

Designing Mobile Experiences: General Principles, Tips, Code Samples, & Downloads

Jason A. Clark
Head of Digital Access and Web Services
Montana State University Libraries
jaclark@montana.edu
twitter.com/jaclark

Mobile App Templates

Take them, break them, and learn...

Demos:

Terra - lifeonterra.com

Terra mobile - lifeonterra.com/m/

Mobile template 1 - www.lib.montana.edu/~jason/files/m/

Mobile template 2 (jQuery) - www.lib.montana.edu/~jason/files/touch/

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

Downloads:

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

Mobile Design Thinking

"Create a product, don't re-imagine one for small screens. Great mobile products are created, never ported."

- Brian Fling, author of *Mobile Design and Development* (O'Reilly Publishers)

"In iPhone apps, the main function should be immediately apparent. Minimize the number of controls from which users have to choose."

- iPhone Interface Guidelines

Mobile Development Thinking - The new platform includes:

- Multiple screen sizes & densities
- A Need for Performance optimization
- Touch targets, gestures, and actions
- Access Location systems
- Varying Device capabilities

Mobile Development Tips

Tip #1: Narrow your Focus

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

Tip #2: Know your Audience

- Run the Analytics
- Research for Mobile Browser Types

Tip #3: Learn from the Masters

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

Tip #4: Mobile User Interface = targets, gestures, actions

- New forms of interaction
- Tactile Navigation
- Touch, pinch, spread, flick, spin (gyrometer)
- Apple recommends a minimum target size: 29px wide by 44px tall

Tip #5: Speed FTW, Performance First

- Limit Images and Markup
 - Limit HTML pages to 25KB to allow for caching
 - Limit images to under 1KB when possible
- "Minify" your scripts and CSS
 - JSLint - <http://www.jslint.com/>
 - CleanCSS - <http://www.cleancss.com/>
- Take Advantage of HTML5, CSS3
 - <!DOCTYPE html>

Tip #6: 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."

Tip #7: Take Advantage of Mobile Browsers' Capabilities

- Mobile Browsers = Cutting Edge
- WebKit Browser Engine runs Mobile Safari and Android
- Supports many HTML5 and CSS3 features
- Native app functionality
 - geolocation
 - offline storage
 - web workers

Tip #8: Allow for User Choice

- Link to Full Site
- Consider “sniffing” for User Agent - Detection (Javascript sample below...)

```
<script type="text/javascript">
if ((navigator.userAgent.indexOf('iPhone') != -1) ||(navigator.userAgent.indexOf('iPod') != -1))
{
document.location = "#";
}
</script>
```

Tip #9: Use Mobile Templates, Libraries, and Software Development Kits (SDK)

- Vetted and tested across platforms
- Common user interaction tasks are built-in
- Javascript Libraries
 - jQtouch - <http://jqtouch.com/>
 - JQuery Mobile - <http://jquerymobile.com/>
- Native/Mobile Web App Packages
 - Sencha Touch - <http://www.sencha.com/products/>
 - PhoneGap
- Apple iOS SDK - <http://developer.apple.com/devcenter/ios/index.action>
- Android App inventor - <http://appinventor.googlelabs.com/about/>

Tip #10: Know Mobile Design Conventions

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

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 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>

List of Common Mobile Interactions - An Evolving User Interface (UX)

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

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>
- Mobile Development - Library Success Wiki
 - http://www.libsuccess.org/index.php?title=M-Libraries#Mobile_applications

Getting Started, Resources to Learn More about Mobile Design

- Check out mobify.me for free site conversion
 - <http://mobify.me/features/>
- *Mobile Design and Development* (O'Reilly) by Brian Fling
 - ISBN: 9780596155445
 - <http://www.worldcat.org/oclc/318413920>