

Web Standards: Fueling Innovation

Aaron Gustafson



easy designs



**“I cannot help fearing
that men may reach a
point where they
look on every new
theory as a danger,
every innovation as a
toilsome trouble,
every social advance
as a first step toward
revolution, and that
they may absolutely
refuse to move at all.**

- Alexis de Tocqueville



HTML = Foundation

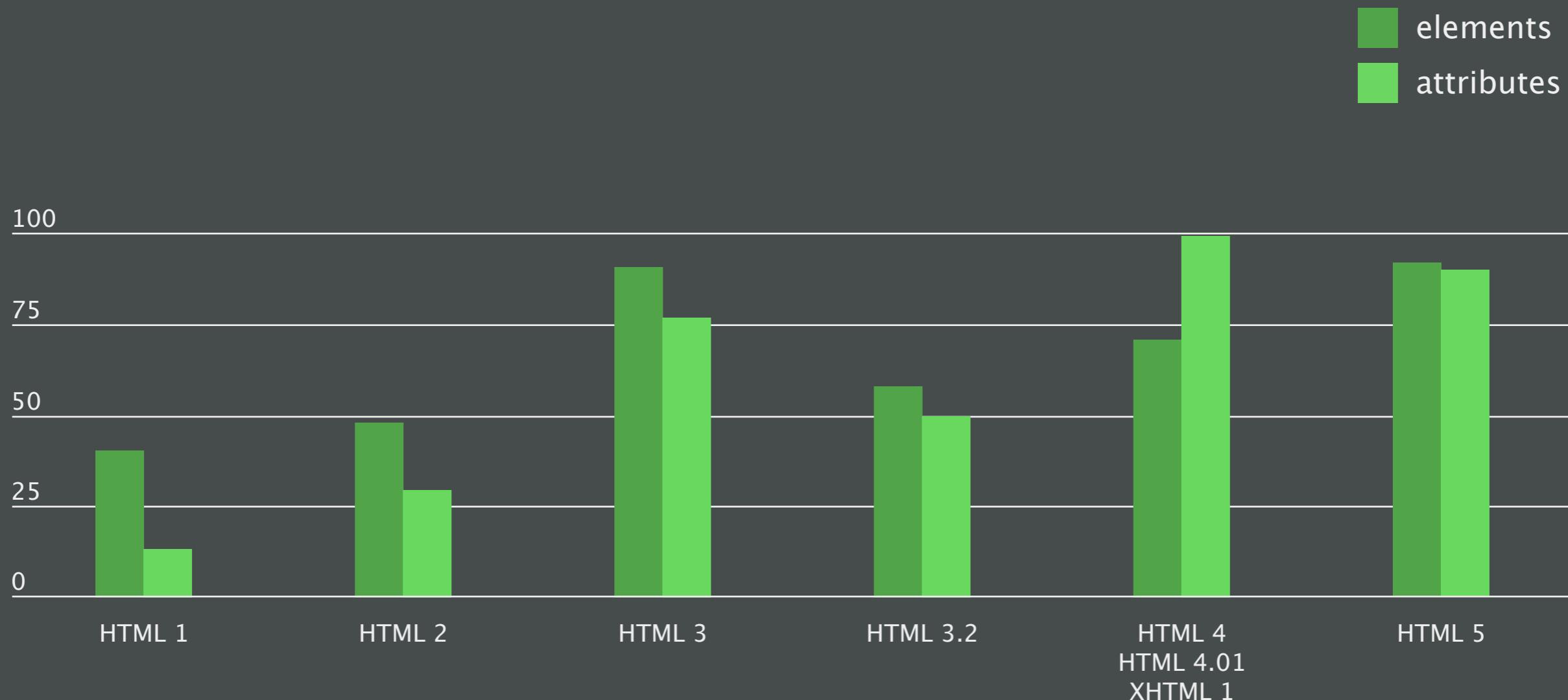
**“Art is good when it springs from necessity.
This kind of origin is the guarantee of its
value; there is no other.**

