-- ready to roll with HTML5 now -->
</body>
</html>
```

Demos & Examples

It's your call....

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

[Return To Catalog](#)

Pride and Prejudice by Jane Austen

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Hide TOC

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

Demos

- YouTube HTML5 demo
 - <http://www.youtube.com/html5>
- 24 ways CSS3 demo
 - <http://24ways.org/>
- HTML5 Demos
 - <http://html5demos.com/>
- Other possible examples:
 - geolocation
 - localStorage

What Type of Support?

- see "When can I use..."
 - <http://a.deveria.com/caniuse/>
- Mobile browsers leading the way
- Modernizr
 - <http://www.modernizr.com/>
- HTML5 enabling script
 - <http://html5shim.googlecode.com/svn/trunk/html5.js>

Resources

- HTML5 Tag Reference (W3Schools)
 - w3schools.com/html5/html5_reference.asp
- Cross Browser Support Tables
 - www.findmebyip.com/litmus/
- HTML5 Doctor
 - html5doctor.com/
- CSS3 Previews (CSS3.info)
 - www.css3.info/preview/
- HTML5 & CSS3 Cheat Sheets
 - webresourcesdepot.com/html-5-and-css3-cheat-sheets-collection/

Resources (cont.)

- HTML5 Boilerplate
 - <http://html5boilerplate.com/>
- HTML5rocks
 - html5rocks.com
- HTML5 Please
 - html5please.com/#use

Assignment 1

- Using HTML5 Class Template
 - <http://www.lib.montana.edu/~jason/files/html5-mobile-feed/template.html>
- 1. Add header, nav, main, 3 section(s), aside, footer
- 2. Create <nav> with 3 anchor links corresponding to 3 section(s) using ids as anchor links
- 3. Add content (dummy text) into remaining tags
- 4. Add RDFa Lite microdata to page

Questions?

twitter.com/jaclark

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.