

A small overview of W3C

Ivan Herman, W3C

A bit of history...



- ▶ The Web was created in 1990
- ▶ Technically, it was a combination of a few concepts:
 - a network protocol (HTTP)
 - universal naming on the Internet (URI)
 - a markup language for documents with hyperlinking (HTML)
- ▶ Around 1993 it caught up like bushfire...

Why?

- ▶ Technically, it was the right set of choices
- ▶ The technology was free for everyone
 - does anyone know what gopher is?
- ▶ There were vendor neutral standards for each of the technology pieces
 - developers could rely on independent specifications, without any vendor lock-in

Free and open standards are important...

- ▶ The standard text itself should be freely available
 - an ISO document may cost many hundred of dollars!
- ▶ The technology in the standard should be royalty free
 - implementers can work without a fear of being sued...

So: development of the Web needs free and open standards

- ▶ And this is exactly what W3C is all about!
- ▶ Goal: be the place where international, free and open standards for the World Wide Web are developed

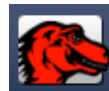
W3C is a membership organization

- ▶ W3C is a membership organization
 - it has members (cca. 340) from all over the globe
 - companies, universities, public institutions, ...
 - standards are developed in cooperation with them
 - W3C itself has only a small staff (cca. 60)

Membership from all over the World...



Clinical & Biomedical
COMPUTING LTD



TERANODE®

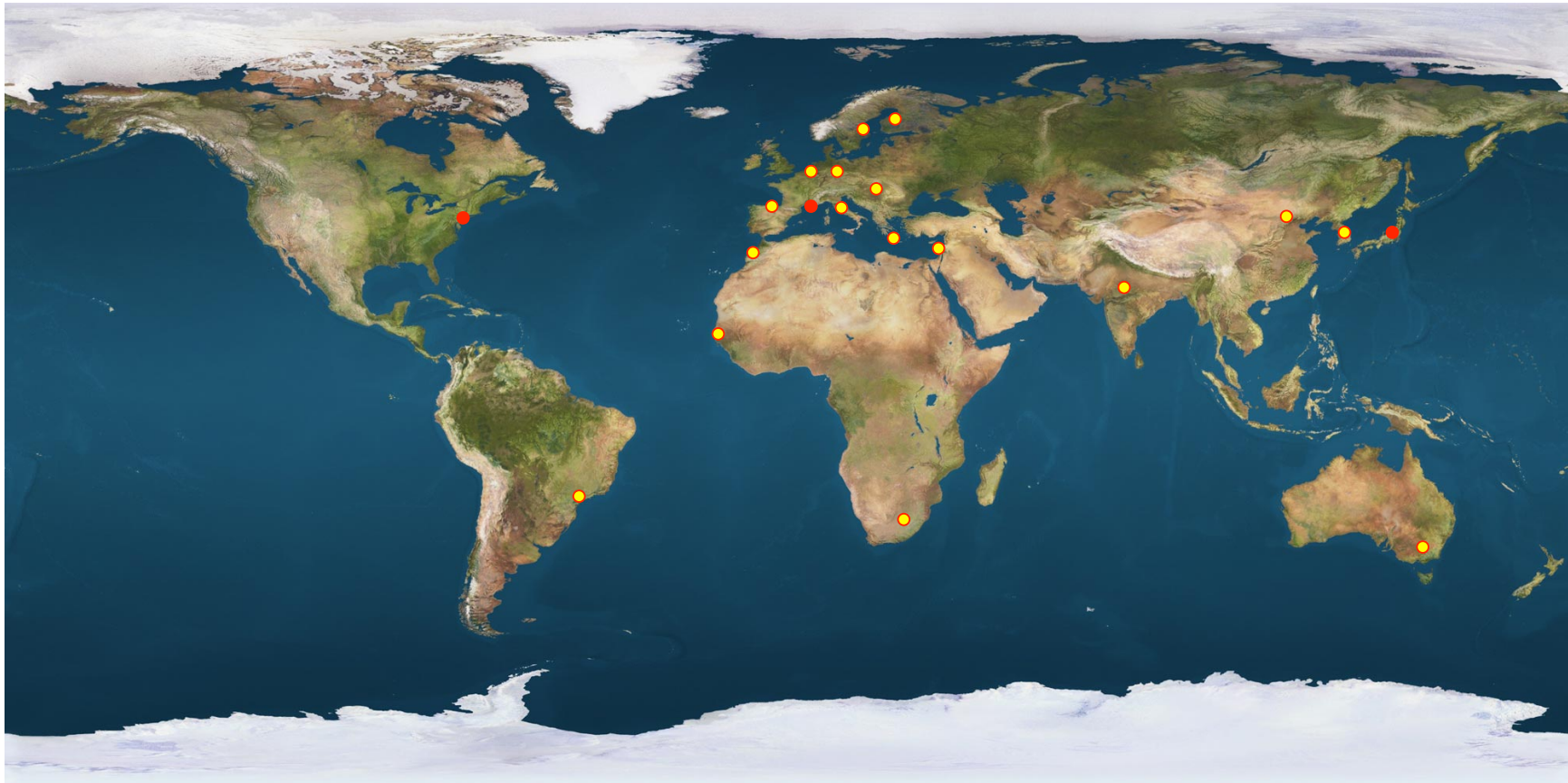


vodafone



W3C is international

- ▶ Three “hosts” (in the US, France, and Japan)
- ▶ 16 “offices”



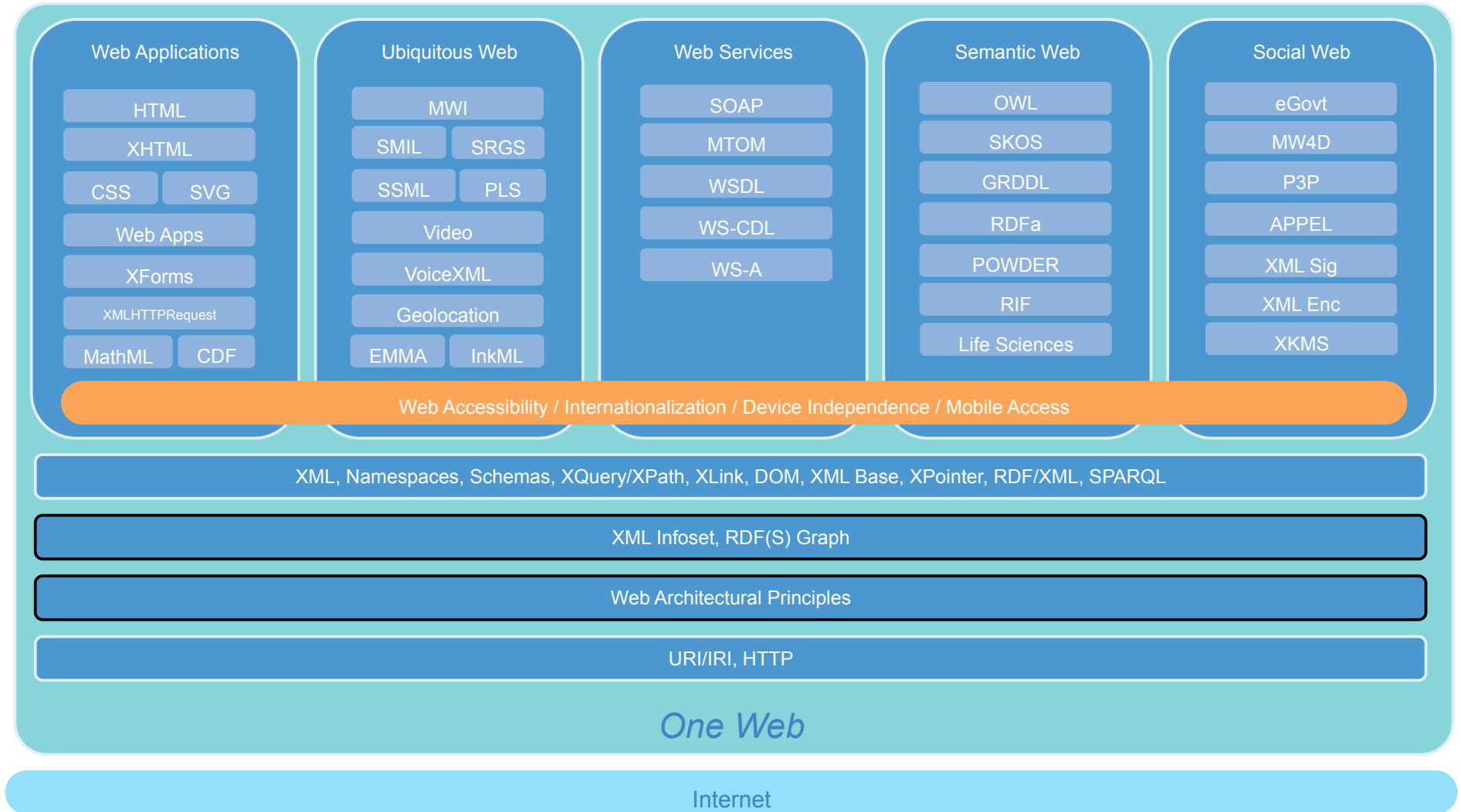
W3C staff is also international...



So what are the technologies at W3C?

- ▶ In the old days, it was simple
 - HTTP + HTML + URI = Web
- ▶ But the Web has evolved a lot
 - graphics, XML documents, multimedia, voice, Web2.0, Semantic Web, Mobile Web, security,...
- ▶ W3C technologies cover many of these areas

To impress you: the (incomplete) W3C Technology stack



Some areas of interest for today...

- ▶ I will say a few words about
 - “Interaction”: HTML, graphics, video....
 - Internationalization
 - Mobile Web
 - Semantic Web
- ▶ There are of course more, but we have no time...

HTML5 & Co.

