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.

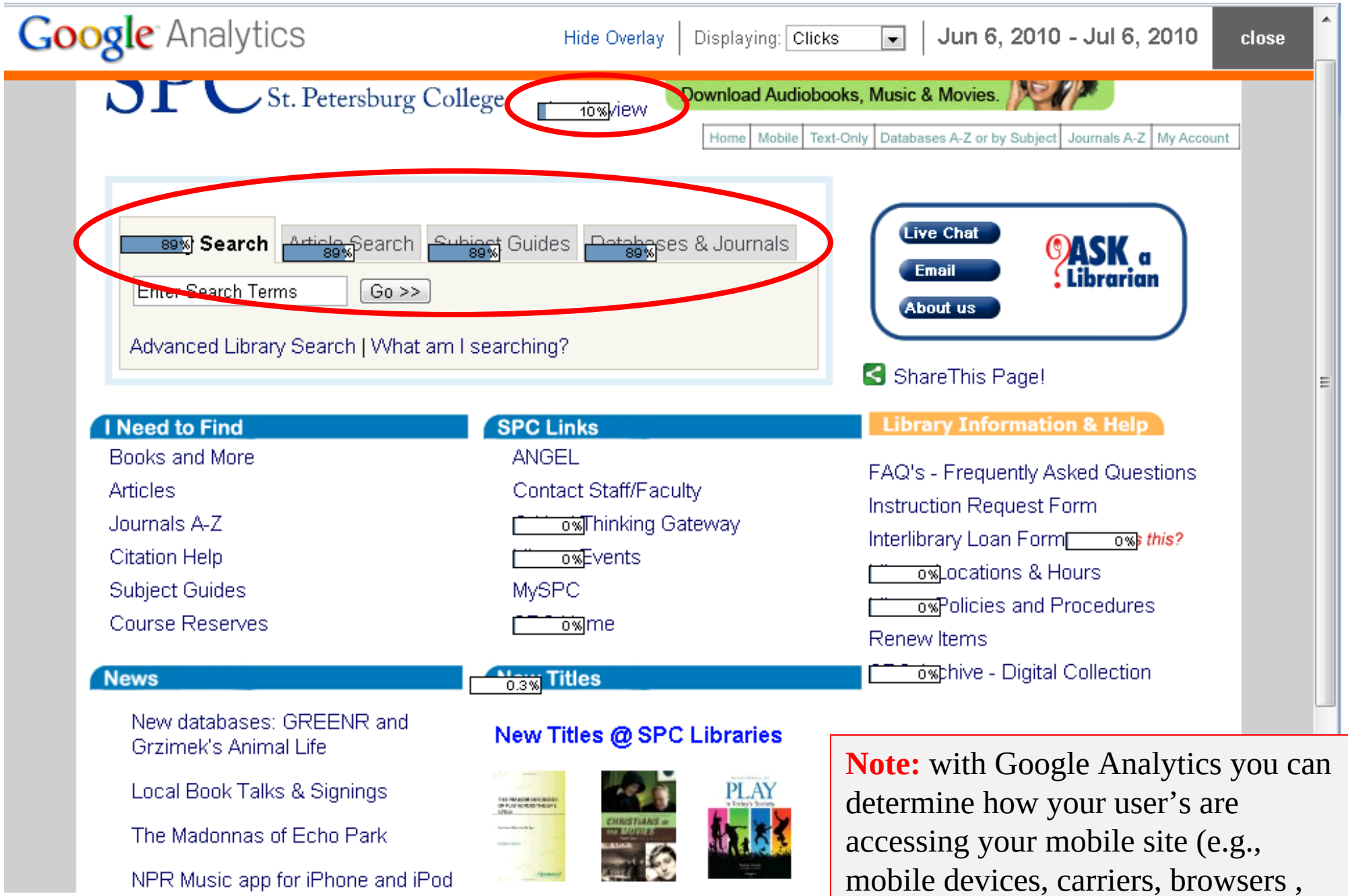
- Eric Schmidt, Google CEO
http://www.eweek.com/c/a/Midmarket/Google-CEO-Eric-Schmidt-at-MWC-Mobile-First-694942/

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.

Source: http://www.webmonkey.com/2010/08/how-do-native-apps-and-web-apps-compare/

… 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.”

