

Best Practices in Mobile Development: Building Your First jQuery Mobile App

Handheld Librarian VI February 2, 2012

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Some housekeeping ...

- FTP access/directory overview
Host: marcomponline.com
Username: chadm
Password: java_cookie1
- Just in case, there is a Dropbox folder with the jQuery template available at <http://dl.dropbox.com/u/9567522/jquery-mobile-template.zip>
- You will have access to your directory for at least 2 weeks so you can finish and test your app on a variety of devices. I'll send everyone an e-mail before the directories are removed so you know when to get your files.
- A handout powered by Google Docs is available at <http://goo.gl/ki6lo>
- We will try our best to answer questions during the presentation, but know that we'll keep track of all questions and answer them either at the end of today's presentation or through a follow-up.
- In a few, fire up your text editor (or Dreamweaver etc.). Happy coding!

A Look Ahead...

- Native Apps versus Browser Apps
- jQuery Mobile - how it works
- Hands-on, building your first app
- Tips and trends about mobile

Mobile First as Strategy

Google programmers are doing work on mobile applications first, because they are better apps and that's what top programmers want to develop.

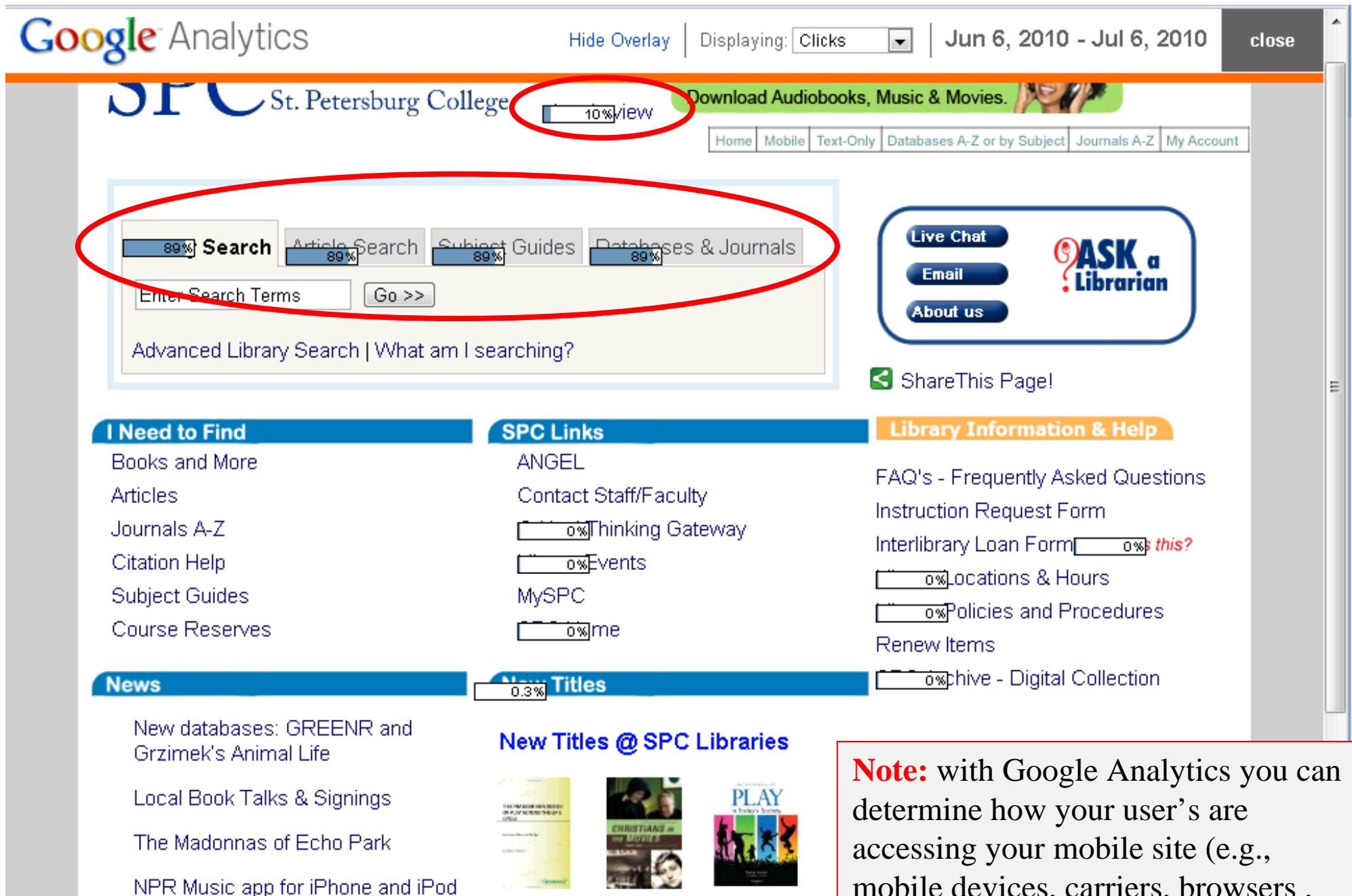
- Eric Schmidt, Google CEO

<http://www.eweek.com/c/a/Midmarket/Google-CEO-Eric-Schmidt-at-MWC-Mobile-First-694942/>

Native Apps vs. Web/Browser Apps

Issues	Native apps	Web apps
Internet access	Not required	Required, except for apps written in HTML5 (offline capabilities)
Shareable content (Twitter etc.)	Only if it is built in to the app	Web links can be shared. Social API's allow 1-click posting
Access to hardware sensors	Yes: camera, gyroscope, microphone, compass, accelerometer, GPS	Access thru browser is limited. Geolocation works!
Development	Build app for target platform (Android, iOS [Objective-C] etc.)	Write/publish once using standard Web technologies, view it anywhere with URL. Speedy debugging and development.
