

Designing Mobile Experiences: Building Mobile Web Apps

Computers in Libraries
March 20, 2011

Jason A. Clark
Head of Digital Access and Web Services
Montana State University Libraries

A Look Ahead...

- Native Apps versus Browser Apps
- Mobile Design Trends
- Mobile Design Case Study
- Mobile Development Tips
- Demos and Code Templates
- Getting Started

Hello, My Name is...

- Background, Position
- HTML, Programming experience?
- Experience with Mobile Design
- What do you want to learn most?

Native Apps

- Installed on the iPhone or Device
- Access to the hardware (speakers, accelerometer, camera, etc.)
- Written with Objective-C (Apple)
- "App Store" or Proprietary Distribution

Browser (Mobile) Apps

- Web site that is specifically optimized for the iPhone or mobile device
- Built with standard web technologies
- Available at a URL
- Speedy debugging and development

Browser

v.

Native

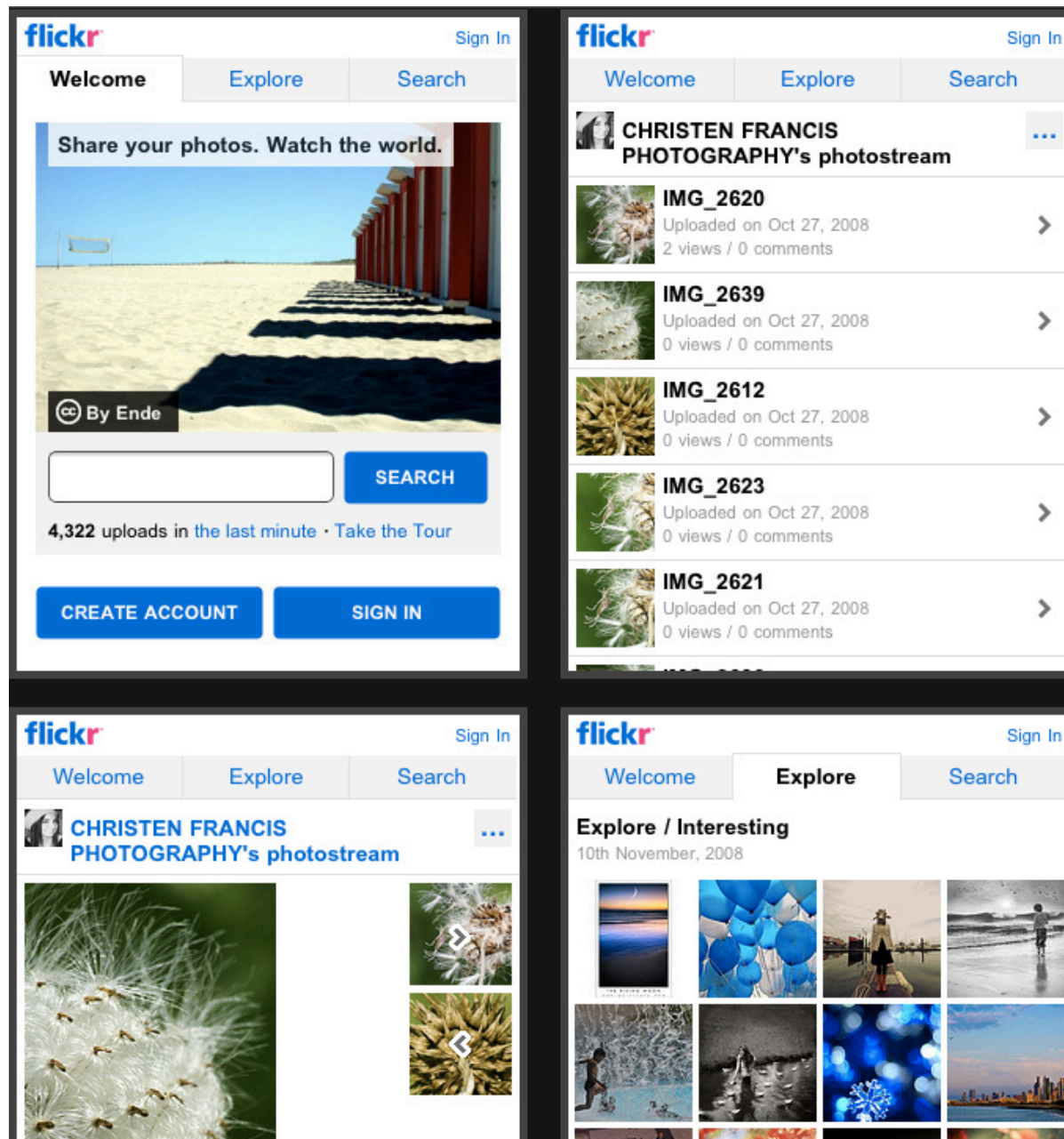
Shiny App Syndrome?

