

Mobile Considerations

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Topics

Usage Numbers

Usage Types

Populations

- Mobile Web in Africa

Demographics

Power consumption / Battery Life

Constrained Bandwidth and Latency

APIs

Devices

- Low-end device (default delivery context)

- Medium ("feature phone")

- High-end (Android / iPhone, etc...)

“Mobile Internet” Growth

- Some Morgan* Stanley Quotables:
 - Mobile Ramping Faster than Desktop Internet Did and Will Be Bigger Than Most Think
 - 5 Trends Converging (3G + Social Networking + Video + VoIP + Impressive Mobile Devices)
 - Mobile Internet Traffic Growth = On Pace to Outpace Desktop
 - Smartphones [...] Gaining User / [Market] Share from Desktop & Notebook PCs
 - Cisco [...] predicted mobile data traffic volumes would grow 66x from 2008 to 2013
 - We believe more users will likely connect to the Internet via mobile devices than desktop PCs within 5 years

* “The Mobile Internet Report” from Morgan Stanley, December 2009

Mobile Device Constraints

- Small screen
- Low CPU power
- Constrained input
- Battery usage
- Not easily externally addressable
- Most mobile browsers not (easily) field-upgradeable
- Cost

Mobile Device Capabilities

- Small screen
- With you at all times
 - Opens up new categories of usage (e.g. Twitter, Foursquare)
- Sensors (context)
 - Location, camera,
- Uniquely personal

Privacy

- MSISDN (phone number) can be passed through to selected sites (partners) but generally not
- Location privacy has been a key issue on mobile
 - Originally network operators were gatekeeper of user location
 - Advent of GPS and other location technologies not reliant on mobile network
 - Any app (and now Webapp) can now get users' location
 - Privacy in apps and Webapps is broken in general
- Will also apply to other APIs from DAP

Mobile Networks

- Complex network architecture
 - e.g. “APNs”
- Often have transcoding software
- Latency and bandwidth limitations
- Cost transparency a factor for usage (e.g. roaming)
- Ubiquitous connectivity
- Designed for simultaneous connections

A (Brief?) History of Mobile Markups

- HDML -> WAP/WML -> XHTML Basic -> HTML5
 - MWI-OMA liaison helped OMA adoption of XHTML Basic
- Mobile Web Best Practices
 - MWBP, MobileOK Tests, MobileOK
 - Default delivery context: XHTML Basic
- dotMobi
 - Used MWBP, built tools
- Transcoding proxy servers (Opera Mini, Novarra, OpenWave)
 - Initially not well positioned with MWBP but brought in to help develop content transcoding best practices
- New smart phones supporting some HTML5 features, Geolocation API, etc... (“HTML5 Apps”)
- Most phones sold world-wide still at XHTML Basic level
 - Especially developing world (low cost, low power) phones

What's a Mobile (Web Site) Developer to Do?

- Many are producing multiple versions of their sites with multiple entry points
 - m.facebook.com, touch.facebook.com
- Many sites only supporting smart-phones
 - m.gowalla.com
- Some sites applying MWBP and serving content based on device capabilities
 - Google, Yahoo!, Twitter
- Some sites looking at Widgets as a half-way house between Apps and Web

Widgets

- Many proprietary widget platforms exist (desktop & mobile)
- Widgets in W3C
 - Package up a web application (“P&C”)
 - Download and install (“Application experience”)
 - Specify required permissions (“WARP”)
 - Run in a “web runtime” environment
 - Automatic Updates (“Widgets Update”)
- Cool open source implementation (Apache Wookie - <http://getwookie.org>)
- Real deployment environment: Vodafone 360; Nokia widgets; Opera (mostly on smart-phones)
- “A different solution to solving a different problem” than HTML5 Appcache
- Not supported on Android, iPhone (except through PhoneGap)
- Widgets vs. the “public Web”?

On the Horizon

- DAP - great power, great responsibility
- EXI - dramatic increase in efficiency, but nobody knows about it
- Greening of the Web?
- “4G” Network Technologies: LTE, Wimax