- Angela Carter



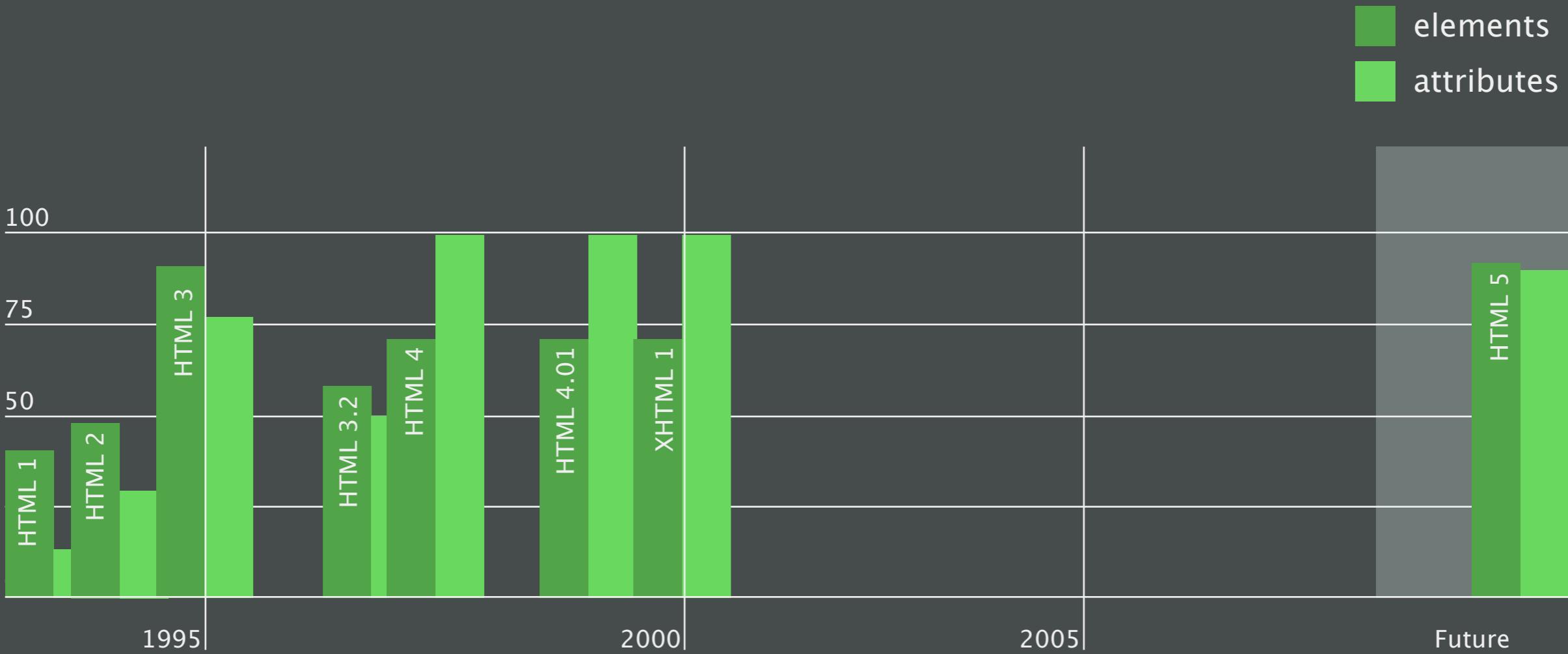


Progress



