

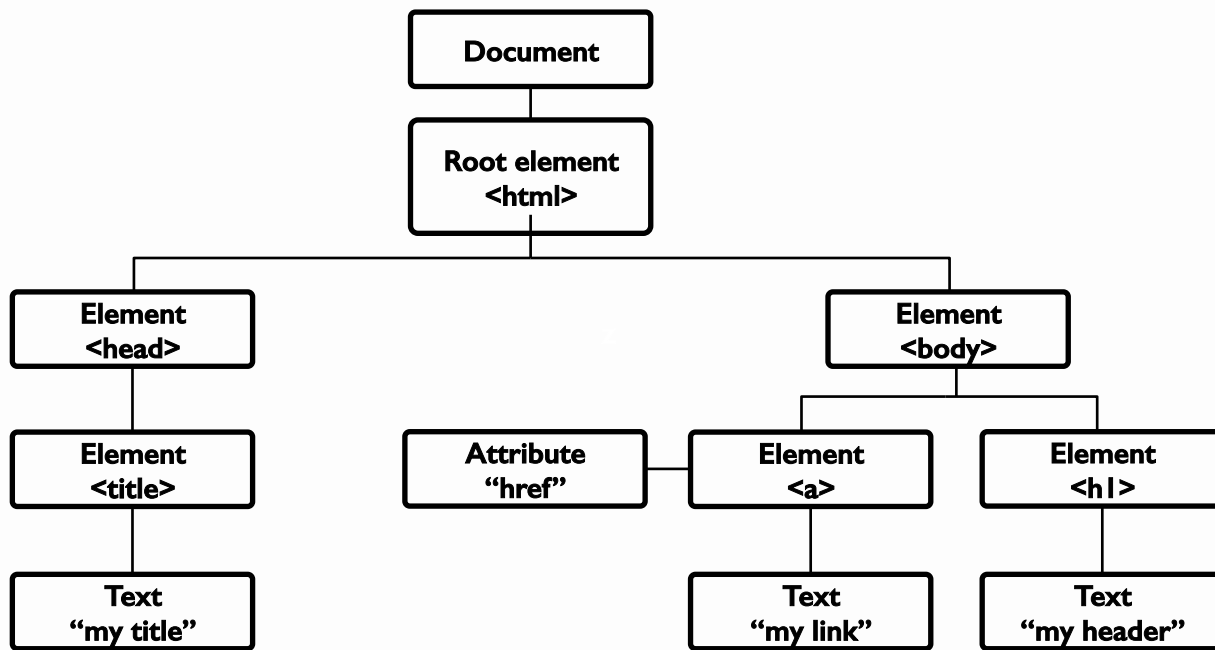
Document Object Model

Writing clean code

The Document Object Model (DOM)

- Basis of HTML5 is *“New features should be based on HTML, CSS, the DOM, and JavaScript...”*
- DOM provides common tree-like structure that all pages should follow
- Computer Scientists love trees (the mathematical kind) because you can test them.

HTML is built on the DOM



Adapted from w3Schools.com

Three parts of a well-formed document

- **Doctype**
 - Version of HTML that you will be using
- **Head**
 - Metadata
- **Body**
 - Displayable content

Doctype

- **HTML5**
 - `<!DOCTYPE html>`
- **Previous versions dictated backwards compatibility**
 - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">`
 - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">`

Head

- **Additional information used by the browser**
 - **Meta data – language, title**
 - **Supporting files – JavaScript, Styling, Add-ons**
- **Other than title, meta-data is not displayed**

Body

- **Bulk of your page**
- **Important to write well-formatted (tree-like) code.**
- **Most of the content is displayed by the browser, but there may be some meta-data too**

