


# Secrets of CSS: Using Cascading Style Sheets

**David Shaked (Wernick)**  
AlmondWeb Ltd.  
02-5712246  
david@almondweb.com  
<http://www.almondweb.com>


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## Outline


1. What is CSS?
2. Style Sheet Language
3. Creating a Style Sheet
4. Accessibility
5. Other technical issues
6. Where to Learn More

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# What is CSS?

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## Purpose of CSS

- Style language for HTML and XML
- Separates content from formatting
- Cross-platform compatibility
  - Viewers: Internet Explorer / Firefox / Opera / Safari / Outlook / ...
  - Platforms: Windows / UNIX / Linux / Mac / ...
  - Data: HTML / XHTML / XML / ...
  - Languages: English / Hebrew / Japanese / ...
- Intended for control of overall appearance
- Not intended for pixel-level precision
  - Will not replace FrameMaker, Word, and PDF for printing books

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## Relevance for Technical Writers



- Most technical writers generate HTML
- HTML authoring tools require or generate CSS
  - Dreamweaver
  - WebWorks ePublisher
  - RoboHelp
  - Flare
  - Word
  - Outlook
- XML-based workflows output to HTML + CSS

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## HTML Provides Structural Markup



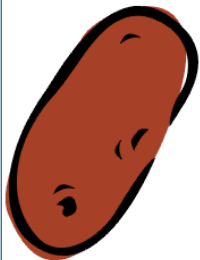
```
<html>
<head>
  <title>Peeling Potatoes</title>
</head>
<body>
  <h1>How to Peel a Potato</h1>
  
  <p>To peel a potato:</p>
  <ol>
    <li>Grasp a potato in your left hand.</li>
    <li>Hold the peeler in your right hand.</li>
    <li>Moving the peeler in short, quick motions, scrape the
      peel from the potato and expose the white.</li>
  </ol>
</body>
</html>
```

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## Default Formatting



### How to Peel a Potato



To peel a potato:

1. Grasp a potato in your left hand.
2. Hold the peeler in your right hand.
3. Moving the peeler in short, quick motions, scrape the peel from the potato and expose the white.

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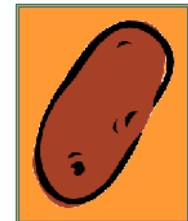
## Formatted Appearance



### How to Peel a Potato

To peel a potato:

- a. Grasp a potato in your left hand.
- b. Hold the peeler in your right hand.
- c. Moving the peeler in short, quick motions, scrape the peel from the potato and expose the white.



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## CSS Code Implementing the Format



```
body {
    font-family: Verdana,
    Arial, Helvetica, sans-
    serif;
    margin-left: 30px;
    margin-bottom: 9px;
}

h1 {
    color: #FF9933;
    margin-bottom: 24px;
    margin-top: 6px;
}

img {
    background-color: #FF9933;
    float: right;
    width: 110px;
    padding: 10px;
}

margin-top: 0px;
margin-right: 20px;
border-style: double;
border-color: #117788;
border-width: 3px;
}

ol {
    list-style-type: lower-
    alpha;
    list-style-
    position: outside;
}

li {
    margin-bottom: 6px;
}
```

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## CSS Levels



- CSS1
  - 1996, 1999
  - W3C Recommendation
- CSS2.1
  - 2004
  - W3C Candidate Recommendation
- CSS3
  - Under development
- Each level includes the previous levels
  - Adds new features

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## Features Introduced by CSS Levels



- CSS1
  - Basic visual formatting
- CSS2
  - Absolute positioning
  - RTL text
  - Selector logic / XML support
  - Audio properties
- CSS3
  - Media support
  - Interactivity
  - Selector logic
  - Snaking columns, rounded borders, etc.

