

Mobile Ajax

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Background on Mobile Ajax

- **Mobile *Web* isn't new**
 - WAP, iMode, XHTML-Basic, OMA BAC-MAE, W3C/MWI, ...
- **Mobile *Web* strength differs by geography**
 - Japan – very strong, Europe – some penetration, US - low
- **More complex to address than Desktop Web**
 - Lots of client issues
 - *Small screen, no mouse, no keyboard, large latencies, small memory, slow CPU, battery concerns, ...*
 - Lots of new technology opportunities
 - *Always there, location-aware, photo/video/voice capture*
 - Lots of browser issues
 - *Interoperability just isn't there today*
 - *Ajax-capable mobile browsers only run on highest-end phones*

Mobile Ajax today

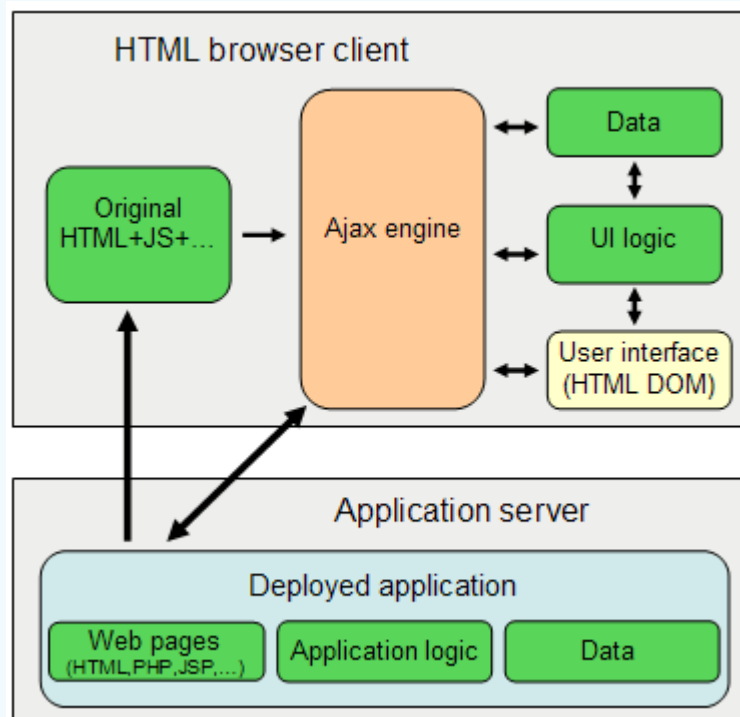
- **Ajax-capable mobile browsers only run on high-end devices**
 - **Nokia** ships Safari code base on S60 phones
 - **Opera's** desktop browser ships on high-end phones
- **Feature phones support more limited browsers**
 - **ACCESS, Obigo, Openwave, Nokia S40 browser** have strong deployment
 - Generally support XHTML-Basic + SVG-Tiny 1.1 (menus with animated icons)
 - But they have insufficient support for Ajax/JavaScript

Alternate technology platforms

- **C/C++**
 - Often used by device manufacturers for built-in applications
- **Java, J2ME**
 - High levels of deployment
 - JSR226, 287, 290 are adding bridges between Java, HTML and SVG
- **FlashLite**
 - Widespread proliferation not yet there, but mobile industry has faith
- **SVG Tiny**
 - Greater proliferation than Flash today, but lacking designer tools
- **Other proprietary**
 - Bluestreak, Streamezzo, TAT, ...

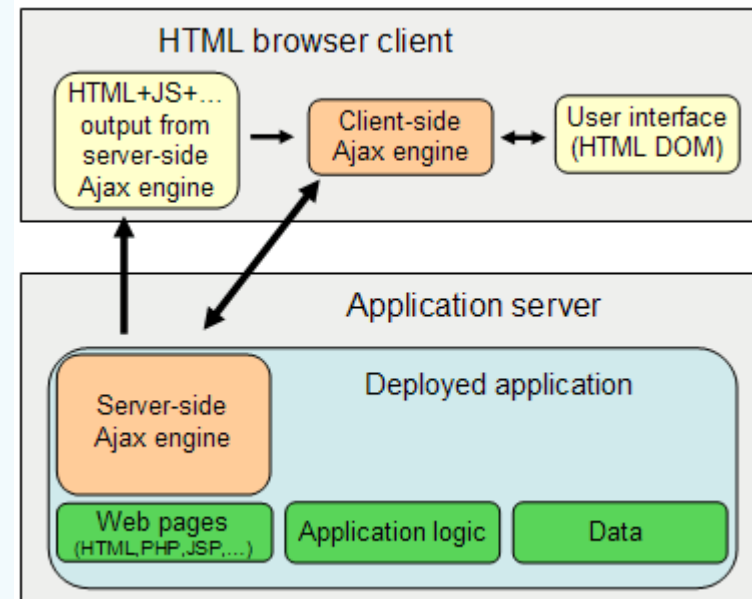
Remember, multiple Ajax architectures

Client-side Ajax model



- Fits well with SOA
- Server-independent

Server-side Ajax model



- Integration with server-side frameworks
- Client-logic generated automatically

The Ajax Transformation Allows Multiple Architecture Approaches

- Could take “Ajax” as input but render using a different technology
 - Ajax -> Java (Bling Software)
 - Ajax -> FlashLite (Is LZX “Ajax”?)
 - Ajax -> SVG-Tiny
 - Ajax -> XHTML-MobileProfile (ACCESS, Obigo, Openwave)
 - Ajax -> Ajax (for Opera and Nokia/Safari browser)
- Ajax transformation probably would happen on the server

