UP TO SPEED ON

HTML 5 & CSS 3

</TITLE>

REFRESH DC | M. JACKSON WILKINSON & JASON GARBER | JULY 16, 2009

Sunday, July 19, 2009

THE INTRO

That's
" Michael "
↓

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mixx
your blend of the web

A Very Brief History of

WEB STANDARDS

XHTML 1   CSS 2.1

Content   *Presentation*

2001-2006

WHAT WG

Web Hypertext Application Technology Working Group

W3C

World Wide Web

Consortium

Sunday, July 19, 2009

HTML 5

Content

CSS 3

Presentation

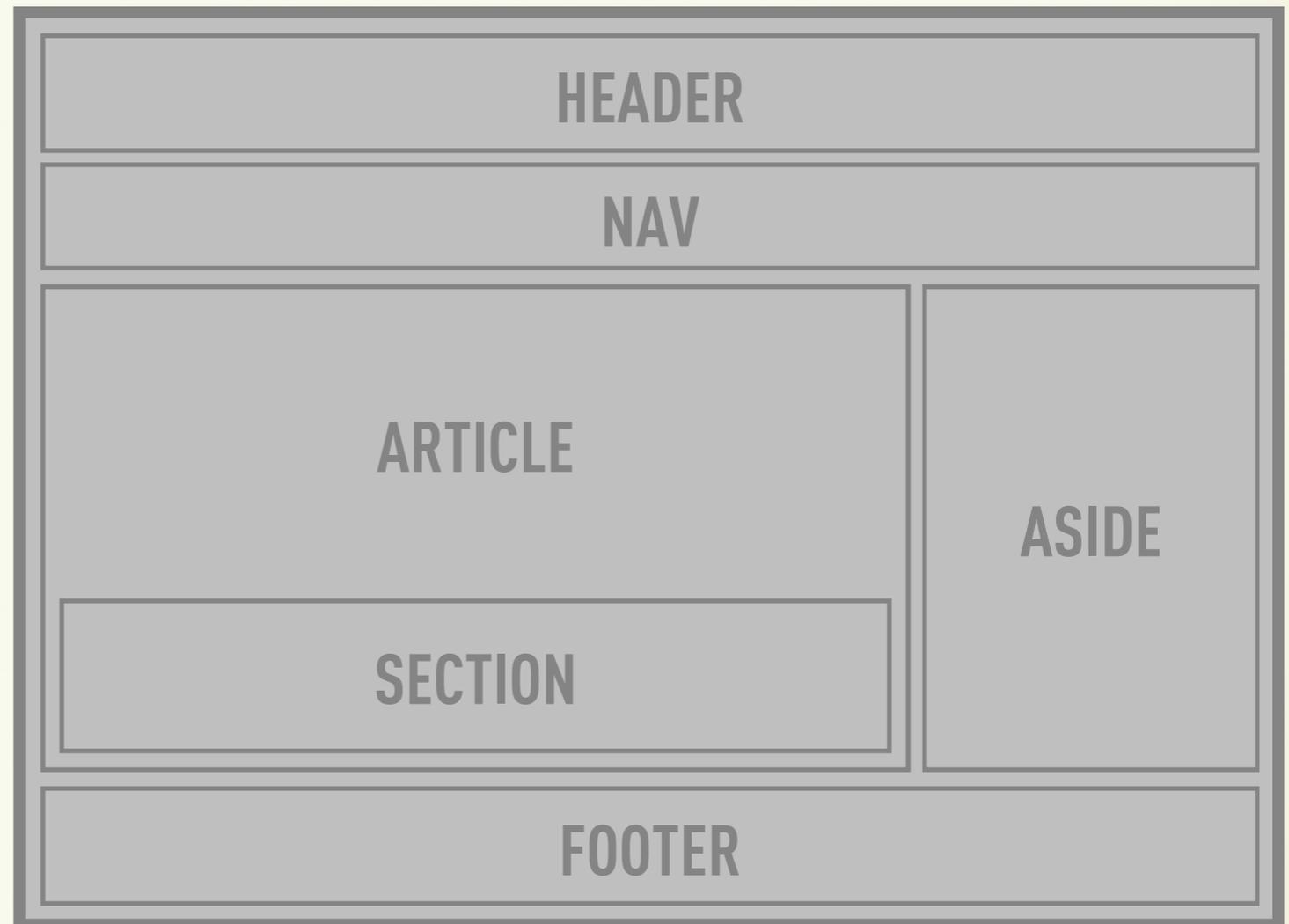Sunday, July 19, 2009

The Content Layer:

HTML 5

NEW ELEMENTS

structural elements

Provides new semantic vocabulary for parts of a page previously served by DIVs with ID and Class attributes.

