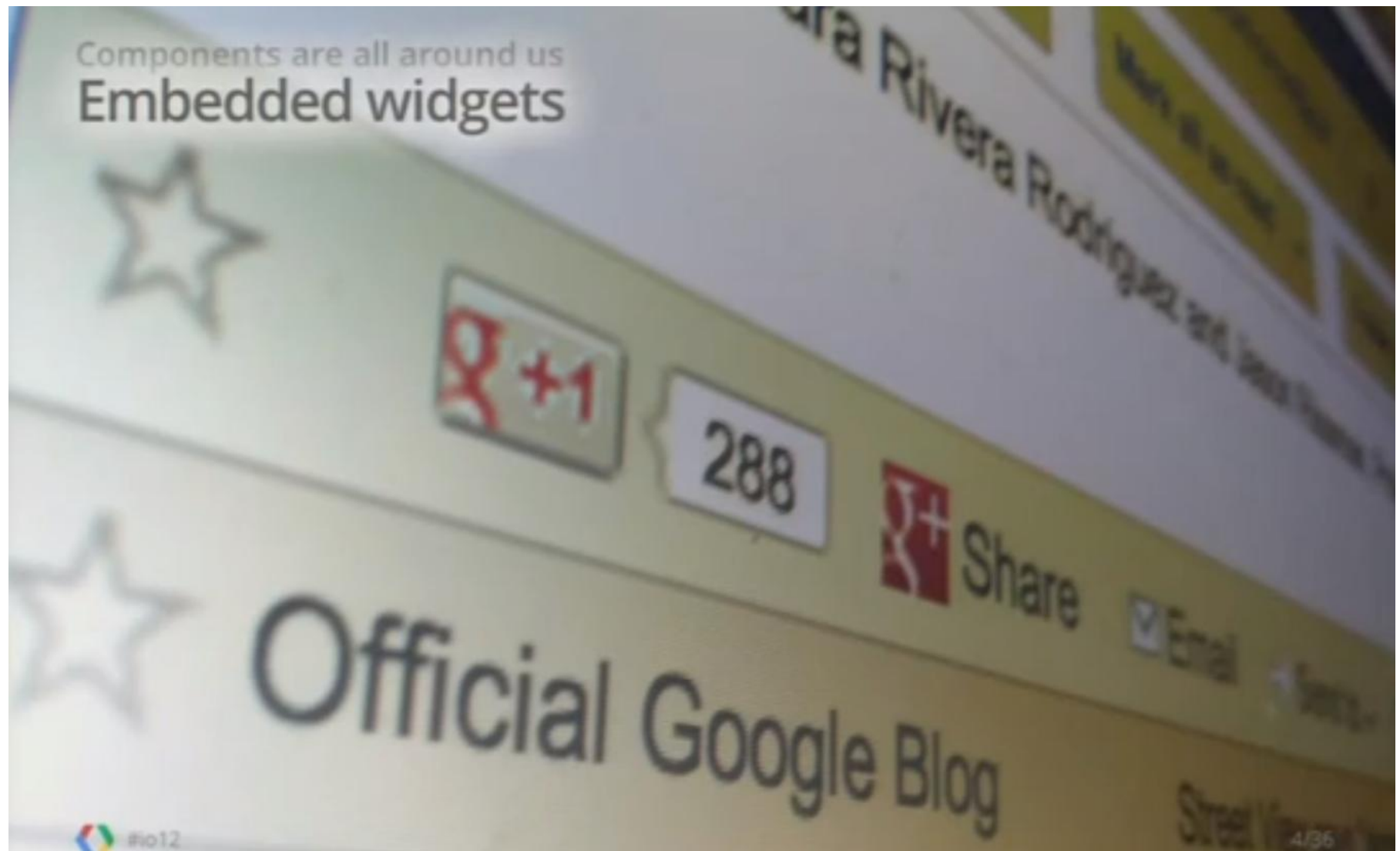


Components are all around us
Embedded widgets



Let's build a poll app



What's your favorite part of HTML5?

Select which feature is your absolute fave.

Vote



Semantics



Offline & Storage



Device Access



Connectivity



Multimedia



Graphics & Effects



Performance



CSS3

Email (optional)

Place my vote!

Results



What's your favorite part of HTML5?

Select which feature is your absolute fave.

Vote

Results

Current Results



50%



17%



17%



0%



0%



0%



0%




0%



Tue Jun 19 2012




100000




What's your favorite part of HTML5?

Select which feature is your absolute fave.