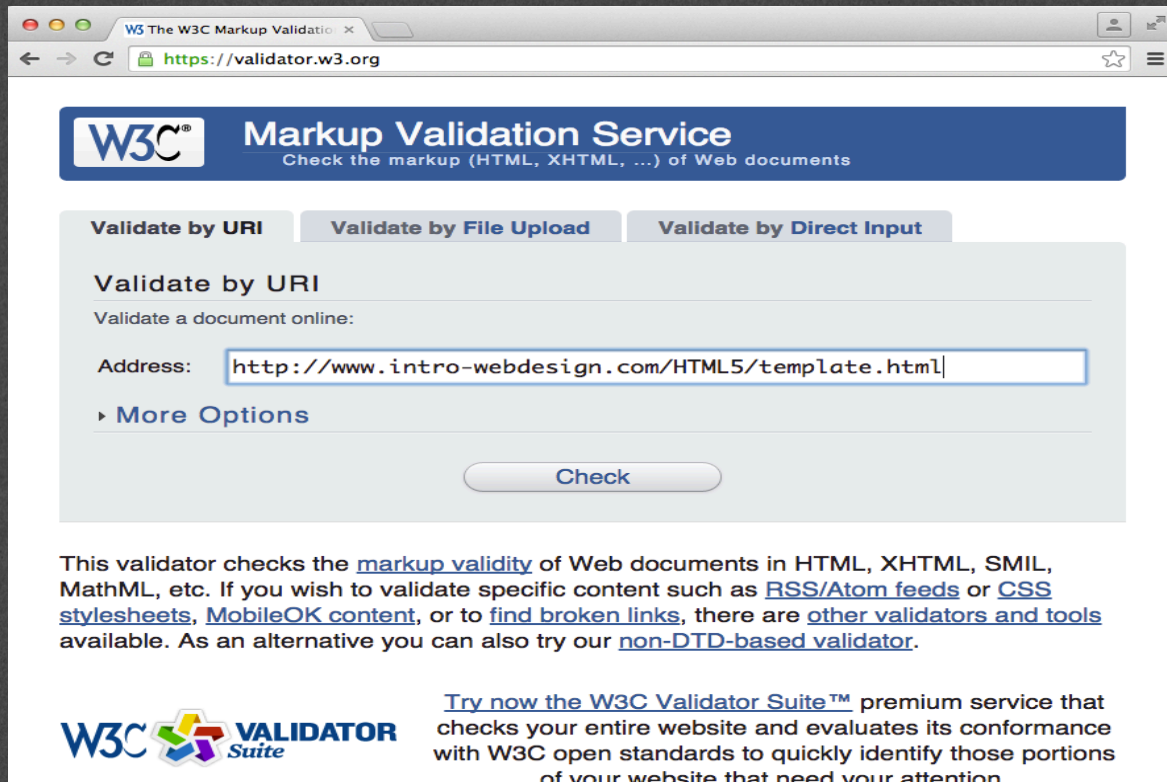
Example

- Example: template.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>My First Page</title>
</head>
<body>
  This should be displayed by the browser.
</body>
</html>
```




Validate the Code



The screenshot shows the W3C Markup Validation Service interface in a web browser. The browser's address bar displays `https://validator.w3.org`. The page has a blue header with the W3C logo and the text "Markup Validation Service" and "Check the markup (HTML, XHTML, ...) of Web documents". Below the header, there are three tabs: "Validate by URI", "Validate by File Upload", and "Validate by Direct Input". The "Validate by URI" tab is selected. Under this tab, the text "Validate by URI" and "Validate a document online:" are shown. A text input field labeled "Address:" contains the URL `http://www.intro-webdesign.com/HTML5/template.html`. Below the input field is a link "More Options". A "Check" button is positioned below the input field. At the bottom of the page, there is a paragraph explaining the validator's capabilities and a link to the "W3C Validator Suite" premium service.

W3C[®] Markup Validation Service
Check the markup (HTML, XHTML, ...) of Web documents

Validate by URI **Validate by File Upload** **Validate by Direct Input**


Validate by URI
Validate a document online:

Address:

▸ [More Options](#)

[Check](#)

This validator checks the [markup validity](#) of Web documents in HTML, XHTML, SMIL, MathML, etc. If you wish to validate specific content such as [RSS/Atom feeds](#) or [CSS stylesheets](#), [MobileOK content](#), or to [find broken links](#), there are [other validators and tools](#) available. As an alternative you can also try our [non-DTD-based validator](#).

 **W3C VALIDATOR Suite**

[Try now the W3C Validator Suite™](#) premium service that checks your entire website and evaluates its conformance with W3C open standards to quickly identify those portions of your website that need your attention.

Success!!

This document was successfully checked as HTML5!

Result: Passed, 2 warning(s)

Address :

Encoding : utf-8

Doctype : HTML5

Root Element: html

Review

- **Well-formed pages use the DOM structure**
 - Use beginning and end tags
 - Close inner tags before outer ones
 - Use valid attributes
- **Browsers will “fix” bad code, but not always well. Use a validator to check your code**

Acknowledgements/Contributions

These slides are Copyright 2015- Colleen van Lent as part of <http://www.intro-webdesign.com/> and made available under a Creative Commons Attribution 4.0 License. Please maintain this last slide in all copies of the document to comply with the attribution requirements of the license. If you make a change, feel free to add your name and organization to the list of contributors on this page as you republish the materials.

Initial Development: Colleen van Lent , University of Michigan School of Information