- Mobile web first?
- Incorporate what you learn into App development
- Your thoughts?

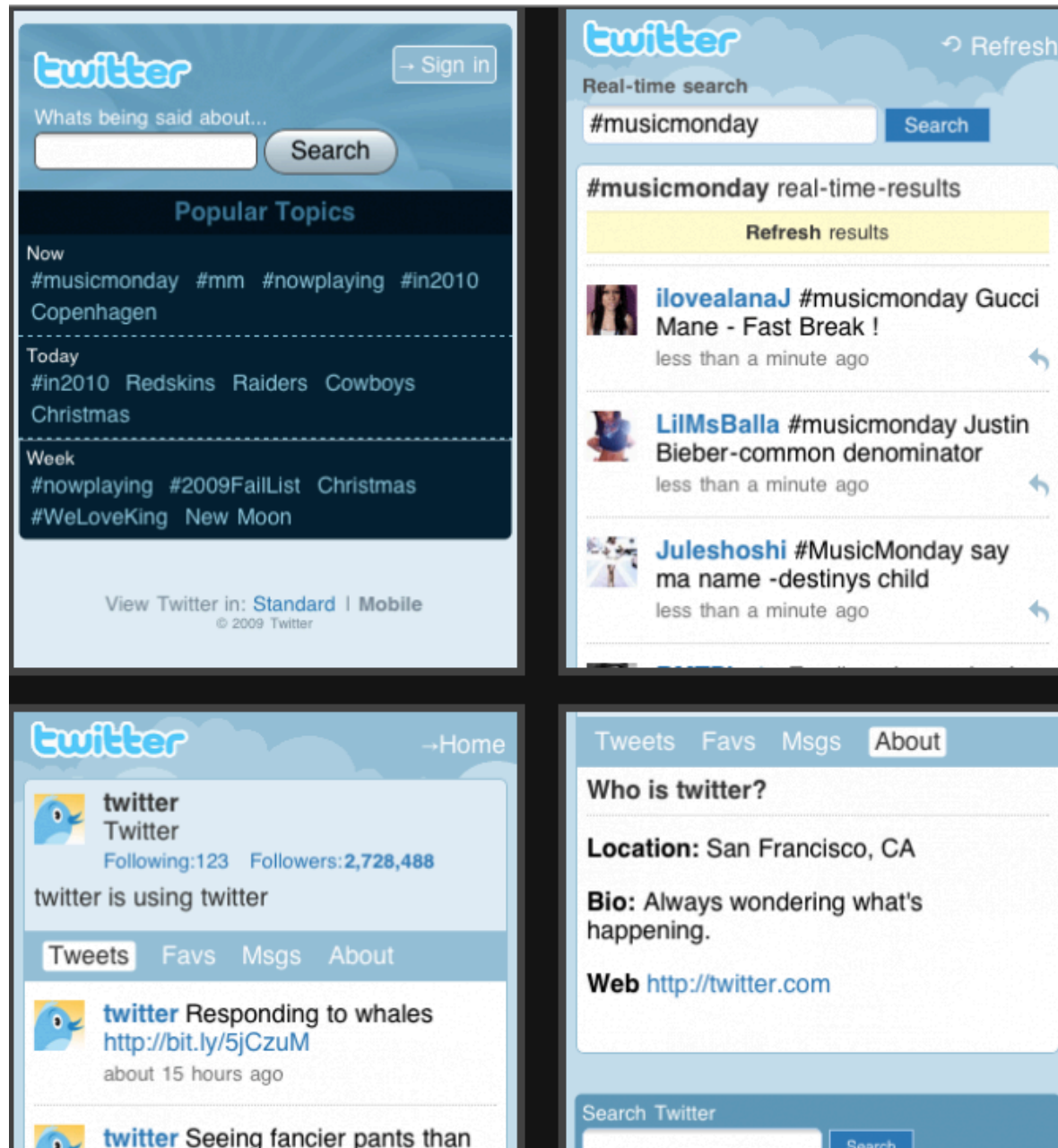
Source: "Shiny app syndrome" and Gov 2.0" by Alex Howard from O'Reilly Radar
<http://radar.oreilly.com/2010/10/is-there-a-government-app-for.html>

