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

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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

```
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:
  - `<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>`

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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;
    ```
- }

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 5/6browsers
  - API for both XML and HTML
  - Compatible and Cross-platform
  - Preserves some old DHTML as DOM-0

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Tools Demos

- JS Debugger "Venkman" – built into Mozilla. How to debug JS objects & functions.

- 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
  http://developer.netscape.com/evangelism/tools/tune-up/

- xbCollapsible Lists: http://developer.netscape.com/evangelism/tools/xbCollapsibleLists/

- xbDebug: output debug msgs, trace function & Object method calls
  http://developer.netscape.com/evangelism/docs/api/xbDebug/

- xbDOM – Cross Browser DOM API:
  http://developer.netscape.com/evangelism/docs/api/xbDOM/

- xbStyle- Cross Browser Style API:
  http://developer.netscape.com/evangelism/docs/api/xbStyle/

- Browser Feature Detection: how to exploit DOM2 features to write cross-browser codes:
  http://developer.netscape.com/evangelism/tools/practical-browser-sniffing/ua-test.html

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▊ 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>

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>
```

W3C standards and Netscape 6: New CSS Liststyles

▮ **26 New CSS list styles additions to Mozilla**

▮ **-moz prefix for experimental status**

▮ **Lobbying to get them accepted into CSS 3 standard**

▮ **Demo for: -moz-simp-chinese-formal, -moz-simp-chinese-informal, -moz-cjk-heavenly-stem, -moz-cjk-earthly-branch, -moz-urdu, -moz-arabic-indic, and others.**

▊ 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

Netscape/Mozilla Browser Detection Issues:

▌ **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/

▌ 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 igonored:

  ▌
```
<script language="JavaScript">
if (navigator.appName == "Netscape") document.write('<link rel="stylesheet"
type="text/css" href="nn4.css"');
else if (navigator.appName == "Microsoft Internet Explorer") document.write('<link
rel="stylesheet" type="text/css" href="ie4.css"'); if (navigator.appName ==
"Netscape") obj = document.layers['id']; else if (navigaor.appName ==
navigator.appName == "Microsoft Internet Explorer") obj = document.all['id'];
</script>
```

▌ Netscape 6 is on the extension from Communicator 4:

  ▌
```
<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"');
</script>
```

▌ Does not recognize Netscape 6/Mozilla at all :

```
<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:

```
<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:

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

▐ Form line folding (bug) is prevented by this method.

- 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>
    ```
- 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.

❚ 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">
- ❚ http://mozilla.org/docs/web-developer/quirks/doctypes.html
- ❚ 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.

▌ 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
- Netscape Developer Info at:
  - 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