IE requires some workarounds using JavaScript to make these elements work.

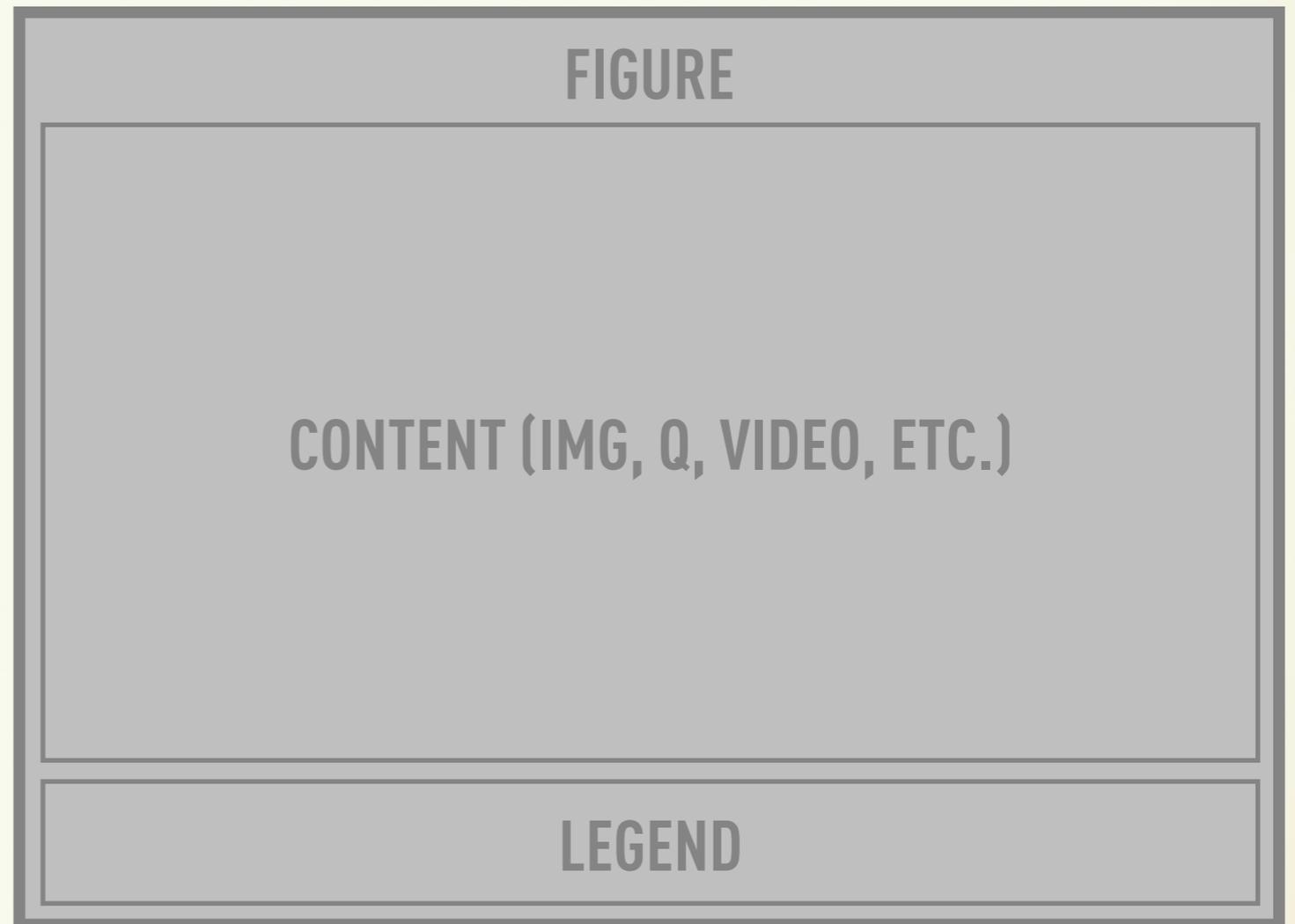| HEADER |
| NAV |
| ARTICLE |
| SECTION |
| ASIDE |
| FOOTER |

structural elements

Browser Support:

figure

Allows for associating captions with embedded content, including videos, audio, pullquotes, or images.