HTML5

- ▶ (X)HTML has not been updated for a long time
- ▶ Features are needed to handle new interaction methods:
 - inclusion of video and audio
 - harmonization with graphics (SVG, Canvas) and maths
 - elements for dialogues, navigation, ...
 - additional features for forms
 - better specifications of corresponding Javascript API-s

HTML5

- ▶ There are still too many differences among browsers when it comes to rendering
- ▶ A very precise and detailed processing description is added to HTML5 to reduce these
- ▶ Caveat: it will still take 1-2 years before this is final...

A future HTML5 page

Flickr Postcards

http://ie.microsoft.com/testdrive/Graphics/Transform2D/Defau

Return to Test Drive Home

Flickr Postcards

This demonstration shows off some of what can be done using features from the [CSS3 2D Transforms](#) module together with Flickr.

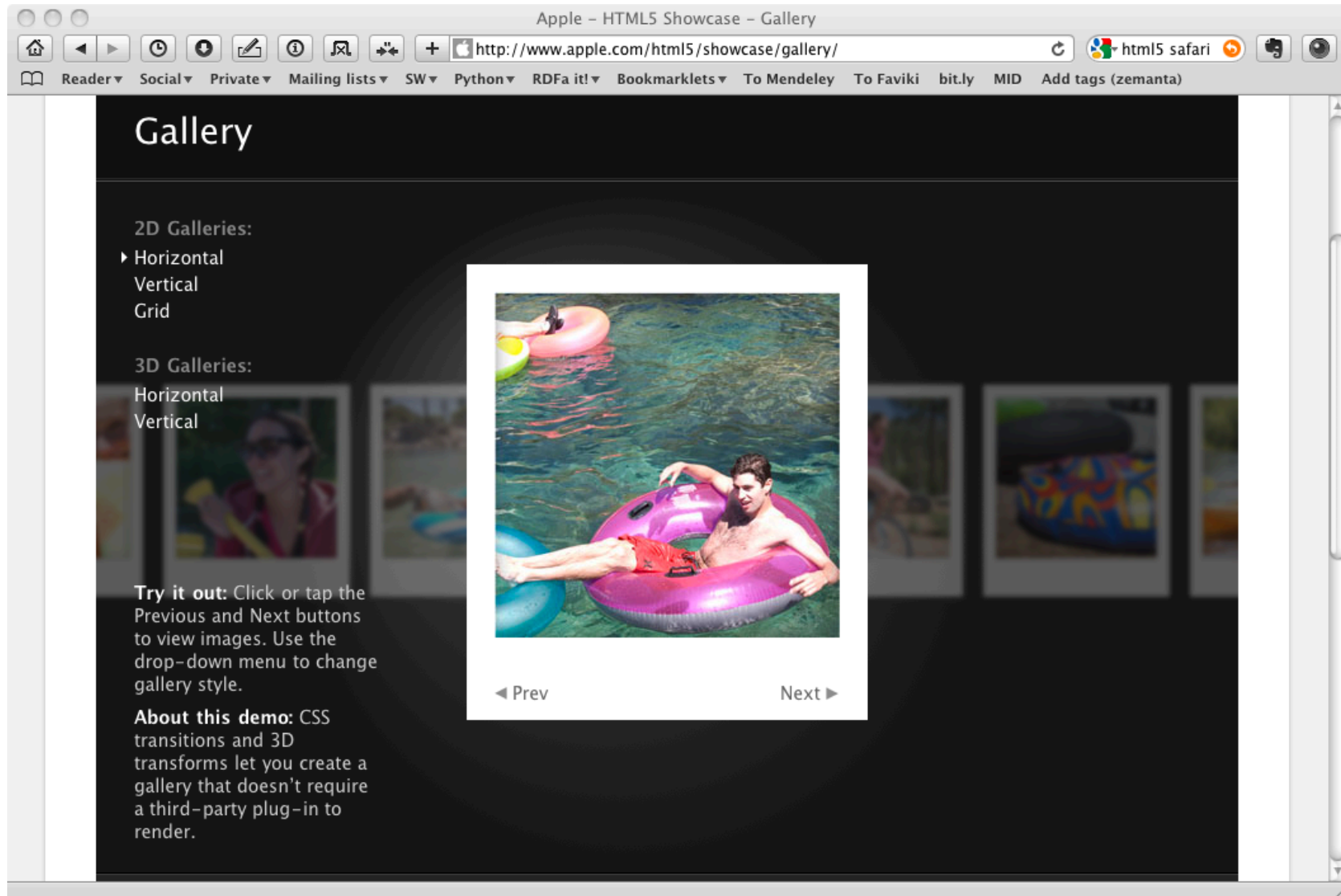
Your browser supports CSS3 2D Transforms using the vendor-prefixed `-webkit-transform` property.

Postcard size: Show tags: Gallery Background Messy Layout

Search Flickr:

- Sunset balloon flight
- New York Sunset - HDR
- Sunset at Worli Sea Face
- Sunset road
- The sunsets are free
- Morro Rock at sunset on Morro Strand State Beach, Morro Bay, CA
- Sunset at Appalachian Trail
- Sunset Wave or دلشوره

A future HTML5 page




A future HTML5 page

Norway


http://people.opera.com/howcome/2010/video/norway/multicol

NORWAY

Norway, officially the **Kingdom of Norway**, is a Nordic country in Europe occupying the western portion of the Scandinavian Peninsula, as well as Jan Mayen and the Arctic archipelago of Svalbard.



| | |
|-----------------|-------------------------|
| Capital: | Oslo |
| King: | Harald V |
| Population: | 4,858,200 |
| Total area: | 385,252 km ² |
| Density: | 12.5/km ² |
| GDB per capita: | \$52,561 |
| Internet TLD: | .no, .sj and .bv |
| Calling code: | 47 |
| Time zone: | CET (UTC+1) |
| Drives on the: | right |
| Currency: | Norwegian krone (NOK) |
| Date formats: | dd-mm-yyyy |

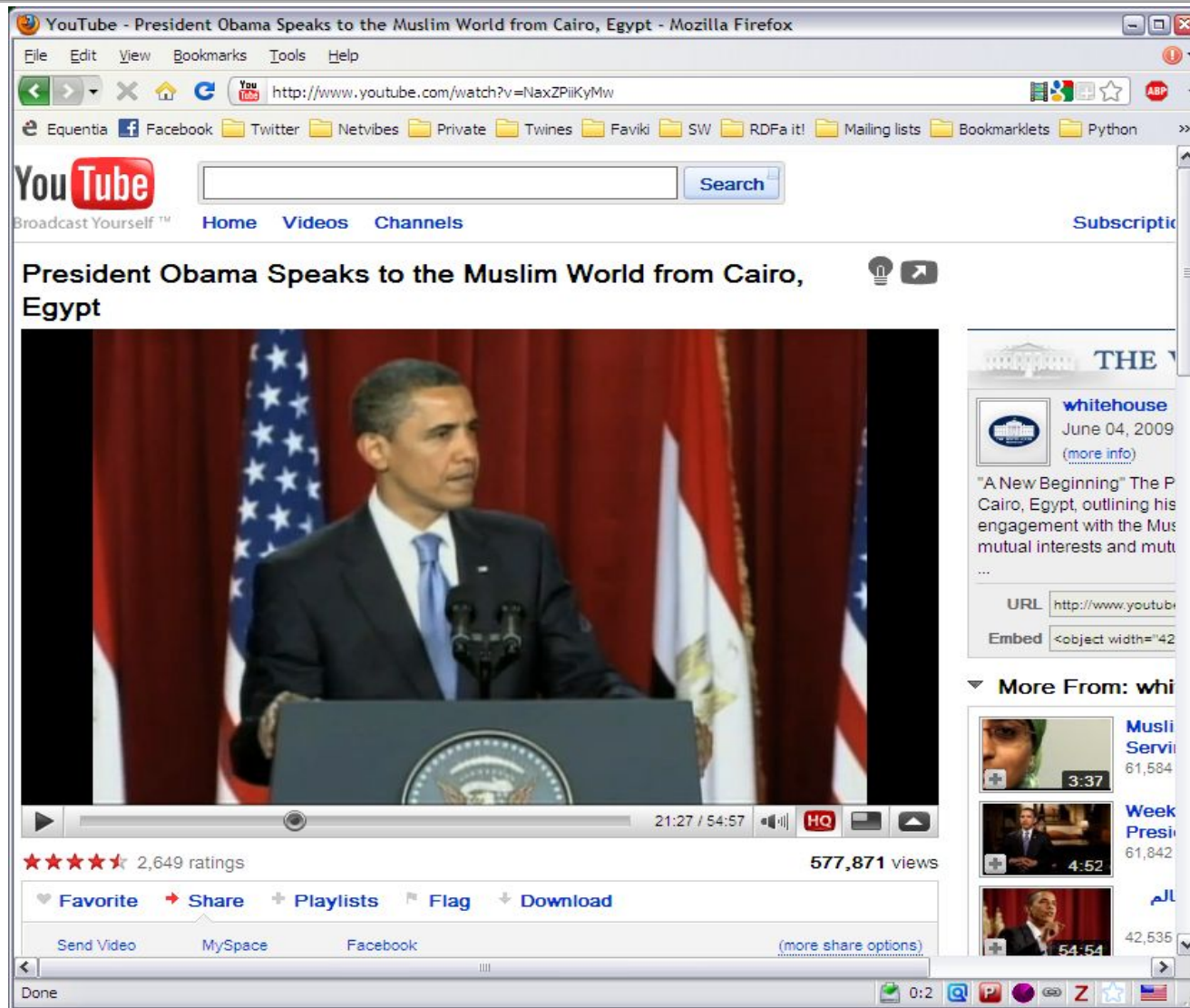


Update Ready View (100%)

Video on the Web

- ▶ The Web became a global collaborative communications medium through shared video
- ▶ In April 2008: 84.4 million videos!
- ▶ These videos can be on just about anything...