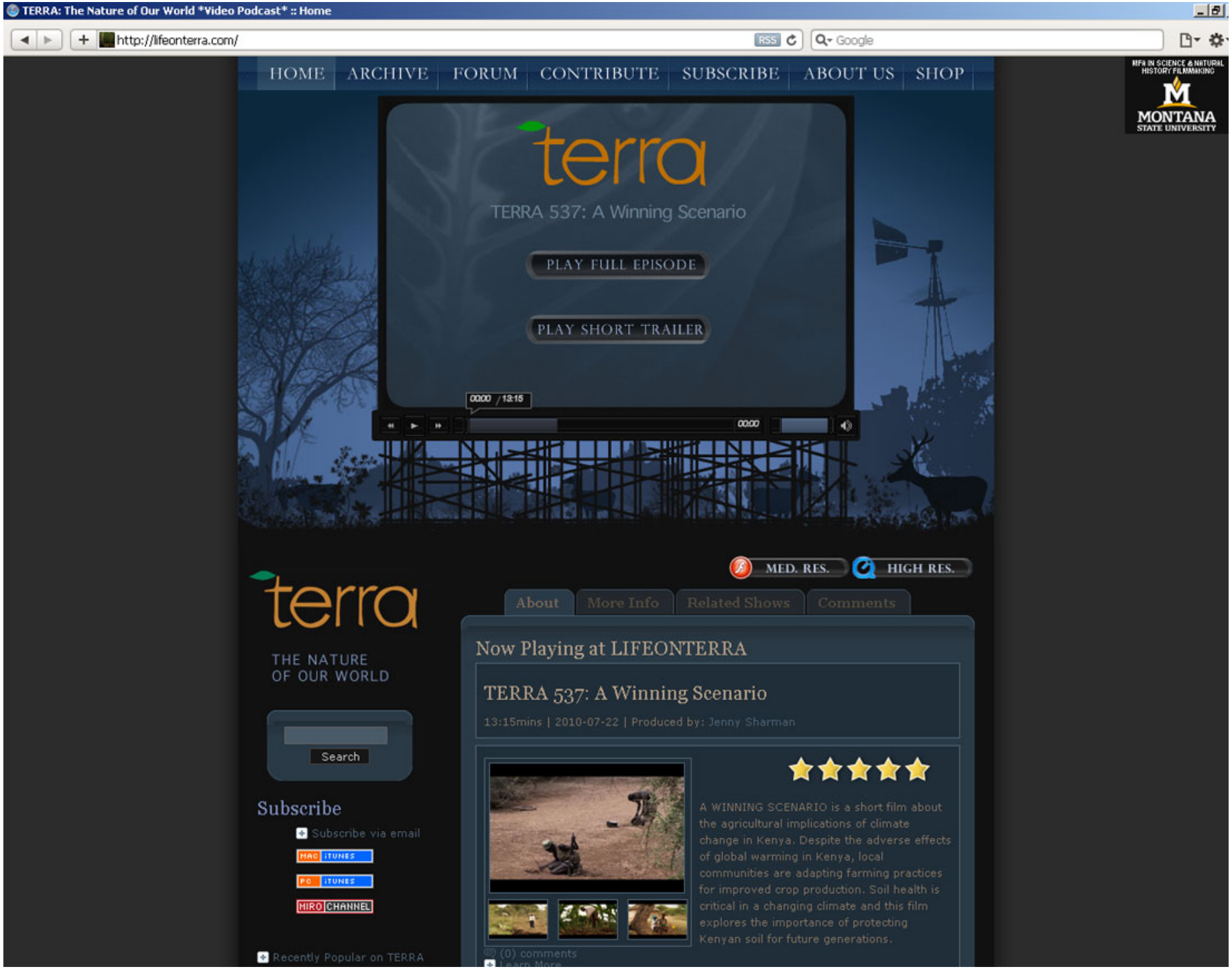
Barbara Ballard Designing the Mobile User Experience

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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TERRA 537: A Winning Scenario
13:15mins | 2010-07-22 | Produced by: Jenny Sharman
A WINNING SCENARIO is a short film about the agricultural implications of climate change in Kenya. Despite the adverse effects of global warming in Kenya, local communities are adapting farming practices for improved crop production. Soil health is critical in a changing climate and this film explores the importance of protecting Kenyan soil for future generations.
(0) comments
Learn More

TERRA, The Nature of Our World : Montana State University Libraries

http://lifeonterra.com/m/

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TERRA 537: A Winning Scenario

A WINNING SCENARIO is a short film about the agricultural implications of climate change in Kenya. Despite the adverse effects of global warming in Kenya, local communities are adapting farming practi ...

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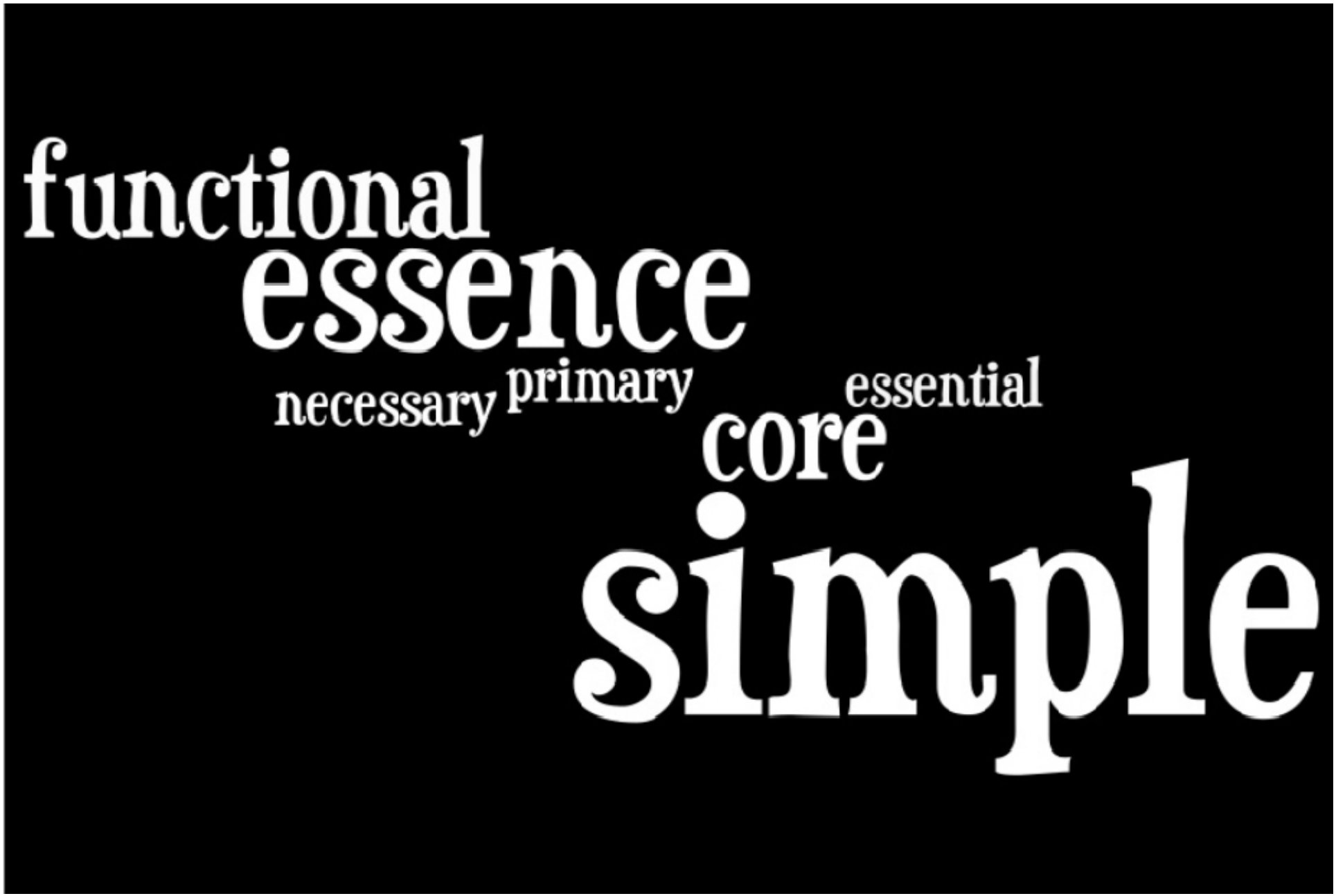
What is TERRA?

