

Web Components

by Bob Dylan and Jacques Levy

Here comes the story of the Hurricane
The man the authorities came to blame
For somethin' that he never done
Put in a prison cell, but one time he could-a been
The champion of the world

<body>

HURRICANE

by Bob Dylan and Jacques Levy

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</body>

```
<br/><br/><main>
```

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Put in a prison cell, but one time he could-a been
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```
</main></body>
```

```
<body>
<main>
<h1>
```



Here comes the story of the Hurricane
The man the authorities came to blame
For somethin' that he never done
Put in a prison cell, but one time he could-a been
The champion of the world

```
</main></body>
```

```
<body>
     <main>
                 Hurricane
                                        </h1>
       <h1>
                                   s Levy
                                   ry of the Hurricane
text-transform: uppercase;
                                   rities came to blame
                                   he never done
                 Put in a prison cell, but one time he could-a been
                 The champion of the world
```

</main></body>

Here comes
The man the about its section such as who wrote it,
For somethi links to related documents, copyright
Put in a pris
The champion of the world

</main></body>

```
footer
{
font-style: italic;
}
ry of the Hurricane
rities came to blame
ne never done
but one time he could-a been
rities came to blame
ne never done
but one time he could-a been
```

</main></body>

```
<body>
  <main>
              Hurricane
                                      </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
    >
               Here comes the story of the Hurricane
               The man the authorities came to blame
               For somethin' that he never done
               Put in a prison cell, but one time he could-a been
               The champion of the world
```

</body>

```
<body>
  <main>
                Hurricane
                                         </h1>
     <h1>
     <footer> by Bob Dylan and Jacques Levy </footer>
     >
                Here comes the story of the Hurricane
                                                                 <br/>br/>
                                                                 <br/>br/>
                The man the authorities came to blame
                                                                 <br/>br/>
                For somethin' that he never done
                Put in a prison cell, but one time he could-a been <br/>
<br/>
| > |
                The champion of the world
</body>
```

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```
<body>
  <main>
              Hurricane
                                      </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
    >
               Here comes the story of the Hurricane
               The man the authorities came to blame
               For somethin' that he never done
               Put in a prison cell, but one time he could-a been
               The champion of the world
```

</body>

```
<body>
  <main>
              Hurricane
                                      </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
    >
             Here comes the story of the Hurricane
                                                           </div>
             > The man the authorities came to blame
                                                           </div>
         div> For somethin' that he never done
                                                           </div>
        <div> Put in a prison cell, but one time he could-a been </div>
        <div> The champion of the world
                                                           </div>
</body>
```

```
<body>
  <main>
              Hurricane
                                     </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
    >
       <span> Here comes the story of the Hurricane
                                                          </span>
                                                          </span>
       <span> The man the authorities came to blame
                                                          </span>
       <span> For somethin' that he never done
       <span> Put in a prison cell, but one time he could-a been </span>
                                                          </span>
       <span> The champion of the world
    </body>
```

```
<body>
  <main>
              Hurricane
                                     </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
    >
       <span> Here comes the story of the Hurricane
                                                          </span>
                                                          </span>
       <span> The man the authorities came to blame
       <span> For somethin'
                             span
       <span> Put in a prison
       <span> The champion
</body>
```

```
<body>
          <main>
                      Hurricane
                                            </h1>
            <h1>
            <footer> by Bob Dylan and Jacques Levy </footer>
            >
<span class="line"> Here comes the story of the Hurricane
                                                                </span>
                                                                </span>
<span class="line"> The man the authorities came to blame
<span class="line"> For somethin' that he never done
                                                                </span>
<span class="line"> Put in a prison cell, but one time he could-a been </span>
                                                                </span>
<span class="line"> The champion of the world
            </main>
        </body>
```

```
<body>
          <main>
                     Hurricane
                                           </h1>
            <h1>
            <footer> by Bob Dylan and Jacques Levy </footer>
            >
<span class="line"> Here comes the story of the Hurricane
                                                               </span>
                                                               </span>
<span class="line"> The man the authorities came to blame
<span class="line">For somethin'
                                    .line
<span class="line">Put in a prison
<span class="line">The champion
                                      display: block;
        </body>
```