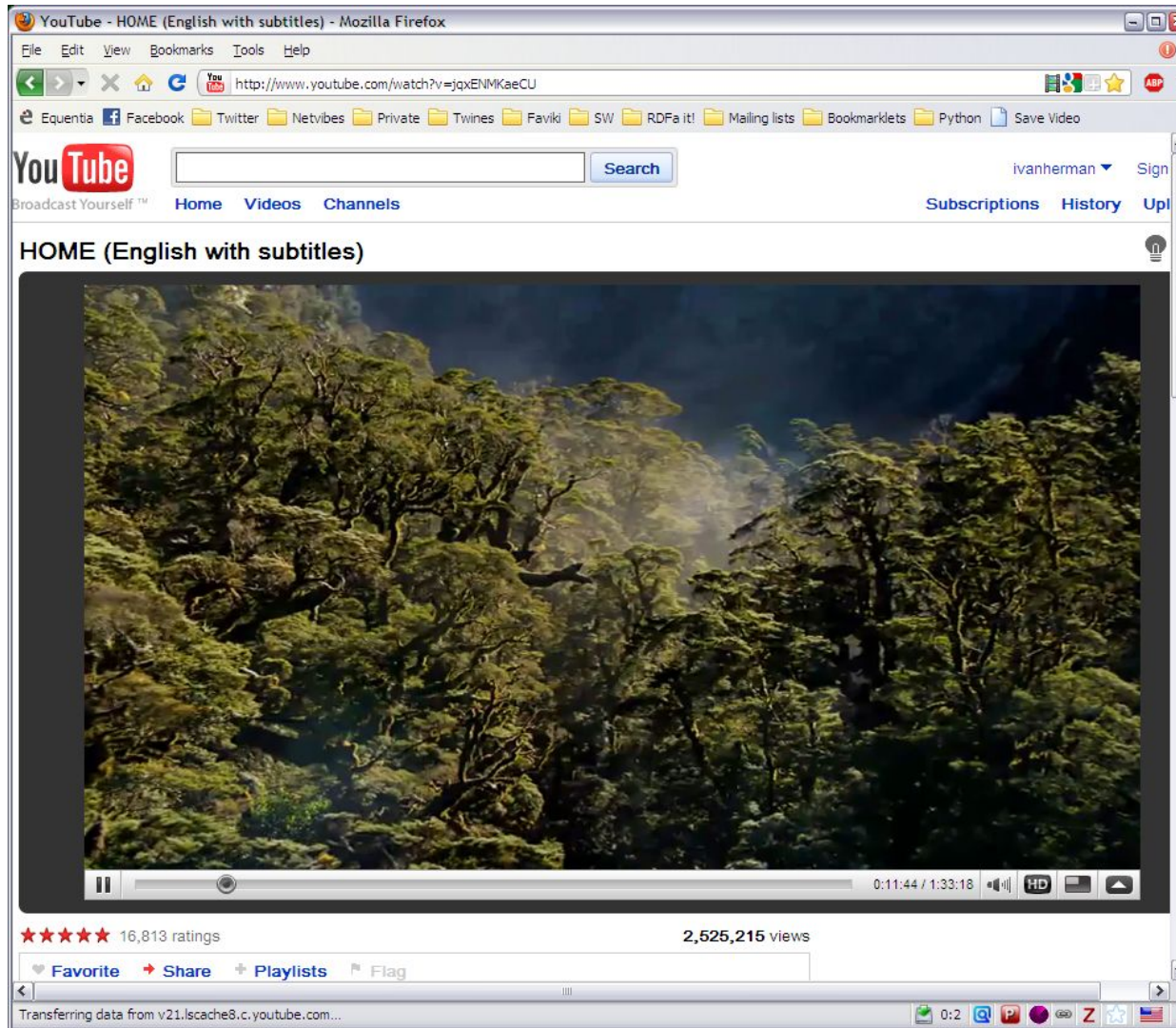
... politics ...



... music ...

The screenshot shows a Mozilla Firefox browser window displaying a YouTube video. The video title is "Berezovsky - Rachmaninoff Piano Concerto n° 2 - II mov Adagio". The video player shows a pianist performing at a concert. The video has 4,805 views and 17 ratings. The browser's address bar shows the URL: http://www.youtube.com/watch?v=lnq60WOb5Tk. The browser's toolbar includes various icons and a search bar. The YouTube interface includes a search bar, navigation links (Home, Videos, Channels), and a sidebar with a user profile for "theasder" and a list of related videos.

... or even full movies



Video in HTML

- ▶ Video in HTML4 is complex
 - essentially, using `<object>`, which is complicated
- ▶ Using the new `<video>` element in HTML5 should be as simple as using ``!
 - caveat: the encoding format may not always be royalty free
 - that is, alas!, outside of control of W3C...
- ▶ But there are some additional technical issues to handle
 - media addressing
 - media annotation

Video and audio addressing

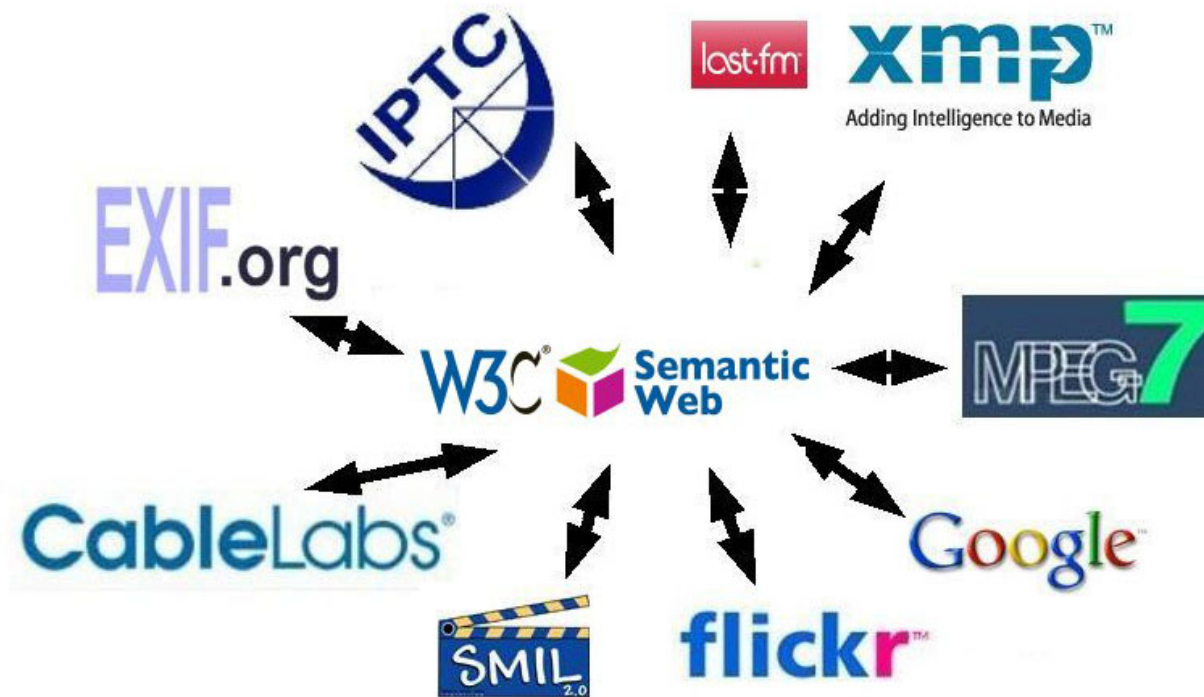


- *Standard* ways should be provided to identify
 - spatial fragment
 - temporal fragment



Linking and annotating media content

- ▶ There are many ways to annotate the content of, say, an image
- ▶ A standard way should be defined...



“Open Web Platform”