Distribution	Most app stores require approval.	No hassles.

... can help one decide what to include in a mobile site.



Note: with Google Analytics you can determine how your user's are accessing your mobile site (e.g., mobile devices, carriers, browsers, OS's, screen resolution etc.)

“Fundamentally, 'mobile' refers to the user, not the device or application.”

Barbara Ballard Designing the Mobile User Experience

A live mobile web app...

Demos:

Terra - lifeonterra.com

Terra mobile - lifeonterra.com/m/

Download:

Mobile template - www.lib.montana.edu/~jason/files/m/

Explanation & blog post - <http://wp.me/p8yR-1J>

Code Samples:

<http://www.lib.montana.edu/~jason/files.php>

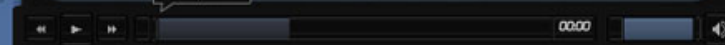
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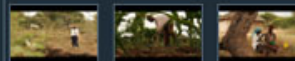
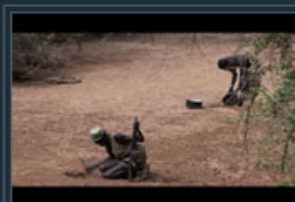
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Making the Move to Mobile...

functional
essence

necessary primary essential
core

simple

Editors and Tools

- You can use a simple text editor (e.g., Notepad) or a more sophisticated application (e.g., Dreamweaver).
- Adobe Device Central is part of Adobe's CS.
- iUI: <http://code.google.com/p/iui/> for iPhone.
- MIT Mobile Web Open Source Project
<http://sourceforge.net/projects/mitmobileweb/>
- Device detection? <http://detectmobilebrowsers.mobi/>
- To see your browser's HTTP Headers. Works on mobile browsers.
<http://rabin.mobi/http>
- Web Developer Toolbar in Firefox: Select Miscellaneous >>> Small Screen Rendering (260 px) >>> the layout will be reformatted to simulate rendering by a mobile browser.

Let's build this...

- jQuery Mobile Template

<http://www.lib.montana.edu/~jason/files/touch-jquery/>

- Code walkthrough (codelab)

Tips and Trends

1. Mobile Design
2. Mobile Development

The Future of Mobile App Development?



buzztouch



The Future of Mobile App Development?

- Web/Browser?
- Native Apps?
- “Smarter browsers” = not required?
- Other?

Narrow your Focus

- Do a few things really well
- What are the core actions?