FIGURE

CONTENT (IMG, Q, VIDEO, ETC.)

LEGEND

audio & video

Allows for associating captions with embedded content, including videos, audio, or images.

Opera, Chrome, and Firefox all support the Ogg Theora video format natively, while Safari and Chrome support H.264.

```
<video src="test.ogg" autoplay="autoplay"
controls="controls">
    Your browser does not support the video
    element. This could also include object and
    embed codes for legacy browsers.
</video>
```

audio & video

Browser Support:

OTHER ELEMENTS

METER   *Contained content is a measurement, like length.*

PROGRESS   *Contains current process toward a goal, like a percentage.*

TIME   *Time*

COMMAND   *Represents something a command a user may execute.*

DATAGRID   *Represents data. Non–tabular or otherwise.*

OUTPUT   *Displays the output of a program or process.*

RUBY   *Allows input of rubi/ruby annotations for Asian languages.*

NEW FORM CONTROLS

FORM CONTROLS

DATETIME   *Allows input of a date and a time.*

DATETIME-LOCAL *Allows input of a date and a time, in local time.*

NUMBER   *Allows input of a number.*

RANGE   *Input is verified to be within a range.*

EMAIL   *Confirms the input to be a valid email.*

URL   *Ensures input is a valid URL.*

COLOR   *Provides a mechanism for the user to input an RGB color.*

DOC STRUCTURE

HTML 5 doctype

The HTML 5 doctype is way easier than any other doctype. Evar.

Just type the parts you remember, and you'll probably be right.

```
<!DOCTYPE html>
```

HTML5 & XHTML5

HTML 5 supports the standard HTML syntax (formerly SGML), but also allows for an XML–based variant XHTML5.

Since it's XML, XHTML should be served as application/xml or application/xhtml+xml. Warning: this means browsers freak if there's an error.

```
<html>
```

VS.

```
<html xmlns="http://
www.w3.org/1999/xhtml">
```

Block-Level Links

You can now wrap links around block-level elements, rather than having to create links around every element inside the block element.

This is useful for lists of articles that include multiple elements, callouts with a single action, etc.

```
<li>
    <a href="page.html">
        <img src="pic.jpg">
        <h3>Title</h3>
        <p>Text</p>
    </a>
</li>
```
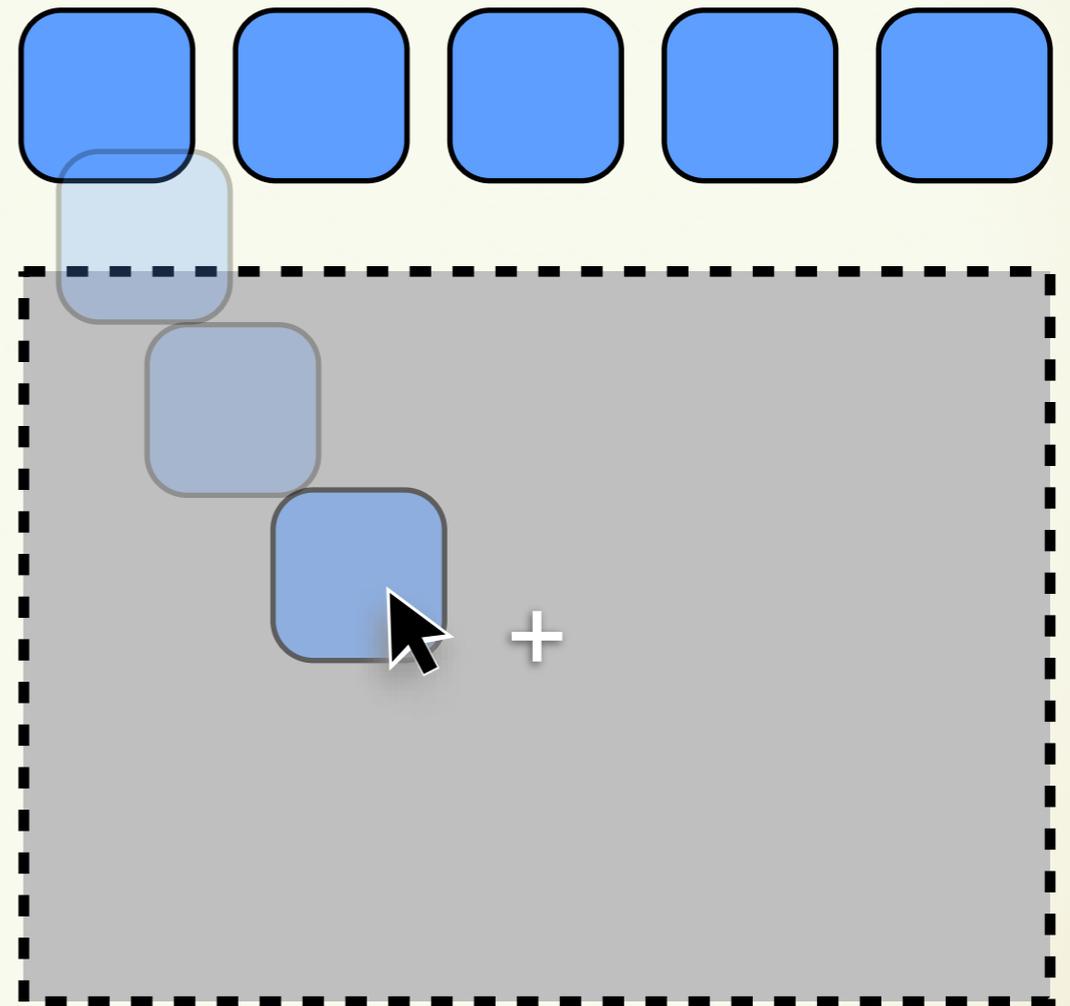
Block-level Links

