W3C Standards and Netscape 6

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Introduction:

This presentation addresses what Netscape is doing to evangelize web developers how best to support a new generation layout & parser engine “Gecko” for HTML, CSS, XML, etc. In the process, I discuss a variety of strategies and tools used including:

- Coding techniques published on developer.netscape.com
- Tools – demos for JS Debugger, Web Site Tune-up Wizard, xbCollapsible Lists API, Browser Feature Detection, xbDebugger, xbDOM – Cross Browser DOM API, xbStyle-Cross Browser Style API.
- How International Content can be styled using XML & CSS
- What new CSS extensions are being explored – with special demos on some of the extensions including new list styles candidates for CSS3.
- Web site compatibility test project and its results conducted in Japan with open source Mozilla volunteers
Presentation outlines

- W3C standards support in Netscape 6/Mozilla
- Tools Demos:
  - JS Debugger, Web Site Tune-up Wizard, xbCollapsible Lists API, CSS1 JS Code Generator, Browser Feature Detection, xbDebugger, xbDOM – Cross Browser DOM API, xbStyle- Cross Browser Style API
- Public Web Site Compatibility Testing Projects & Open Source Movement
- Summary & discussion of available resources
Netscape 6/Mozilla supports:

- Semantic Web (RDF)
- DOM 1 & 2 (Core + HTML)
- Large parts of DOM 2 Style, Range, Events
- XML 1.0, XML Namespaces 1.0, Xlink, Xpointer, Xpath 1.0
- Styling of XML documents with CSS
- Transformation of XML documents with built-in XSLT
- XML data exchange with XMLHttpRequest
- API level support for SOAP & WSDL
- XHTML 1.0, P3P
- (partial) SVG, XLC
- HTML 4, CSS1/2, JavaScript (ECMA 262), WAI
- All components internationalized with underlying Unicode support
Demo 1: MySidebar Tab addition of W3C doc lookup tools

- MySidebar is a place where web pages, IM logins, Search engines, Bookmarks can be accessed easily.
- Use familiar HTML for MySidebar pages
- Sample code page addition & explanation
  ```javascript
  function addPanels() {
    if ((typeof window.sidebar == "object") &&
        (typeof window.sidebar.addPanel == "function")) {
      window.sidebar.addPanel (document.title,
                                "http://common.rakuten.co.jp/mozilla/ ","");
  }
  ```
- Demo for HTML4.01, CSS2, DOM Level 2 Reference Tabs – to be used as web standards tools.
Demo 2: CSS StyleSheet in HTML documents

- Providing multiple styles for a single document – alternative style switches via a menu
- Stylesheet Link tags for style options.
- Sample Code & How Netscape 6 can reflect it:

```html
<head>
  <LINK REL="stylesheet" TYPE="text/css" HREF="standard.css" TITLE="Default Stylesheet">
  <LINK REL="alternate stylesheet" TYPE="text/css" HREF="larger.css" TITLE="Larger Stylesheet">
  <LINK REL="alternate stylesheet" TYPE="text/css" HREF="bad_taste.css" TITLE="Bad Taste">
</head>
```
Demo 3: DOM usage

A simple demo which manipulates image positions via user’s Drag & Drop moves. More complex implementation on my.netscape.com Home Page.

Sample Code & how this feature is accomplished:

CSS:

- `#weather { position: absolute;`  
- `top: 262px;`  
- `left: 547px;`  
- `width: 175px;`  
- `height: 198px;`  
- `visibility: visible; }`  

HTML Markup:

- The Markup: HTML  
- `<div id="weather" onmousedown= "beginDrag(event,'weather')">`  
- `<img src="images/weather.gif" width="175" height="198" border="0">`  
- `</div>`
Demo 3-2: DOM usage

JS code:

function beginDrag(e, boxElement) {
    welcome = document.getElementById("welcome");
    search = document.getElementById("search");
    apps = document.getElementById("apps");
    bookmarks = document.getElementById("bookmarks");
    news = document.getElementById("news");
    weather = document.getElementById("weather");
    activeLayer=document.getElementById(boxElement);
    window.lastX=e.clientX;
    window.lastY=e.clientY;
    window.onmousemove=doDrag;
    window.onmouseup=endDrag;
}

W3C standards and Netscape 6

Unified W3C DOM

- Dynamic HTML with W3C DOM
- Legacy Problems for DHTML in Version 4 Browsers
  - Unsupported X-Browser Tags, e.g. LAYER/ILAYER
    - Replace with absolutely or relatively positioned <div>
  - Incompatible APIs and hierarchies, e.g. document.layer vs. document.all
- Now Unified DOM for Mozilla/Netscape 6, IE version 5/6, Opera 5/6 browsers
  - API for both XML and HTML
  - Compatible and Cross-platform
  - Preserves some old DHTML as DOM-0
Tools Demos

- DOM Inspector – built into Mozilla. Shows DOM tree view using Mozilla’s DOM parser
- Web Site Tuneup Wizard: Basic debugging tool for web site developers
- xbDebug: output debug msgs, trace function & Object method calls
- xbDOM – Cross Browser DOM API:
- xbStyle- Cross Browser Style API:
- Browser Feature Detection: how to exploit DOM2 features to write cross-browser codes:
CSS/XML International Content demos

- XML: Non-ASCII strings in Comments, Content of Elements, Attribute values, Names of element types, Attribute names, Entity values, Entity Names, Processing Instructions
- CSS1: Non-ASCII strings in Font-family, Comments, Element names, Ids, etc.
- CSS2: Non-ASCII strings in content property, quotes property, elements selection, attribute name selection, attribute value selection.

