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

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#litahtml5
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 list = 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

```javascript
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.

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....
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 'Emperor's' Fœnix.'