

Module 5. Web Accessibility: The Foundation

Objectives

At the completion of this module, you will be able to:

- Describe standards-based markup and why it is important
 - Explain the features of XHTML
 - Explain the benefits of CSS and how CSS works
 - Explain the benefits of Positional CSS over table layout
 - Identify online XHTML and CSS resources
 - Explain the value of code validation
 - Identify online validation tools
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Importance of Standards-Based Markup

Standards-based markup separates content, structure, and display. This is important because content (the information on a page) must be available to different assistive technologies, and be displayed in various ways to accommodate people having different disabilities. For example, visual content must also be presented non-visually for persons who are blind or visually impaired.

Similarly, structure must be separate from presentation, and clearly indicated as structure, to make it available for interpretation by accessibility technologies.

HTML was originally intended to describe only structure. Earlier versions of HTML did not do a good job of separating content, structure, and display. HTML 4.01 separates display from structure and improves accessibility.

Two important tools for standards-based markup are XHTML and Cascading Style Sheets (CSS).

XHTML

XHTML is a reformulation of HTML as an XML application. It will display in your browser identically to the equivalent HTML. XHTML 1.0 can be seen as a descendant of HTML 4.01, but is technically stricter because of XML's influence. You might want to use XHTML if there is any chance you will need to reprocess your content; for instance, to send it to a PDA. XML's stricter syntax rules make automatic processing of XHTML much easier and cheaper than ordinary HTML.

Cascading Style Sheets (CSS)

Style sheets define display elements for one or more Web pages. CSS is *display* markup, while XHTML elements are *structural* (logical organization) markup. Styles are specified once in an external style sheet and only referenced in the HTML document. External style sheets can save you a lot of work: You can make global changes to your site almost instantly by editing the .css file.

"Cascading" means that multiple style sheets can be applied to one Web page. Different media can automatically use different .css files so it is easy to repurpose content.

Doc Types

XHTML uses three document types:

1. **Strict—Display is fully separated from content and structure using CSS.**
2. **Transitional—Permits the use of deprecated tags and attributes in markup for controlling display.**
3. **Frameset—For pages that establish frames; not relevant to accessibility.**

In XHTML code, a document type *must* be declared via the correct DOCTYPE.

A DOCTYPE includes a full URL (a complete Web address), which tells browsers to render your page in standards-compliant mode, treating your XHTML, CSS, and DOM as you expect them to be treated.

Using an incomplete or outdated DOCTYPE, or no DOCTYPE at all, throws these same browsers into “Quirks” mode, where the browser assumes you’ve written old-fashioned, invalid markup and code per the depressing industry norms of the late 1990s.

In this setting, the browser will attempt to parse your page in backward-compatible fashion, rendering your CSS as it might have looked in Internet Explorer 4, and reverting to a proprietary, browser-specific DOM. (IE reverts to the IE DOM; Mozilla and Netscape 6 revert to who knows what.)

The California State standard is the XHTML 1.0 Strict DOCTYPE:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```



Warning: Code the above DOCTYPE exactly as shown! Copy and paste from the World Wide Web Consortium (W3C) site to ensure accuracy.



Note: Some editing tools, like TextMate, will apply the correct DOCTYPE for you automatically, but you have to select the correct one first!

Tag Changes

In XHTML, all tags must be closed. For example, non-empty tags (tags that have content between an opening and closing tag) such as <p> and must be closed using the corresponding </p> and tags.

Empty tags (tags that do not have content between an opening and closing tag) such as and
 must be closed with a trailing forward slash “/”.

Before:

```
<img>  
<br>  
<hr>
```

After:

```
<img />  
<br />  
<hr />
```

Note: All tags in XHTML are written in lowercase.

Attribute Changes

All attribute values must be quoted.

Before:

```
<img src=./images/photo1.jpg>
```

After:

```

```

Code Validation

All XHTML code should be checked for conformance to W3C recommendations and other standards. Online validation is available at:

<http://validator.w3.org/>