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

appmakr Beta

App Inventor for Android

iSites by GENWI

PhoneGap

MOTHERAPP

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

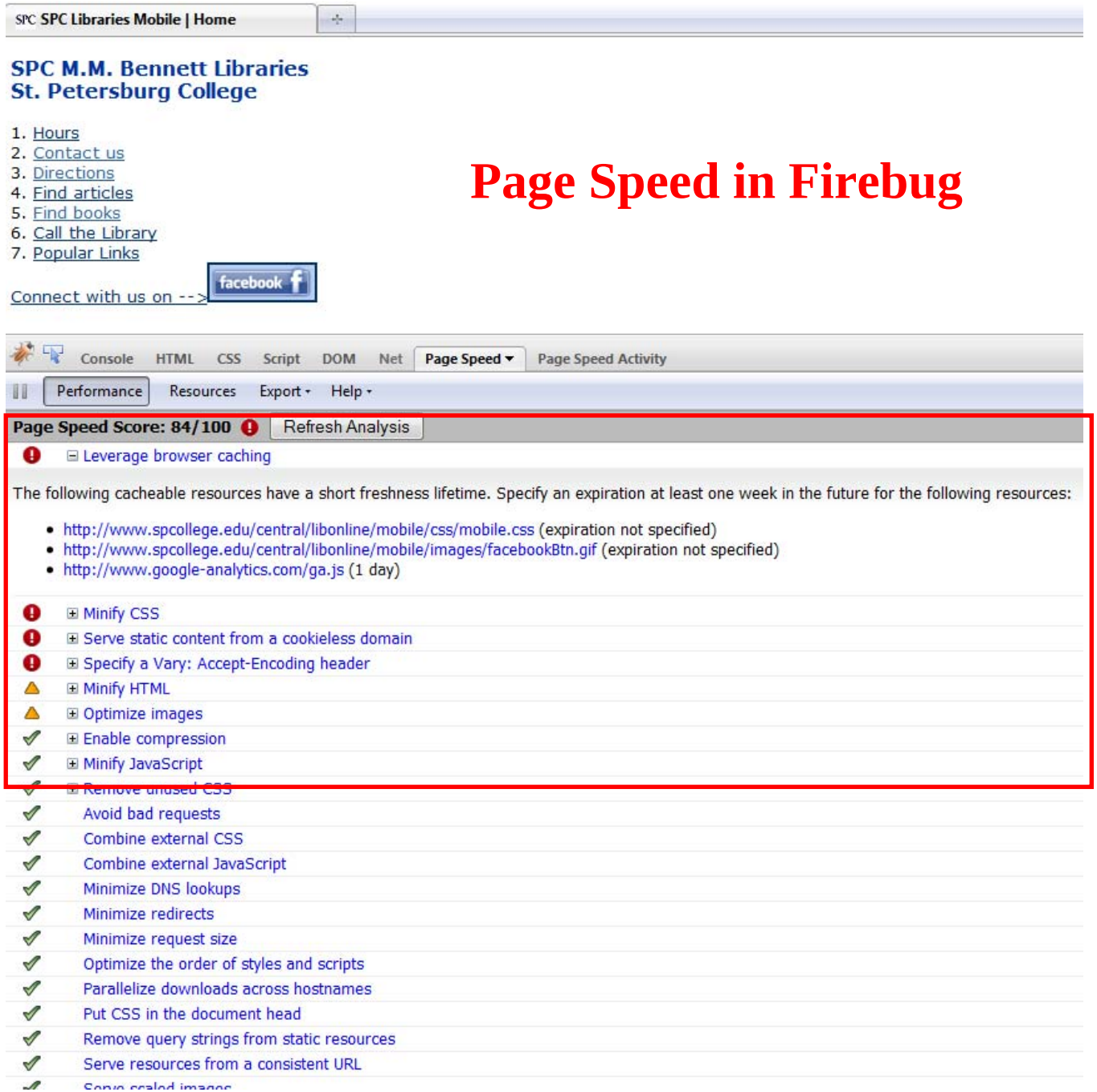
- Tactile navigation
  - touch, pinch, spread, flick, spin (gyrometer)

