

Enterprise Mobile Web Development

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Setting the Stage

- Making the right technology choice for your mobile presence
- What makes a good enterprise mobile web application?
 - Types of applications
 - Features
 - Technologies
 - Best Practices





TECHNOLOGY CHOICES

The Trusted Technology Partner in Business Innovation

Products
Solutions
Services



Mobile vs. fixed internet usage

- Mobile internet usage is on pace to surpass fixed internet usage in only a few years
 - Adoption is 11 times faster
 - “Many companies will wonder what just happened”

<http://bit.ly/MobileInternetAdoption>

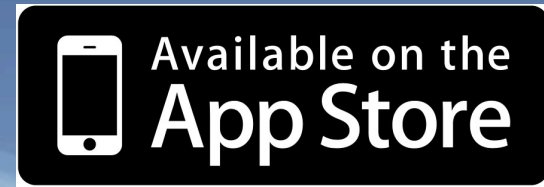
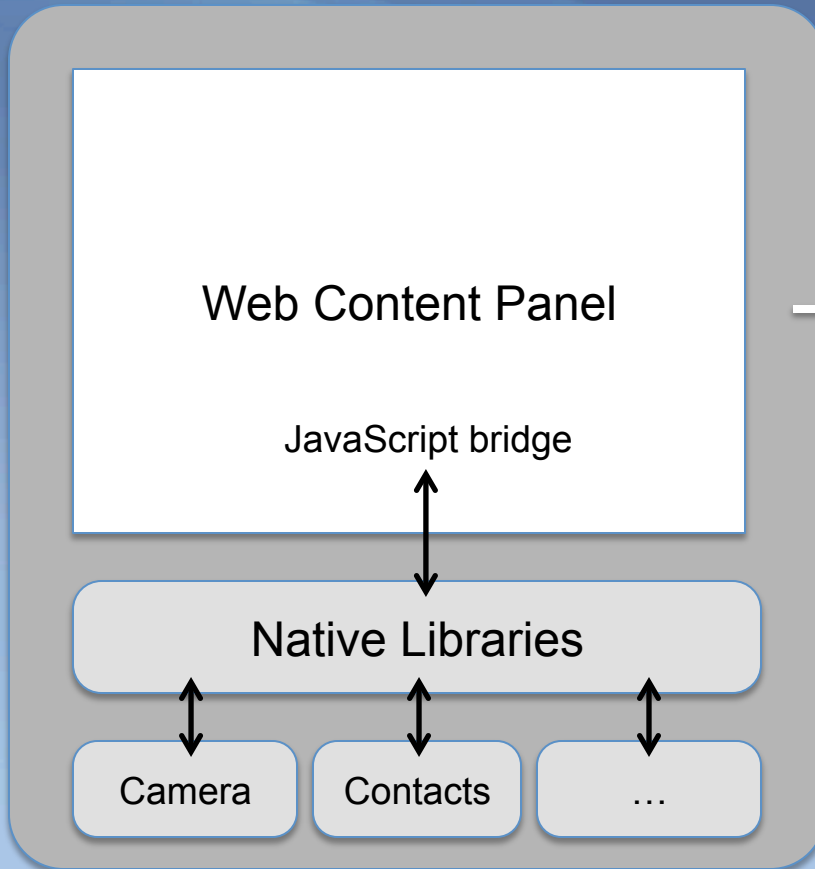


Native vs. Web

Functionality	Native Application	Mobile Web (HTML5)
Geo Location	Yes	Yes
Local Storage	Yes	Yes
Offline	Yes	Yes
Phone Dialer	Yes	Yes (through URL)
Maps	Yes	Web control only
Contacts	Yes	
Camera	Yes	
Accelerometer	Yes	
File System	Yes	
Push Notifications	Yes	

Hybrid Application

Combine native and web to create a Hybrid application – content surfaced as Web content, with access to native libraries through a JavaScript bridge



Because wrapper is a native application, full deployment to the AppStore is possible (subject to having enough local content to satisfy Apple's agreement)

How to make the right choice

- Forrester's POST strategy
 - People
 - Objectives
 - Strategy
 - Technology
- Where to get it:
<http://bit.ly/ForresterPOST>



The benefits of mobile web

- Easy, controlled distribution
- Easily updated
- Developer skills reuse
- Greater potential for code reuse
- More easily reach a broader audience



WHAT MAKES A GOOD ENTERPRISE MOBILE WEB APPLICATION?