Browser Support:

NEW APIs

Drag & Drop API

Allows objects (images and links, by default) to be dragged and then dropped onto a target.

The target is enabled by canceling the 'dragover' (for sane browsers) or 'dragenter' (for IE) events for the drop target. Then listen for a 'drop' event which contains a 'dataTransfer' object with info.
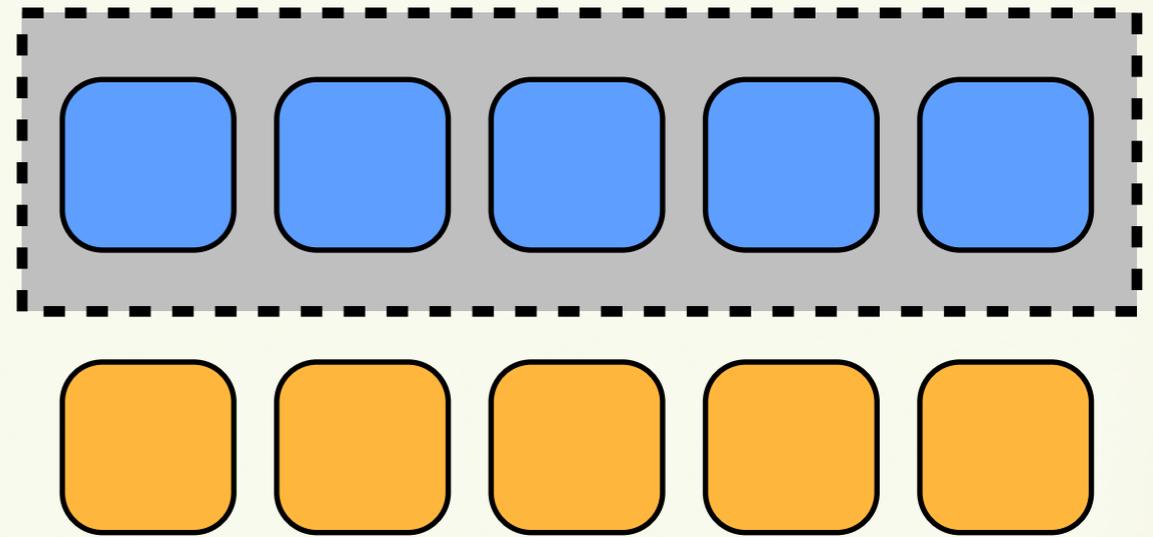
Drag and Drop API

Browser Support:

getElementsByClassName

Works just like getElementsById, but selects an array of all elements based on a shared class name.