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

Speed FTW, Performance First

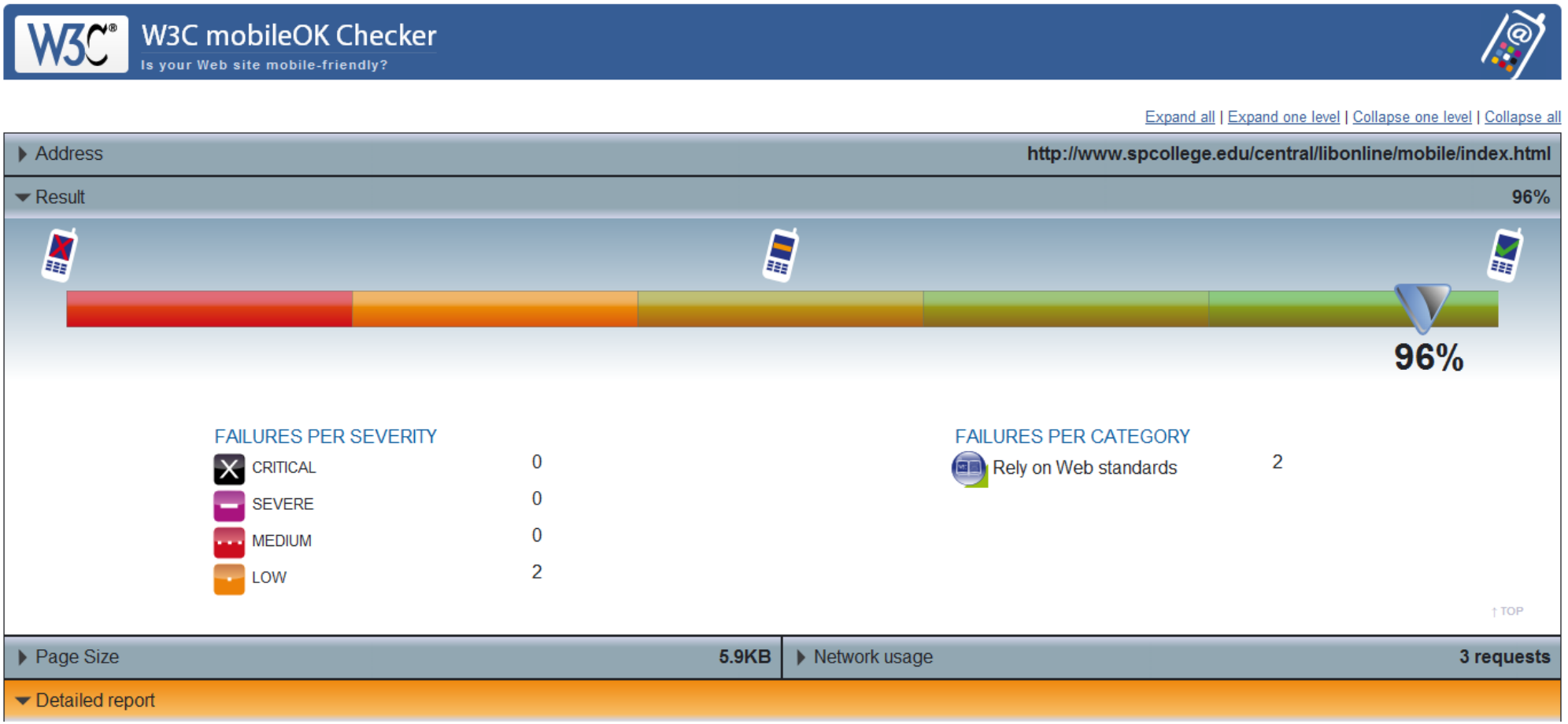
- Limit Images and Markup
  - Limit HTML pages to 25KB to allow for cacheing
- "Minify" your scripts and CSS
  - JSLint, CleanCSS
- Take Advantage of HTML5, CSS3
  - <!DOCTYPE html>

Testing and validation



W3C mobileOK Checker

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



Ready.mobi

http://ready.mobi

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

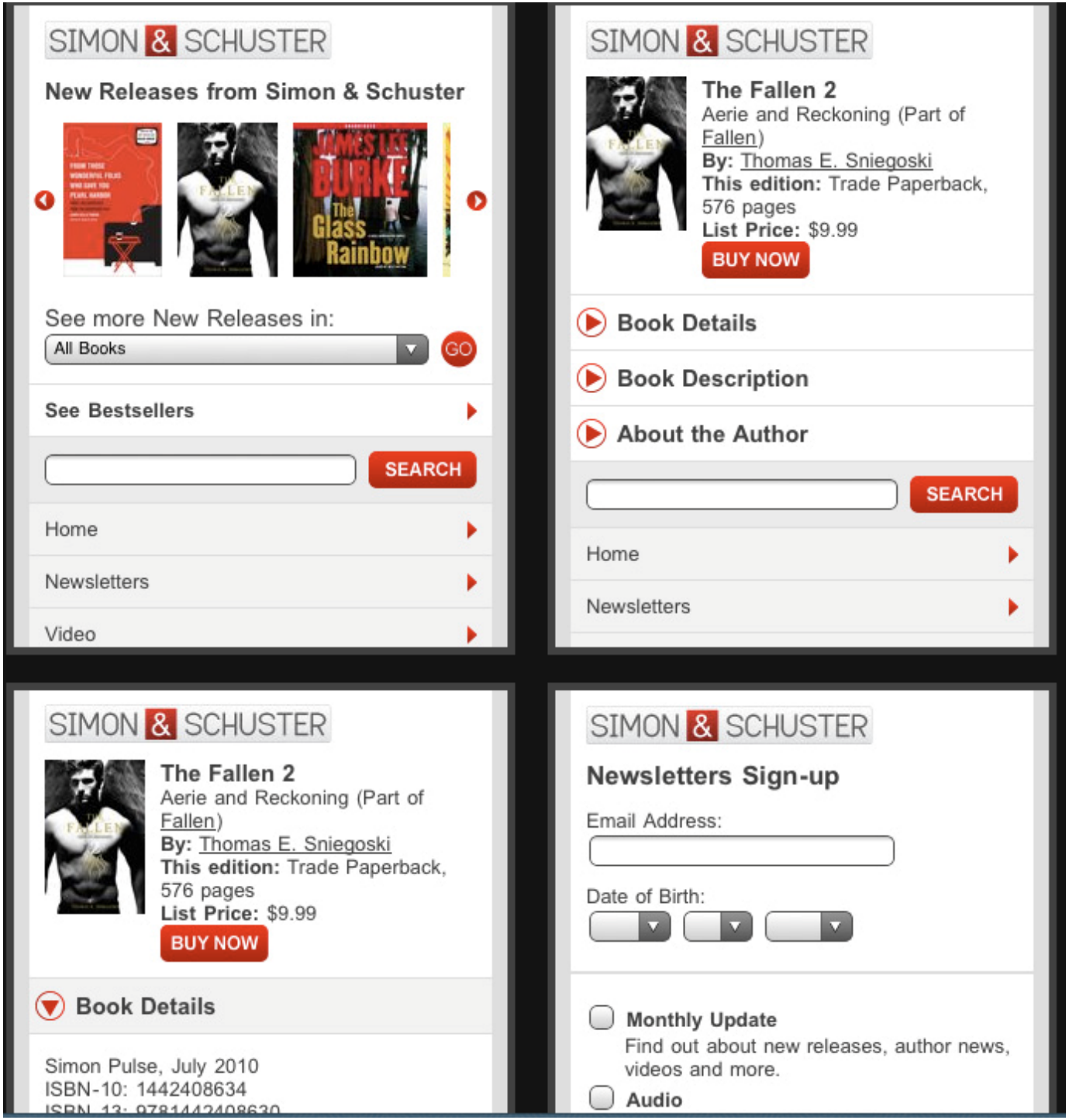
Emulators/Simulators:

