HTML5 and CSS3 – The Future of the Web Programming

Current Web Development

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Why standards are important?

• QUESTION
• How many types of plugs & sockets are there (we don’t consider voltages and frequencies)?
Why standards are important?

There are no less than 13 types of plugs & sockets!!
<table>
<thead>
<tr>
<th>Type</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type D</td>
<td><img src="image1" alt="Type D" /></td>
</tr>
<tr>
<td>Type F</td>
<td><img src="image2" alt="Type F" /></td>
</tr>
<tr>
<td>Type H</td>
<td><img src="image3" alt="Type H" /></td>
</tr>
</tbody>
</table>

**HTML5 & CSS3**

**Universitat d’Alacant**

**Universidad de Alicante**
<table>
<thead>
<tr>
<th>Type J</th>
<th>Type K</th>
<th>Type L</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Type J" /></td>
<td><img src="image2.png" alt="Type K" /></td>
<td><img src="image3.png" alt="Type L" /></td>
</tr>
</tbody>
</table>

**HTML5 & CSS3**

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WhatPlug.info
Guide for the traveller with plugs

Affils To: Spain

O.K., you are in Spain, you use power plugs/Sockets similar to the following picture(s):

Last question
Where are you traveling? Please choose your country destination so we can tell you what you will need in your travel.

- Europe
- America
- Africa
- Asia
- Oceanic

Quick chart at a glance

Plugs for travelling from Spain to Ecuador
Plugs, adapters, and other electrical information for travelling to Ecuador from Spain.

Chart Explanation
If you are an electrical sunny, perhaps the previous chart is all you need. If this is not your situation, you can continue reading for discovering what that chart implies.

Plugs and sockets each country
In Spain the following plugs are used.
Why standards are important?

• QUESTION

• Are there and are used standards in computing?
Why standards are important?

- IBM PC (Wikipedia):

  Rather than going through the usual IBM design process, a special team was assembled with authorization to bypass normal company restrictions and get something to market rapidly.

  [...]  
  
  To achieve this they first decided to build the machine with "off-the-shelf" parts from a variety of different original equipment manufacturers (OEMs) and countries.

Why standards are important?

[...]

Secondly for scheduling and cost reasons, rather than developing unique IBM PC monitor and printer designs, project management decided to utilize an existing "off-the-shelf" IBM monitor developed earlier in IBM Japan as well as an existing Epson printer model. Consequently, the unique IBM PC industrial design elements were relegated to the system unit and keyboard.
Why standards are important?

[...]

They also decided on an **open architecture**, so that **other manufacturers** could produce and sell peripheral components and compatible software without purchasing licenses. IBM also sold an **IBM PC Technical Reference Manual** which included **complete circuit schematics**, a listing of the **ROM BIOS source code**, and other engineering and programming information.

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**Why standards are important?**

- **Standardization (Wikipedia):**

  **Standardization or standardisation** is the process of developing and agreeing upon technical standards. A standard is a document that establishes uniform engineering or technical specifications, criteria, methods, processes, or practices.
Why standards are important?

• Standardization (Wikipedia):

_The goals of standardization can be to help with independence of single suppliers (commoditization), compatibility, interoperability, safety, repeatability, or quality._

Why standards are important?

• Standards can be classified according to different aspects:
  – Closed standard, RAND, open or free
  – Legal standard (de iure) or fact standard (de facto)
  – National, international or industrial standard
Are there any standards in web development?

- QUESTION

- Are there any standards in web development?
The Web Standards Project

- WaSP: Fighting for standards
  - [http://www.webstandards.org/about/mission/](http://www.webstandards.org/about/mission/)
The Web Standards Project

Founded in 1998, The Web Standards Project (WaSP) fights for standards that **reduce the cost and complexity** of development while increasing the **accessibility and long-term viability** of any site published on the Web. We work with browser companies, authoring tool makers, and our peers to deliver the true power of standards to this medium.

• What happens when standards are not used?
• In the past:
  – *By releasing browsers that failed to uniformly support standards, manufacturers needlessly fragmented the Web, injuring designers, developers, users, and businesses alike.*
The Web Standards Project

• Designers, programmers, and owners of web sites:
  – *could they afford to implement multiple versions of every web page in order to accommodate incompatible browsers?*
  – *If not, which browsers should they neglect, and how many millions of potential visitors were they willing to turn away?*
  – *The fractured browser market added at least 25% to the cost of developing all sites.*

• Users:
  – *When using the “wrong” browser, many could not view content or perform desired transactions.*
  – *Among those most frequently hurt were people with disabilities or special needs.*
The Web Standards Project

• Nowadays:
  – Beginning in 2000, one leading browser after another delivered on the promise of many of the standards we had (sometimes shrilly) promoted.
  – Current market-leading browsers, along with several of their competitors, provide excellent support for HTML 4, Compatible XHTML 1.0, CSS Level 1, ECMAScript (the standard version of JavaScript), and the DOM—or are on the road to such compliance.