by Bob Dylan and Jacques Levy

Here comes the story of the Hurricane / The man the authorities came to blame / For somethin' that he never done / Put in a prison cell, but one time he could-a been / The champion of the world

by Bob Dylan and Jacques Levy

Here comes the story of the Hurricane / The man the authorities came to blame / For somethin' that he never done / Put in a prison cell, but one time he could-a been / The champion of the world

```
.line:not(:last-child)::after
{
   content: " / ";
}
```

```
<body>
          <main>
                      Hurricane
                                            </h1>
            <h1>
            <footer> by Bob Dylan and Jacques Levy </footer>
            >
<span class="line"> Here comes the story of the Hurricane
                                                                </span>
                                                                </span>
<span class="line"> The man the authorities came to blame
<span class="line"> For somethin' that he never done
                                                                </span>
<span class="line"> Put in a prison cell, but one time he could-a been </span>
                                                                </span>
<span class="line"> The champion of the world
            </main>
        </body>
```

```
<body>
  <main>
              Hurricane
                                      </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
     >
           <1> Here comes the story of the Hurricane
                                                            </1>
                                                            </1>
           <1> The man the authorities came to blame
                                                            </1>
           <1> For somethin' that he never done
           <l> Put in a prison cell, but one time he could-a been </l></l>
                                                            </1>
           <1> The champion of the world
     </body>
```

Custom Elements

```
<body>
  <main>
              Hurricane
                                     </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
    >
        <x-l> Here comes the story of the Hurricane
                                                           </x-l>
                                                           </x-l>
        <x-1> The man the authorities came to blame
                                                           </x-l>
        <x-l> For somethin' that he never done
        < x-1> Put in a prison cell, but one time he could-a been </x-1>
                                                           </x-l>
        < x-1 > The champion of the world
    </body>
```

```
<body>
  <main>
              Hurricane
                                    </h1>
    <h1>
    <footer> by Bob Dylan and Jacques Levy </footer>
    >
                                                        </x-l>
        <x-l> Here comes the story of the Hurricane
                                                        </x-l>
        <x-1> The man the authorities came to blame
        < x-1 > For somethin'
        <x-l> Put in a prison
        <x-l> The champion
                               display: block;
    padding-left: 1em;
  </main>
                               text-indent: -1em;
</body>
```

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
var XLElement = document.registerElement('x-l', {
   prototype: XLElementPrototype
});
```

```
x-l
{
    display: block;
    padding-left: 1em;
    text-indent: -1em;
    hanging-punctuation: first allow-end last;
}
```

ound mysteriously nis hands

"I was only robbin' the register, I hope you understand I saw them leavin'," he says, and he stops "One of us had better call up the cops" And so Patty calls the cops...























```
for (var xlElements = document.querySelectorAll('x-l'),
    l = xlElements.length, i = 0; i < l; i++)
{
    if (/^([""]+)/.test(xlElements[i].innerHTML))
    {
       xlElements[i].classList.add('hanging-punctuation-start');
    }
}</pre>
```

```
.hanging-punctuation-start
                               erySelectorAll('x-l'),
 text-indent:
                               i].innerHTML))
 xlElements[i].classList.add('hanging-punctuation-start');
```

```
X-l
                      display: block;
                      padding-left: 1em;
for (var xlElemen
                      text-indent: -1em;
                      position: relative;
  l = xlElements.
  xlElements[i].i
    .replace(/^([
                    .hanging-punctuation-start
    '<span class=
                      position: absolute;
                      right: 100%;
                      text-align: right;
```

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
var XLElement = document.registerElement('x-l', {
   prototype: XLElementPrototype
});
```

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
XLElementPrototype.createdCallback = function()
  this.innerHTML = this.innerHTML.replace(/^([""']+)/,
    '<span class="hanging-punctuation-start">$1</span>');
var XLElement = document.registerElement('x-l', {
  prototype: XLElementPrototype
```

Shadow DOM

<input placeholder="...">

Platzhalter

<input type="range">

<audio>