- 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

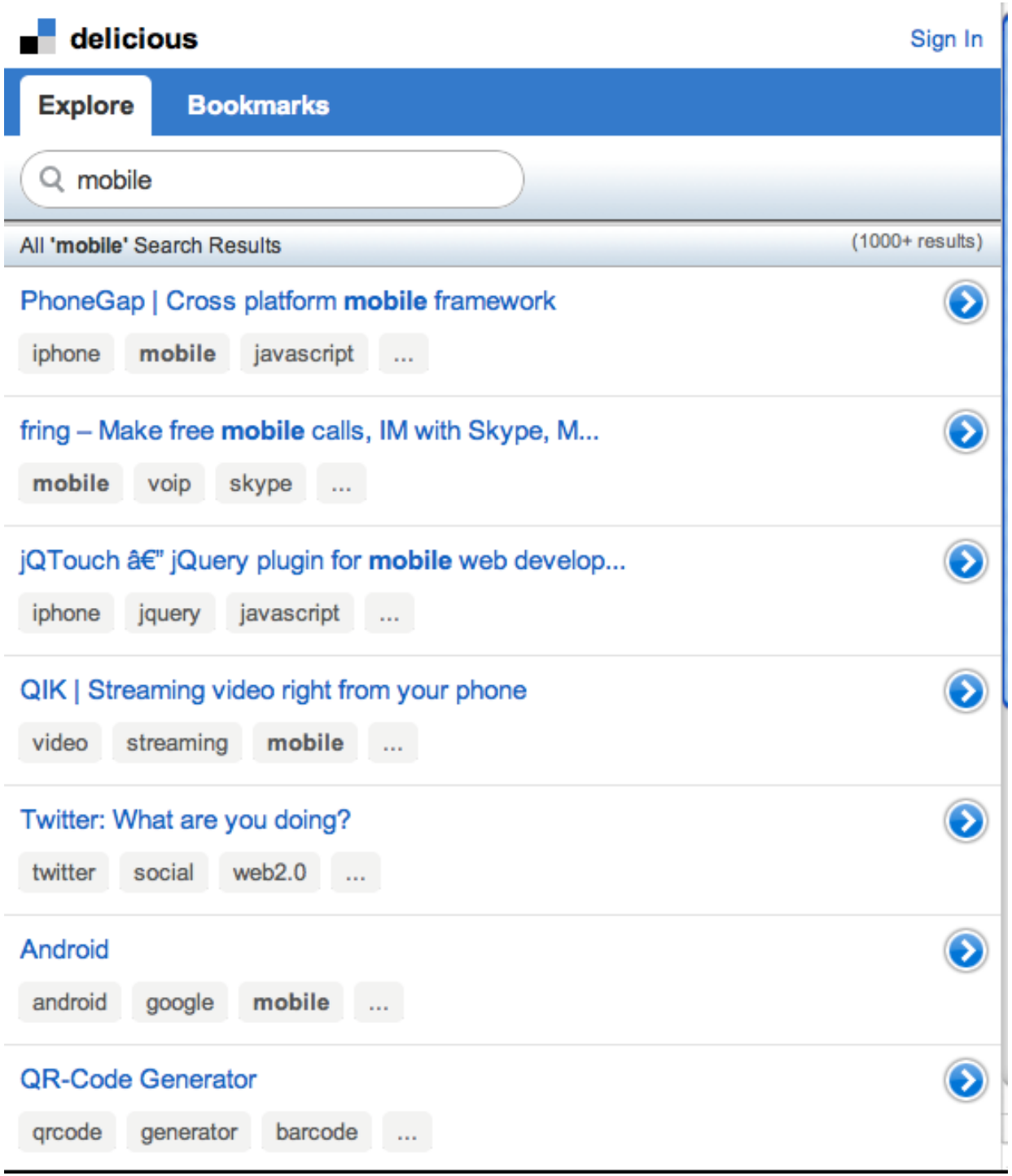
- Chad Haefele, Mobile Site Generator
  - http://www.hiddenpeanuts.com/msg/
- Jason Casden, WolfWalk at NCSU
  - http://www.lib.ncsu.edu/dli/projects/wolfwalk/
- Laurie Bridges and Kim Griggs
  - http://ir.library.oregonstate.edu/jspui/handle/1957/16437

