

IO Lab: Emerging Web Standards

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INFO 290TA (Information Organization Lab)
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Homework 1

Grade & Feedback

Semantic HTML & Accessibility

Semantic HTML

Meaning, not presentation.

Meaning-oriented	Presentation-oriented
<code><div id="sidebar"></code>	<code><div id="left-column"></code>
<code><p class="highlight"></code>	<code><p class="yellow"></code>
<code><h1>, <h2>, <h3></code>	<code></code>
<code><footer> *</code>	<code><div id="footer"></code>

* this is HTML 5 and it's not supported in IE8 or lower. There are workarounds, but use with caution.

Web Accessibility

Skip links

```
<a href="#content"></a>
```

Be explicit

Label graphics and images with “alt” text

Label the structure, e.g. “Recent News”

Label links, e.g. “Download the registration form” is better than “Click here”

Label forms and dropdown menus, e.g. “Select age range” is better than “18-34”

Relative font sizes

Consider using em or % instead of px

Web Accessibility

Consider non-Javascript alternatives.

View your site without graphics & with Javascript disabled.

Small changes make a big difference.

Web Typography

Back in the Day...

Limited to what's available on the user's machine.

“Web-safe fonts”, e.g. Times, Arial, Courier.

Today

@font-face to the rescue

```
@font-face {  
  font-family: DeliciousRoman;  
  src: url(http://www.font-face.com/fonts/delicious/Delicious-Roman.otf);  
}
```

Font hosting services

Typekit

Google Fonts

Don't forget to include fallback fonts

serif

sans-serif

monospace

629 font families shown

Word **Sentence** Paragraph Poster

Preview Text: Grumpy wizards make Size: 28 px Sorting: Trending

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

Aldrich, 1 Style by MADType

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

Polina, 1 Style by TypeType

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

Medula One, 1 Style by LatinoType

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

Trykker, 1 Style by Magnus Gaarde

Web fonts...
Web fonts everywhere

Filters:

All categories

Thickness

Slant

Width

Reset all filters/search

Script:

Latin

Styles:

Show all styles

HTML



HTML 5: What's New

SEMANTICS

header

footer

menu

nav

canvas

article

etc.

FEATURES

localStorage

geo

audio & video

3D

etc.

HTML 5: More Semantic HTML

HTML 4	HTML 5
<code><div id="header"></code>	<code><header></code>
<code><div id="content"></code>	<code><article></code>

HTML 5: Better Forms

HTML 4	HTML 5
<pre><input type="text" value="First Name"></pre>	<pre><input type="text" placeholder="First Name"></pre>

HTML 5: Geo Location

```
navigator.geolocation.getCurrentPosition(  
    success, error, options);
```

```
function getLocation() {  
    if (navigator.geolocation) {  
        navigator.geolocation.getCurrentPosition(showPosition);  
    }  
}  
function showPosition(position) {  
    alert(  
        "Latitude: " + position.coords.latitude +  
        " Longitude: " + position.coords.longitude  
    );  
}  
getLocation();
```

HTML 5: Local Storage

Set

```
localStorage.setItem("device") = "iPhone";
```

Get

```
localStorage.getItem("device");  
// "iPhone"
```

Remove / "Forget"

```
localStorage.removeItem("device");
```


CSS



CSS 3: What's New

RGBA &
opacity

rounded
corners

box
shadows

text
shadows

@media

@font-face

word
wrapping

pseudo-
classes

multi-column
layouts

multiple
backgrounds

new
selectors

combinators

etc.

CSS 3: More Layout Control

Border Radius: radius

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

Text Shadow: color, x-offset, y-offset, blur radius

```
text-shadow: red 4px 4px 2px;
```

Box Shadow: x-offset, y-offset, blur radius, color

```
text-shadow: 4px 4px 2px #000;
```

Multiple backgrounds:

```
background: url(1.jpg) center bottom no-repeat,  
url(2.jpg) left top no-repeat;
```

...

