Building Web Applications with HTML5, CSS3, and Javascript:
An Introduction to HTML5

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#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.jslint.com/
Selector APIs

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

```javascript
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”

```javascript
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
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.
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....
CSS Filters Photobooth

Click the video to see different CSS filters

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

• Other possible examples:
  o geolocation
  o localStorage
  o IndexedDB
Resources

• WHATWG HTML5 for Developers
  o http://developers.whatwg.org/

• HTML5: Mozilla Developer Network

• Dive into HTML5
  o 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
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 spies managed to steal secret plans to the Empire's newest, most advanced star destroyer: the First Order Star Destroyer.

http://www.gesteves.com/experiments/starwars.html