Know your Audience

- Run the Analytics
- Research for Mobile Browser Types

Learn from the Masters

- View Source -> m.flickr.com
- "Be Mobile" with User Agent Switcher
 - <https://addons.mozilla.org/en-US/firefox/addon/59/>

<http://woorkup.com/2010/01/10/best-practices-to-develop-perfect-websites-for-iphone-and-mobile-devices/>

Study the Interface & Device

- Scalable Design
- Think Percentages
 - 320px AND 480px

Study the Interface & Device

- Tactile navigation
 - touch, pinch, spread, flick, spin (gyrometer)

Apple recommends a minimum target size:
29px wide 44px tall

Speed FTW, Performance First

- Limit Images and Markup
 - Limit HTML pages to 25KB to allow for cacheing
- "Minify" your scripts and CSS
 - JSLint, CleanCSS
- Take Advantage of HTML5, CSS3
 - `<!DOCTYPE html>`

Testing and validation

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SPC M.M. Bennett Libraries
St. Petersburg College

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Console HTML CSS Script DOM Net Page Speed Page Speed Activity

Performance Resources Export Help

Page Speed Score: 84/100 Refresh Analysis

! Leverage browser caching

The following cacheable resources have a short freshness lifetime. Specify an expiration at least one week in the future for the following resources:

- <http://www.spcollege.edu/central/libonline/mobile/css/mobile.css> (expiration not specified)
- <http://www.spcollege.edu/central/libonline/mobile/images/facebookBtn.gif> (expiration not specified)
- <http://www.google-analytics.com/ga.js> (1 day)

! Minify CSS

! Serve static content from a cookieless domain

! Specify a Vary: Accept-Encoding header

! Minify HTML

! Optimize images

✓ Enable compression

✓ Minify JavaScript

✓ Remove unused CSS

✓ Avoid bad requests

✓ Combine external CSS

✓ Combine external JavaScript

✓ Minimize DNS lookups

✓ Minimize redirects

✓ Minimize request size

✓ Optimize the order of styles and scripts

✓ Parallelize downloads across hostnames

✓ Put CSS in the document head

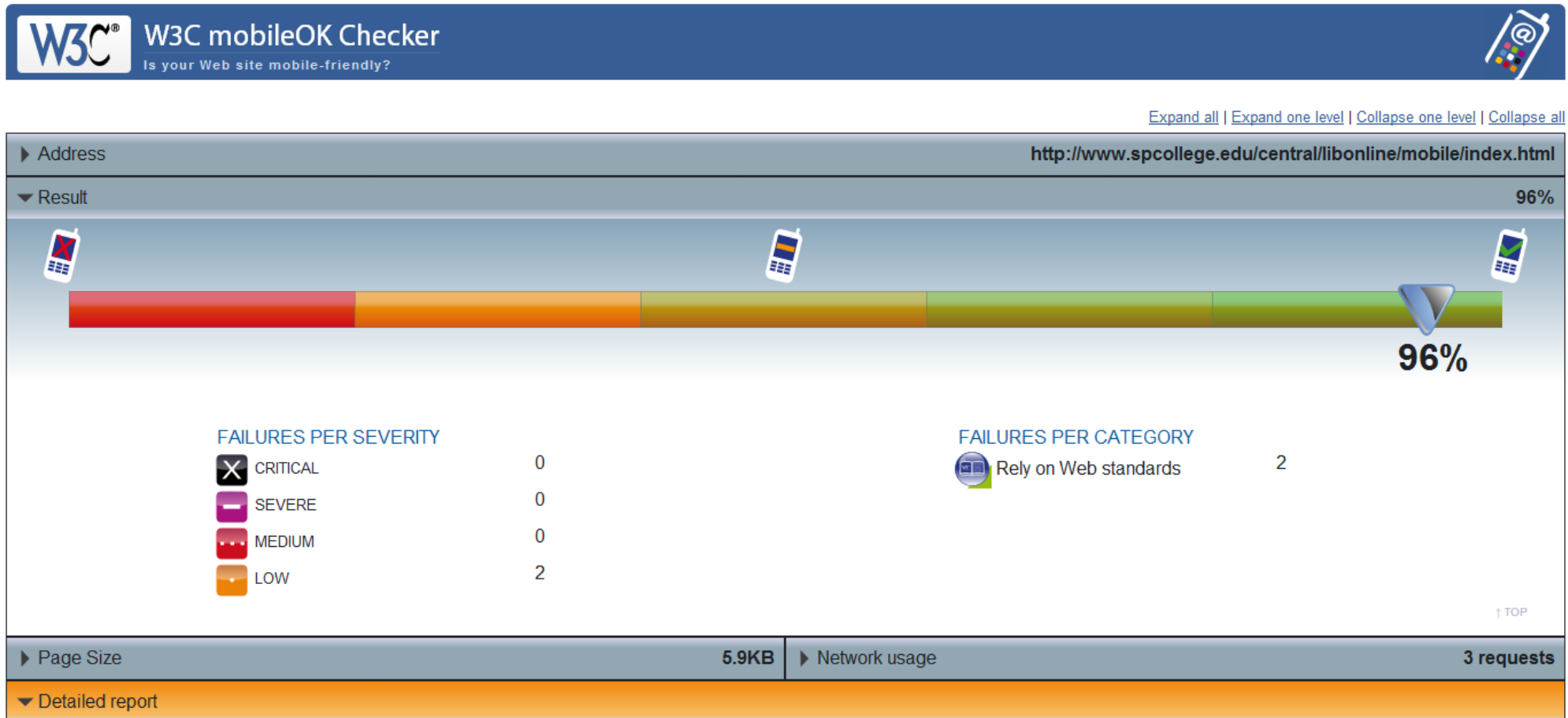
✓ Remove query strings from static resources