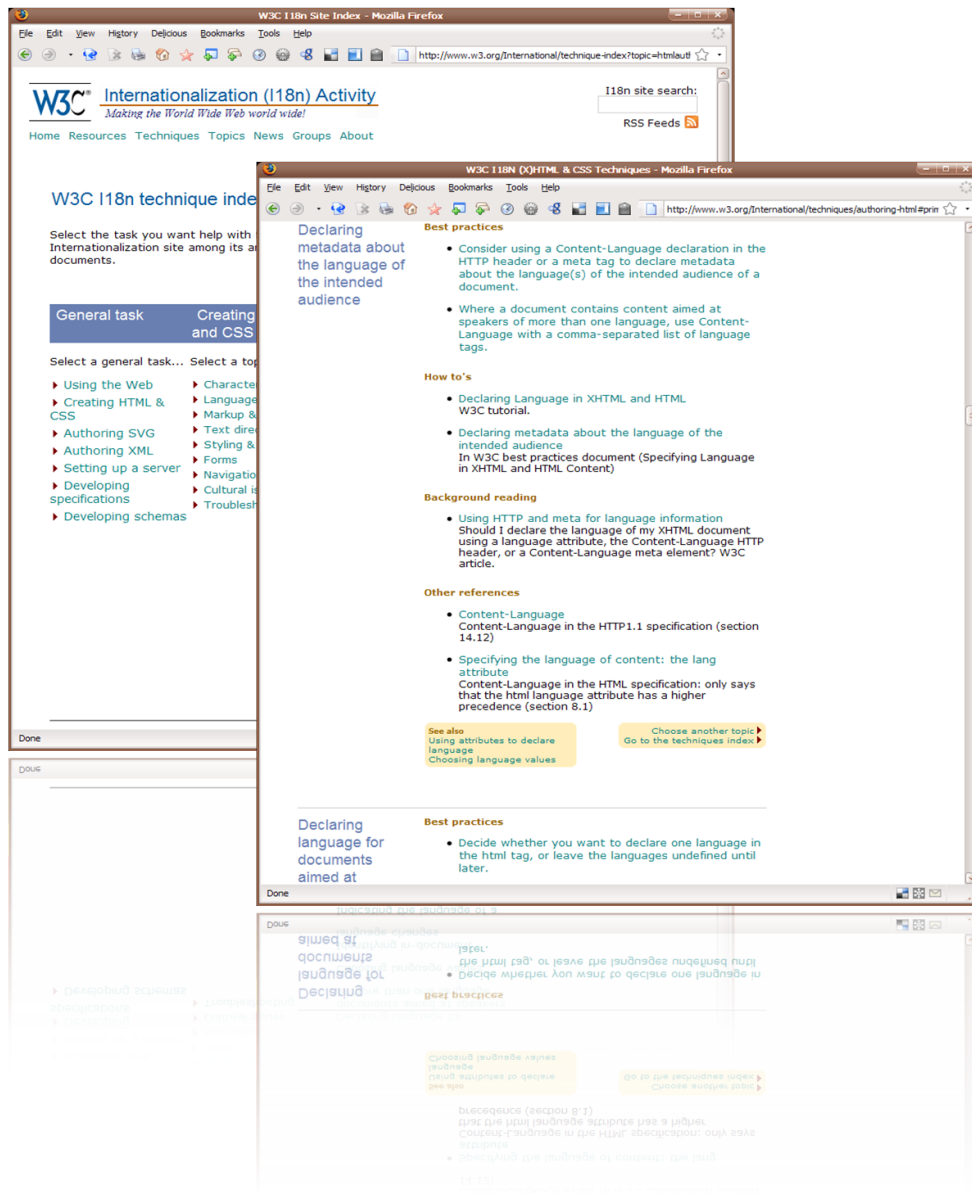
- ▶ HTML5 + CSS3 are only elements of a general “Open Web Platform”
- ▶ A number of API-s are also defined to provide a general, Web based application environment
 - Web sockets, Web storage, Widgets, ...

Internationalization

Internationalization

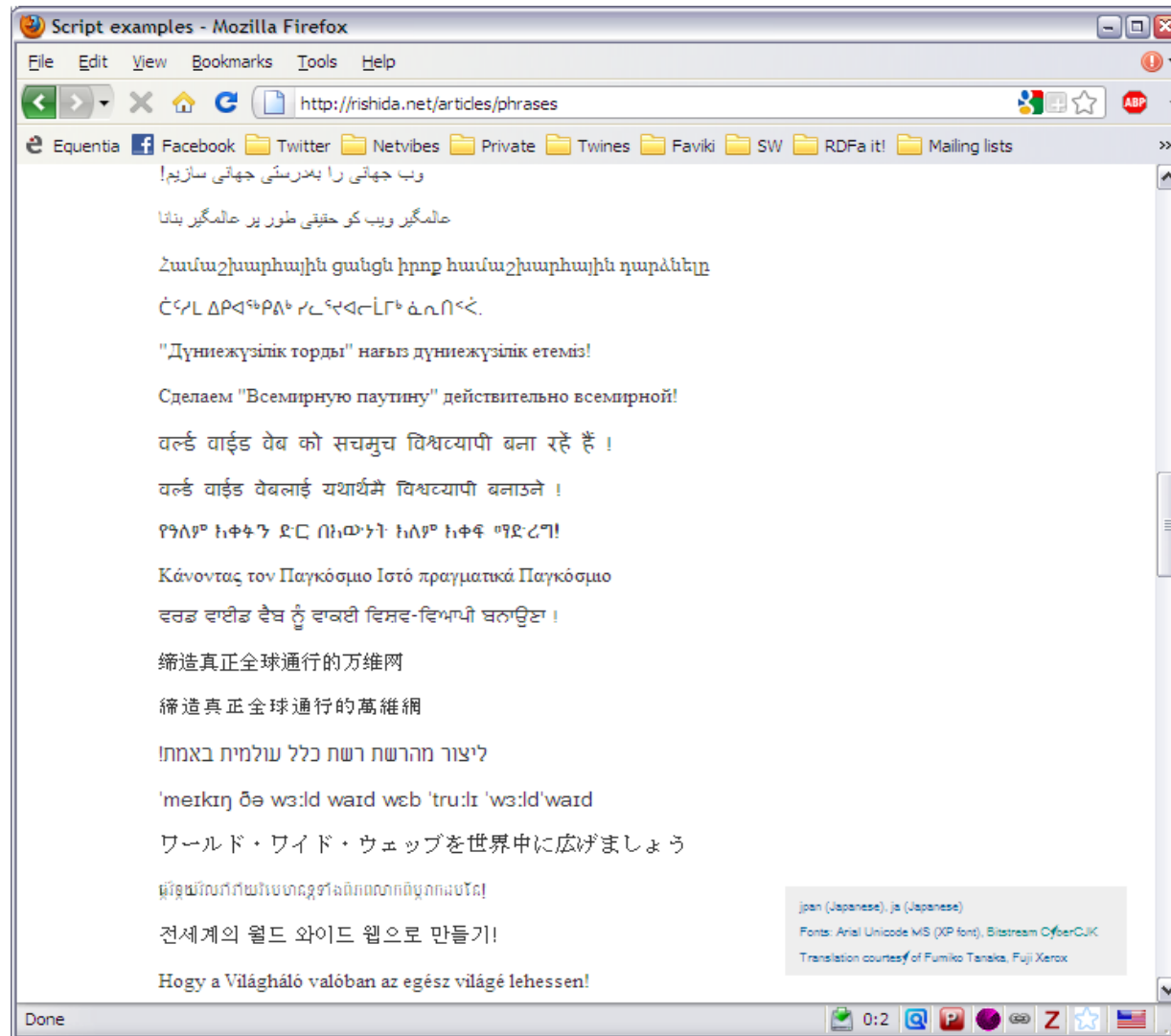
- ▶ Web technologies tend to be biased towards “Western” habits
- ▶ But the Web is International!
- ▶ That means:
 - it should work with all kinds of character sets (Arabic, Chinese, Mongolian, Thai, Japanese, Russian, ...)
 - one should be able to create document following local customs:
 - bulleted lists
 - emphasis style
 - writing directions
 - ...

Internationalization at W3C



- W3C has a separate “activity” on internationalization (I18N)
 - checks and influences all other specifications for possible problems
 - provides tutorials, small articles on how to design Web sites properly for this

First of all: use Unicode!



Unicode takes care of a lot of things...

bahrain مصر kuwait



- ▶ Is automatically generated by:

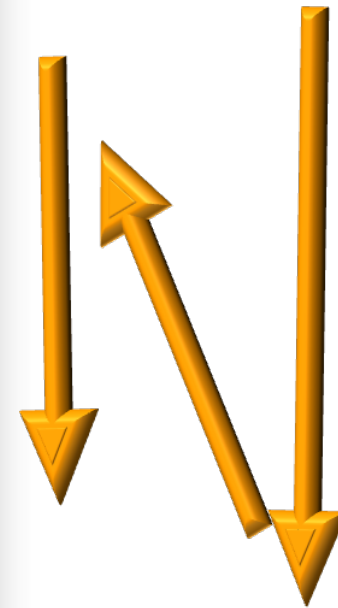
```
<p>bahrain <span lang="ar" xml:lang="ar" title="Means  
egypt">مصر</span> kuwait</p>
```

...but not everything

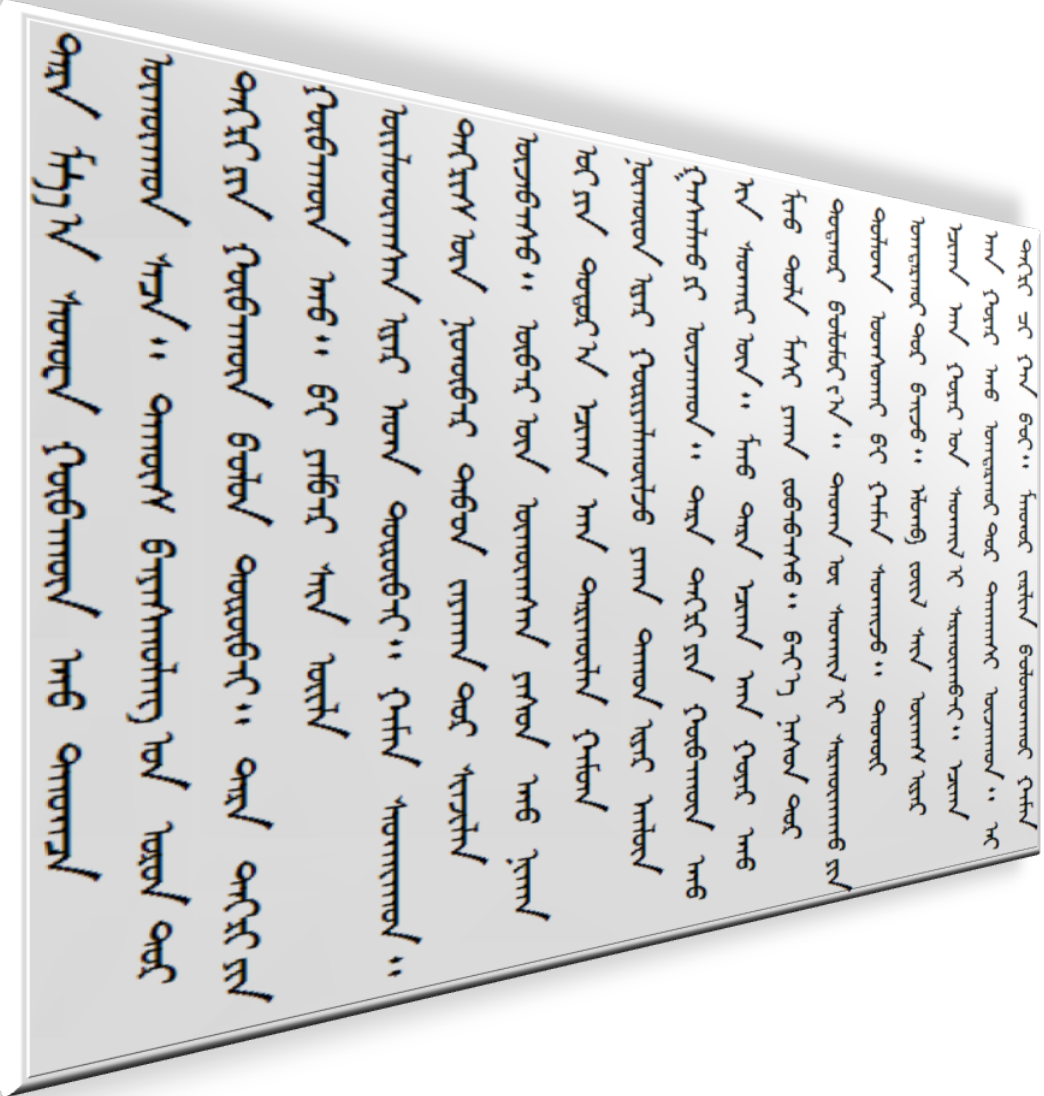
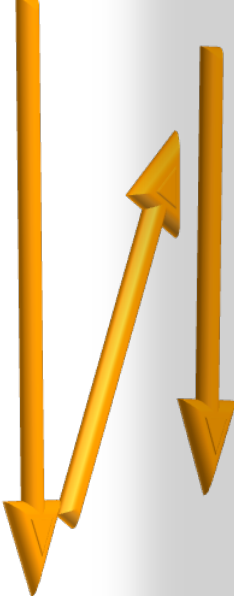
- ▶ Need better control for:
 - vertical writing and directions
 - bidirectional situations
 - non-Latin list styling
 - ruby
- ▶ Some of these are already part of HTML4 and CSS2
- ▶ Some of these are being worked on for HTML5 and CSS3