```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
XLElementPrototype.createdCallback = function()
  this.innerHTML = this.innerHTML.replace(/^([""']+)/,
    '<span class="hanging-punctuation-start">$1</span>');
var XLElement = document.registerElement('x-l', {
  prototype: XLElementPrototype
```

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
XLElementPrototype.createdCallback = function()
  var root = this.createShadowRoot();
  root.innerHTML = this.innerHTML.replace(/^([""']+)/,
    '<span class="hanging-punctuation-start">$1</span>');
var XLElement = document.registerElement('x-l', {
  prototype: XLElementPrototype
```

```
x-l
var XLElementProtot
                        display: block;
                        padding-left: 1em;
                        text-indent: -1em;
XLElementPrototype.
                        position: relative;
  var root = this.c
  root.innerHTML =
                      .hanging-punctuation-start
    '<span class="h
                        position: absolute;
                        right: 100%;
                        text-align: right;
var XLElement = doc
  prototype: XLElem
```

```
x-l
var XLElementProtot
                        display: block;
                        padding-left: 1em;
                        text-indent: -1em;
XLElementPrototype.
                        position: relative;
  var root = this.c
  root.innerHTML =
                      x-l::shadow .hanging-punctuation-start
    '<span class="h
                        position: absolute;
                        right: 100%;
                        text-align: right;
var XLElement = doc
  prototype: XLElem
```

```
x-l
var XLElementProtot
                         display: block;
                         padding-left: 1em;
                        text-indent: -1em;
XLElementPrototype.
                         position: relative;
  var root = this.c
  root.innerHTML =
                      x-l::shadow It's been suggested to
                                                       n-start
    '<span class="h
                                    remove this feature.
                         position: apsotute;
                         right: 100%;
var XLElement = doc
                         text-align: right;
  prototype: XLElem
```

```
x-l
var XLElementProtot
                        display: block;
                        padding-left: 1em;
                        text-indent: -1em;
XLElementPrototype.
                        position: relative;
  var root = this.c
  root.innerHTML =
                      x-l /deep/ .hanging-punctuation-start
    '<span class="h
                        position: absolute;
                        right: 100%;
                        text-align: right;
var XLElement = doc
  prototype: XLElem
```

```
x-l
var XLElementProtot
                        display: block;
                        padding-left: 1em;
                        text-indent: -1em;
XLElementPrototype.
                        position: relative;
  var root = this.c
  root.innerHTML =
                      x-l >>> .hanging-punctuation-start
    '<span class="h
                        position: absolute;
                        right: 100%;
                        text-align: right;
var XLElement = doc
  prototype: XLElem
```

```
x-l
var XLElementProtot
                         display: block;
                         padding-left: 1em;
                         text-indent: -1em;
XLElementPrototype.
                         position: relative;
  var root = this.c
                       x-l >>> It's currently disputed
  root.innerHTML =
                                                       start
                                whether this combinator
     '<span class="h
                                should exist.
                         positi
                         right: 100%;
                         text-align: right;
var XLElement = doc
  prototype: XLElem
```

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
XLElementPrototype.createdCallback = function()
  var root = this.createShadowRoot();
  root.innerHTML = this.innerHTML.replace(/^([""']+)/,
    '<span class="hanging-punctuation-start">$1</span>');
var XLElement = document.registerElement('x-l', {
  prototype: XLElementPrototype
```

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
XLElementPrototype.createdCallback = function()
  var root = this.createShadowRoot();
  root.innerHTML = this.innerHTML.replace(/^([""']+)/,
    '<span class="hanging-punctuation-start">$1</span>')
  + '<style>.hanging-punctuation-start { position: absolute; \
    right: 100%; text-align: right }</style>';
```

var XLElement = document.registerElement('x-l', {

prototypo. VIElomont Drototypo

Templates

```
<template id="hanging-punctuation-start-template">
  <span class="hanging-punctuation-start"></span>
  <style>
    .hanging-punctuation-start
      position: absolute;
      right: 100%;
      text-align: right;
  </style>
</template>
```