Additional list styles via Mozilla to possible CSS3 inclusion:

- For East Asian: simp-chinese-formal, simp-chinese-informal, trad-chinese-formal, trad-chinese-informal, japanese-formal, japanese-informal, cjk-heavenly-stem, cjk-earthly-branch
- For Middle East: arabic-indic, persian, urdu, ethiopic
- For India: devanagari, gurmukhi, gujarati, oriya, kannada, malayalam, bengali, tamil, telugu
- For South Asian: thai, lao, myanmar, khmer
For multilingual/internationalized types:

- Comments (Comment)
  - <!-- 作者名 -->

- Content of Elements (content)
  - <author>譚永鋒</author>

- Attribute Value (AttValue)
  - <author gender="男"/>

For local/domestic type:

- Name of Element Type (Name)
  - <!ELEMENT 作者 (#PCDATA)>
    <作者>Frank Yung-Fong Tang</作者>
Attribute Name (Name)

- `<!ATTLIST author`  
  性別 CDATA #IMPLIED>
  `<author 性別="Male"/>`

Entity Value (EntityValue)

- `<!ENTITY city “香港,”>`

Entity Name (Name)

- `<!ENTITY 城市 “HongKong,”>`  
  Where: & 城市;

Others: PI (processing instructions)

- `<?xml-stylesheet type="text/css" href="ming.css" title="明報"?>`
<?xml version="1.0" encoding="BIG5"?>
  <?xml-stylesheet type="text/css" href="ming.css" title="明報"?>
<!DOCTYPE 文件 [
  <!ELEMENT 文件 ANY>
  <!ELEMENT 作者 (#PCDATA)>
  <!ATTLIST 作者
      性別 CDATA #IMPLIED>
  <!ENTITY 城市 "香港，">
]>
<文件>
  <!-- 作者名 -->
  <作者 性別="男">譚永鋒</作者>
  於&城市;
</文件>
26 New CSS list styles additions to Mozilla

-moz prefix for experimental status

Lobbying to get them accepted into CSS 3 standard

W3C standards and Netscape 6

Mozilla Japan Top 500 web compatibility test project

- 4-month long Volunteer-run Mozilla/Netscape 6 Web Site Compatibility Project.
- Analyses of most frequent problems in CSS/HTML/JavaScript
- How web sites handle support for a new generation of browsers
  - Browser sniffing – common problems
- Commonly encountered CSS problems
  - Images, tables and a mysterious gap
- HTTP protocol, HTML recommendations, file extensions
- Use of non-standard extensions in Mozilla and experiments
- What can we all do for the future
User-Agent string:
- Netscape Communicator 4.79
  - Mozilla/4.79 [en]C-AOLNSCP (Win98; U)
- IE 6
  - Mozilla/4.0 (compatible; MSIE 6.0; Windows 98)
- Netscape 6.1
  - Mozilla/5.0 (Windows; U; WinNT4.0; en-US; rv:0.9.2) Gecko/20010726 Netscape6/6.1
- Netscape 6.2
  - Mozilla/5.0 (Windows; U; Windows NT 5.0; ja-JP; rv:0.9.4) Gecko/20011019 Netscape6/6.2
- Mozilla Development Build : 2001 11 16 version
  - Mozilla/5.0 (Windows; U; Windows NT 5.0; en-US; rv:0.9.5+) Gecko/20011116 Netscape6/6.1b1
- Instant AOL Services (Gateway Touch Pad services)
  - Mozilla/5.0 (X11; U; Linux i586; AOL7.0) Gecko/20010724 AOL7.0 Instant AOL
- Red Hat 7.1 Mozilla browser
  - Mozilla/5.0 (X11; U; Linux 2.4.2-2 i686; en-US; rv:0.9.2.1) Gecko/20010901

UA String Syntax
- MozillaProductToken (MozillaComment) GeckoProductToken VendorComment
- ApplicationProductToken (ApplicationComment) GeckoProductToken VendorComment

TE/DS document: http://developer.netscape.com/evangelism/docs/articles/find-gecko/
Netscape/Mozilla Common Problems:

- Many pages carry legacy codes from IE4, NN4 days
  - Pages prior to HTML, CSS, JavaScript standardization

- NN6/Mozilla does not support IE4/NN4 private extensions

- If NN6/Mozilla is not distinguished from NN4, certain contents may be ignored:
  ```javascript
  <script language="JavaScript">
  if (navigator.appName == "Netscape")
    document.write('<link rel="stylesheet" type="text/css" href="nn4.css"/>
      if (navigator.appName == "Microsoft Internet Explorer")
    document.write('<link rel="stylesheet" type="text/css" href="ie4.css">
      else if (navigator.appName == "Netscape")
    obj = document.layers['id'];
      else if (navigator.appName == "Microsoft Internet Explorer")
    obj = document.all['id'];
  </script>
  ```