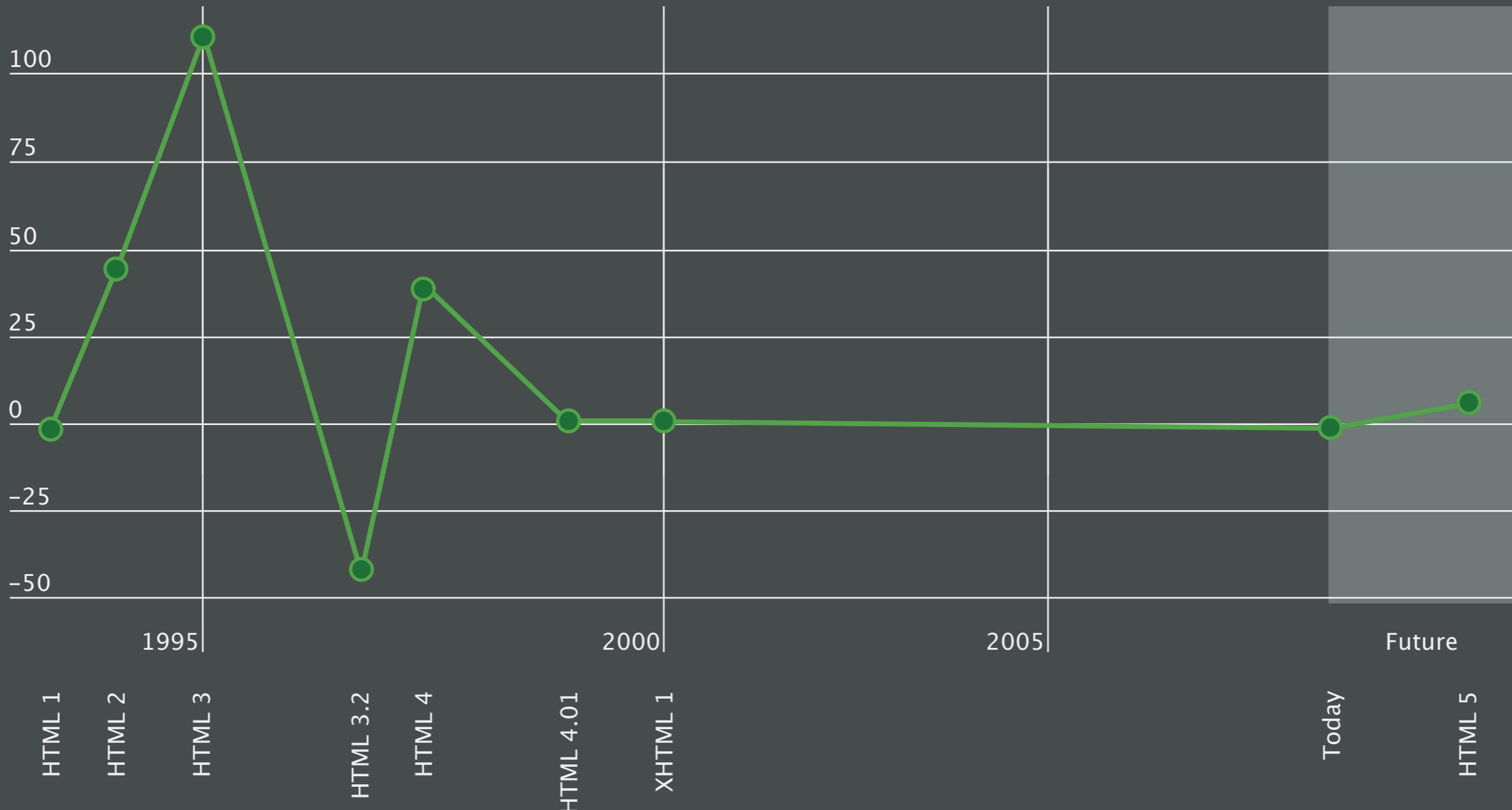


Progress?





Progress?



What's wrong with this picture?