CSS 3: Selectors & Combinators

`:not()`

`:empty`

`:target`

`:nth-child()`

`:last-child`

`h1 ~ p`

`...`

CSS 3: Animation

```
h1 {  
    animation-duration: 3s;  
    animation-name: slidein;  
}
```

```
@keyframes slidein {  
    from {  
        margin-left: 100%;  
    }  
    to {  
        margin-left: 0%;  
    }  
}
```

...

CSS 3: Transformation

```
#skew {  
    transform:skew(35deg);  
}  
  
#rotate {  
    transform:rotate(45deg);  
}  
  
#rotateX:hover {  
    transform:rotateX(180deg);  
}
```

CSS 3: Browser Prefixes

Each browser has different levels of support for CSS 3.

Browser	Prefix
WebKit (Chrome/Safari)	-webkit-
Firefox	-moz-
Opera	-o-

```
#contact {  
  -webkit-border-radius: 10px;  
  -moz-border-radius: 10px;  
  -o-border-radius: 10px;  
  border-radius: 10px;  
}
```



SVG

Scalable Vector Graphics

XML-based vector image format

Can be edited with text editor or drawing programs (e.g. Illustrator)

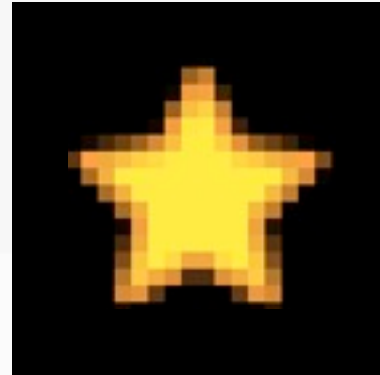
Compatible with other web technologies

Javascript (interactivity & animation)

CSS (visual style)

Modern web browsers support

Raster VS Vector



Raster	Vector
Made of pixels	Made of mathematical calculations
Loses quality when scaled up	Doesn't lose quality when scaled up
File size is related to dimension & resolution (e.g. 4000 x 3200 pixels @ 300 ppi)	File size depends on complexity of shapes, independent of dimension & resolution
Harder to convert to vector	Easier to convert to raster

SVG Syntax

```
<svg xmlns="http://www.w3.org/2000/svg"  
version="1.1" width="500" height="200">  
  <rect x="0" y="0" width="100" height="100"  
fill="red" />  
</svg>
```



Use with Caution

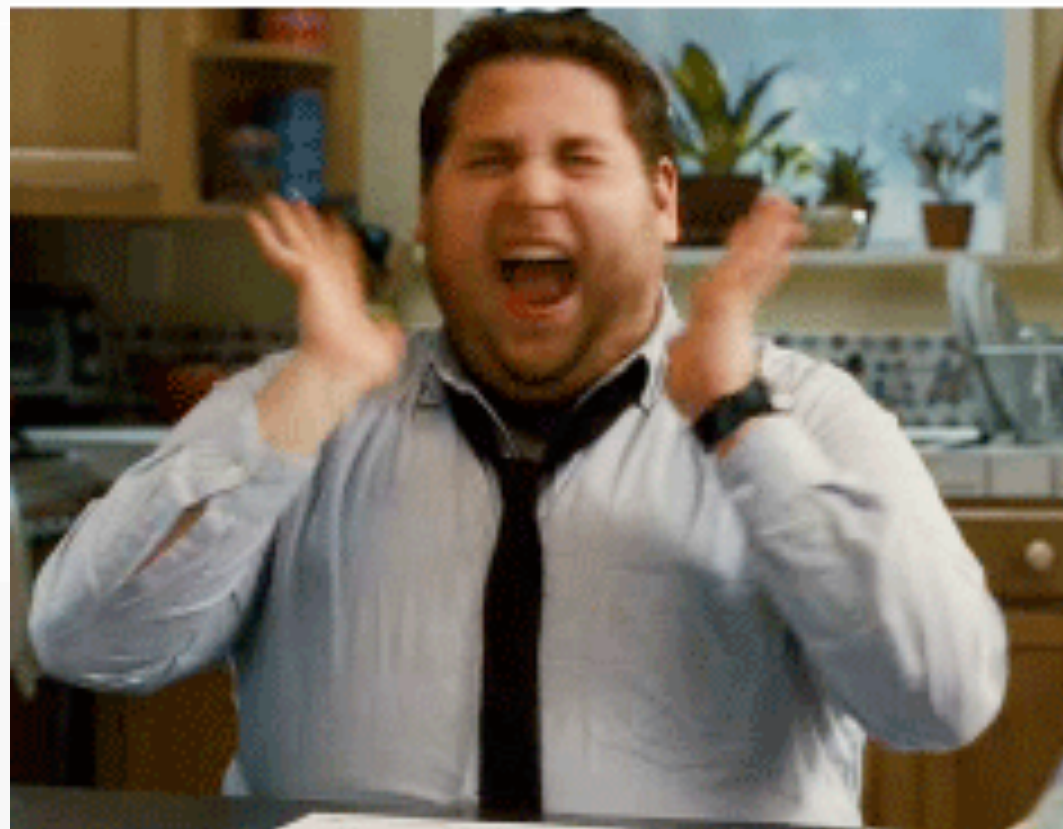
Modern browsers support many of HTML 5, CSS 3, & SVG features.