✓ Serve resources from a consistent URL

✓ Serve scaled images

W3C mobileOK Checker

<http://validator.w3.org/mobile/>



Ready.mobi

<http://ready.mobi>

mobiReady.

YOU ARE HERE: [home](#) > [page results](#)

Username: Password:
Use your mobiForge sign-in - [Sign up@mobiForge](#) - [Lost password](#)

Page results

URL tested: <http://www.spcollege.edu/central/libonline/mobile/index.html>

<http://www.spcollege.edu/central/libonline/mobile/>



4

Overall

GOOD



It will probably display well on a mobile phone.

Your mobi.readiness score is calculated from the results displayed below. Failing tests and large page sizes both lower the score. Read through the report to understand how to improve your score - and your site.

Readiness, Size, Time & Cost

Score



3.70

Size



6.13k

Estimated cost



Region	Estimated cost
Aus	€0.08
China	€0.02
Europe	€0.06
Latin	€0.10
USA	€0.05

Estimated speed



Network	Estimated speed
WIFI	1.01s
3G	1.34s
GPRS	3.49s

[Representative charges for a user on a usage-based tariff]

About this report

Ready.mobi uses industry standard tests developed with the W3C and leading mobility companies.

Ready.mobi provides an analysis of how your web content is likely to function on a mobile device.

Many tests performed by ready.mobi are defined by the W3C in the [MobileOK Basic Tests 1.0](#) document.

More testing?

 [Back to start page](#)

 [Retest this page](#)

Test another page

Feedback

 How useful did you find this report?

Respect the URL

- Follow the "m" convention
 - m.delicious.com OR lifeonterra.com/m/
 - Keep Categories (directories) Short
- It's a touch environment, not a typing environment.

Mobile Browsers = Cutting Edge

- WebKit Browser Engine
- Supports many HTML5 and CSS3 features
- Native app functionality
 - geolocation
 - offline storage
 - web workers

Allow for User Choice

- Link to Full Site
- Sniff for User Agent – Detection
- To redirect, or not to redirect, that is the question

Know Mobile Design Conventions

- One Column Layout
- Whitespace is Your Friend
- Embrace an Economy of Language
- "Quick Visit" Architecture

Emulators/Simulators:

- dotMobi Emulator - <http://mtld.mobi/emulator.php>
- Opera Mini Simulator - <http://www.opera.com/mobile/demo/>
- Mimic - emulates European and Japanese models: N400i and N505i.
<http://pukupi.com/post/2059>
- Android Emulator - <http://developer.android.com/guide/developing/tools/emulator.html>
- BlackBerry Device Simulators -
<https://www.blackberry.com/Downloads/entry.do?code=060AD92489947D410D897474079C1477>
- iPhone Dev Center: <http://developer.apple.com/iphone/>
- Palm Pre - <http://developer.palm.com/>
- Windows Mobile - <http://msdn.microsoft.com/en-us/windowsmobile/default.aspx>
- JAVA ME - Java Platform Micro Edition was termed J2ME. It is considered one of the most ubiquitous application platform for mobile devices.
<http://java.sun.com/javame/reference/apis.jsp>

Mobile Development in Libraries

- Chad Haefele, Mobile Site Generator
 - <http://www.hiddenpeanuts.com/msg/>
- Jason Casden, WolfWalk at NCSU
 - <http://www.lib.ncsu.edu/dli/projects/wolfwalk/>
- Laurie Bridges and Kim Griggs
 - <http://ir.library.oregonstate.edu/jspui/handle/1957/16437>

amazon.com.