**“The arrogance of success is to think
that what you did yesterday will be
sufficient for tomorrow.**

- William Pollard

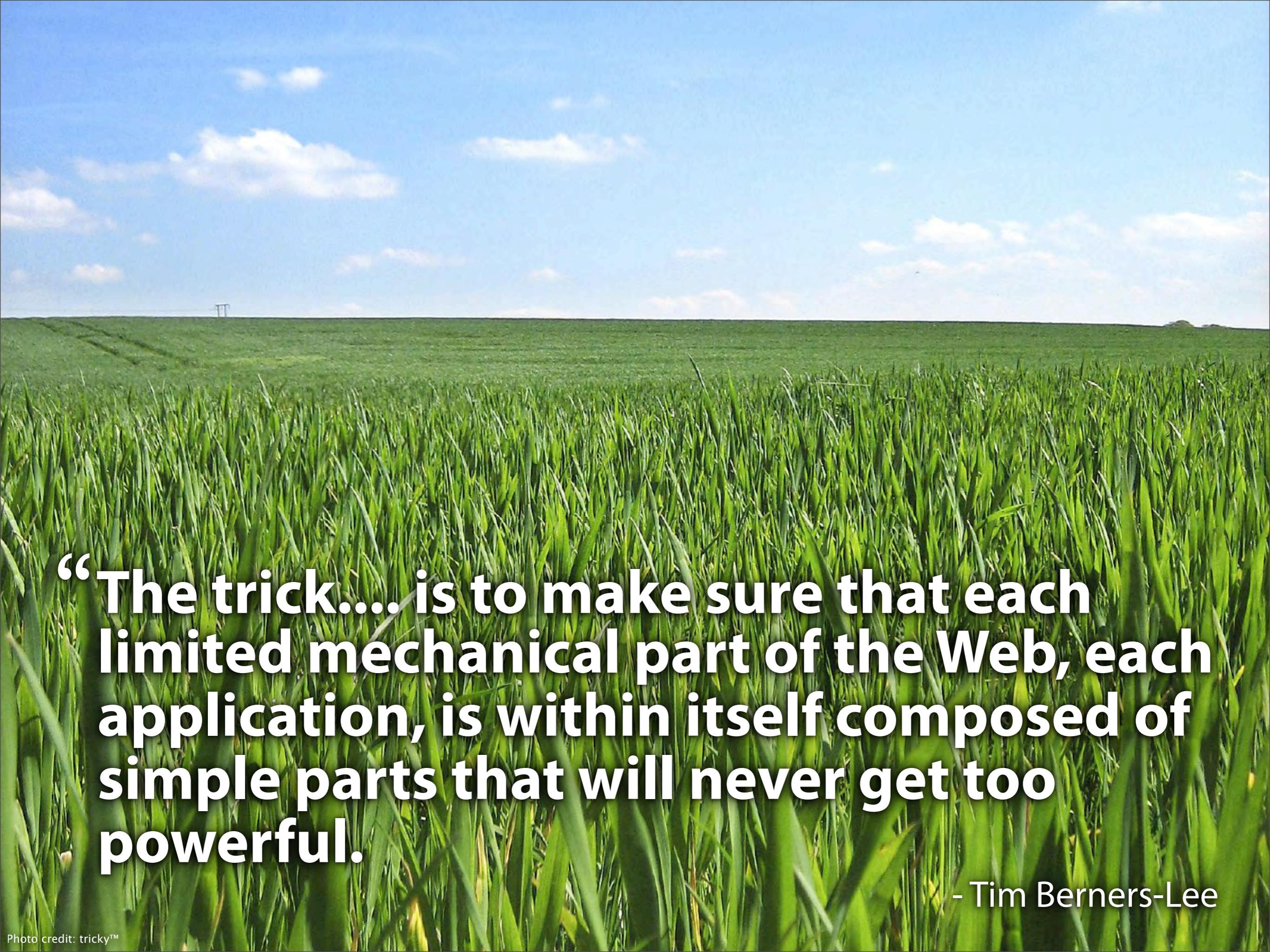


Innovation is within reach



components



A wide-angle photograph of a lush green field, likely wheat or barley, stretching to a distant horizon under a clear blue sky with a few wispy white clouds.

“The trick.... is to make sure that each limited mechanical part of the Web, each application, is within itself composed of simple parts that will never get too powerful.