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
XLElementPrototype.createdCallback = function()
  var result = /^([,"]+)/.exec(this.innerHTML);
  if (result)
    var template = document.querySelector('#hanging-punctuation-start-template');
    template.content.querySelector('.hanging-punctuation-start').innerHTML = result[0];
    var clone = document.importNode(template.content, true);
    var root = this.createShadowRoot();
    root.innerHTML = this.innerHTML.substr(result[0].length);
    root.appendChild(clone);
var XLElement = document.registerElement('x-l', { prototype: XLElementPrototype });
```

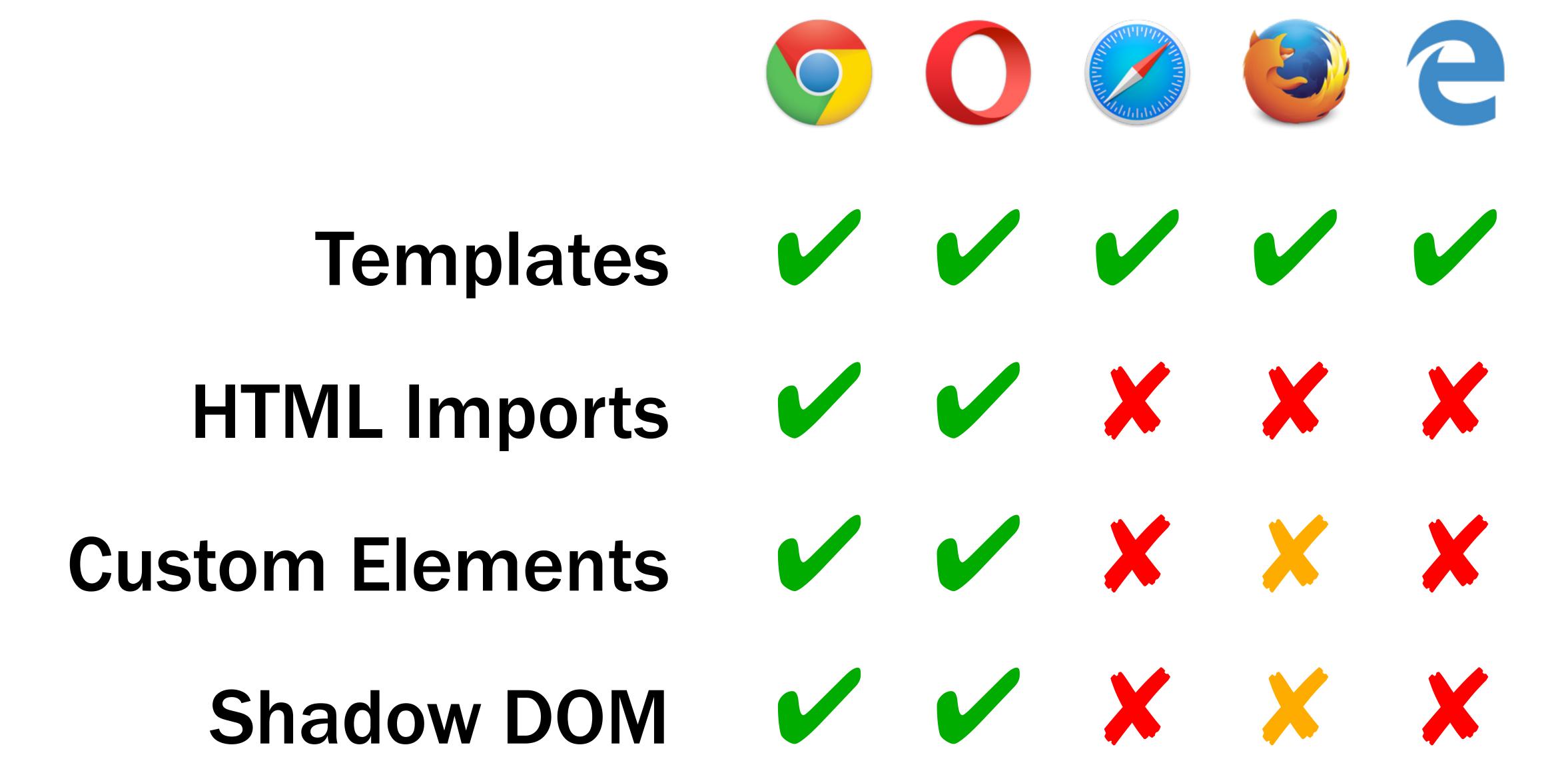
HTML Imports

hanging-punctuation-start-template.html