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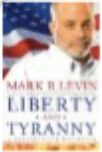
Business & Investing 25,559 >

Politics & Current Events 11,380 >


Literary Fiction 8,692 >

amazon.com.

Kindle Store > New York Times Best Sellers

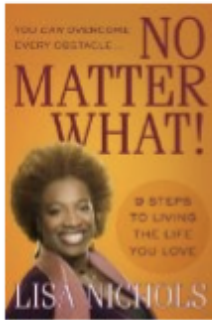


1. [Liberty and Tyranny: A Conservative Manifesto \(Kindle Edition\)](#)
Mark R. Levin
\$9.99 - Auto-delivered wirelessly
★★★★★ (1101)



2. [The Help \(Kindle Edition\)](#)
KATHRYN STOCKETT
\$9.99 - Auto-delivered wirelessly
★★★★★ (251)

amazon.com.



No Matter What!: 9 Steps to Living the Life You Love (Kindle Edition)
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Arts & Events



Events for February 16, 2010



Students Talk Back
January 20, 2010 - April 21, 2010
11:30 AM - 1:00 PM



(No) Dumping Drains To Ocean
January 29, 2010 - February 17, 2010

<http://mobile.usc.edu/>

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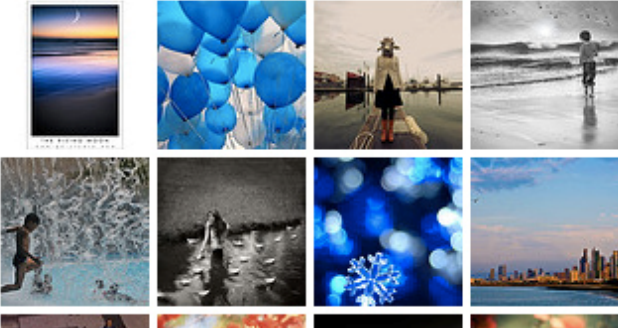
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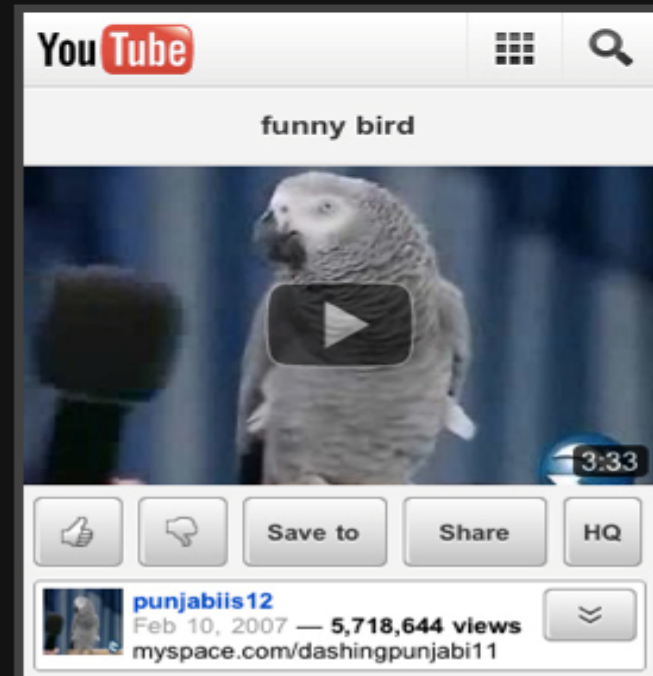
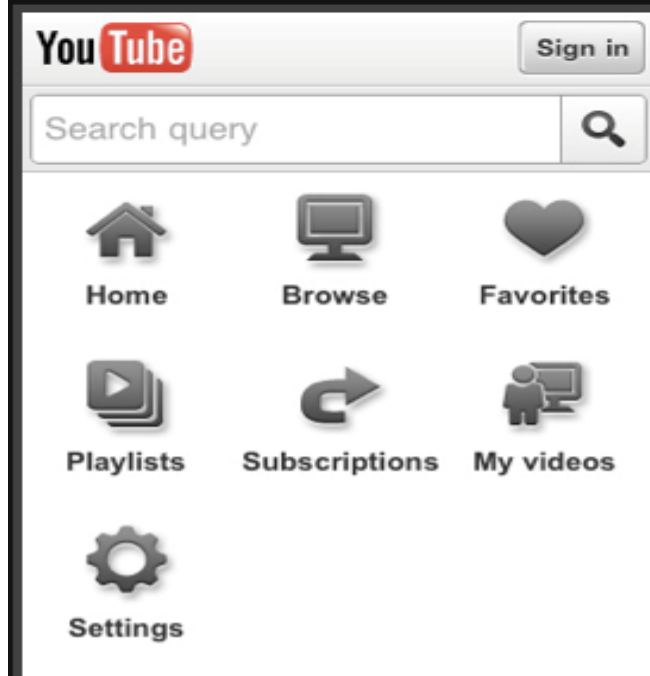
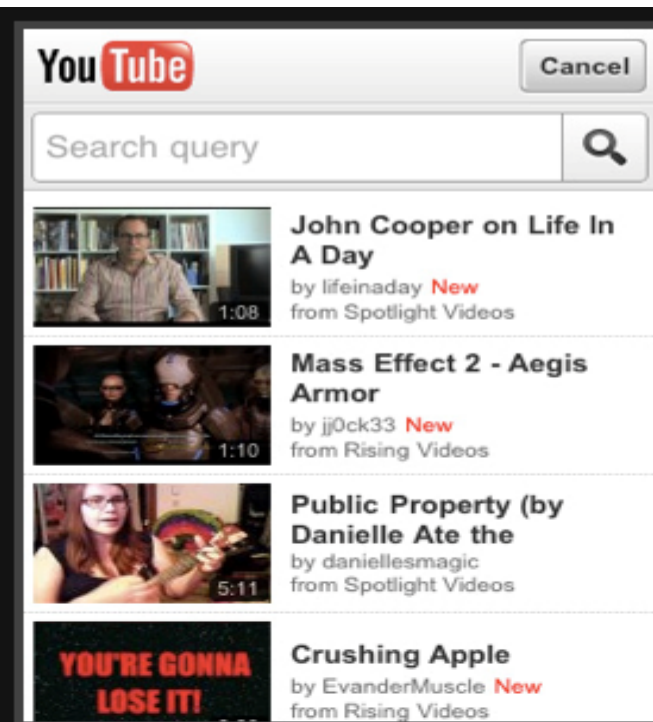
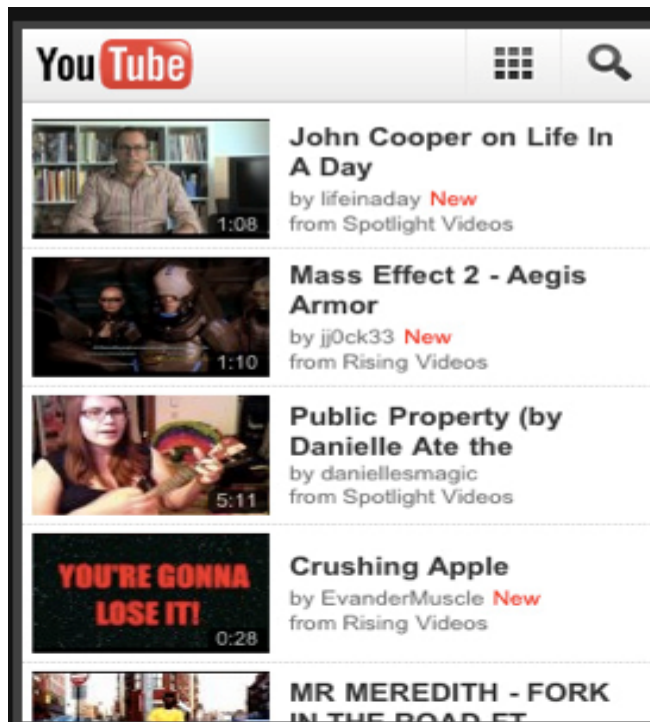
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Transcript: Barack Obama's Inaugural Address