No more varied custom functions to make this happen, and performance is significantly better.
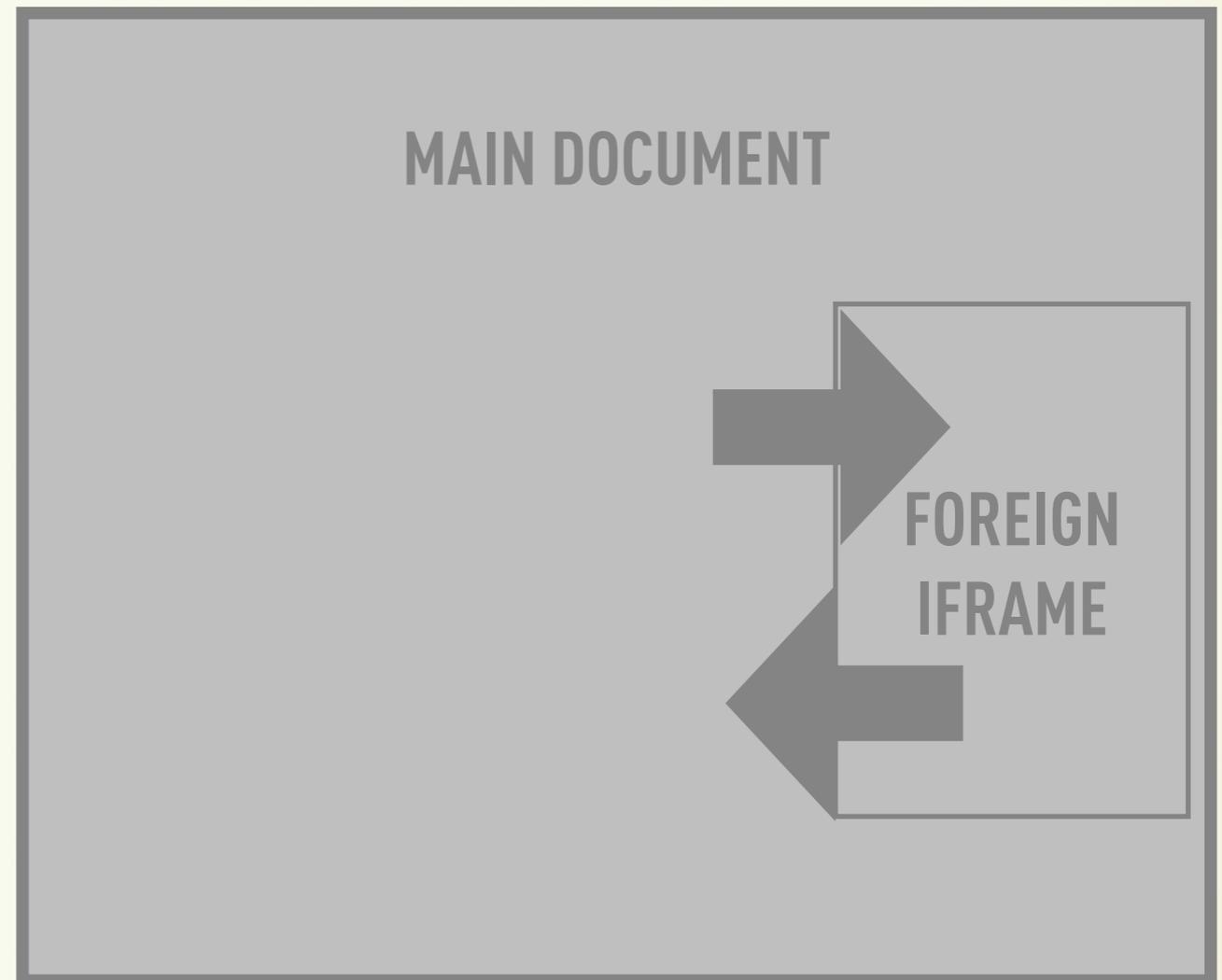
getElementsByClassName   **Browser Support:**

Cross-Document Messaging

This allows non–hostile documents on different domains to simply communicate with each other.

The sending document can call postMessage() on the window object of the receiving document, while the receiving document listens for a 'message' event.

MAIN DOCUMENT

FOREIGN IFRAME

Simple Client Storage

The sessionStorage DOM attribute stores session data for a single window, like cookies on crack.

The localStorage DOM attribute allows each site to store megabytes of data across sessions to improve performance.