```
<template id="hanging-punctuation-start-template">
    <span class="hanging-punctuation-start"></span>
    <style>
        .hanging-punctuation-start
        {
            position: absolute;
            right: 100%;
            text-align: right;
        }
        </style>
    </template>
```

<link rel="import" href="hanging-punctuation-start-template.html">

```
var XLElementPrototype = Object.create(HTMLSpanElement.prototype);
XLElementPrototype.createdCallback = function()
  var result = /^([,"]+)/.exec(this.innerHTML);
  if (result)
    var link = document.querySelector('link[rel="import"]');
    var template = link.import.querySelector('#hanging-punctuation-start-template');
    template.content.querySelector('.hanging-punctuation-start').innerHTML = result[0];
    var clone = document.importNode(template.content, true);
    var root = this.createShadowRoot();
    root.innerHTML = this.innerHTML.substr(result[0].length);
    root.appendChild(clone);
var XLElement = document.registerElement('x-l', { prototype: XLElementPrototype });
```





An escalator can never break, it can only become stairs. You would never see an "Escalator Temporarily Out Of Order" sign, just "Escalator Temporarily Stairs. Sorry for the convenience. We apologize for the fact that you can still get up there."

-Mitch Hedberg

There's a common misconception that progressive enhancement means that you'll spend your time dealing with older browsers, but in fact the opposite is true. Putting the basic functionality into place doesn't take very long at all. And once you've done that, you're free to spend all your time experimenting with the latest and greatest browser technologies, secure in the knowledge that even if they aren't universally supported yet, that's okay: you've already got your fallback in place.

The key to thinking about web development this way is realising that there isn't one final interface there could be many, slightly different interfaces depending on the properties and capabilities of any particular user agent at any particular moment. And that's okay. Websites do not need to look the same in every browser.

—Jeremy Keith

Once you truly accept that, it's an immensely liberating idea. Instead of spending your time trying to make websites look the same in wildly varying browsers, you can spend your time making sure that the core functionality of what you're building works everywhere, while providing the best possible experience for more capable browsers.

—Jeremy Keith

title	release date
Greetings from Asbury Park, N.J.	1973-01-05
The Wild, the Innocent & the E Street Shuffle	1973-09-11
Born to Run	1975-08-25
Darkness on the Edge of Town	1978-06-02
The River	1980-10-10
Nebraska	1982-09-20
Born in the U.S.A.	1984-06-04
Tunnel of Love	1987-10-09

```
<caption>Bruce Springsteen's studio albums</caption>
 <thead>
  title
    release date
  </thead>
 Greetings from Asbury
    <time>1973-01-05</time>
```

title	release date
Greetings from Asbury Park, N.J.	1973-01-05
The Wild, the Innocent & the E Street Shuffle	1973-09-11
Born to Run	1975-08-25
Darkness on the Edge of Town Park, N.J.	1978-06-02
The River	1980-10-10
Nebraska	1982-09-20
Born in the U.S.A.	1984-06-04
Tunnel of Love	1987-10-09

```
<caption>Bruce Springsteen's studio albums</caption>
 <thead>
  title
   release date
  </thead>
 Greetings from Asbury
   <time>1973-01-05</time>
```

title	release date $ extbf{ width}$
Greetings from Asbury Park, N.J.	1973-01-05
The Wild, the Innocent & the E Street Shuffle	1973-09-11
Born to Run	1975-08-25
Darkness on the Edge of Town Park, N.J.	1978-06-02
The River	1980-10-10
Nebraska	1982-09-20
Born in the U.S.A.	1984-06-04
Tunnel of Love	1987-10-09