However, support is not uniform.

<http://html5please.com/>

<http://caniuse.com/>

Project Presentation



Project Grading Criteria

50% concept

50% implementation

Actual points will vary per project

P 1: 5 & 5 (10 points total)

P 2: 7.5 & 7.5 (15 points total)

P 3: 7.5 & 7.5 (15 points total)

P 4: 12.5 & 12.5 (25 points total)

Grading: Concepts

Grade	Description
< 60%	The project did not meet the requirements specified in the guidelines.
60% - 69%	The project shows a basic understanding of the theoretical concepts.
70% - 79%	The project shows a good understanding of the theoretical concepts and students' effort to explore them.
80% - 89%	The project shows a great understanding of the theoretical concepts and students' effort to explore them beyond the basics.
90% - 100%	The project clearly shows a great understanding of the theoretical concepts and students' notable effort to explore them in depth.

Grading: Implementation

Grade	Description
< 60%	The prototype does not work.
60% - 69%	The prototype works partially. There are major bugs that prevent the prototype from working completely. Code is not very structured. Prototype design is sub-par.
70% - 79%	The prototype works partially. There are bugs that prevent some functionalities from working properly. Code is somewhat structured. Prototype design is adequate.
80% - 89%	The prototype works. There are some minor bugs, but they do not prevent the prototype from working. Code is structured well. Prototype design is good and reflects some level of effort.
90% - 100%	The prototype works smoothly. There are a few minor (or no) bugs. Code is efficient and is structured well. Prototype design is great and reflects a high level of effort.

Presentation Logistics

Projects will be presented on instructor's machine.

Do **NOT** submit your projects late.

Follow the submission guideline. Please.

Order of presentation will be determined at random.

6 minutes per group

< 1 min. group introduction

4 mins. project summary & demo

2 mins. Q&A

Project 2

Metadata

Data about data, e.g. date posted, keywords, location, etc.

Good metadata → easy information retrieval.

“... a fan could find all the downloadable music in a given genre, a manufacturer could efficiently discover suppliers, travelers could easily choose a hotel room for an upcoming trip.”

Too bad that “exhaustive, reliable metadata” is a pipe-dream.

Metacrap

People lie.

People are lazy.

People are stupid.

Mission: Impossible—know thyself.

Schemas aren't neutral.

Metrics influence results.

There's more than one way to describe something.

Mini Lab

Let's Try It Out

Open your HW 1 files.

Use HTML 5's `localStorage` to remember the user's to-do list.

Change the layout using CSS 3 properties.

Next Class

Next Class

Project 1 is due **before class**

Project 1 presentation