Both methods store only strings.

```
<input
    type="checkbox"
    onchange="
      localStorage.insurance=checked
    "
/>
```

Structured Client Storage

HTML 5's Web Storage module provides an SQL server within the client, accessible using Javascript. It uses fairly standard SQL queries for both reading and writing.

There's a lot to be explained about the built-in SQL server, so go check out the docs for more information.

```
tx.executeSql(
    'SELECT * FROM Notes',
    [],
    function(tx, rs) {
        for(var i = 0;
            i < rs.rows.length; i++) {
            renderNote(rs.rows[i]);
        }
```

Structured Client Storage   **Browser Support:**

Offline Application Caching

Allow the client to refer directly to its cache, authoritatively, for certain resources, even if the browser is offline.

Resources listed in the "network" section are never cached.

```
<html manifest="/cache.manifest">


CACHE MANIFEST
index.html
help.html
style/default.css
images/logo.png
images/backgound.png

NETWORK:
server.cgi
```
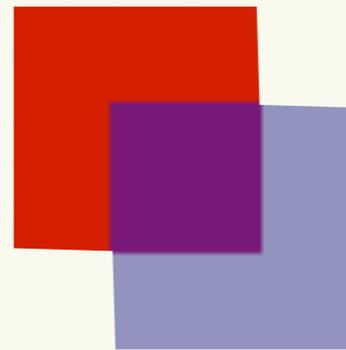
Canvas

Provides an API for drawing directly in the browser window, using instructions that define vector–based shapes and lines.

This allows SVG–like graphics to be created on the fly in the browser, with fallback content (like Flash?) provided to legacy browsers.

```
<canvas id="canvas" width="150" height="150">
    fallback content
</canvas>

function draw() {
  var canvas = document.getElementById("canvas");
  if (canvas.getContext) {
    var ctx = canvas.getContext("2d");

    ctx.fillStyle = "rgb(200,0,0)";
    ctx.fillRect (10, 10, 55, 50);

    ctx.fillStyle = "rgba(0, 0, 200, 0.5)";
    ctx.fillRect (30, 30, 55, 50);
  }
}
```

canvas

Browser Support:

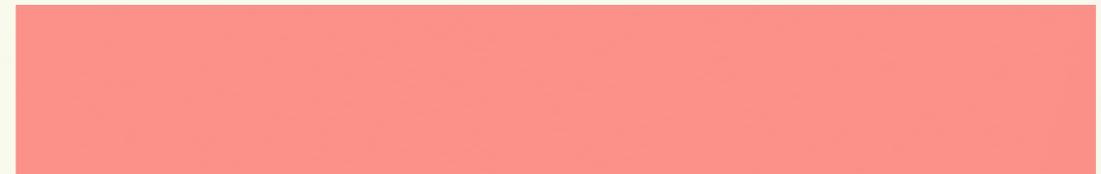*The Presentation Layer:*

CSS 3

COLOR

opacity

Adjusts the opacity of the selected element's presentation on screen.

Takes values between 0.0 (fully transparent) and 1.0 (fully opaque)

```
div { color: #f00; opacity: 1.0; }
```

```
div { color: #f00; opacity: 0.5; }
```

opacity

Browser Support:

RGBA Color

Like RGB color definitions, but allows a fourth field, defining the alpha value of the color being applied.

Like opacity, the alpha value is between 0.0 (fully transparent) and 1.0 (fully opaque).

```
div { color: rgb(0,255,0); }
```

```
div { color: rgba(0,255,0,0.5); }
```

RGBA color

HSL/A Color

HSL color definitions accept three arguments: hue is a degree on a color wheel (0-360), saturation is a percentage, and lightness is a percentage.

HSLA is like HSL color, but allows a fourth field, defining the alpha value of the color being applied. See RGBA.

```
div { color: hsl(240,50%,50%); }
```

```
div { color: hsla(240,50%,50%,0.5); }
```

HSL/A color

Browser Support:

BACKGROUNDS

background-size

Defines the size at which the browser should display the specified background image. Accepts all normal size definitions as width followed by height.

In shorthand, this appears after background-position values.

```
div { background-size: 100px 65px; }
```

```
div { background-size: 400px 65px; }
```

background-image

Allows for multiple images to be specified. The first image specified is layered closest to the top of the screen, and subsequent images are layered beneath.

```
background: url(body-top.png) top left no-repeat,
url(body-bottom.png) bottom left no-repeat,
url(body-middle.png) left repeat-y;
```

background-image

Browser Support:

BORDERS

border-color

Allows for multiple border colors to be specified, one pixel at a time. The last specified color is repeated if necessary.