Trends in Mobile Design

- A Survey of Major Web Sites



<http://m.flickr.com>



<http://mobile.twitter.com>

amazon.com.

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amazon.com.

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USC Public Diplomacy [Today in PD]
The stars are aligned <http://bit.ly/b3n30u>
3 hours ago from [twitterfeed](#)


Eddie St. John's, a South LA Hospital,
Does Health Care Right" says
[@pattmorrison](#) [@scottgold](#) of [@latimes](#):

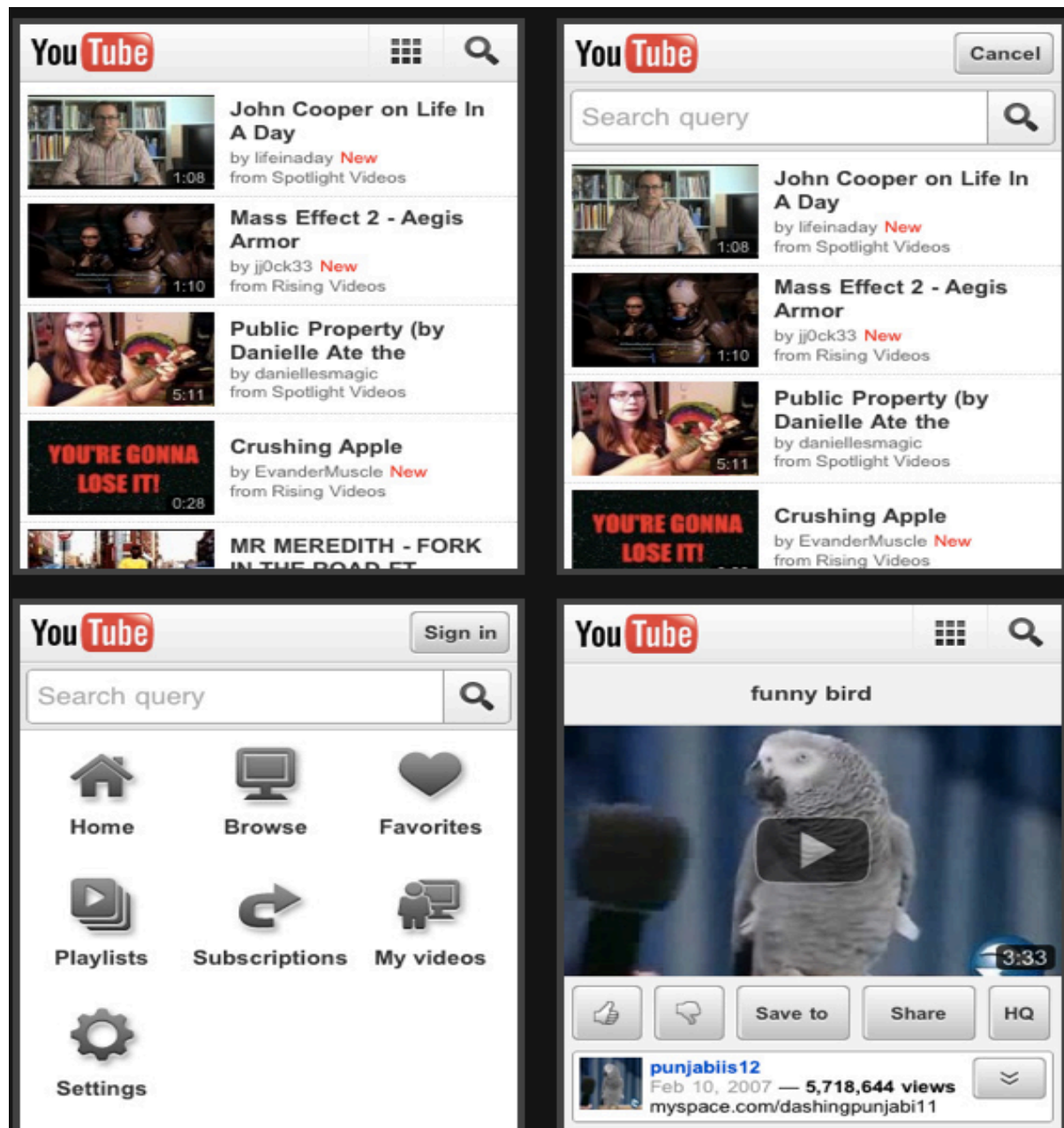

Arts & Events


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/>



<http://m.youtube.com>