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Mobile intranet

- Existing, mature web application
- Mission critical
- Identify key use cases which make sense to be used from a mobile device
 - Facilitate workflow
 - Monitor health
 - Search

Mobile intranet

- Mobile enabled Sharepoint site
 - Less than ideal UI
 - NTLM authentication
 - Credentials not cached on iPhone
 - Doesn't work on Android



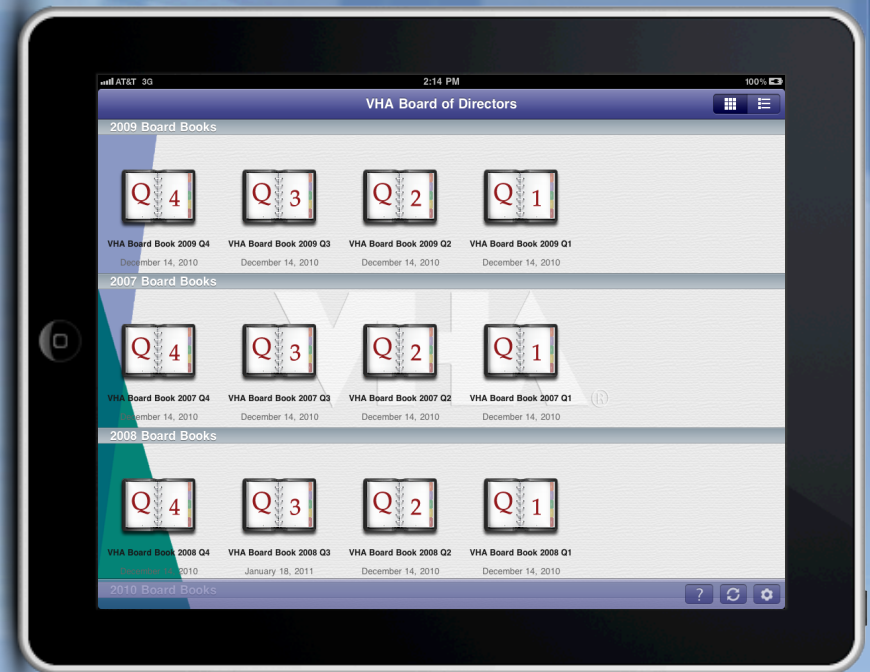
Mobile intranet

- Native clients
 - Download and configure
 - Better UX
 - Access to entire site
- Examples:
 - SharePlus by SouthLabs
 - Filamente by Aircreek



Mobile intranet

- Recommended solution: custom client
 - Leverage Sharepoint services
 - Custom UI
 - Surface only the features you need



Mobile intranet

- Whitepaper: 10 Best Intranet Sites
- The number of winners with mobile intranets doubled
- Sites with fewer features have much better usability than full-featured websites
- <http://bit.ly/10BestIntranetSites>



Authentication using Azure ACS

- What can it do for you?
 - Allow users to authenticate using the credentials of their choice
 - Lower the barrier for entry to your site
 - Connect with partners without having to share an identity store
 - Reduce the complexity of federated security
 - Integrate SSO and centralized authorization into your web applications

Authentication using Azure ACS



ACS in jQuery Mobile

- Integration with AppFabric ACS works, with the following caveats
 - Create a custom provider screen
 - Use `window.location.href` when navigating to Google/Yahoo sign in screen
 - Handle redirection after authentication

<http://bit.ly/ACSwithJQM>



Writing secure applications

- Be careful with cross domain messaging
 - Check the domain before processing
 - Consider whitelisting trusted domains
- Always validate and cleanse input



<http://bit.ly/HTML5SecurityCheatSheet>

Writing secure applications

- Don't store sensitive data in localStorage
- Be careful with WebSockets
- Use the “sandbox” attribute on iframe for untrusted content

<http://bit.ly/SecureHTML5>



Usable when offline

- Three aspects to offline:
 - Local storage
 - Cache manifest
 - Network connectivity changes



<http://mzl.la/OfflineWebApplications>

localStorage

- Simple API for accessing local storage
 - `window.localStorage.setItem(key, value);`
 - `window.localStorage.getItem(key);`
- This is not encrypted and does not expire
- Don't store sensitive data here!
 - SecureStore
 - jQuery plugin
 - JavaScript AES encryption

Cache manifest

- Mime type: text/cache-manifest
- Referencing the manifest in the document

```
<html manifest="offline.manifest">
```

- Example cache manifest

```
CACHE MANIFEST
fonts/MarketingScript.ttf
css/main.css
css/fonts.css
img/face.gif
js/main.js
index.xhtml
```

Connectivity Status

- Checking current network status

```
if(navigator.onLine) {  
    // do what you'd normally do  
}  
else {  
    // defer execution until back online  
}
```

Connectivity changes

- Connectivity changed events

```
window.addEventListener("online",  
    function() {  
        // do stuff here when we go online  
    });  
window.addEventListener("offline",  
    function() {  
        // do stuff here when we go offline  
    });
```


Speeding up your site

- Reduce the size of the DOM
 - ASP.NET MVC emits concise, semantic HTML
- Minimize use of cookies
- Minify CSS and JavaScript
- Use JSON serialization

Speeding up your site

- Reduce the number of requests
 - Combine CSS and JavaScript
 - Use image sprites
- Tools
 - Y slow, Fiddler
- Whitepaper:
<http://yhoo.it/MobileSpeedUp>



Summary

- Good enterprise mobile web applications
 - Are growing in popularity
 - Leverage existing investments
 - Are quick to load and are responsive to the user
 - Are secure
 - Work offline

Thank you