NPR.org, January 20, 2009 · *The following is Barack Obama's inaugural address, as prepared for delivery.*

My fellow citizens:

I stand here today humbled by the task before us, grateful for the trust you have

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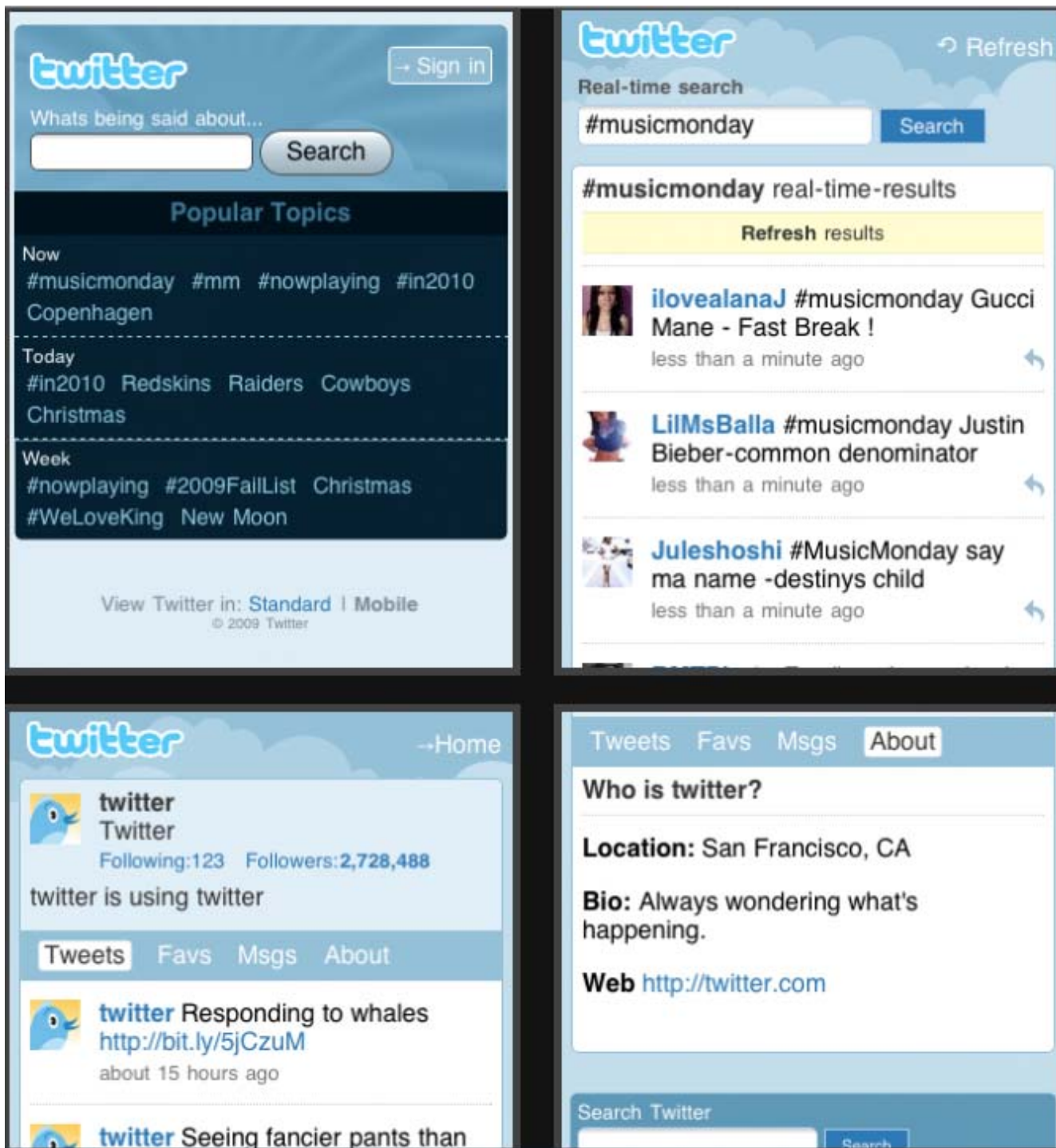
Neglected Films Of 2008 Still Well Worth Seeing