Vertical texts

當世界需要溝通時，請用
統一碼（Unicode）你現
在就應報名將在1997
年3月10至12日於德
國美姿城（Mainz）召開
的第十屆國際統一碼研討
會。本次研討會將邀請多
位業界專家研討關於全球
網際網路及統一碼發展、
國際化及本土化、支援統
一碼的作業系統及應用程
式、字型、文字排版、電
腦多國語文化等多項課
題。



Vertical texts



Bullet styles

list-style-type (CSS2)

disc | circle | square | decimal |
decimal-leading-zero | lower-roman |
upper-roman | lower-greek | lower-
alpha | lower-latin | upper-alpha |
upper-latin | hebrew | armenian |
georgian | cjk-ideographic | hiragana
| katakana | hiragana-iroha |
katakana-iroha | none | inherit

list-style-type (CSS2.1)

disc | circle | square | decimal |
decimal-leading-zero | lower-roman |
upper-roman | lower-latin | upper-
latin | armenian | georgian | none |
inherit

- 一、供HTML和XML使用的字符输入模型
 - 二、字符输入的分解和脱离
 - 三、语言转换
 - 四、国际化域名
 - 五、国际化的资源标识符
-
- あ、出願資格認定書交付申請書(所定用紙)
 - い、当該学校の教育が12年の課程であることを証明できるもの
 - う、当該学校の成績証明書(または調査書)
 - え、卒業証明書または卒業見込み証明書
 - お、当該学校の教育内容等を証明できるもの...
-
- い、出願資格認定書交付申請書(所定用紙)
 - ろ、当該学校の教育が12年の課程であることを証明できるもの
 - は、当該学校の成績証明書(または調査書)
 - に、卒業証明書または卒業見込み証明書
 - ほ、当該学校の教育内容等を証明できるもの...
-
- ア、出願資格認定書交付申請書(所定用紙)
 - イ、当該学校の教育が12年の課程であることを証明できるもの
 - ウ、当該学校の成績証明書(または調査書)
 - エ、卒業証明書または卒業見込み証明書
 - オ、当該学校の教育内容等を証明できるもの...

Ruby (markup and styling)

かみしばい
紙芝居

紙
かみしばい
芝居

紙芝居
かみしばい

紙
かみしばい
芝居

むかしばなし
昔話

うきよえ
浮世絵

International typography: first letter

क्रिकेट के लिए मशहूर व इसके लिए दीवानगी दिखाने वाले खेल प्रेमियों के देश भारत में अगर कोई अन्य खिलाड़ी प्रशंसा हासिल करता है तो यह किसी उपलब्धि से कम नहीं है। फिर हम जिस खिलाड़ी की बात कर रहे हैं उसने न केवल प्रशंसा अर्जित की है, बल्कि स्टारडम भी बनाया है। लोग अब उन्हें उनके नाम से जानते हैं और यही अर्जुन अटवाल की क्रिकेट क्रेजी देश भारत में सबसे बड़ी उपलब्धि है। गोल्फ कोर्स में तो अटवाल अक्वल खिलाड़ियों में हैं ही। अटवाल ने जब अमेरिकी पीजीए

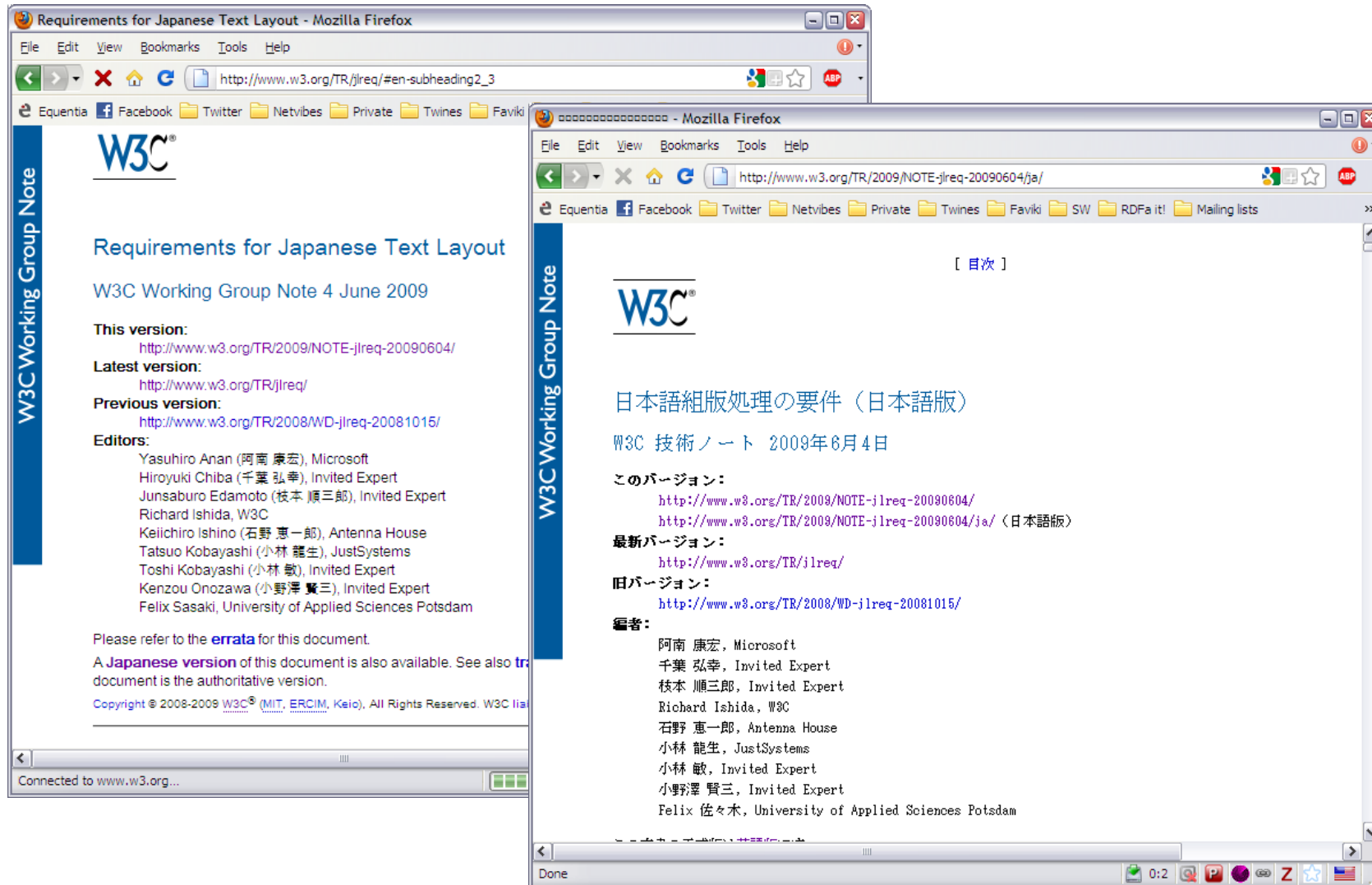


International typography: mathematics

$$f(x) = \begin{cases} \sum_{i=1}^s x^i & \text{if } x < 0 \\ \int_1^s x^i dx & \text{if } x \in S \\ \tan \pi & \text{otherwise (with } \pi \simeq 3.141) \end{cases}$$

مَجْمُوعَةٌ ص ب إِذَا كَانَ س > ٠
 ت (س) =
 ب = ١
 ب س ب ء س
 ظا π
 غَيْرَ ذَلِكَ (مَعَ π ≈ ٣,١٤١)
 جَمْعٌ س (مَعَ π ≈ ٣,١٤١)

