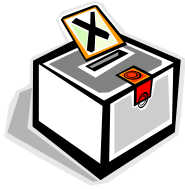
Mobile Website Design for Libraries

Today's Agenda

- Know 3 innovative library mobile website designs.
- Understand how HTML, CSS, and JavaScript work together to build mobile websites.
- Know what a mobile framework is and why they are used.
- Know 3 existing mobile services/apps that can be included in library-created mobile websites.
- Know the best practices in mobile Web development.
- Have a step-by-step guide for implementing a mobile website.



Quick Poll

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Some Mobile Examples

A simple mobile-optimized Website can work on all devices!

```
<p><a class="call" href="tel:17273417177" accesskey="0">Call the Library</a> | (727) 341-7177<br />
<a href="wtai://wp/ap;+17273417177; SPC%20Library">[Add to Phone Book]</a><br />
```

Learn and borrow from sites you like.

http://m.novarelibrary.com/

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Or you can build something using HTML, CSS, and JavaScript that acts like a native app!

Built using jQTouch

Built using jQuery Mobile

jQuery Mobile is …

a unified, HTML5-based user interface system for all popular mobile device platforms.

Source: http://jquerymobile.com/

jQuery Mobile is well-documented and there are great demos to get you started

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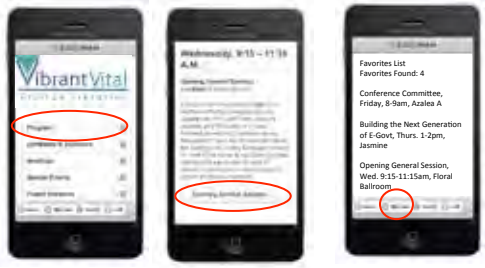
Advanced Example (Web SQL Database stores data within user's browser. No cookies!) HTML5 has offline storage capabilities!



http://novarelibrary.com/FLAmobile/ **Note:** this URL is not a best practice. More later.

Beware. This specification is no longer in active maintenance and the Web Applications Working Group does not intend to maintain it further.

http://www.w3.org/TR/webdatabase/

Although Web SQL Database worked on this Web app, the W3C recommends these storage-related specifications: Web Storage and Indexed Database API.

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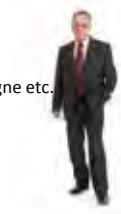
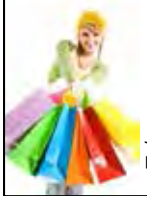
www.libsuccess.org

What is HTML, CSS, and JavaScript and how do they all fit together?

HyperText Markup Language (HTML) is the skeleton.

Cascading Style Sheets (CSS) are the skin, clothes, cologne etc.





JavaScript is the personality. The character. The pizazz!

Source: http://goo.gl/kWzET

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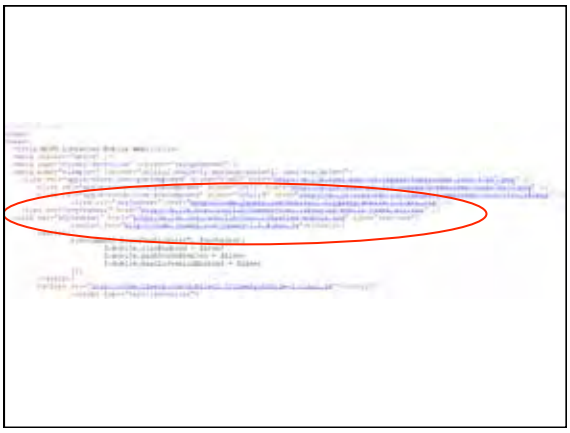

Native Apps vs. Web/Browser Apps

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://goo.gl/zSeDU

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Rapid Prototyping for jQuery Mobile

Try it at http://codiqa.com/

Try it at http://jquerymobile.com/themeroller/

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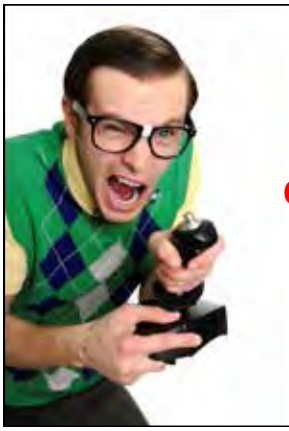