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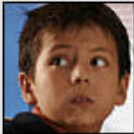
NPR.org, January 20, 2009 · The following is Barack Obama's inaugural address, as prepared for delivery.

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



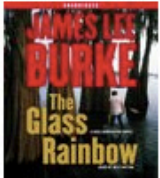


By Bob Mondello

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

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

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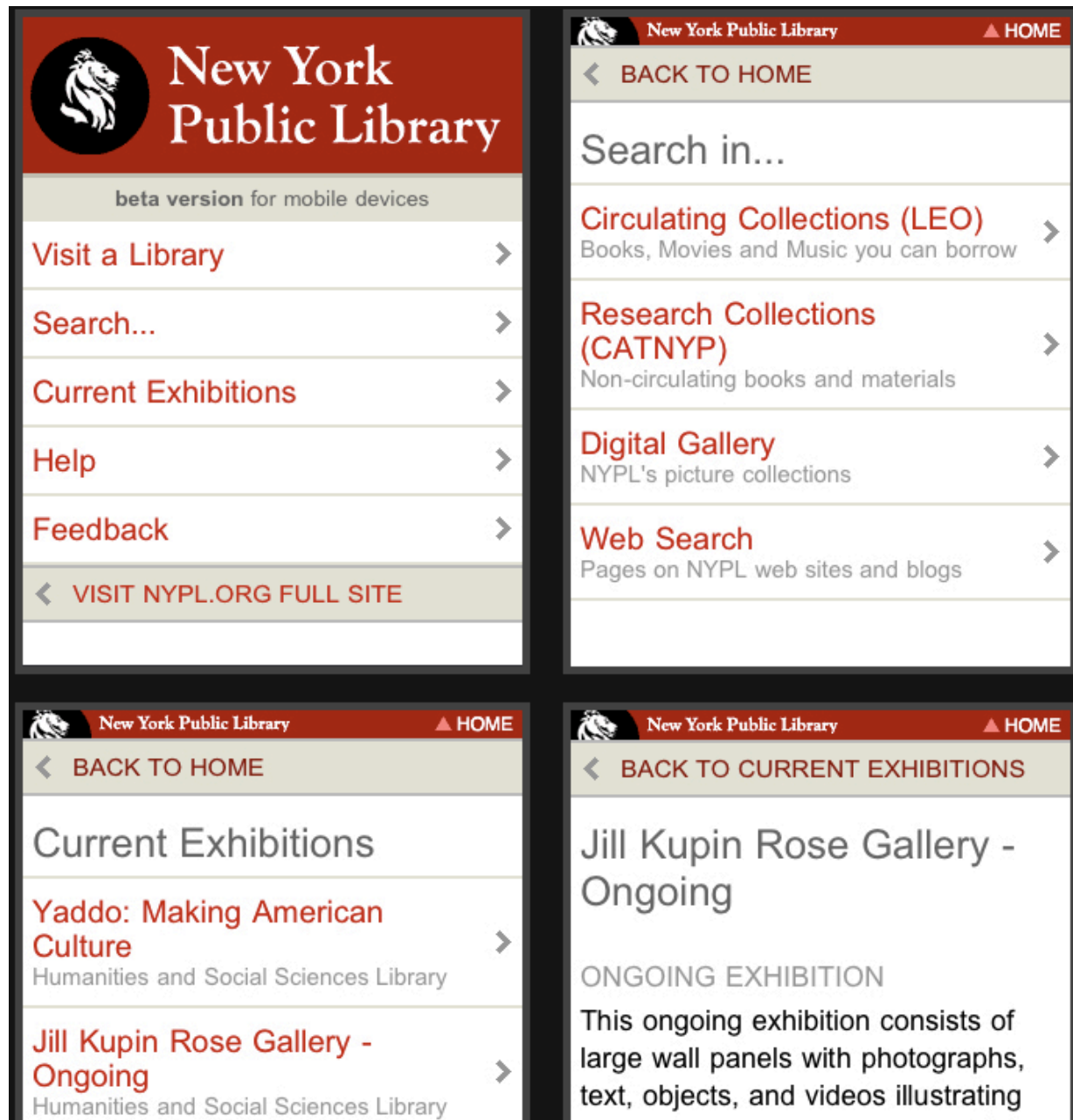
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Mobile App Design – Case Study