International typography



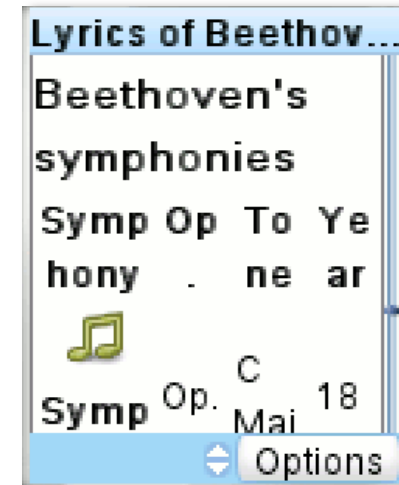
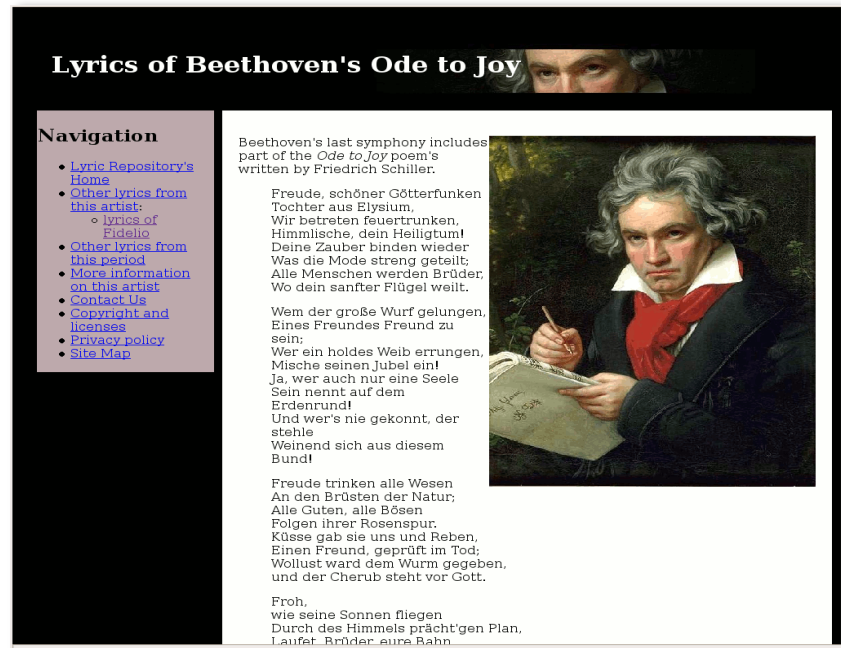
Mobile Web

Mobile Web

- ▶ Everybody talks about it
- ▶ But... everybody knows it can be frustrating



Mobile Web: the ugly



Mobile Web: the acceptable

Lyrics of Beethoven's Ode to Joy

Navigation

- [Lyric Repository's Home](#)
- [Other lyrics from this artist:](#)
 - [Lyrics of Fidelio](#)
- [Other lyrics from this period](#)
- [More information on this artist](#)
- [Contact Us](#)
- [Copyright and licenses](#)
- [Privacy policy](#)
- [Site Map](#)


Beethoven's last symphony includes part of the *Ode to Joy* poem's written by Friedrich Schiller.

Freude, schöner Götterfunken
Tochter aus Elysium,
Wir betreten feuertrunken,
Himmliche, dein Heiligtum!
Deine Zauber binden wieder
Was die Mode streng geteilt;
Alle Menschen werden Brüder,
Wo dein sanfter Flügel weilt.

Wem der große Wurf gelungen,
Eines Freundes Freund zu sein;
Wer ein holdes Weib errungen,
Mische seinen Jubel ein!
Ja, wer auch nur eine Seele
Sein nennt auf dem Erdenrund!
Und wer's nie gekonnt, der
stehe
Weinend sich aus diesem
Bund!

Freude trinken alle Wesen
An den Brüsten der Natur;
Alle Guten, alle Bösen
Folgen ihrer Rosenspur,
Küsse gab sie uns und Reben,
Einen Freund, geprüft im Tod;
Wollust ward dem Wurm gegeben,
und der Cherub steht vor Gott.

Froh,
wie seine Sonnen fliegen
Durch des Himmels prächt'gen Plan,
Laufet, Brüder, eure Bahn



Lyrics of Beethoven...

Beethoven's symphonies

Symphony 1
Op. 21, in C
Major, created in
1800

Symphony 2

Options

Lyrics of Beethoven...

Lyrics of Beethoven's Ode to Joy

Navigation

Beethoven's last symphony includes

Select Options

Mobile Web Initiative

W3C Mobile Web Initiative The Web on the Move

Mobile Web Initiative Home
About MWI
News
Working Groups
Sponsorship
Specifications
Resources Center

Making Web access from a mobile device as simple as Web access from a desktop device.

"The Mobile Web Initiative's goal is to make browsing the Web from mobile devices a reality", explains Tim Berners-Lee, W3C Director and inventor of the Web. "W3C and mobile industry leaders are working together to improve Web content production and access for mobile users and the greater Web."

Mobile Web Initiative participants are [developing best practices](#) for creating mobile-friendly content and applications, [enabling easy access to device descriptions](#), [setting up test suites](#) for increased interoperability of mobile browsers, and exploring ways to use the [Web on mobile devices to bridge the digital divide](#).

LATEST NEWS

- Proposed Recommendation of mobileOK Basic Tests 1.0—3 November 2008
- W3C Organizes Workshop on the Future of Social Networking—14 October 2008
- W3C Organizes Workshop on Security for Access to Device APIs from the Web—9 October 2008

[more news...](#)

FEATURED SPONSOR

mobile FORUM Mobile Web 2.0 Forum having the mission of "Mobile Web based industry revitalization" is to develop standards and guidelines for obtaining interoperability of Web contents between various devices and realize visions for constructing the next generation Mobile Web environment. [Become a MWI Sponsor](#) - see other [Sponsors testimonials](#)

NEXT MWI EVENT

Most of the MWI staff will be present at the [ICT 2008](#) event, organized by the European Commission, on **25-27 Nov. 08**, in Lyon, France. Marie-Claire, Philipp, and Stéphane will be at booth D06, in the [International Village](#).

CHECK YOUR SITE / YOUR BROWSER

Is your site [mobileOK](#)?











Drag the mobileOK bookmarklet to your toolbar to quickly check pages: [mobileOK check](#)

How does your mobile browser fare in the [Web Compatibility Test](#)?






- It requires some “education” to construct proper web sites for mobile devices
 - the content should be the same and the rendering should be well separated
- MWI develops:
 - education materials, test cases, “MobileOK” trustmarks, guides, ...

MWI Best Practices









10 ways to mobilize

-  **Design for One Web**
-  **Rely on Web standards**
-  **Stay away from known hazards**
-  **Be cautious of device limitations**
-  **Optimize navigation**
-  **Check graphics & colors**
-  **Keep it small**
-  **Use the network sparingly**
-  **Help & guide user input**
-  **Think of users on the go**








Stay away from known hazards

-  **POP UPS:**
Do not cause pop-ups or other windows to appear and do not allow them to steal focus from the current window.
-  **TABLES NESTING:**
Do not use nested tables.
-  **TABLES LAYOUT:**
Do not use tables for layout.
-  **GRAPHICS FOR LAYOUT:**
Do not use graphics for layout.
-  **NO FRAMES:**
Do not use frames.
-  **IMAGE MAPS:**
Do not use image maps.

Rely on Web standards

-  **VALID MARKUP:**
Create documents that validate to published standards.
-  **CONTENT FORMAT SUPPORT:**
Send content in a format known by the target device.
-  **CONTENT FORMAT PREFERENCE:**
Where possible, send content in a preferred format.
-  **CHARACTER ENCODING SUPPORT:**
Ensure that content is encoded using a character set supported by the target device.
-  **CHARACTER ENCODING USE:**
Indicate in the response the character set used.
-  **STYLE SHEETS USE:**
Use style sheets to control layout. Do not use style sheets if the target device is known not to support them.
-  **STRUCTURE:**
Use features of the markup language to create a logical structure.
-  **ERROR MESSAGES:**
Provide informative error messages. Do not send an error message back to useful information.

Be cautious of device limitations

-  **COOKIES:**
Do not rely on cookies being available.
-  **OBJECT OR SCRIPT:**
Do not rely on embedded objects or script.
-  **TABLES SUPPORT:**
Do not use tables unless the device is known to support them.
-  **TABLES ALTERNATIVES:**
Where possible, use an alternative to tabular presentation.
-  **STYLE SHEETS SUPPORT:**
Organize documents so that if necessary they may be read without style sheets.
-  **FONTS:**
Do not rely on support of font related styling.
-  **USE OF COLORS:**
Ensure that information conveyed with color is also available without color.

MobileOK Checker

The screenshot shows the W3C mobileOK Checker interface. At the top, the browser title is "W3C mobileOK Checker - Mozilla Firefox". The address bar shows the URL: <http://validator.w3.org/mobile/check?task=2009081810351221&docAddr=http%3A%2F%2Fwww.w3.org/Mobile/>. The main content area features the W3C logo and the text "W3C mobileOK Checker" with the tagline "Is your Web site mobile-friendly?". Below this is a form with an "Address:" field containing "http://www.w3.org/Mobile/" and a "Check Again" button. The "Result:" section shows a green bar with the text "This page is mobileOK!". The "Page Size:" section indicates a total size of 14.9KB, broken down into document (7.5KB), stylesheets (1KB), and images (6.5KB). The "Network:" section shows 6 requests: document (1), stylesheets (1), and images (4). A blue button with a colorful icon says "Check out W3C's training courses for mobile!". Below this is a "Congratulations" section with a dotted line separator. The text reads: "The document located at <<http://www.w3.org/Mobile/>> was successfully checked as mobileOK[®]. This means that the resource in question passed all the tests defined in the W3C mobileOK Basic Tests 1.0 specification. If you are the author of the Web page, you may wish to identify your content as mobileOK conformant. There is more than one way to claim mobileOK conformance, detailed in the [Claiming conformance](#) section of the W3C mobileOK Scheme 1.0 document. Here are two possibilities:

- ▶ **Claiming conformance using POWDER**
- ▶ **Claiming conformance using the mobileOK icon**

Below the list is a "Detailed report" section with a dotted line separator and "Expand all | Collapse all" links. At the bottom, there is a "Markup" section. The browser's status bar at the very bottom shows "Done" and a timer of "0:1".