- Tim Berners-Lee



XFN:



<a href="http://easy-designs.net"
rel="friend met co-worker
colleague co-resident
spouse muse
sweetheart">Kelly McCarthy

XFN:



XFN:



```
<a href="http://duoh.com"  
rel="friend met  
colleague">Veerle Pieters</a>
```

XFN:



```
<a href="http://duoh.com"  
rel="friend met  
colleague">Geert Leyseele</a>
```

rel-tag:

```
<a href="http://en.wikipedia.org/wiki/Rudbeckia_hirta"  
rel="tag">Black-eyed Susan</a>
```



rel-license:

[Creative Commons
Attribution-Share Alike 2.0](http://creativecommons.org/licenses/by-sa/2.0/deed.en)

classification



Scalability

As time goes by, people's expectations change, and more will be demanded of HTML. One manifestation of this is the pressure to add yet more tags. HTML 3.0 introduces a means for subclassing elements in an open-ended way.

...

This ability to make fresh distinctions can be exploited to impart distinct rendering styles or to support richer search mechanisms, without further complicating the HTML document format itself.

- HTML 3.0 Draft

CLASS

This a space separated list of SGML NAME tokens and is used to subclass tag names.

...

The CLASS attribute is most commonly used to attach a different style to some element, but it is recommended that where practical class names should be picked on the basis of the element's semantics, as this will permit other uses, such as restricting search through documents by matching on element class names.

- HTML 3.0 Draft



“Microformats are carefully designed (X)HTML class names that extend the semantics of (X)HTML and enable authors to publish higher semantic fidelity content such as people, events, reviews, etc.

- Tantek Çelik



HTML 3:

```
<person>Joe Blow</person>
```

microformats:

```
<div class="vcard">  
  <span class="fn">  
    Joe Blow  
  </span>  
</div>
```



HTML 3:

```
<person>Joe Blow</person>
```

microformats:

```
<div class="vcard">
<span class="fn">
  Joe Blow</span>
<a class="org url"
  href="http://web.com">
  Company</a>
<div class="tel">
  <span class="type">
    Work</span>
  +1-650-289-4040
</div>
</div>
```



HTML 3:

```
<fig src="photo.jpg">
<caption><em>Figure 1:</em>
The “Faces of the Fallen”
exhibit at Arlington
National Cemetery
</caption>
<credit>Aaron Gustafson
</credit>
</fig>
```



Photo by Aaron Gustafson

Figure 1: The “Faces of the Fallen” exhibit at Arlington National Cemetery

microformats:

```
<div class="figure">

<p class="credit vcard">
  <abbr class="type"
    title="Photograph">Photo
  </abbr> by <cite
    class="fn">Aaron Gustafson
  </cite></p>
<p class="caption"><em
  class="legend">Figure 1</em>
  The <span class="subject">
  “Faces of the Fallen”
  exhibit</span> at Arlington
  National Cemetery.</p>
</div>
```



Photo by Aaron Gustafson

Figure 1: The “Faces of the Fallen” exhibit at Arlington National Cemetery

HTML 5:

```
<figure>

<legend>Figure 1</legend>
<p>Photo by <cite>Aaron
Gustafson</cite></p>
<p>The “Faces of the Fallen”
exhibit at Arlington
National Cemetery.</p>
</figure>
```



Photo by Aaron Gustafson

Figure 1: The “Faces of the Fallen” exhibit
at Arlington National Cemetery



extensibility

Why the need for XHTML?

Document developers and user agent designers are constantly discovering new ways to express their ideas through new markup.

...

The XHTML family is designed to accommodate these extensions through XHTML modules

...

These modules will permit the combination of existing and new feature sets when developing content and when designing new user agents.

