

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

## An Introduction to HTML5

Jason Clark  
Head of Digital Access & Web Services  
Montana State University Libraries

pinboard.in #tag

pinboard.in/u:jasonclark/t:cil-html5/

twitter #hashtag

#cildc #html5

# Overview

- New Features and Functions
- Demos
- Getting Started
- Questions

# Javascript APIs

Desktop programming for the web

# Minification + Optimization

- Removing unnecessary characters and spacing from code to reduce size, and optimizing the code to improve load times

Minify

<http://www.minifyjavascript.com/>

Optimize

<http://www.jshint.com/>

# Selector APIs

- Find elements by matching against a group of selectors (tags or attributes in DOM).

```
querySelector()  
querySelectorAll()
```

```
var matchList =  
  document.querySelectorAll  
  ('li.old, li.new');
```

# Geolocation

- w3c API
- accurate
- supported in Firefox 3.6, Safari 4

```
navigator.geolocation.getCurrentPosition();
```



# File API, Drag & Drop API

- Creating, reading, & uploading of files
- Drag & drop API in combination with a draggable attribute

# History API

- Preserve the state of the page
- Enabling back button in client-side scripts

# Fullscreen API

- Remove browser chrome
- “Turn off the lights”

```
function launchFullScreen(element) {  
    if(element.requestFullScreen) {  
        element.requestFullScreen();  
    }  
}
```

```
<button onclick="launchFullscreen  
    (document.documentElement);">Go  
Fullscreen</button>
```

# Device APIs

- Allows access to video and audio input, e.g., from a webcam or microphone.

```
getUserMedia ( )
```

# Page Visibility API

- Check the active state of the page
- React to changes in use of a page
  - Stop polling for data
  - Pause a video

`document.hidden`

`document.visibilityState`

`visibilitychange` Event

# Notifications API

- Display notifications to the user for given event or interactions
- New emails, tweets or calendar events...

```
if (window.webkitNotifications)
```

# Storage APIs

- Keep files
- Store keys/values
- Local databases

# sessionStorage

- mega COOKIE
- Stores key/value pairs while page is open




# localStorage

- mega COOKIE
- Stores key/value pairs that persist after page and browser are closed



Failed to open page



+  http://www.apple.com/startpage/



Q Google



## You are not connected to the Internet.

Safari can't open the page "http://www.apple.com/startpage/" because your computer isn't connected to the Internet.

Network Diagnostics can help you solve network connection problems.

[Network Diagnostics...](#)

# Offline Storage – Cache Manifest

- Work without a connection
  1. Create cache manifest file
  2. Set server to allow for manifest file type
  3. Link to manifest file in HTML <head>

```
CACHE MANIFEST
#store the files below
index.html
styles.css
images/logo.png
Scripts/global.js
```

# Offline Storage - IndexedDB

My browser can haz database!

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

# Demos & Examples

It's your call....



html5-demos.appspot.com/static/getusermedia/photobooth.html



Don't Pay for It! Get Related Pages fr + Wonder Show Meta Info Twitter Reactions LibSpy - Forces CatS .epub (i)

▶ What's this?

## CSS Filters Photobooth



Click the video to see different CSS filters

Snapshot

html5-demos.appspot.com/static/getusermedia/photobooth.html

# Demos

- Other possible examples:
  - geolocation
  - localStorage
  - IndexedDB

# Resources

- WHATWG HTML5 for Developers
  - <http://developers.whatwg.org/>
- HTML5: Mozilla Developer Network
  - <https://developer.mozilla.org/en-US/docs/HTML/HTML5>
- Dive into HTML5
  - <http://diveintohtml5.info/>



# Assignment 3

- Take your HTML5 Javascript template
  - <http://www.lib.montana.edu/~jason/files/html5-mobile-feed/template.js>
- 1. Add section page views
- 2. Add feed parse/display for second page view
- 3. Add geolocation showing coordinates on one of the other page views

# 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