MobileOK Checker

W3C mobileOK Checker - Mozilla Firefox

File Edit View Bookmarks Tools Help

http://validator.w3.org/mobile/check?task=2009081810555438&docAddr=http%3A%2F%2Fwww.ivan-herman.net/AboutMe

Equentia Facebook Twitter Netvibes Private Twines Faviki SW RDFa it! Mailing lists

W3C W3C mobileOK Checker
Is your Web site mobile-friendly?

Address:

Result: ▶ 41/100

Page Size: ▶ 202.4KB document: 13.7KB - stylesheets: 2.6KB - images: 186.2KB

Network: ▶ 9 requests document: 1 - stylesheets: 2 - images: 6

Help on the checker is available. [Check out W3C's training courses for mobile!](#)

Where to start...

1 critical error(s) detected!
These errors typically prevent the rendering of at least part of the page on mobile devices. Critical errors should be addressed first. Here is the list:

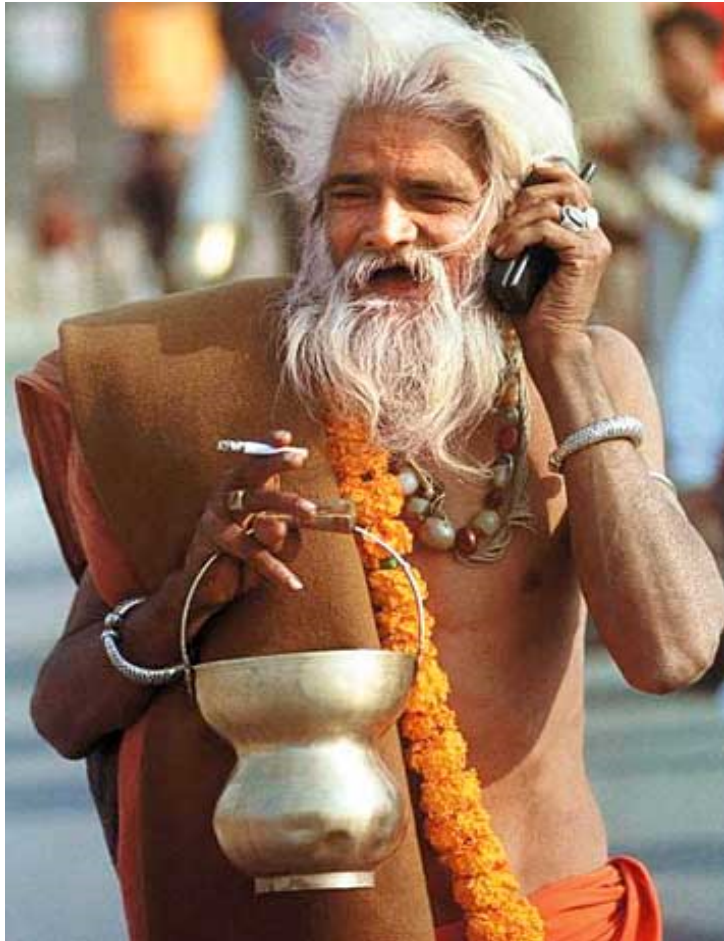
- * The total size of the page (202.4KB) exceeds 20 kilobytes (Primary document: 13.7KB, Images: 186.2KB, Style sheets: 2.6KB)**

Follow the links above for a detailed description of each message and suggestions to fix the underlying problem.

Detailed report Expand all | Collapse all

Done 0:1

The social context: mobile for developing society



- Track the social impact of mobile web in the developing world
- Ensure that standards are o.k.

Mobile Web: there is also specification work

- ▶ Standard ways to describe devices
 - vocabulary, like display sizes, colour, input devices
 - an API to construct device description vocabularies
- ▶ Geolocation API



Semantic Web

The Music site of the BBC

The screenshot shows the BBC Music website for Eric Clapton. The browser address bar displays the URL: <http://www.bbc.co.uk/music/artists/618b6900-0618-4f1e-b835-bccb17f84294>. The page features a blue navigation bar with the 'MUSIC BETA' logo and menu items: GENRES, ARTISTS, REVIEWS, NEWS, and BLOG. A search bar labeled 'QUICK FIND' is also present. Below the navigation bar, the breadcrumb trail reads 'BBC Music > Artists > Eric Clapton'. The main content area includes a large photograph of Eric Clapton playing a light blue electric guitar on stage, credited to 'David Redfern/Redferns'. To the right of the photo is a 'MOST PLAYED ON BBC RADIO 2' badge. Below the photo is a 'Biography' section with the following text: 'Eric Patrick Clapton, CBE (born 30 March 1945) is an English blues-rock guitarist, singer, songwriter and composer. Clapton has been inducted into the Rock and Roll Hall of Fame as a solo performer, as a member of rock bands; the Yardbirds and Cream. Clapton is the only person ever to be inducted three times. Often viewed by critics and fans alike as one of the most important and influential guitarists of all time, Clapton was ranked fourth in Rolling Stone magazine's list of the "100 Greatest Guitarists of All Time" and #53 on their list of the Immortals: 100 Greatest Artists of All Time'. To the right of the biography is a 'Latest Tracks Played On The BBC' section listing: 'Promises' (BBC Radio 2 | Ken Bruce 22/02/2010), 'Bad Love' (BBC Radio 2 | Alex Lester 22/02/2010), 'Lay Down Sally' (BBC Radio 2 | Chris Evans Breakfast 18/02/2010), 'I Ain't Gonna Stand For It' (BBC Radio 2 | Alex Lester 15/02/2010), and 'Wonderful Tonight' (BBC Radio 2 | Ken Bruce 10/02/2010). Below this is an 'Audio Previews From Latest Album Review' section with a small image of Clapton and a list of tracks: 'Me And Mr Johnson' (8 Milkcow's Calf Blues) and '10 Come on in My Kitchen'.

The Music site of the BBC

BBC - Music - Eric Clapton

http://www.bbc.co.uk/music/artists/618b6900-0618-4f1e-b835-bccb17f84294

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this focus, he is credited as an innovator in a wide variety of genres. These include blues-rock (with John Mayall & the Bluesbreakers and The Yardbirds) and psychedelic rock (with Cream). Clapton's chart success was not limited to the blues, with chart-toppers in Delta Blues (Me and Mr. Johnson), pop ("Change the World") and reggae (Bob Marley's "I Shot the Sheriff") (He is often credited for bringing reggae and Bob Marley to the mainstream.) Two of his most successful recordings were the hit love song "Layla", which he played with the band Derek and the Dominos, and Robert Johnson's "Crossroads", which has been his staple song since his days with Cream.

[Read more at Wikipedia...](#)

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Links & Information

LINKS

- [Official homepage at ericclapton.com](#)
- [Fanpage at whereseric.com](#)
- [Wikipedia article on Eric Clapton](#)
- [MySpace at myspace.com/ericclapton](#)
- [Last.fm page on Eric Clapton](#)
- [MusicBrainz entry on Eric Clapton](#)

MEMBER OF [Derek and the Dominos](#), [Blind Faith](#) (1968-1969), [Cream](#) (1966-1968), [John Mayall & The Bluesbreakers](#) (1965-1966), [The Yardbirds](#) (1963-1965)






COLLABORATED ON [J.J. Cale & Eric Clapton](#), [Eric Clapton & The Immediate All Stars](#), [Eric Clapton & The Impressions](#), [Eric Clapton & Jimmy Page](#), [Eric Clapton & David Sanborn](#), [Eric Clapton & Stan Webb's Chicken Shack](#), [Eric Clapton & The Powerhouse](#), [Eric Clapton & Stevie Ray Vaughan](#), [Eric Clapton & Marc Shaiman](#), [The Dirty Mac](#), [Bob Dylan](#), [Roger McGuinn](#), [Tom Petty](#), [Neil Young](#), [Eric Clapton & George Harrison](#), [Jimmie Vaughan](#), [Eric Clapton](#), [Bonnie Raitt](#), [Robert Cray](#), [B.B. King](#), [Buddy Guy](#), [Dr. John & Art Neville](#), [Elton John & Eric Clapton](#), [Michael Kamen](#), [Eric Clapton and David Sanborn](#), [B.B. King & Eric Clapton](#), [Mark Knopfler & Eric Clapton](#), [Paul McCartney & Eric Clapton](#), [Sting with Eric Clapton](#), [Steve Winwood & Eric Clapton](#)

Links & information come from [MusicBrainz](#). You can add or edit information about [Eric Clapton at musicbrainz.org](#). Find out more about our use of this data. The BBC is not responsible for the content of external sites

Latest News Stories

Played By

Since December 2008

-  **Alex Lester**
2 BBC Radio 2
-  **Steve Wright in the Afternoon**
2 BBC Radio 2
-  **Sarah Kennedy**
2 BBC Radio 2
-  **Wake Up to Wogan**
2 BBC Radio 2
-  **Ken Bruce**
2 BBC Radio 2
-  **Steve Wright's Sunday Love Songs**
2 BBC Radio 2
-  **Jeremy Vine**
2 BBC Radio 2

Information displayed about artists played on BBC programmes is incomplete
[out more about this artist play count information.](#)

How to build such a site 1.