- XHTML 1.0 Recommendation



Customize an existing DTD

```
<!ELEMENT input EMPTY>      <!-- form control --&gt;
&lt;!ATTLIST input
  %attrs;
  %focus;
  type          %InputType;    "text"
  name          CDATA         #REQUIRED
  value         CDATA         #IMPLIED
  checked       (checked)    #IMPLIED
  disabled      (disabled)   #IMPLIED
  readonly      (readonly)   #IMPLIED
  required      (required)   #IMPLIED
  size          CDATA         #IMPLIED
  maxlength    %Number;      #IMPLIED
  src           %URI;        #IMPLIED
  alt           CDATA         #IMPLIED
  usemap        %URI;        #IMPLIED
  onselect      %Script;     #IMPLIED
  onchange      %Script;     #IMPLIED
  accept        %ContentTypes; #IMPLIED
  &gt;</pre>
```



Complex custom attributes

```
<!ENTITY % VSchema
  "(email | phone | address | postcode |
    name | title |
    alpha | numeric | alphanumeric |
    date | range)"
  >
<!--
  Implementation of ValidateFor
  To be used on text inputs, range takes the type of schema (VScema, above)
  validation should be performed against:
  validatefor="name"
-->
<!ELEMENT input EMPTY>      <!-- form control -->
<!ATTLIST input
  ...
  usemap      %URI;          #IMPLIED
  validatefor %VSchemas;     #IMPLIED
  onselect    %Script;        #IMPLIED
  onchange    %Script;        #IMPLIED
  accept      %ContentTypes; #IMPLIED
  >
```



Or get Modular

```
<!ATTLIST %input.qname;
  %FormValidation.pfx;limit      CDATA          #IMPLIED
  %FormValidation.pfx;range      CDATA          #IMPLIED
  %FormValidation.pfx;required   (required)     #IMPLIED
  %FormValidation.pfx;match      IDREF          #IMPLIED
  %FormValidation.pfx;maxlength %Number;       #IMPLIED
  %FormValidation.pfx;validatefor %VSchema;    #IMPLIED
>
```

Tutorial on XHTML Modularization: <http://tinyurl.com/52g2xc>



Put your creation to work

```
<form action="/path/to/action" method="post">
<ol>
  <li>
    <label for="email">Your Email</label>
    <input type="text" id="email" name="email" required="required"
           maxlength="255" validatefor="email" />
  </li>
  <li>
    <label for="pw1">Password</label>
    <input type="password" id="pw1" name="pw1" required="required"
           maxlength="20" validatefor="alphanumeric" match="pw2" />
  </li>
  <li>
    <label for="pw2">Confirm Password</label>
    <input type="password" id="pw2" name="pw2" required="required"
           maxlength="20" validatefor="alphanumeric" match="pw1" />
  </li>
  <li><button type="submit">Register</button></li>
</ol>
</form>
```

4.1.2.1 Vendor-specific extensions

In CSS, identifiers may begin with '-' (dash) or '_' (underscore). Keywords and property names beginning with '-' or '_' are reserved for vendor-specific extensions.

- CSS 2.1 Specification



Currently used by browsers

```
div {  
  -moz-border-radius: 10px;  
  -webkit-border-radius: 10px;  
  background: #444;  
  border: 3px solid #222;  
  color: #fff;  
  opacity: .9;  
  padding: 6px;  
}
```