http://www.amazon.com/gp/aw/kindle/storefront/

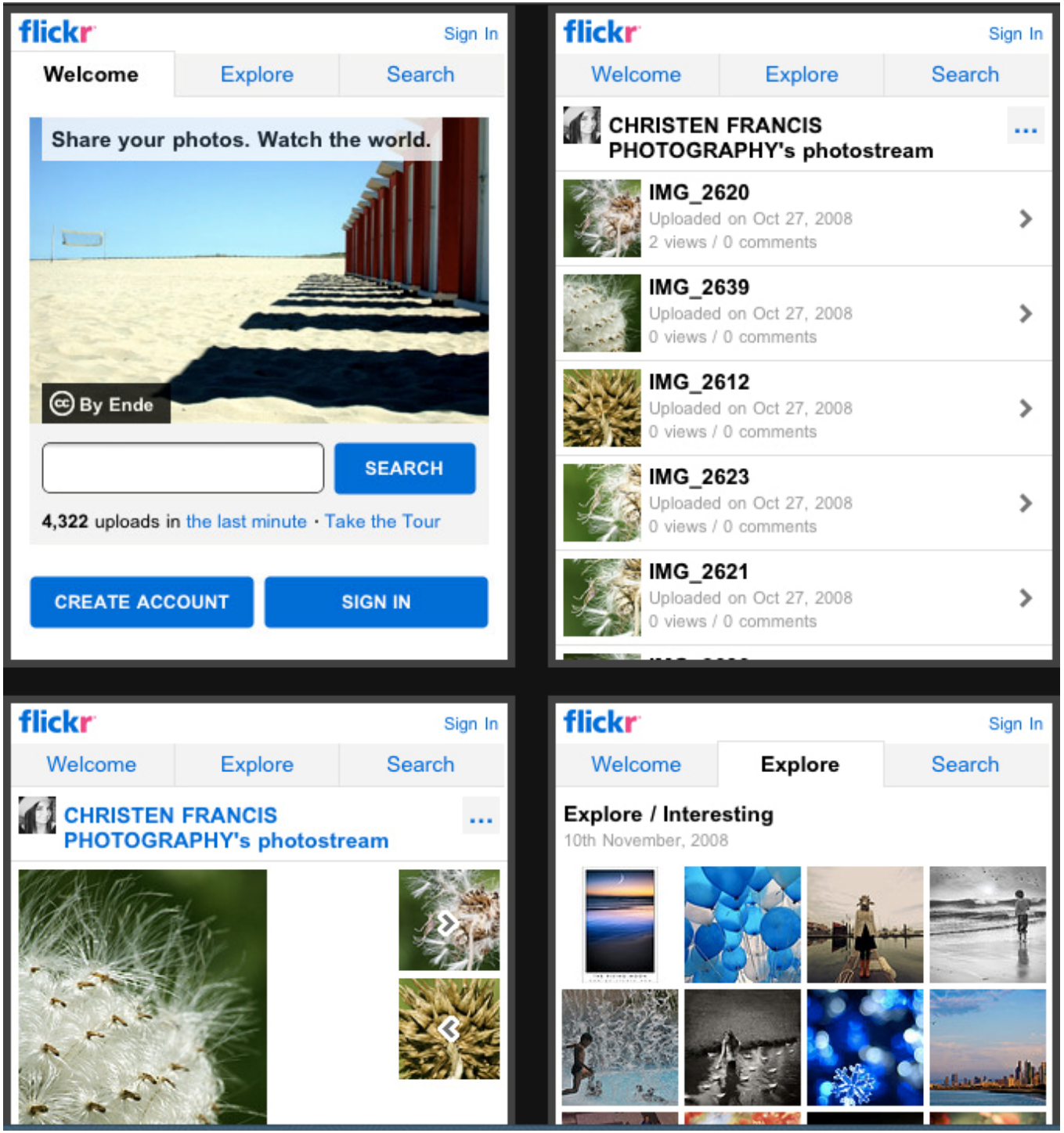


http://www.simonandschuster.mobi/

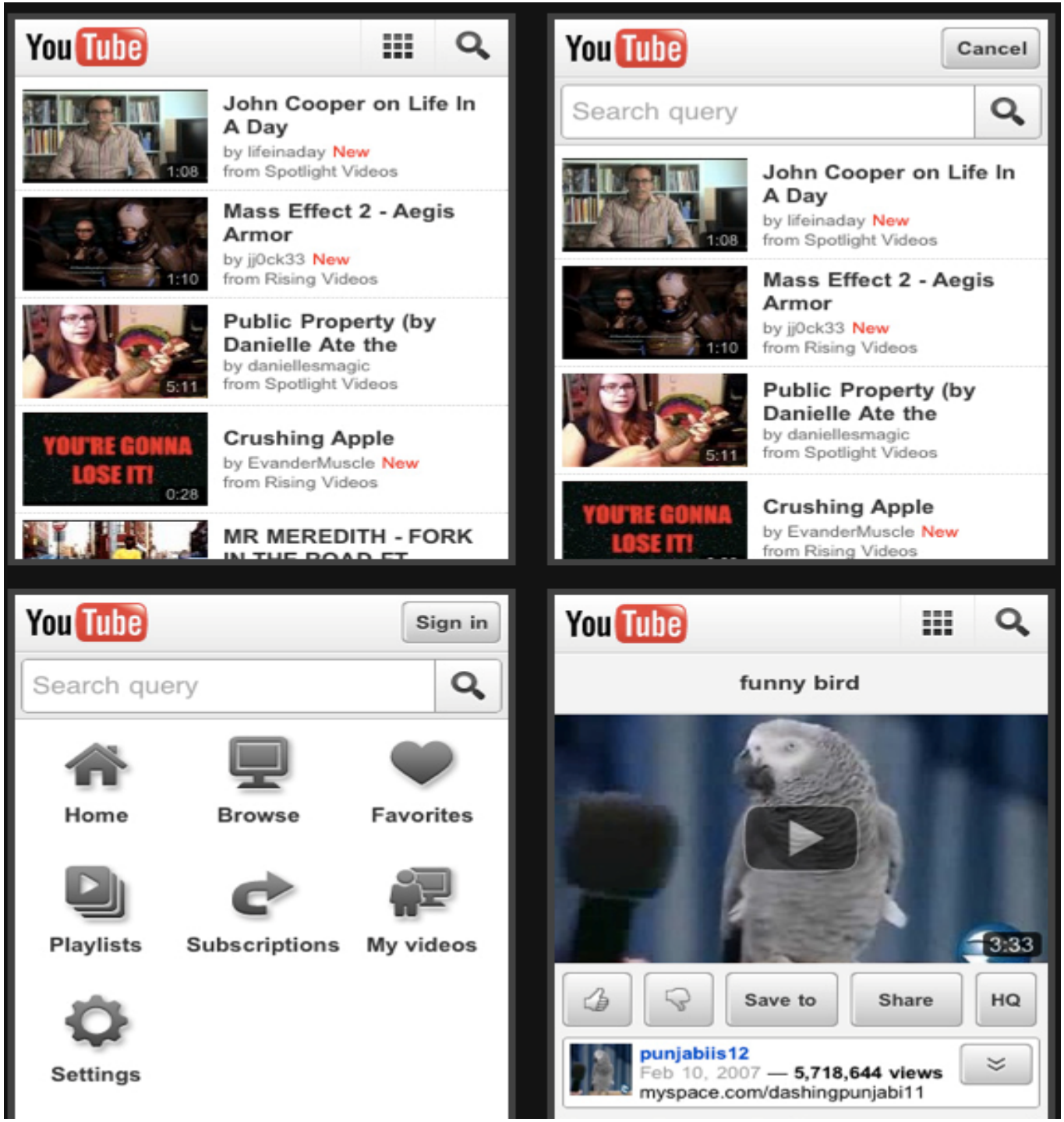