Codiqa Demo

3rd Party Apps/Services

http://www.gale.cengage.com/apps/

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Mobile OPACs

Mobile Databases

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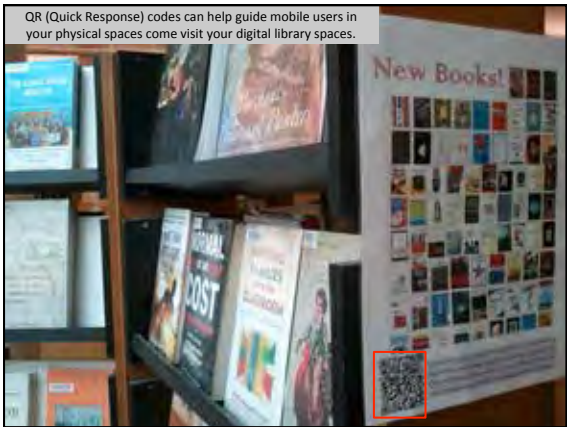
Some e-reading Apps

QR Codes etc.



QR (Quick Response) codes can help guide mobile users in your physical spaces come visit your digital library spaces.

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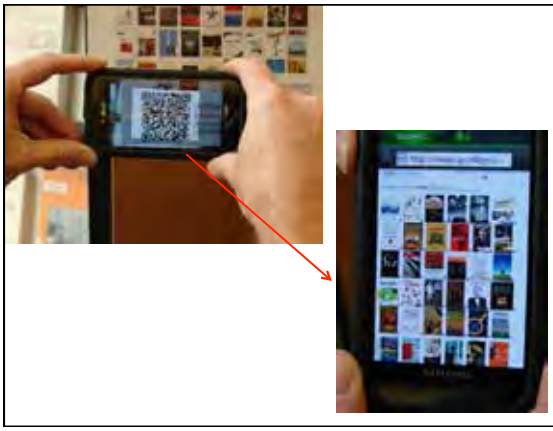

Check with your vendors to see if they have apps and/or mobile-optimized resources.

If they don't, put some pressure on them to build something quickly!

Getting Started!

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

Barbara Ballard Designing the Mobile User Experience

Take an emulated look at your desktop site.

Mobile Site

Desktop Site

Small Screen Rendering (260 px) using the Web Developer add-on in Firefox

Desktop

Small Screen

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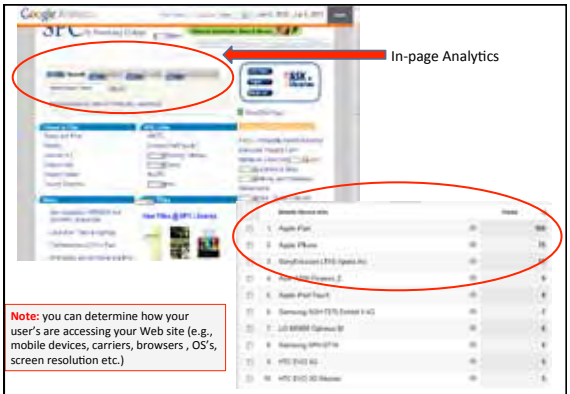

Sketch ideas

Some Best Practices

- Follow the "m" convention (m.novarelibrary.com OR lifeonterra.com/m/)
- Keep categories (directories) short. Remember that you are creating a page that people touch without much typing
- Limit image and markup sizes
- Limit HTML pages to 25KB to allow for caching
- "Minify" your scripts and CSS (JSLint, CleanCSS)
- Link to Full Site
- Sniff for User Agent – Detection (allow the user to decide where to go)
- One Column Layout with some whitespace
- Mobile refers to the user!