Currently used by browsers

```
div {  
  -moz-border-radius: 10px;  
  -webkit-border-radius: 10px;  
  background: #444;  
  border: 3px solid #222;  
  color: #fff;  
  opacity: .9;  
  padding: 6px;  
}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate.



be your own
vendor

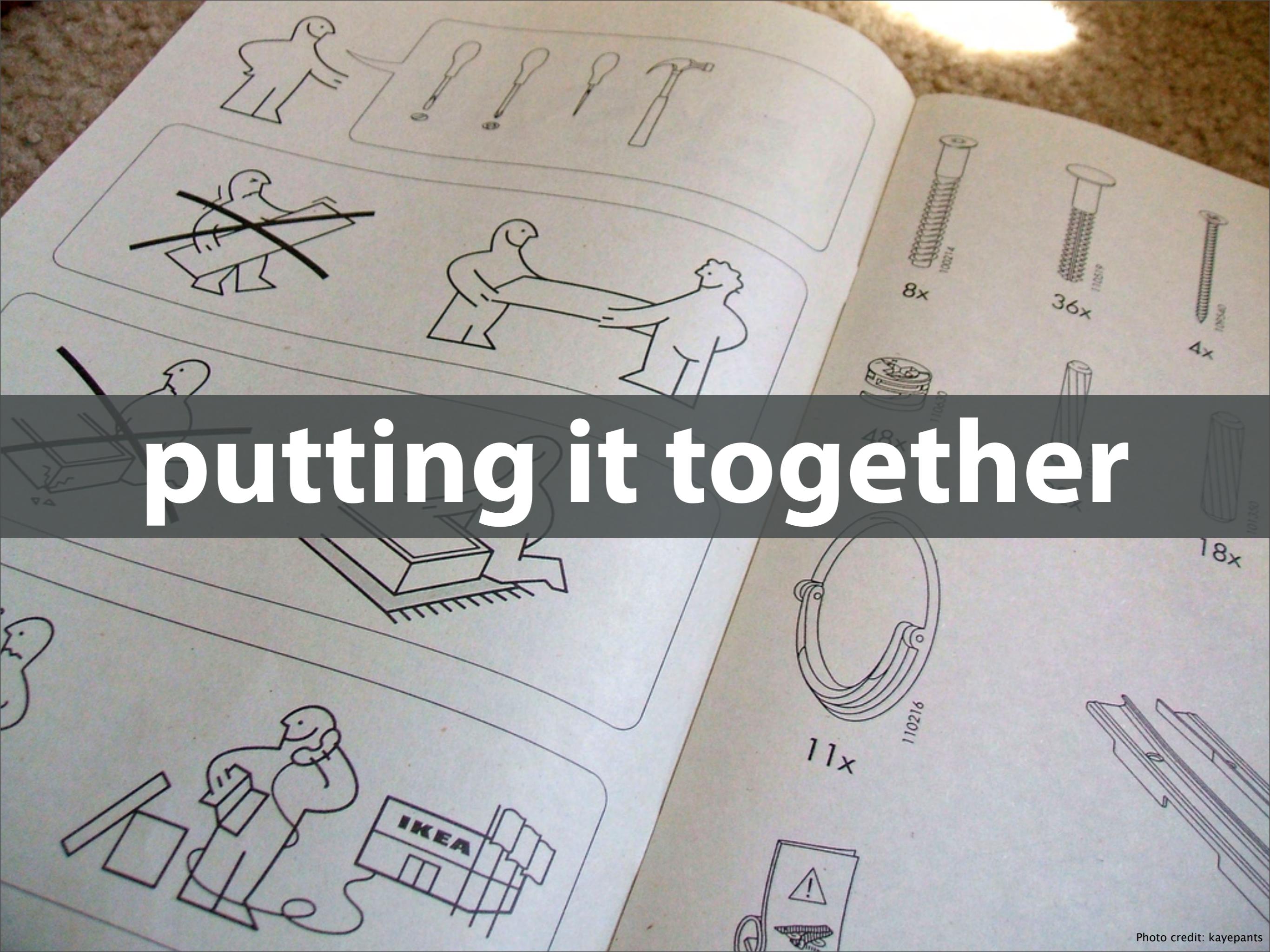


Presentation where it belongs

```
div#focal img {  
  -easy-frame: polaroid;  
}
```



putting it together



Progressive Enhancement



sweet & simple

Classification for interface control

Pumpkin Pie

OVERVIEW INGREDIENTS DIRECTIONS NUTRITION

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 x 9-inch deep dish pie

Prep Time: 10min
Cook Time: 1hr
Ready In: 1hr 10min





Crufty

```
<h1>Pumpkin Pie</h1>

<div class="container">
  <div class="section">
    <h2>Overview</h2>
    
    <p>Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!</p>
    ...
  </div>
  ...
<ul class="tabs">
  <li><a href="#">Overview</a></li>
  <li><a href="#">Ingredients</a></li>
  <li><a href="#">Directions</a></li>
  <li><a href="#">Nutrition</a></li>
</ul>
</div>
```



Classy