Seven questions to start the discussion

1. Is it too early for OpenAjax Alliance to work on Mobile Ajax?
2. Relationship to W3C and OMA?
3. Does it really make sense to run mobile applications in a browser?
4. Which option(s) do we promote:
 - (a) MobileAjax = DesktopAjax (i.e., no subsetting)
 - (b) MobileAjax \leq DesktopAjax
 - (c) MobileAjax can be achieved via a non-browser client via transcoding into Java, SVG or Flash.
5. Tackle mobile-specific applications issues?
6. Evangelize Mobile Ajax?
7. Specify device APIs (such as GPS or connection strength)?

Question 1: Is it too early?

- “Is it too early for OpenAjax Alliance to work on Mobile Ajax, since there isn't sufficient ubiquity and industry momentum yet? Or should the Alliance start work right away to help shape the ecosystem such that Mobile Ajax happens as quickly as possible?”
- **Responses**
 - Not too early. Start now to help shape the ecosystem.
 - “right now ...the mobile space is too fragmented. By providing good interfaces, simple architectures, security, etc. the industry...predictable mobile roadmap...reduce their cost...”

Question 2: Relationship to W3C, OMA

- “What role should OpenAjax Alliance play in the world of Mobile Ajax standards versus W3C (MWI and WebApps WG) and OMA (BAC/MAE)?”
- **Responses**
 - Don’t compete with other standards efforts.
 - Focus on marketing and interoperability standards
 - “...leverage...any good...technology or standard...provide guidance...on how to combine them”

Question 3: Is browser appropriate?

- “Does it really make sense to run mobile applications in a browser? (Some people have claimed that the mobile browser is too heavyweight -- too slow to initialize, uses too many resources before it can do the first thing, and uses too much battery.)?”
- **Responses**
 - Company A: Absolutely! Alliance should define guidelines.
 - Company B: Only web applications, not device applications.
 - Company C: “...could at some extent replace J2ME and other apps...on the client side...browser is not ...only JavaScript environment that could run Ajax”

Question 4: (a), (b) or (c)?

- “What Mobile Ajax technology solutions should OpenAjax Alliance promote:
 - (a) MobileAjax = DesktopAjax (i.e., no subsetting)
 - (b) MobileAjax \leq DesktopAjax
 - (c) MobileAjax can be achieved via a non-browser client via transcoding into Java, SVG or Flash.
- Responses
 - At least one vendor has endorsed each option
 - OpenAjax Alliance there is a tradeoff between supporting multiple architecture approaches and fragmentation.
 - Multiple respondents were skeptical about the industry achieving interoperability around a mobile subset of Ajax
 - But if even if we promote (a), there is still a need to address mobile-specific issues such as small screens, no mouse, etc.

Question 5: Mobile-specific issues

- “Are there any mobile-oriented activities that the Alliance should undertake, such as promoting Mobile Ajax applications that work on small screen devices with different input devices (e.g., most mobile devices do not have a mouse), or multimodal applications?”
- **Responses**
 - Yes, but only to the extent that these issues are not addressed by other standards bodies.
 - Good to integrate with GPS, RFID, Biometric.

Question 6: Evangelism and Education

- “Are there any evangelism and/or communications activities that the Alliance should pursue, such as promoting Ajax Toolkit Best Practices to encourage Ajax toolkits to support mobile devices reasonably?”
- Responses
 - Get the word out that Mobile Ajax is happening (or will happen).
 - Evangelize and define best practices:
 - *Ajax Toolkits: Take action to encourage toolkit support for mobile devices. (Best practices for toolkits require appropriate mobile support.)*
 - *Mobile browsers: Potentially develop some benchmark Mobile Ajax applications that exercise the browser feature set that we feel represents “mobile browser best practices”.*

Question 7: Device APIs

- “How do we enable access to device APIs (such as GPS or connection strength) in a manner that preserves browser security sandboxing?”
- Responses
 - Very important but difficult question.
 - Work with browser vendors, make sure that user is asked for permission to go out of sandbox
 - The question of APIs falls into two camps:
 - *Those who think Mobile Ajax is good for device-resident applications would like to see device APIs defined (e.g., GPS)*
 - *Those who think Mobile Ajax is only suitable for web applications would like to see communications APIs defined (e.g., initiate MMS)*

Other potential mobile activities

- (none so far)