http://mobile.usc.edu/



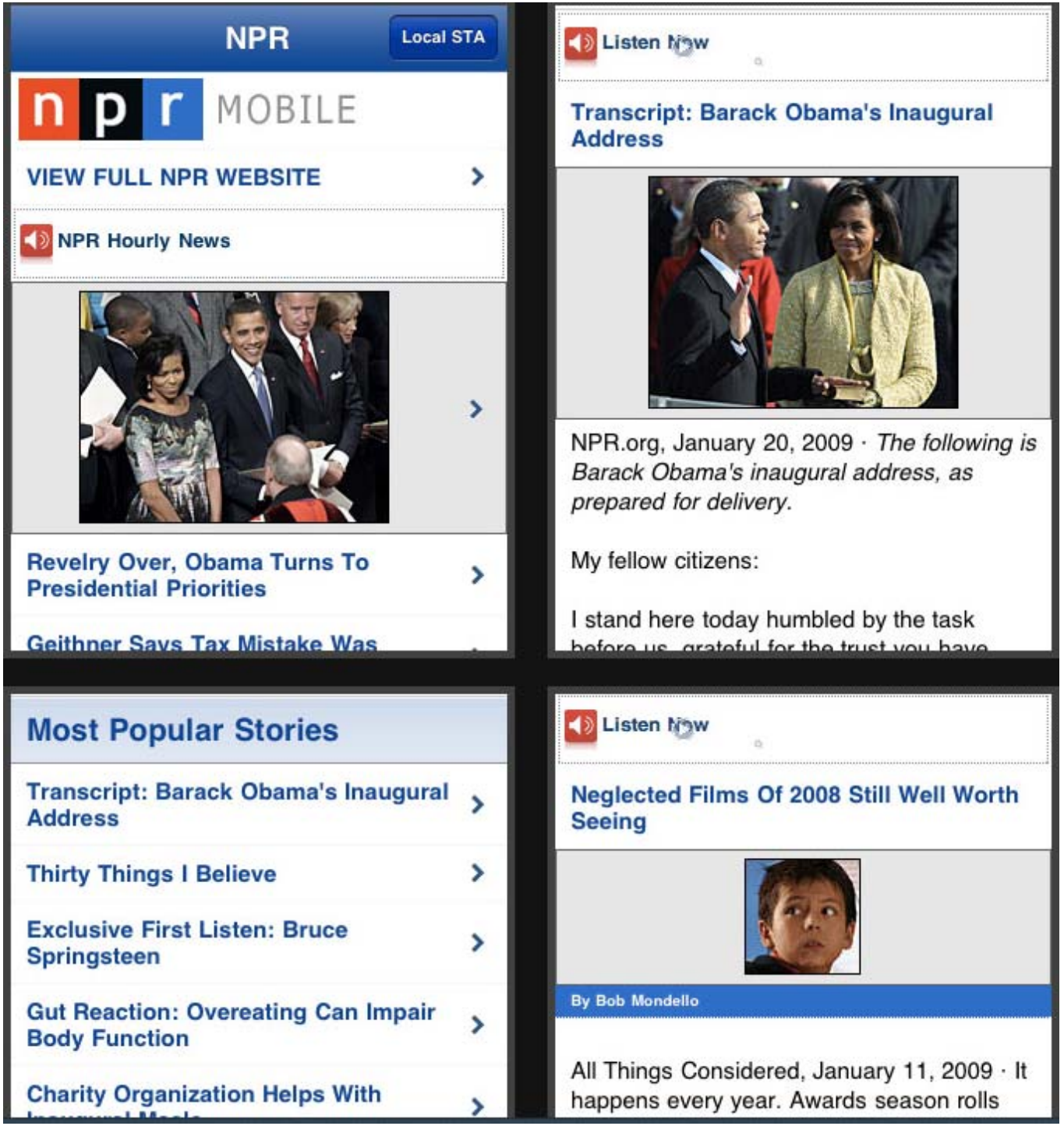
http://m.delicious.com/



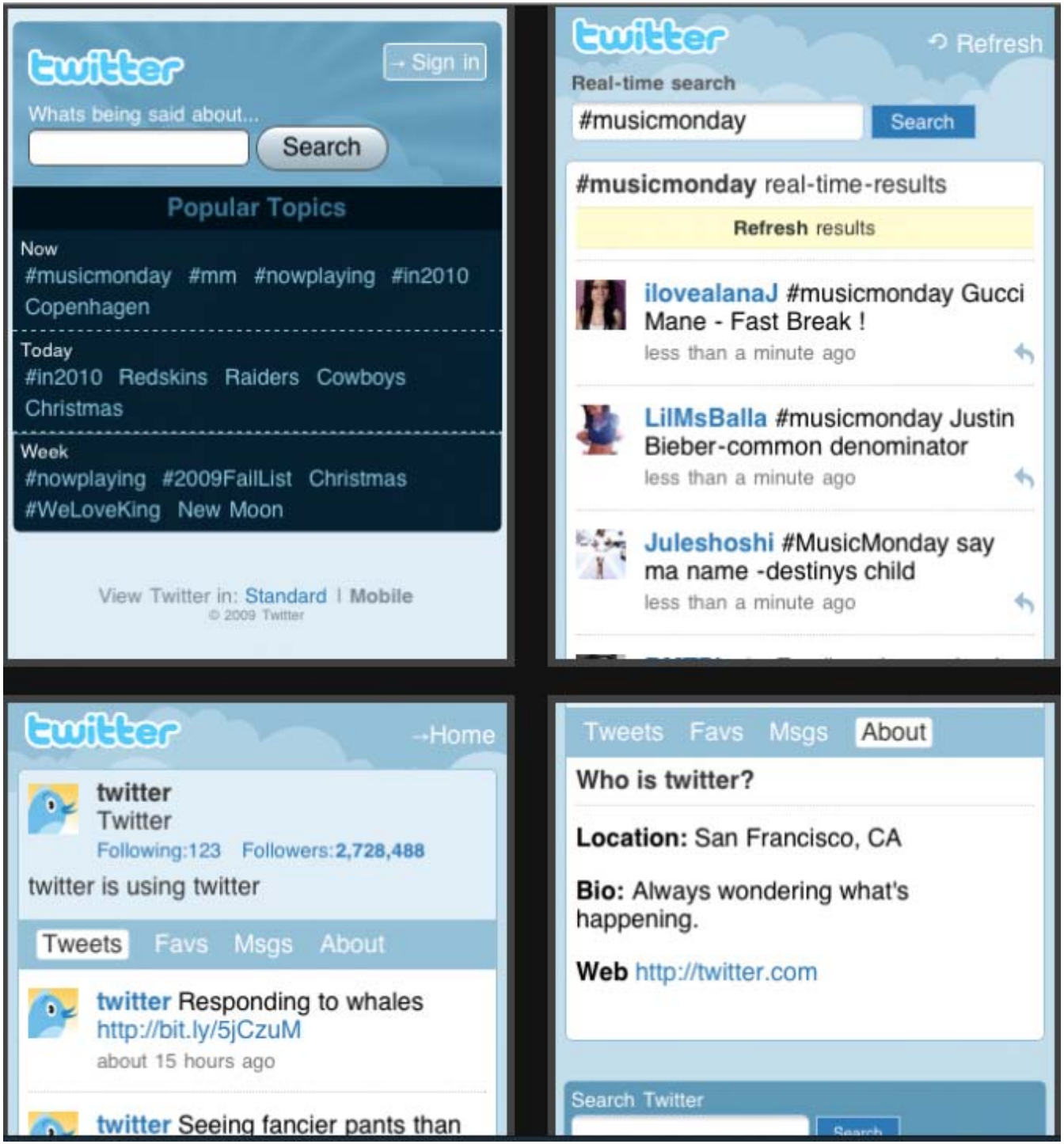
http://m.flickr.com