```
<h1>Pumpkin Pie</h1>

<div class="tabbed">
  <h2>Overview</h2>
  
  <p>Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!</p>
  ...
  <h2>Ingredients</h2>
  <ul>
    <li>1 (9<abbr title="inch">in</abbr>) unbaked deep dish pie crust</li>
    <li>½ cup white sugar</li>
    <li>1 <abbr title="teaspoon">tsp</abbr> ground cinnamon</li>
    ...
  </ul>
  <h2>Directions</h2>
  ...
</div>
```



Classy

Using Prototype:

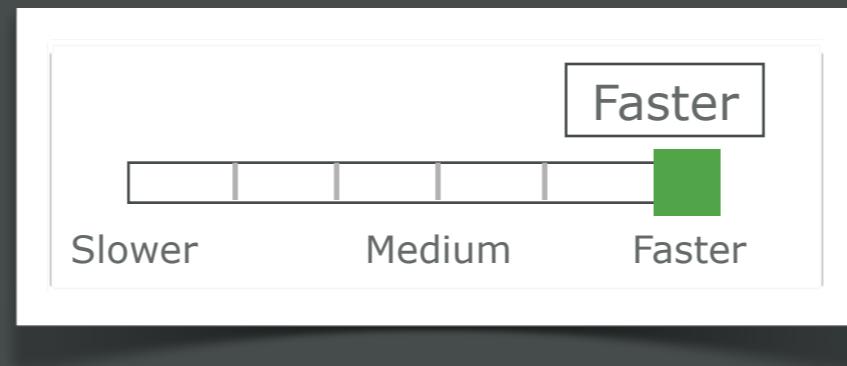
```
document.observe("dom:loaded", function(){
  var cabinet = [];
  $$('.tabbed').each( function( item, i ){
    cabinet.push( new TabInterface( item, i ) );
  });
});
```

TabInterface: <http://tinyurl.com/3paywu>

JavaScript: good at looking for things to do



Classification for better form controls





Classy

```
<label for="speed">Select a Speed:</label>
<select name="speed" class="slider">
  <option value="Slower">Slower</option>
  <option value="Slow">Slow</option>
  <option value="Medium" selected="selected">Medium</option>
  <option value="Fast">Fast</option>
  <option value="Faster">Faster</option>
</select>
```

accessibleUISlider: <http://tinyurl.com/4kstyj>



Classy

```
<label for="speed">Select a Speed:</label>
<select name="speed" class="slider">
  <option value="Slower">Slower</option>
  <option value="Slow">Slow</option>
  <option value="Medium" selected="selected">Medium</option>
  <option value="Fast">Fast</option>
  <option value="Faster">Faster</option>
</select>
```

Using jQuery:

```
$('.select.slider').accessibleUISlider();
```

accessibleUISlider: <http://tinyurl.com/4kstyj>



Classy

```
<label for="speed">Select a Speed:</label>
<select name="speed" class="slider">
  <option value="Slower">Slower</option>
  <option value="Slow">Slow</option>
  <option value="Medium" selected="selected">Medium</option>
  <option value="Fast">Fast</option>
  <option value="Faster">Faster</option>
</select>
```

Using jQuery:

```
$('.select.slider').accessibleUISlider();
```

A step farther?

```
select {
  -jQueryUI-control: slider;
}
```

accessibleUISlider: <http://tinyurl.com/4kstyj>

Don't be afraid to get creative

 [from gFss] Lorem ipsum dolor sit amet, consetetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.



Presentational Flash

```
#sidebar:after {  
  -gfss-source: url(spiral.swf);  
  -gfss-background-color: #000;  
  -gfss-flash-version: 6;  
  -gfss-quality: high;  
  -gfss-width: 50;  
  -gfss-height: 50;  
  position: absolute;  
  top: 0;  
  left: 0;  
}
```



**“Innovation is the ability to see change
as an opportunity - not a threat.**

- Anonymous

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Slides available at
<http://slideshare.net/AaronGustafson>

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