This cannot be used in the border shorthand syntax.

```
border: 5px solid #000;
border-color: #000 transparent transparent #000;
```
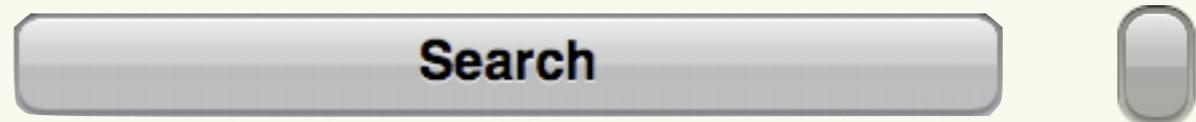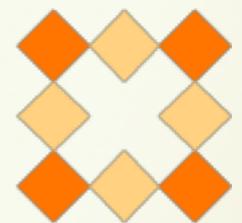
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border-image

Allows the border to be represented by an image, by defining which parts of the image should be used for the edges, and which should be repeated in the main part of the element.

This is difficult to represent completely, so go look it up.

```
border-image: url(button.png) 0 12 0 12 stretch
    stretch;
```

Search

```
border-image: url(border.png) 27 27 27 27 round
    round;
```

Lorem ipsum dolor sit amet.

border-image

border-radius

Curves the corners of the border using the radius given, often in pixels. This can be given to all corners, or only to individual corners as specified.

Firefox refers to individual corners like "border-radius-topright" while Safari (correctly) refers to it as "border-top-right-radius".

```
border-radius: 10px;
```

```
border-top-right-radius: 10px;
```
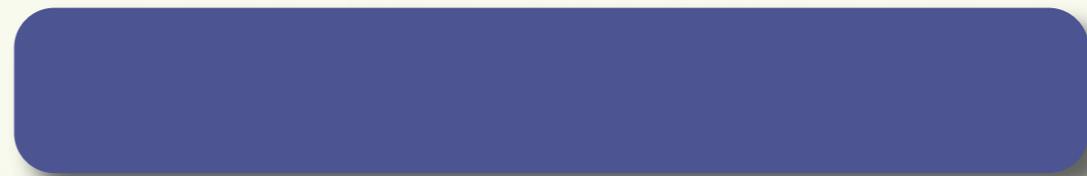
border-radius

Browser Support:

box-shadow

Creates a drop shadow beneath the selected element.

The first argument is the horizontal offset, the second is the vertical offset, the third is the blur radius, and the final argument is the color to be used as the shadow.

```
box-shadow: 10px 10px 10px #333;
```

TEXT

text-overflow

If text overflows the available space, the text-overflow property defines what happens.

The value "ellipsis" appends an ellipsis character at the overflow point.

```
text-overflow: ellipsis;
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam purus nunc, auctor et accumsan ut, aliquam vel leo. Quisque dignissim tincidunt rhoncus. Duis sed velit rutrum lorem rutrum faucibus. Nam tincidunt eros at arcu vestibulum egestas. Donec fringilla, turpis in auctor luctus, orci orci vestibulum lacus, a tristique felis erat non diam. Morbi dolor massa, elementum ac iaculis quis, iaculis sed neque. Aliquam erat volutpat. Aliquam porttitor auctor massa sit amet ultrices. Maecenas quis nunc nibh, sit amet hendrerit leo. Donec a massa eget velit consectetur fermentum aliquet et eros. Vestibulum volutpat, est vitae dapibus congue, nibh augue vehicula lacutus es…

text-overflow

Browser Support:

text-shadow

Creates a drop shadow beneath the selected text.

The first argument is the horizontal offset, the second is the vertical offset, the third is the blur radius, and the final argument is the color to be used as the shadow. Multiple shadow definitions may be separated using commas.

```
text-shadow: 10px 10px 10px #333;
```

This is sample text.

column-width & column-gap

Breaks flowing text into multiple columns, based on the width of the container. Column width defines the width of each column, and column-gap defines the gap between columns.

Column-count can be specified in lieu of column-width.