```
<x-so able-table>
 <corption>Bruce Springsteen's studio albums</caption>
 <thead>
  title
    release date</t
  </thead>
 Greetings from Asbury
    <time>1973-01-05</time>
```

	title	release date ▼
	Greetings from Asbury Park, N.J.	1973-01-05
	The Wild, the Innocent & the E Street Shuffle	1973-09-11
	Born to Run	1975-08-25
	Darkness on the Edge of Town Park, N.J.	1978-06-02
	The River	1980-10-10
	Nebraska	1982-09-20
	Born in the U.S.A.	1984-06-04
	Tunnel of Love	1987-10-09

```
<caption>Bruce Springsteen's studio albums</caption>
 <thead>
  title
   release date
  </thead>
 Greetings from Asbury
   <time>1973-01-05</time>
```

title	release date ▼
Greetings from Asbury Park, N.J.	1973-01-05
The Wild, the Innocent & the E Street Shuffle	1973-09-11
Born to Run	1975-08-25
Darkness on the Edge of Town Park, N.J.	1978-06-02
The River	1980-10-10
Nebraska	1982-09-20
Born in the U.S.A.	1984-06-04
Tunnel of Love	1987-10-09

```
var XSortableTableElementPrototype = Object.create(HTMLTableElement.prototype);
var XSortableTableElement = document.registerElement('x-sortable-table', {
  prototype: XSortableTableElementPrototype,
  extends: 'table'
});
```

→ http://codepen.io/gunnarbittersmann/pen/XXwZpP

Custom Elements

Templates



Shadow DOM

HTML Imports

Custom Look Ma, no JS framework!



```
<!DOCTYPE html>
<html ng-app="analogClockApp">
 <head>
   <meta charset="UTF-8"/>
   <link rel="stylesheet" href="analog-clock.css"/>
 </head>
 <body ng-controller="AnalogClockCtrl">
   <time analog-clock/>
   <script src="angular.min.js"></script>
   <script src="analogClockApp.js"></script>
 </body>
</html>
```

analogClockTemplate.html

```
<div class="face">
  <div class="hour-hand" style="transform:</pre>
  rotate({{ 30 * (now | date: 'h')
  + (now | date:'m') / 2 }}deg)"></div>
  <div class="minute-hand" style="transform:</pre>
  rotate({{ 6 * (now | date:'m') }}deg)"></div>
  <div class="second-hand" style="transform:</pre>
  rotate({{ 6 * (now | date:'s') + (now | date:'m') * 360
  + (now | date:'h') * 360 }}deg)"></div>
</div>
```

```
.face
 width: 250px;
 height: 250px;
 position: relative;
 background-position: left top;
 transform: translate(461px,51px) rotateX(46deg) rotateY(27deg) rotateZ(-38deg);
.hour-hand
 width: 4%;
 height: 35%;
 background: hsl(0, 0%, 95%);
 position: absolute;
  left: 48%;
 top: 25%;
 transform-origin: center 71.43%;
```

```
var analogClockApp = angular.module('analogClockApp', []);
analogClockApp.directive('analogClock', function ()
{
   return {
    templateUrl: 'analogClockTemplate.html'
   };
});
```

```
analogClockApp.controller('AnalogClockCtrl', function ($scope, $timeout)
  $scope.now = 'Loading...';
  var updateTime = function ()
    $timeout(function ()
      $scope.now = new Date();
      updateTime();
    }, 1000);
  updateTime();
});
```





My javascript is shit -> I should learn more javascript My CSS is shit -> I'll do it with javascript

RETWEETS

LIKES

56















10:51 AM - 14 Jan 2016















AngularJS

Web Components

Hurricane

written by Bob Dylan and Jacques Levy

Blinded by the Light

written by Bruce Springsteen

Copenhagen Metro Escalators

photo by Stig Nygaard, CC-BY-2.0