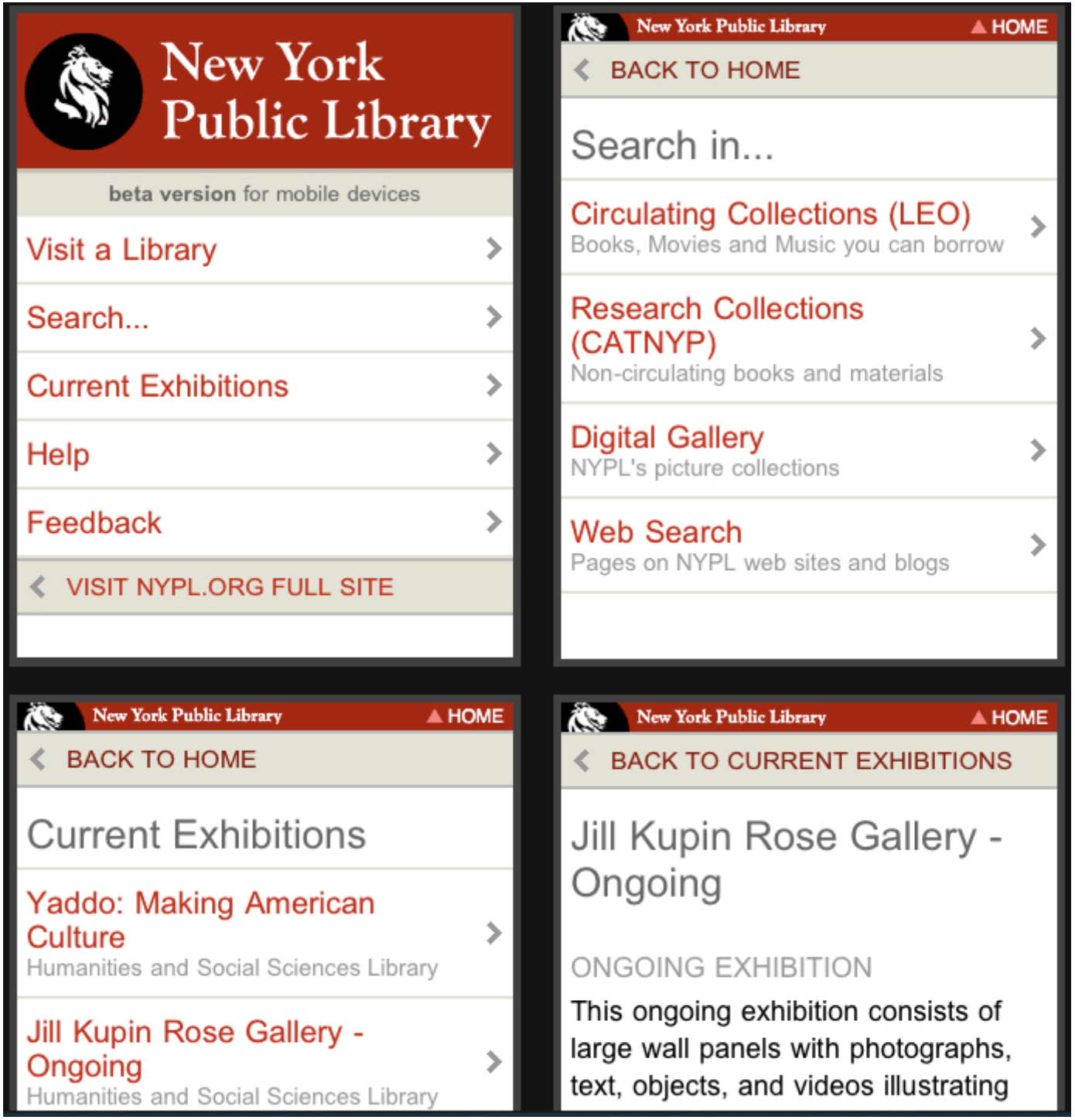
http://m.youtube.com



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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