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## Browser Support - Vendor Quotes



- MSIE 6
  - "Full CSS1"
- MSIE 7
  - "Improved support for CSS2.1"
- Firefox 1.5
  - "Improved support for CSS2 and CSS3"
- Safari
  - "The most complete implementation of the CSS specification"
  - Provides a list of supported CSS features

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# Style Sheet Language

## Attaching Styles to an HTML Document

- Inline

```
<div style="color:red;font-size:18px;">
```

- <Style> element

```
<style>
  body {color: black; font-size:12px;}
  div.bigblue {color:blue; font-size:18px;}
</style>
```

- Linked style sheet

```
<link rel="stylesheet" type="text/css"
  href="potato.css">
```

## Example of Attaching Styles

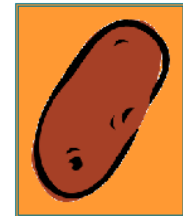
```
<html>
<head>
  <title>Peeling Potatoes</title>
  <link rel="stylesheet" type="text/css" href="potato.css">
  <style>
    li {color:#117788;}
  </style>
</head>
<body>
  <h1 style="text-align:right;">How to Peel a Potato</h1>
  
  <p>To peel a potato:</p>
  <ol>
    <li>Grasp a potato in your left hand.</li>
    <li>Hold the peeler in your right hand.</li>
    <li>Moving the peeler in short, quick motions, scrape the peel
      from the potato and expose the white.</li>
  </ol>
</body>
</html>
```

## Resulting Display

### How to Peel a Potato

To peel a potato:

- Grasp a potato in your left hand.
- Hold the peeler in your right hand.
- Moving the peeler in short, quick motions, scrape the peel from the potato and expose the white.



## Selectors



```
<p id="me" class="red">A paragraph.</p>
```

- Element selector

```
p {font-size:12px;}
```

- Class selector

```
.red {color:red;}  
p.red {color:red;}
```

- ID selector

```
#me {font-variant:small-caps;}
```

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## Contextual Selectors



```
<div class="note">  
  <p>  
  A paragraph  
</p>  
</div>
```

```
img {background-color:yellow;}
```

Matches any <img>

```
div.note p img {background-color:yellow;}
```

Matches only an <img> nested within a <p>  
nested within a div having class="note"

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## Grouping



```
h1 {font-family:Arial;}  
h1 {color:blue;}  
h2 {font-family:Arial;}  
h2 {color:blue;}
```

```
h1, h2 {  
  font-family:Arial;  
  color:blue;  
}
```

Equivalent representations

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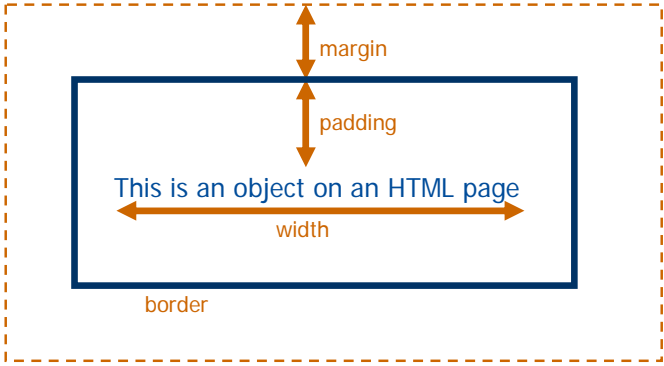
## Examples of CSS1 Properties



color	padding
font-family	border-color
font-size	border-style
font-style	border-width
font-weight	margin
text-indent	
direction	width
	height
background-color	display
background-image	float
background-repeat	
	white-space

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## CSS Box Model



This is an object on an HTML page

margin

padding


width

border

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## Margins Collapse

- 1st paragraph:  
`margin-bottom: 18px;`
- 2nd paragraph:  
`margin-top: 6px;`
- Result:  
18px between the paragraphs



Equivalent option in Microsoft Word:  
Tools > Options > Compatibility > Don't use HTML paragraph auto spacing

- If selected, 24px between paragraphs
- If not selected, 18px between paragraphs (recommended)