- ▶ Site editors roam the Web for new facts
 - may discover further links while roaming
- ▶ They update the site manually
- ▶ And the site gets soon out-of-date 😞

How to build such a site 2.

- ▶ Editors roam the Web for new data published on Web sites
- ▶ “Scrape” the sites with a program to extract the information
 - I.e., write some code to incorporate the new data
- ▶ Easily get out of date again...🙄

How to build such a site 3.

- ▶ Editors roam the Web for new data via API-s
- ▶ Understand those...
 - input, output arguments, datatypes used, etc
- ▶ Write some code to incorporate the new data
- ▶ Easily get out of date again... 😞

The choice of the BBC

- ▶ Use external, public datasets
 - Wikipedia, MusicBrainz, ...
- ▶ They are available as data
 - not API-s or hidden on a Web site
 - data can be extracted using, eg, HTTP requests or standard queries

In short...

- ▶ Use the Web of Data as a Content Management System
- ▶ Use the community at large as content editors

And this is no secret...

BBC - Music - Eric Clapton

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Latest News Stories

NEWS FROM THE BBC

Clapton recovering after surgery
Tue 27 Oct 2009 17:46 Musician Eric Clapton is recuperating after having an operation to remove gallstones,...

Clapton to use a slowhand to take Wyman's wicket

Data on the Web

- ▶ There are more and more data on the Web
 - government data, health related data, general knowledge, company information, flight information, restaurants,...
- ▶ More and more applications rely on the availability of that data

But... data are often in isolation, “silos”



Imagine...

- ▶ A “Web” where
 - documents are available for download on the Internet
 - but there would be no hyperlinks among them

And the problem is real...

The image shows three overlapping web browser windows from the early 2000s. The top-left window is titled "CoCoDat - Collation of Cortical Data - Mozilla Firefox" and displays the CoCoDat website. The top-right window is titled "Cell Centered Database - Mozilla Firefox" and shows the "Cell Centered Database Gallery" with a navigation menu and a gallery of images. The bottom window is titled "NeuronDB - Thalamic relay neuron - Overview (A) () - Mozilla Firefox" and displays the "NeuronDB" website for a "Thalamic relay neuron".

CoCoDat: Collation of Cortical [microcircuitry] Data

CoCoDat is a microcircuitry database that collates published experimental reports. The data includes morphological and cellular compartment information, as well as the following properties:

- Morphology
- Firing properties
- Ionic currents
- Ionic conductances
- Synaptic currents
- Connectivity

The database is available for download of data tables but also a Search Board with manual or automatic relaxation of the search criteria.

- Brain region
- Layer
- Neuron type

<http://www.cocomac.org/cocodat/catalyzer/inc>

Cell Centered Database Gallery

National Center for Microscopy and Imaging Research

Data | Search | Gallery | Dictionary | Publications | MyCCDB | Data Download | Contact us | Help

2D image | Reconstruction | Segmentation | Animation

NeuronDB - Thalamic relay neuron - Overview (A) ()

Thalamic relay neuron

Mode: **Overview** Data/Search plus Connectivity plus Classical References/Notes Models

Region: Distal equivalent dendrite | Middle equivalent dendrite | Proximal equivalent dendrite | Soma | Axon hillock | Axon fiber | Axon terminal | All Compartments

Properties: **Receptors** Channels Transmitters **All Properties**

Interoperation: Gene and Chromosome Experimental Data (neurodatabase.org) Microscopy Data (CCDB)

Neuron type: principal
Organism: Vertebrates

1. Equivalent dendrite Show other
2. Distal equivalent dendrite Show other
3. Middle equivalent dendrite Show other
4. Proximal equivalent dendrite Show other
5. Soma Show other

Done

Data on the Web is not enough...

- ▶ We need a proper infrastructure for a real Web of Data
 - data is available on the Web
 - accessible via standard Web technologies
 - data are interlinked over the Web
 - ie, data can be integrated over the Web
- ▶ This is where Semantic Web technologies come in

I.e.,... connect the silos



So What is the Semantic Web?

It is a collection of standard technologies to realize a Web of Data

Why is all this good?

- ▶ A huge amount of data (“information”) is available on the Web
- ▶ Sites struggle with the dual task of:
 - providing quality data
 - providing usable and attractive interfaces to access that data

Why is all this good?

- ▶ Semantic Web technologies allow a separation of tasks:
 1. publish quality, interlinked datasets
 2. “mash-up” datasets for a better user experience

“Raw Data Now!”

Tim Berners-Lee, TED Talk, 2009

<http://bit.ly/dq7H7Z>

But standards are booooring...

Wrong!!

A standard is...

- ▶ ... a synthesis on what is happening out there in terms of a R&D
- ▶ ... a synthesis on what is possible in an industrial setting
- ▶ And that requires lots of knowledge and experience!

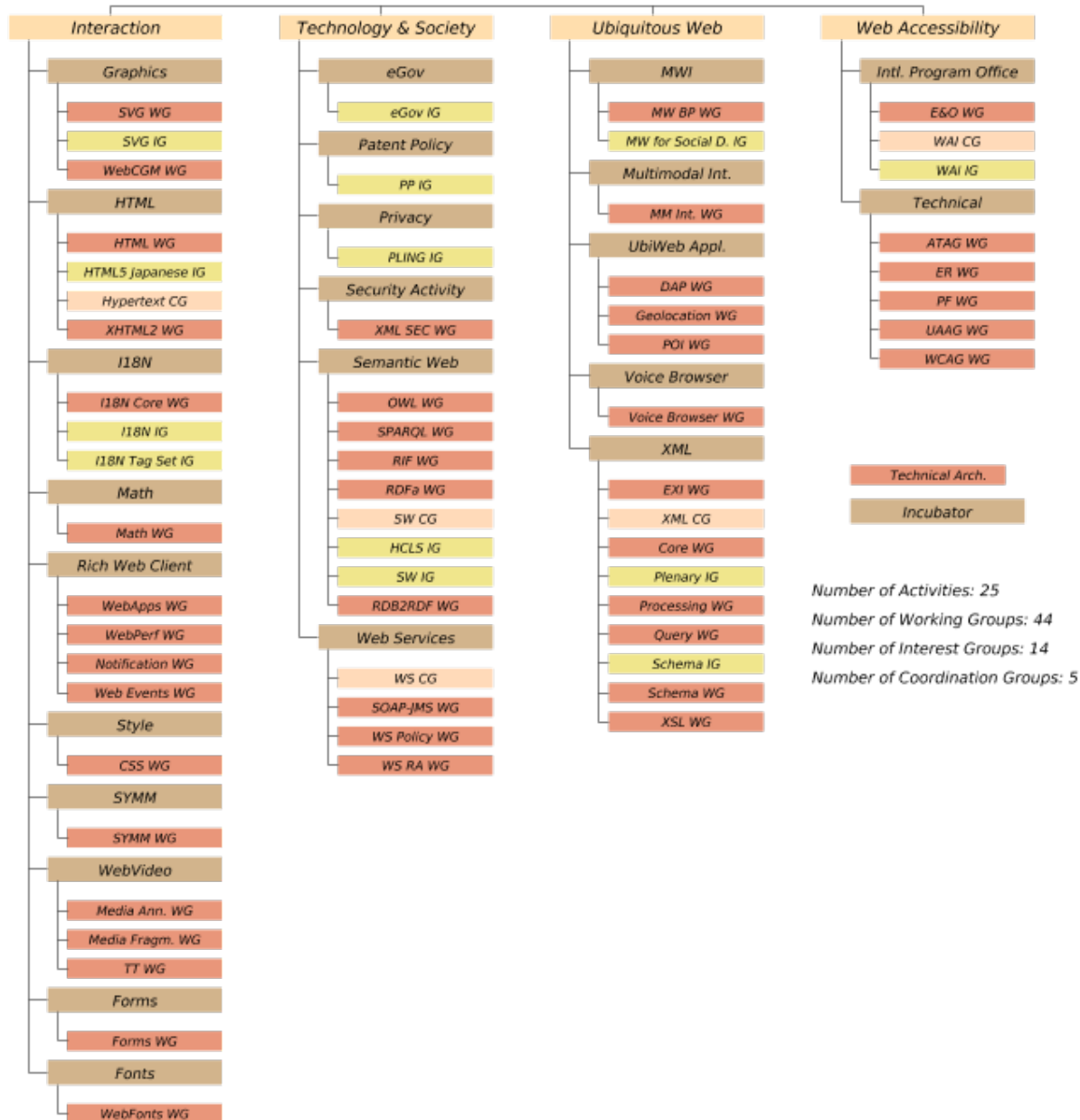
Standard writing is also a social process

- ▶ It requires reaching a consensus among conflicting parties
- ▶ Sometimes, it requires accepting majority opinions...
- ▶ And that is not easy...

Standard creation at W3C

- ▶ It is done by groups, with members delegating experts
- ▶ Altogether, we are talking about 1000 experts from around the globe
- ▶ Each group has at least one W3C staff member to help the process and contribute to the technology
 - there is a formal process that has to be followed
 - the price to pay...

W3C Groups



Number of Activities: 25
 Number of Working Groups: 44
 Number of Interest Groups: 14
 Number of Coordination Groups: 5

There is also a public scrutiny

- ▶ The public can comment at specific points in the process
- ▶ Groups must take all comments into account
 - the number of comments can be in the hundreds...

Life of a group

- ▶ Regular telecons (usually once a week)
- ▶ Possible 1-2 face-to-face meetings a year
- ▶ Lots of email discussions
- ▶ Editorial to get everything properly written down
- ▶ Average life-span: 2-3 years

Summary

- ▶ W3C is the place where open standard technologies are developed for the Web
- ▶ Work on standards involves lots of challenging issues related to the future evolution of the Web
- ▶ Anybody can participate on a certain level, by commenting, implementing... so join the club!

Thank you for your attention!