

Widgets & Web Application Formats WWW2007 Banff, Alberta Canada

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Introduction

- ◆ The Web Application Formats (WAF) WG is part of the W3C's Rich Web Client Activity within the W3C's Interaction Domain. Started in December 2005 and is chartered through November 2007.
- ◆ The WG's Mission:
 - *The mission of the W3C Web Application Formats Working Group is to develop specifications that enable improved **client-side application** development on the Web. This includes the development of languages for applications, especially user interfaces.*
- ◆ Translation: WAF specifies **declarative formats** (as opposed to the Web API WG which specifies API).
- ◆ Members include: Apple, AOL, HUT, Microsoft, Mozilla, Nexaweb, Nokia, RIM, Opera, QUT, Telefonica and more

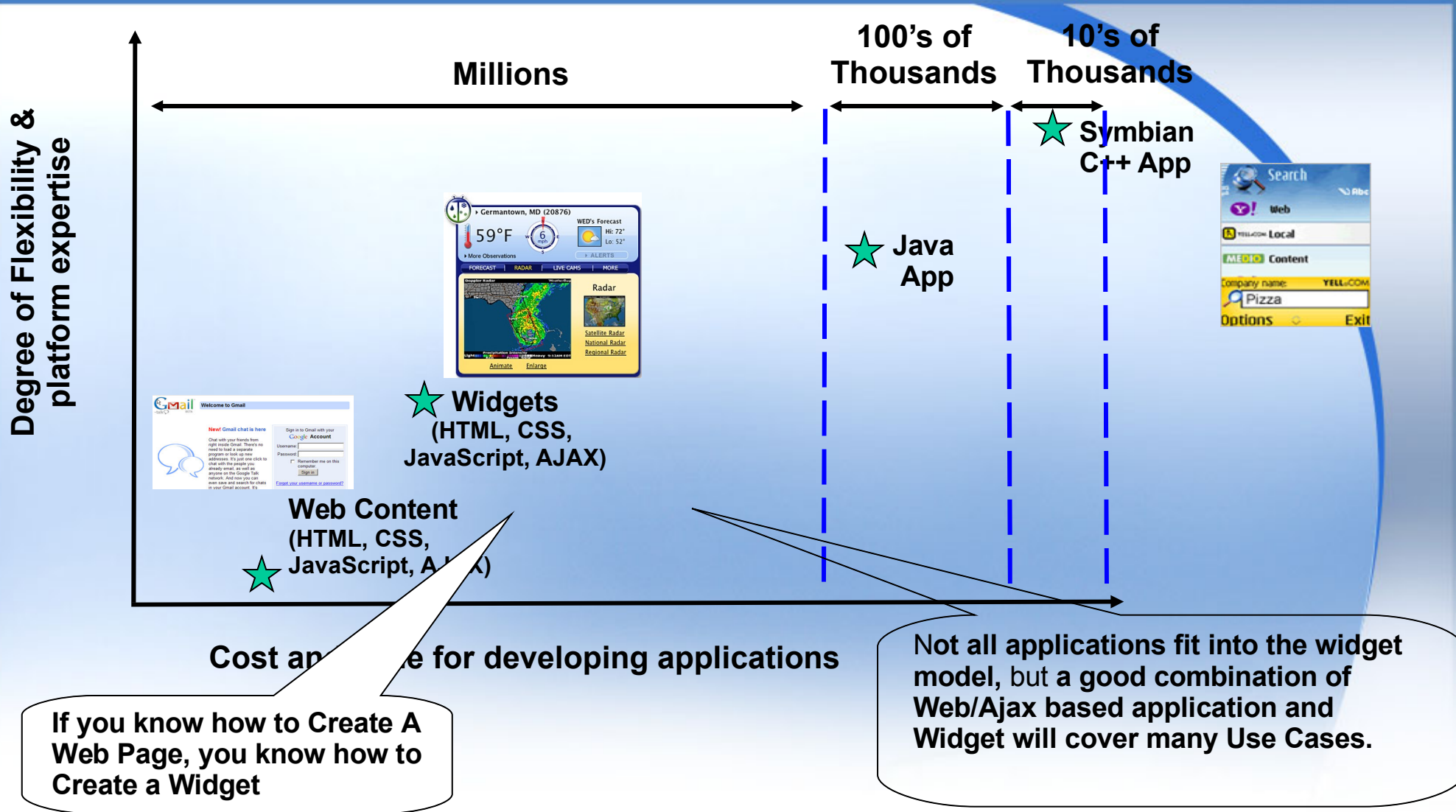
Work In Progress

1. Widgets (Packaging Format)
2. XML Binding Language (XBL) v2.0
3. Read Access Control for Web Resource
4. Declarative Formats for Applications and User Interfaces

Widgets



Widgets Leverage the Web's Developer Base



Widget Scope

- ◆ Widgets = client-side Web applications created with Web technologies such as HTML, CSS, Javascript, Ajax, etc.
 - ◆ Device Independent Web applications
 - ◆ Typically have no browser *chrome*
- ◆ In scope for us:
 - ◆ Packaging Format - standard way to package a Widget i.e. ZIP
 - ◆ Manifest for the package - metadata (e.g. Widget Name, Provenance, Licensing, etc.)
 - ◆ Localization model
 - ◆ APIs to access the manifest's data; methods to manipulate window
 - ◆ Widget Signing model
- ◆ Out of scope for us
 - ◆ APIs for platform-specific functionality e.g. Location API
 - ◆ Mandating the UI