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## Pseudo-Classes and Elements

```

a:link {color:#3366FF;}
a:hover {color:#FF6633;}
a:active {color:#FF0000;}
a:visited {color:#336699;}

```

[Click here for more information](#)

```

p:first-letter {font-size:200%; float:left;}

```

**D**rop capital

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## Cascading: Resolving Rule Conflicts

- Multiple style sheets
  - Author > User > Browser default
- Multiple rules
  - More specific selector > Less specific selector
- Last rule wins

```

Body {font-family:Verdana;}
Body {font-family:Arial;}
Body H1 {font-family:Verdana;}
H1 {font-family:Arial;}

```

Last rule

More specific selector

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## Example of Conflicting Rules



```
<p class="Note">This is a note.</p>
```

```
p {font-size:10pt; font-weight:normal; color:black;}  
p.Note {font-size:12pt; font-weight:bold;}  
.Note {font-weight:normal; font-style:italic;}
```

### Result:

- 12pt (more specific selector)
- bold (more specific selector)
- italic (no conflicting rule)
- black (no conflicting rule)

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## Best Practices for Style Sheet Design



- Use inheritance

```
body {font-family:Arial,sans-serif;font-size:12px;}  
h1 {font-size:20px;}  
p {}
```
- Or define each style independently

```
h1 {font-family:Arial,sans-serif;font-size:20px;}  
p {font-family:Arial,sans-serif;font-size:12px;}
```
- Avoid mixing the two styles
- Add comments

```
/* Default style */  
body {font-family:Arial,sans-serif;font-size:12px;}
```

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## Creating a Style Sheet



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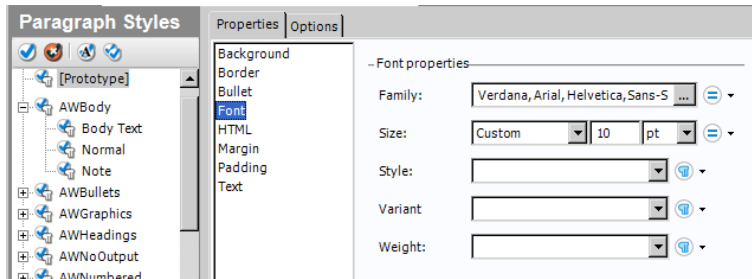
## CSS Editors



- NewsGator TopStyle
- Westciv StyleMaster
- Adobe Dreamweaver
- Notepad
- Help authoring tools

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## Example: WebWorks Style Designer



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## WebWorks CSS Output



```
div.Body_Text
{
  border-bottom-style: none;
  border-bottom-width: 0pt;
  border-left-style: none;
  border-left-width: 0pt;
  border-right-style: none;
  border-right-width: 0pt;
  border-top-style: none;
  border-top-width: 0pt;
  color: Black;
  font-family: Verdana, Arial, Helvetica, Sans-Serif;
  font-size: 10pt;
  font-style: normal;
  font-variant: normal;
  font-weight: normal;
  margin-bottom: 6pt;
}
```

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## Troubleshooting a Style Sheet



- W3C CSS validator
- Style checkers built into CSS editors

W3C CSS Validator Results for [file:///localhost/D:/Users/AlmondWeb/pre2007/test\\_wwep/css/test\\_wwep.css](file:///localhost/D:/Users/AlmondWeb/pre2007/test_wwep/css/test_wwep.css)

Sorry! We found the following errors

5571 div.Procedure\_Header Value Error : [cursor](#) hand is not a cursor value : hand  
5614 .Procedure\_Header\_inner Value Error : [cursor](#) hand is not a cursor value : hand

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## Conflicts between Rules



```
<p class="Note">This is a note.</p>
```

```
p {font-size:10pt; font-weight:normal; color:black;}
p.Note {font-size:12pt; font-weight:bold;}
.Note {font-weight:normal; font-style:italic;}
```

Result: 12pt bold italic black

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## Incomplete Browser Support