```
column-width: 200px;
column-gap: 20px;
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam purus nunc, auctor et accumsan ut, aliquam vel leo. Quisque dignissim tincidunt rhoncus. Duis sed velit rutrum lorem rutrum faucibus. Nam tincidunt eros at arcu vestibulum egestas. Donec fringilla, turpis in auctor luctus, orci orci vestibulum lacus, a tristique felis erat non diam. Morbi dolor massa, elementum ac iaculis quis, iaculis sed neque. Aliquam erat volutpat. Aliquam porttitor auctor massa sit amet ultrices. Maecenas quis nunc nibh, sit amet hendrerit leo. Donec a massa eget velit consectetur fermentum aliquet et eros. Vestibulum volutpat, est vitae dapibus congue, nibh augue vehicula lacus, vel semper dolor odio in libero. Curabitur vitae sem consequat purus fermentum tincidunt. Donec vestibulum felis ut metus ultrices a vulputate felis rhoncus eum ivolonortis

quisque dignissim tincidunt rhoncus. Duis sed velit rutrum lorem rutrum faucibus. Nam tincidunt eros at arcu vestibulum egestas. Donec fringilla, turpis in auctor luctus, orci orci vestibulum lacus, a tristique felis erat non diam. Morbi dolor massa, elementum ac iaculis quis, iaculis sed neque. Aliquam erat volutpat. Aliquam porttitor auctor massa sit amet ultrices. Maecenas quis nunc nibh, sit amet hendrerit leo. Donec a massa eget velit consectetur fermentum aliquet et eros. Vestibulum volutpat, est vitae dapibus congue, nibh augue vehicula lacus, vel semper dolor odio in libero. Curabitur vitae sem consequat purus fermentum tincidunt. Donec vestibulum felis ut metus ultrices a vulputate felis rhoncus eum ivolonortis

@font-face

Allows a font file to be associated with a font name for later use in font-family declarations.

IE supports only .eot Embedded OpenType files, while the other browsers support any TTF and OTF font files.

```
@font-face {
  font-family: Helvy;
  src: local("Helvetica Neue Bold"),
       local("HelveticaNeue-Bold"),
       url(MgOpenModernaBold.ttf);
  font-weight: bold;
}


p.specialFont { font-family: Helvy, sans-serif; }
```

column-width/column-gap   **Browser Support:**

TRANSFORMATION

rotate

Rotates the selected element at the defined angle, defined in degrees.

The rotation doesn't affect layout, and elements that are transformed are treated similarly to position:relative.

```
transform: rotate(30deg);
```

Browser Support:

scale

Scales the element in question based on the specified unit–less numbers given for the X and Y axes. If only one number is given, it is applied to both axes.

```
transform: scale(0.5,2.0);
```

scale

Browser Support:

skew

Skews the element around the X and Y axes by the specified angles, in degrees. If it's only one number, the Y axis is assumed to be zero.

```
transform: skew(-30deg);
```

Browser Support:

translate

Moves the object along each axis by the length specified. The unit can be anything accepted as a length in CSS, such as px, em, percentages, etc.

```
transform: translate(30px, 0);
```

3D TRANSFORMATIONS

PERSPECTIVE — *The distance, in pixels, of the z=0 plane from the viewer.*

MATRIX3D — *Allows creation of a 3d transformation matrix.*

ROTATE3D — *Rotate the matched element in three dimensions.*

SCALE3D — *Performs a three-dimensional scale operation.*

TRANSLATE3D — *Allows the matched element to be moved along three axes.*

BROWSER PREFIXES

FIREFOX: *-moz-box-shadow:*

SAFARI: *-webkit-box-shadow:*

OPERA: *-o-box-shadow:*

IE: *-ms-box-shadow:*

READY YET?

When is it Time to Use These?

THE FUTURE

IMPLEMENTATION
trumps
SPECIFICATION

PROGRESSSFUL DEGRAHANCEMENT™

In the end, be mindful of

BUSINESS AND USER GOALS

A Healthy Dose of

CRITICISM

MORE RESOURCES

HTML 5 Doctor   *http://html5doctor.com/*

HTML 5 Spec   *http://dev.w3.org/html5/spec/Overview.html*

ALA Article   *http://www.alistapart.com/articles/previewofhtml5*

Bruce Lawson   *http://www.brucelawson.co.uk/category/ accessibility-web-standards/html5/*

Your Presenters   *Feel free to follow up with Jackson & Jason*

FIN

Get in Touch!

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