Widget Specs

- Widget Requirements Document:
 - Summary of existing Widget Platforms/Engines
 - Key Design Principles e.g. *Pave the Cow paths*, ...
 - About 30 requirements (not limited to the packaging format)
 - Status: last WD 08 February 2007
- Widget Packaging Format Spec
 - Some good content but several known issues/holes
 - Status: first and only WD 09 November 2006
- Widget Packaging Format Primer
 - ♦ Commitment to create a Primer
 - ♦ Status: first public working draft this Summer

XML Binding Language v2

- ◆ The XML Binding Language is a *declarative language* that defines generic mechanisms to *bind* an arbitrary XML element to a *binding* element that defines the behavior and/or presentation of the arbitrary element.
- ◆ History of XBL
 - ◆ XBLv1 - America Online's XBL (Editor David Hyatt); used in Mozilla and Firefox browsers
 - ◆ XBLv2 is not backwards compatible with v1
 - ◆ XBLv2 replaces the SVG WG's *sXBL* work stopped a year or two ago
- ◆ Abstraction for Web Applications => Separation of Concerns
 - ◆ Facilitates re-use (CSS, Javascript, etc.)
 - ◆ Designers do the design (e.g. CSS), Programmers write code (e.g. Javascript)

XML Binding Language v2

- ◆ Use Case: **Extend the Base Document** (e.g. HTML, XHTML, ...)
 - ◆ Add Behavior – Event Handlers, Javascript
 - ◆ Add Presentation – CSS
 - ◆ Use the “*macro substitution*” facility
- ◆ Use Case – **Reorder Content**
 - ◆ Content for small screens is re-ordered (on-the-client)
 - ◆ Content is re-factored for Accessibility reasons
 - ◆ XBL when combined with a mechanism like Media Queries can facilitate delivering appropriate content to a user.
- ◆ Status - spec entered the Candidate phase 15 March 2007
 - ◆ Work on the testing suite is in the very preliminary stages

Read Access for Web Resources

- ◆ Problem Statement - typically, Web browsers do not permit a resource (e.g. JavaScript) to read, process or interrogate contents of any Web resource residing on a **different** domain (i.e. the *cross-site scripting* problem)
 - ◆ There is a need for a standard way to do cross-site access to a Web resource by relaxing the *browser security model*.
 - ◆ Thus the browser's *Same Origin Policy* is relaxed and the browser's sandbox is extended.

Read Access for Web Resources

- ◆ The Basic Model:
 - ◆ A Web resource can use **HTTP Headers** and/or an **XML Processing Instructions** to state those domains that are allowed to access it (i.e. a white list) and those domains that are not allowed to access it (i.e. a black list).
 - ◆ If a request is made for data in another domain, and that domain is not explicitly “**allowed**” or is in the list of “**excluded**” domains, the request is rejected.
- ◆ Use Cases for such functionality:
 - ◆ WAF WG - XBL
 - ◆ Web API WG - XmlHttpRequest Object
 - ◆ Voice Browser – VoiceXML (accessing 3rd-party data via the <data> element)

Read Access for Web Resources

- ◆ Features:
 - ◆ Domain name wildcarding (e.g. *.example.com)
 - ◆ May specify any scheme (e.g. ftp://foo.example.com, http://*.example.com)
 - ◆ May specify a port number (e.g. https://example.org:8443)
- ◆ The document defines the processing model (algorithms) for the rules
- ◆ Architectural constraints:
 - ◆ The document is designed to address a relatively limited number of Use Cases
 - ◆ The document does **NOT** and will **NOT** define a general Web security model
- ◆ Status: last WD published 15 February 2007

Declarative Format for Applications & UIs

- ◆ Charter describes this work as follows:
This deliverable should be based on an existing application/UI format, such as Mozilla's XUL, Microsoft's XAML, Macromedia's MXML or Laszlo Systems' LZX, provided the owners of the format are willing to contribute.
- ◆ Only two members of the WAF WG are contributing to this work and the progress has been very slow.
- ◆ Many of the WG's members believe the output of the new HTML WG will address the key use cases and requirements for Web applications and User Interfaces.
- ◆ Status: no formal publications have been made

Summary

- ◆ We have lots of interesting and challenging work ahead.
- ◆ Please review our publications:
 - ◆ <http://www.w3.org/2006/formats/>
- ◆ Send comments to our mail list:
 - ◆ <http://lists.w3.org/Archives/Public/public-appformats/>
- ◆ If you are a Member of the W3C then join the WG.
- ◆ If you are not a Member of the W3C then join the W3C and the WAF WG
- ◆ We have room for more *Invited Experts* (see me).

More Information

- ◆ WG Pages
 - ◆ Charter: <http://www.w3.org/2006/appformats/admin/charter.html>
- ◆ Publications:
 - ◆ XBL 2.0: <http://www.w3.org/TR/xbl/>
 - ◆ Widgets Spec: <http://www.w3.org/TR/widgets/>
 - ◆ Widgets Requirements: <http://www.w3.org/TR/widgets-reqs/>
 - ◆ Enabling Read Access for Web Resources:
 - ◆ <http://www.w3.org/TR/access-control/>
- ◆ Publications in Progress (not yet formally published):
 - ◆ XBL2 Primer: <http://dev.w3.org/cvsweb/2006/waf/>