- Netscape 6 is on the extension from Communicator 4:
  ```javascript
  <script language="JavaScript" src="ultimate-sniffer.js"></script>
  <script language="JavaScript">
  if (is_nav4up) document.write('<link rel="stylesheet" type="text/css"
      href="netscape.css"/>
    else if (is_ie4up) document.write('<link rel="stylesheet" type="text/css"
      href="ie.css"/>
  ```
Netscape/Mozilla Common Problems : 2

- Does not recognize Netscape 6/Mozilla at all:

```javascript
<script language="JavaScript">
  if (document.layers) document.write('<link rel="stylesheet" type="text/css"
href="netscape.css"');
  else if (document.all) document.write('<link rel="stylesheet" type="text/css"
href="ie.css"');
</script>
```

- Recognizes Netscape 6 but not Gecko-based browsers:

```javascript
<script language="JavaScript">
  var ua = navigator.userAgent.toLowerCase();
  if (ua.indexOf('netscape6') !== -1) document.write('<link rel="stylesheet"
type="text/css" href="netscape.css"');
  else if (document.all) document.write('<link rel="stylesheet" type="text/css"
href="ie.css"');
</script>
```

- Making up for an old bug:

```html
<table border="1">
  <tr><form name="form2">
    <td><input type="text"></td>
  </form></tr>
</table>
```

Form line folding (bug) is prevented by this method.
Netscape/Mozilla Common Problems : 3

- XML empty tag use error:
  `<select>
   <option />OptionValue
  </select>`

- CSS ID & Name have case distinctions:
  `<style type="text/css" >
  #id1 { text-decoration: line-through; }
  #ID1 { text-decorarion: underline; }
  </style>
  <div id="id1" > This line should have line-through style</div>
  <div id="ID1" > This line shoud have underline</div>
  `<style type="text/css" >
  .class1 { font-size: 1em; }
  .CLASS1 { font-size: 2em; }
  </style>
  <div>
    <div class="class1" > This is font size: 1em; </div>
    <div class="CLASS1" > This is font size: 2em; </div>
  </div>

- Relative path:
  - http://path/
  - Attribute name has a space:
    - name 1

- External CSS file has no charset declaration even though its encoding is different from the main document:
  - Main document: Shift_JIS
  - CSS file: @charset "EUC-JP"; no declaration.
Netscape/Mozilla Common Problems : 4

- Uses old X-browser APIs authoring tools :
  - DYNAPI needs new version which support Gecko
  - HierMenu 3.1 → 4.1.x (needs update)
  - DreamWeaver 2, 3

- DOCTYPE issues : Quirks and Standard modes:
  - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN " http://www.w3.org/TR/html4/loose.dtd">
  - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
  - No DOCTYPE → Quirks mode
  - Quirks mode supports some of the non-standard behavior in Comm 4.x

- Server-side MIME issues :
  - HTML - text/html, CSS - text/css, XML - text/xml (correct)
  - HTML - text/plain, CSS - text/plain, XML - text/html (incorrect)

- Cannot rollback from TLS to SSL 3.0:
  - https://⋅⋅⋅/ pages do not load and remain blank.
Netscape/Mozilla Browser Detection : 5

- Image is an inline element:
  - Character size predominates over image Height
  - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

  <html> <head>
  <base HREF="http://www.goo.ne.jp/">
  <title>goo</title> </head>
  <table width="200" border="0" cellspacing="0" cellpadding="0">
  <tr> <td colspan="2" bgcolor="#ccccff"><img src="/images/common/clear.gif" width="3" height="3" alt=""></td> </tr>
  </table>
  </html>

- Difficult issues :
  - Standards cannot define details of client implementations
  - Ex : Width for nested tables
Conclusions:

- How does a new generation browser get accepted by users?
- A variety of methods are being used to evangelize Netscape 6 and Mozilla features and how web developers can write to standards rather than to specific browsers – cross-browser strategies
- Code sample publications are critical for spreading W3C standards
- Web site compatibility test projects help in 2 ways:
  - Gauge the level of compatibility in a given market/country
  - Projects will grow people who will get involved in evangelizing standards.
- Through new tools demos, I showed how one can use Mozilla/NS6 to do JS debugging, use sample DOM APIs, etc.
W3C standards and Netscape 6

- Additional Info
- Mozilla Info at:
  - [http://www.mozilla.org/docs/web-developer](http://www.mozilla.org/docs/web-developer)
- Netscape Developer Info at:
  - [http://developer.netscape.com/evangelism](http://developer.netscape.com/evangelism)
- Tools for web developers
  - HTML Cross-reference
  - Property Viewer
  - Browser Sniffer code samples
  - DOM conformance tests
  - Etc.
- Documentation on:
  - various standards and Mozilla/NS6 support
  - How to upgrade your code to Mozilla/NS6
- Samples Applications & demos