- CSS2 defines an outline property
  - Similar to border but does not occupy space in box model
  - Firefox supports
  - MSIE 7 does not support

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## Imperfect Browser Support



- All elements are supposed to inherit from <body>
- In old browsers, table cells <td> failed to inherit
- Work-around
  - In old CSS code, you are likely to see:

```
body, td {  
  font-family:Arial, Helvetica, sans-serif;  
}
```

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## Accessibility

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## Accessibility for Visually Impaired Users



Andy Ram and Yoni Erlich lost for the first time in 10 matches on Saturday. The Israeli duo was defeated 7-5, 4-6, 10-7 by Tomas Berdych and Dmitry Tursunov in the semifinals of the ATP tournament in Rotterdam.

Firefox: View > Text Size > Increase

Andy Ram and Yoni Erlich lost for the first time in 10 matches on Saturday. The Israeli duo was defeated 7-5, 4-6, 10-7 by Tomas Berdych and Dmitry Tursunov in the semifinals of the ATP tournament in Rotterdam.

MSIE 7: View > Text Size > Largest

Andy Ram and Yoni Erlich lost for the first time in 10 matches on Saturday. The Israeli duo was defeated 7-5, 4-6, 10-7 by Tomas Berdych and Dmitry Tursunov in the semifinals of the ATP tournament in Rotterdam.

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## CSS Defines Fixed Font Size in Pixels



```
<span class="lead">
...<p>Andy Ram and Yoni Erlich ...</p>...
</span>
```

```
.lead {
  font-family: Arial, sans-serif;
  font-size: 12px;
  font-weight: normal;
  line-height: 140%;
}
```

- In MSIE 7, enlarging the base font does not affect fixed font sizes
- In Firefox, enlarging the base font scales all font sizes

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## Solution: Define Relative Font Size



```
<span class="lead">
...<p>Andy Ram and Yoni Erlich ...</p>...
</span>
```

```
.lead {
  font-family: Arial, sans-serif;
  font-size: 0.75em;
  font-weight: normal;
  line-height: 140%;
}
```

- 1em = font size of parent element
- Enlarging the parent size enlarges the size of an em

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## Effect of Relative Size Definition



Andy Ram and Yoni Erlich lost for the first time in 10 matches on Saturday. The Israeli duo was defeated 7-5, 4-6, 10-7 by Tomas Berdych and Dmitry Tursunov in the semifinals of the ATP tournament in Rotterdam.

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## Other Technical Issues

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## Scripting Support for CSS



- When a user clicks a button, link to an alternative style sheet
  - Support multiple browsers (obsolete)
  - Accessibility
- Modify inline styles
  - Display hidden sections of a page
  - `display:none -> display:block`

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## Browser-Specific CSS Extensions



- Scenario
  - A user fills in an HTML form offline
  - The user saves the HTML page
- Default:
  - The page is saved without the form data
  - The user's entries are lost
- Add a saveSnapshot behavior to the CSS code:

```
<style>
  .sSnapshot
  {behavior:url(#default#savesnapshot);}
</style>
```

  - The page is saved with the form data
  - The user can re-open the page and submit the form

Behaviors are a  
Microsoft extension  
Internet Explorer only!

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## Unsupported Features



- Tab stops
  - By design, HTML collapses tabs to space characters
- Conditional logic
  - Format the second `<p>` within a `<div>` in red
  - If the page contains a Warning heading, format the next paragraph in red
  - CSS2 and CSS3 provide partial solutions
  - Browsers do not yet fully support

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## Where to Learn More



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## World Wide Web Consortium



<http://www.w3.org/Style/CSS>

- Specifications
- Definitive Reference
- Revision history
- Links to browsers and tools supporting CSS
- Links to CSS books and tutorials

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## W3 Schools



<http://www.w3schools.com/css>

- CSS tutorial
  - Mostly CSS1
- Practical reference
- Interactive examples

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