• Then, what is the problem nowadays?
  – Today’s browsers support standards, although there are some exceptions (Internet Explorer).
  – Authors’ tools that create invalid, non-semantic sites instead of standards are still used.
  – Tens of thousands of professional designers and developers continue to use outdated methods that yoke structure to presentation, in some cases entirely avoiding semantic structures and misusing (X)HTML as a design tool.
The Web Standards Project

• Many books on web development still teach outdated methods, and many practitioners take pride in delivering sites that look and work exactly the same in compliant and non-compliant desktop browsers alike, at the cost of accessibility, long-term viability, forward compatibility, and lack of alternative device support.

• Others develop proprietary code that works only in a handful of popular browsers.

• QUESTION

• What are the standards in web development nowadays?
The Web Standards Project

- **Structural and Semantic Languages**
  - Hypertext Markup Language (HTML) 4.01
  - Extensible Hypertext Markup Language (XHTML) 1.0
  - Extensible Markup Language (XML) 1.0

- **Presentation Languages**
  - Cascading Style Sheets (CSS) level 1
  - CSS level 2 revision 1
  - CSS level 3

- **Object Models**
  - Document Object Model (DOM) level 1
  - DOM Level 2 (HTML, Core, Events, Traversal)
  - DOM Level 3 (Core)

- **Scripting Languages**
  - ECMAScript 262 (the standard version of JavaScript)
The Web Standards Project

- Advanced browsers which have fully implemented the above should consider implementing the following:
- Extensions and updates to HTML4 and XHTML 1.0
  - Microformats
  - Web Applications 1.0 (AKA "HTML5")
  - XHTML 1.1
- Additional Markup Languages
  - Mathematical Markup Language (MathML) 1.01
  - MathML 2.0
  - Scalable Vector Graphics (SVG)

Sources of information

- Internet is full of millions of web sites with examples, tutorials, reference guides, etc.
- You must be careful to avoid:
  - Bad habits
  - Old techniques
  - Use of browser specific features
  - Incorrect use of current techniques
- Then:
  - Use reliable sources
  - Use up to date sources
Sources of information

• Erroneous examples:
  – Incorrect tags
  – Huge image maps
  – Graphical effects with images that can be achieved with CSS
  – Table layout
  – Old scripts for detecting browser version

• QUESTION

• Who defines web standards?
W3C Patent Policy

5 February 2004

This version:
http://www.w3.org/Consortium/Patent-Policy-20030203/

Latest version:
http://www.w3.org/Consortium/Patent-Policy/

Previous version:
http://www.w3.org/Consortium/Patent-Policy-20030520.html

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Please refer to the errata for this document, which may include some normative corrections.

See also translations.


Abstract

The W3C Patent Policy governs the handling of patents in the process of producing Web standards. The goal of this policy is to ensure that Recommendations produced under this policy can be implemented on a Royalty-Free (RF) basis.
Sources of information

- Opera Web Standards Curriculum
- Offers a full course on the technologies used in the client programming: HTML + CSS + JavaScript
Erroneous examples

• Access to a web form:

```html
<form name="myForm" id="formId"
    action="action.php" method="post">
    <!-- Controls of the form -->
    Name: <input type="text" name="name"
        id="nameId"/>
    <input type="submit" value="Send" />
</form>
```

Erroneous examples

• Non-standard (but it works):

```javascript
var formElement = document["myForm"];  
var formElement = document.myForm;
```
Erroneous examples

• Standard in HTML 4.01 (but it’s not allowed in XHTML 1.0 Strict, because `<form>` element doesn’t have the name attribute):

```javascript
var formElement = document.forms["myForm"];  
var formElement = document.forms.myForm;
```

Erroneous examples

• Standard, but not very useful:

```javascript
var formElement = document.forms[0];
```

• Standard, fast and simple:

```javascript
var formElement = document.getElementById("formId");
```
Erroneous examples

• Creation of new content:
  – How is the content of a text paragraph changed?

```html
<body>
  <p id="p1">This is paragraph 1.</p>
  <p id="p2">This is paragraph 2.</p>
  <p id="p3">This is paragraph 3.</p>
</body>`
```
Erroneous examples

// Incorrect: this is DOM 0, it’s not standard
p.innerHTML = txt;
// Correct, it’s standard, but it doesn’t work in Internet Explorer
p.textContent = txt;
// Incorrect, it’s not standard, it works only in Internet Explorer
p.text = txt;
// Incorrect, it’s not standard, it works only in Internet Explorer
p.innerText = txt;
// It only works with the following types of nodes:
  CDATASection, Comment, ProcessingInstruction, Text
// It doesn’t work with a paragraph (Element)
var p = document.createElement("p");

// Correct, it works in all browsers
p.appendChild(document.createTextNode(txt));

// Correct, it works in all browsers
var tn = document.createTextNode(""");
ten.nodeValue = txt;
p.appendChild(tn);