Demos:

Terra - lifeonterra.com

Terra mobile - lifeonterra.com/m/

MSU Extension - arc.lib.montana.edu/msu-extension/

MSU Extension mobile - arc.lib.montana.edu/msu-extension/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>

A live mobile web app...

Terra - lifeonterra.com

becomes

Terra mobile - lifeonterra.com/m/

terra

TERRA 537: A Winning Scenario

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PLAY SHORT TRAILER

0000 / 12:16



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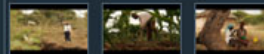
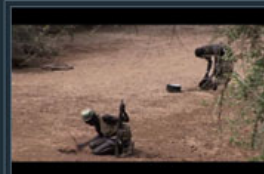
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TERRA 537: A Winning Scenario

13:15mins | 2010-07-22 | Produced by: Jenny Sharman



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

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http://lifeonterra.com/m/

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Making the Move to Mobile...

“My goal was initially just to make a mobile companion for the facebook.com mothership, but once I got comfortable with the platform I became convinced it was possible to create a version of Facebook that was actually better than the website.”

Joe Hewitt, lead developer for touch.facebook.com

Source: <http://joehe Witt.com/post/ipad/>

functional
essence

necessary primary essential

core

simple

Mobile Development Tips

- A different design mindset
- Development with new limitations
- 10 tips to get us “mobile design” thinking

Narrow your Focus

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

Delta Desktop != Delta Mobile

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

Mobile UX = targets, gestures, actions

- New forms of interaction
- 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>`

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

Know Mobile Design Conventions

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

Mobile Development - Demo

Demo:

Mobile Prototype built with jQtouch Library

www.lib.montana.edu/~jason/files/touch/

Code Samples and Downloads:

www.lib.montana.edu/~jason/files.php

Mobile Validators

- W3C Mobile Site Validator
 - <http://validator.w3.org/mobile>
- Mobile App Validator from mobiforge
 - http://mobiready.com/launch.jsp?locale=en_EN#fragment-1

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>

* See Mobile Development - Library Success Wiki

http://www.libsuccess.org/index.php?title=M-Libraries#Mobile_applications

Getting Started, Learning More

- Don't Ignore Frameworks and Libraries
 - jQuery, iUI, Sencha Touch, PhoneGap
- Google App Inventor
 - <http://appinventor.googlelabs.com/about/>
- Mobile Web Apps - Apple
 - <http://developer.apple.com/safari/>
- Mobile Web App Design: Getting Started
 - Michael Doran, Code4Lib 2010
 - <http://code4lib.org/conference/2010/doran>

Getting Started, Resources

- mobify.me for site conversion (page limit)
 - <http://mobify.me/features/>
- *Mobile Design and Development* (O'Reilly)
by Brian Fling
ISBN: 9780596155445
<http://www.worldcat.org/oclc/318413920>
- Use the provided templates, bang on rocks, ask me questions...

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>

Common Mobile Interactions

- Tap
- Double Tap
- Drag
- Flick
- Pinch
- Spread
- Press
- Press & Tap
- Press & Drag
- Rotate

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/>

Contact Information

Jason A. Clark

Head of Digital Access and Web Services

Montana State University Libraries

jaclark@montana.edu

twitter.com/jaclark

www.jasonclark.info