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Minified CSS Code

```
body{background:#fff;color:#000;font:12px/18px Arial,
0;padding:0;}#wrapper{width:960px;margin:auto;}img{bo
decoration:none;}a:hover{color:#fa9c3a;}blockquote{ma
10px;background:#e9e8e8;border-top:2px solid #000;bor
#000;}#header{width:940px;height:100px;margin:0 auto
0;}#headerleft{width:740px;float:left;padding:20px 0
10px;}#headerright{width:190px;float:right;text-align
0;}#headerright #feed{display:block;border-bottom:1px
size:24px;color:#000;padding:0;margin:0;}#title h1 a{
a:hover{color:#fa9c3a;}#description{color:#ccc;paddin
10px;}#navbar{width:940px;text-align:right;height:25p
bottom:1px solid #404040;}#navbar ul{margin:0;padding
```

Redirecting Mobile Users

1.
```
<script type="text/javascript">
<!--
if (screen.width <= 699) {
document.location = "YOUR-MOBILE-SITE.com";
}
//-->
</script>
```

2.
```
<span><script type="text/javascript">
<!--
if ((navigator.userAgent.match(/iPhone/i)) ||
(navigator.userAgent.match(/iPod/i))) {
   location.replace("<a href="http://YOUR-MOBILE-
SITE.com">http://YOUR-MOBILE-SITE.com</a>");
}
//-->
</script>
</span>
```

Note: http://www.user-agents.org has an extensive list.

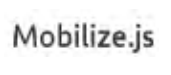
3.
```
<link rel="stylesheet" href="screen.css" media="screen"/>

<link rel="stylesheet" href="handheld.css" media="handheld"/>
```

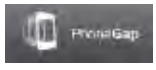
4.
```
<? if (
 stristr($ua, "Windows CE") or
 stristr($ua, "Mobile") ) {
 $DEVICE_TYPE="MOBILE";
 }
 if (isset($DEVICE_TYPE) and $DEVICE_TYPE=="MOBILE") {
 $location='YOUR-MOBILE-SITE.com/index.php';
 header ('Location: '.$location);
 exit;
 }
 />
```

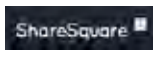
Using WordPress? http://wordpress.org/extend/plugins/wordpress-mobile-pack/

Source: http://goo.gl/Amfj2

Other mobile development tools/frameworks







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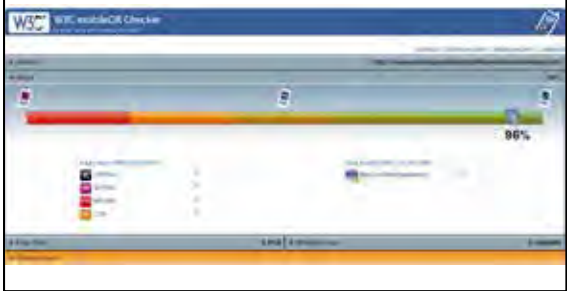
The Future of Mobile Web App/Site Development? Responsive Web Design?

Testing and validation

http://getfirebug.com/

W3C mobileOK Checker

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



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http://ready.mobi

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.

Emulators/Simulators:

- Cowemo Mobile Emulator: http://www.mobilephoneemulator.com/
- 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

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slideshare
Present Yourself

http://www.slideshare.net/chadmairn

Real-time notebook powered by Google Drive at: http://goo.gl/NZAeG

Followme! @cmairn

Virtual Petting Zoo

anymeeting

anymeeting.com/chadmairn

Want to hangout?

gplus.to/chadmairn

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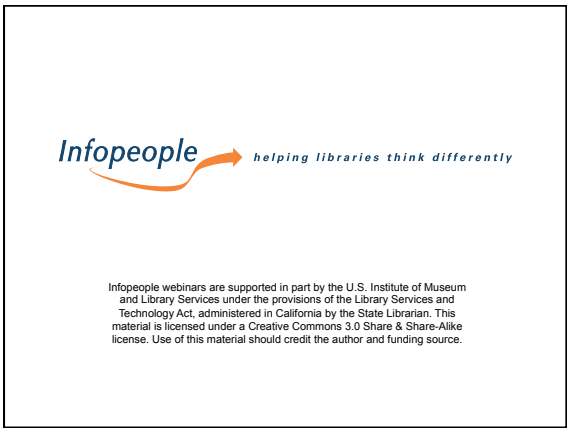

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