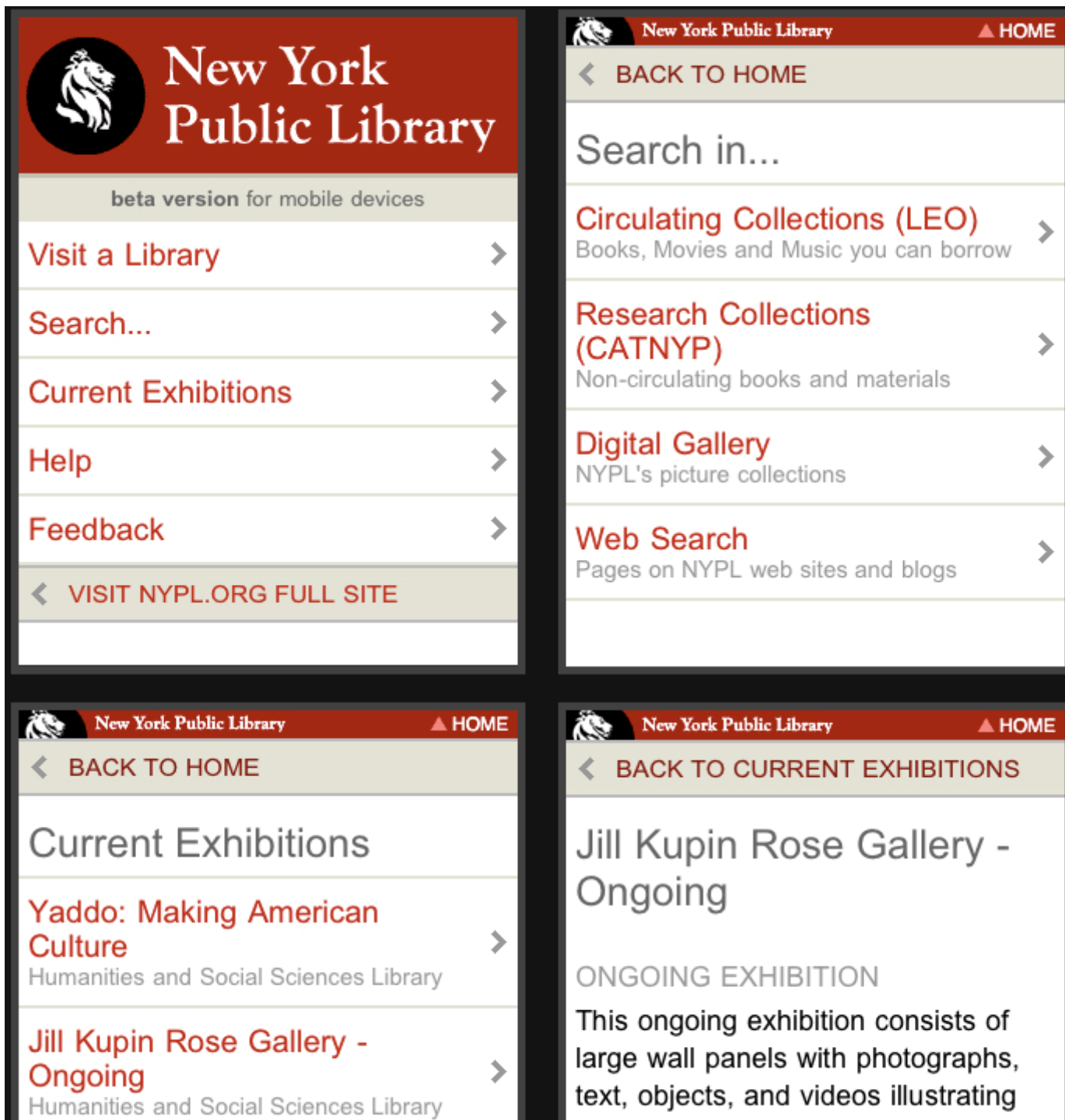
By Bob Mondello

All Things Considered, January 11, 2009 · It happens every year. Awards season rolls

<http://m.npr.org/>



<http://mobile.twitter.com>



<http://m.nypl.org>

Mobile Screen Resolutions

- Android (Motorola Droid) 480x854
- Android (MyTouch) 320x480
- Android (Nexus One) 480x800
- Apple iPhone 320x480
- Apple iPad 1024x768
- Palm Pre 320 x 480

Source: <http://insideria.com/2010/05/building-web-sites-optimized-f.html>

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