Vote




Semantics




Offline & Storage




Device Access




Connectivity




Multimedia



Graphics & Effects



Performance



CSS3

Email (optional)

Place me

Results

» Search Sources

poll.js x

```
5 window.Poll = Backbone.View.extend({
6   initialize: function() {
7     this.$el.append("<embed src='img/HTML5_Bad
8     this.views = $('<div class='views'></div>');
9     this.choices = new ChoicesView();
10    this.results = new ResultsView();
11    this.views.append(this.choices.$el);
12    this.views.append(this.results.$el);
13    Choices.each(function(choice) {
14      return new ChoiceView({
15        model: choice
16      }).render();
17    });
18    return this.results.renderVotes();
19  },
20  events: {
21    'submit form': 'submitVote'
22  },
23  submitVote: function(e) {
24    var email, newvote;
25    email = $('input[name="email"]').val();
26    console.log(Choices.getSelected());
27    if (!email) {
28      return;
29    }
30  }
```



What's your favorite part of HTML5?

Select which feature is your absolute fave.

Vote



Semantics



Offline & Storage



Device Access



Connectivity



Multimedia



Graphics & Effects



Performance



CSS3

Email optional

Place m

section.vote.poll-view.poll-view-active 700px x 340px



» Search Elements

```
<!DOCTYPE html>
<html>
  <head>_</head>
  <body>
    <div id="poll">
      <embed src="img/HTML5_Badge.svg" type="
        image/svg+xml" class="toplogo">
      <h2>What's your favorite part of HTML5?</h2>
      <h3>Select which feature is your absolute
        fave.</h3>
      <div class="views poll-accordion">
        <h3 class="poll-accordion-header poll-hdr-
          active">Vote</h3>
        <section class="vote poll-view poll-view-
          active" data-heading="Vote">
          <form action="#">_</form>
        </section>
        <h3 class="poll-accordion-
          header">Results</h3>
        <section class="results poll-view" data-
          heading="Results">_</section>
        </div>
      </div>
    <script>_</script>
  </body>
```



Let's build a poll app

Bizarro World

HTML

```
<div id="poll"><embed src="img/HTML5_Badge.svg" type="image/svg+xml" class="toplogo">
  <h2>What's your favorite part of HTML5?</h2>
  <h3>Select which feature is your absolute fave.</h3>
  <div class="views poll-tab-ui">
    <section class="vote poll-view poll-view-active" data-heading="Vote">
      <form action="#">
        <ul class="choices">
          <li class="choice">
            <div class="icon svg-semantics"></div>
            <h4>Semantics</h4>
          </li>
        </ul>
      </form>
    </section>
  </div>
<!-- Ugly guts continue -->
```




source: <http://www.flickr.com/photos/pboyd04/1658486509/>

	Parsing	SVG	HTML	?	Events	Edit
gy	?	Box Model	CSS Calc	Cascade	Fonts	Flex
	Web Audio	Media Queries	?	DOM	JavaScript	Select
 #io12 W3C		Geolocation	CSS	Notifications	Local	Index

Parsing

SVG

HTML

Shadow
DOM

Events

Edit

Custom
Elements

Box Model

CSS Calc

Cascade

Fonts

Flex

Web Audio

Media
Queries

Templates

DOM

JavaScript

Sele



Web Components

Shadow DOM

Encapsulation boundaries inside of DOM

Custom Elements

Define semantically meaningful tags, extend DOM objects with imperative APIs

Templates

Inert, clonable DOM for easy authoring

Just say what you mean

HTML

```
<x-poll>
  
  <h1>What's your favorite part of HTML5?</h1>
  <h2>Select which feature is your absolute fave.</h2>
  <x-choice value="semantics">
    <h3>Semantics</h3>
    <p>Giving meaning to structure, semantics are front and center with HTML5. A richer ...</p>
  </x-choice>
  <x-choice value="offline-storage">
    <h3>Offline & Storage</h3>
    <p>Web Apps can start faster and work even if there is no internet connection, thanks ...</p>
  </x-choice>
  <!-- ... -->
</x-poll>
```



What's your favorite part of HTML5?

Select which feature is your absolute fave.

Vote



Semantics



Offline & Storage



Device Access



Connectivity



Multimedia

Web Apps can start faster and work even if there is no Internet connection, thanks to the HTML5 App Cache, as well as the Local Storage, Indexed DB, and the File API specifications.



Performance



CSS3

Email (optional)

Place my vote!

Results



What's your favorite part of HTML5?

Select which feature is your absolute fave.

Vote

h2 496px x 23px



Semantics



Offline & Storage



Device Access



Connectivity



Multimedia



Graphics & Effects



Performance



CSS3

Email (optional)

Place m

Results

<!DOCTYPE html>

<html>

<head>_</head>

<body>

<x-poll>

<h1>What's your favorite part of HTML5?</h1>

<h2>Select which feature is your absolute fave.</h2>

<x-choice value="semantics">

<h3>Semantics</h3>

<p>

"Giving meaning to structure, semantics are front and center with HTML5. A richer set of tags, along with RDFa, microdata, and microformats, are enabling a more useful, data driven web for both programs and your users."

</p>

</x-choice>

<x-choice value="offline-storage">_</x-choice>

<x-choice value="device-access">_</x-choice>

<x-choice value="connectivity">_</x-choice>

<x-choice value="multimedia">_</x-choice>

Web Components make it real
Let me show you

Component **Users**

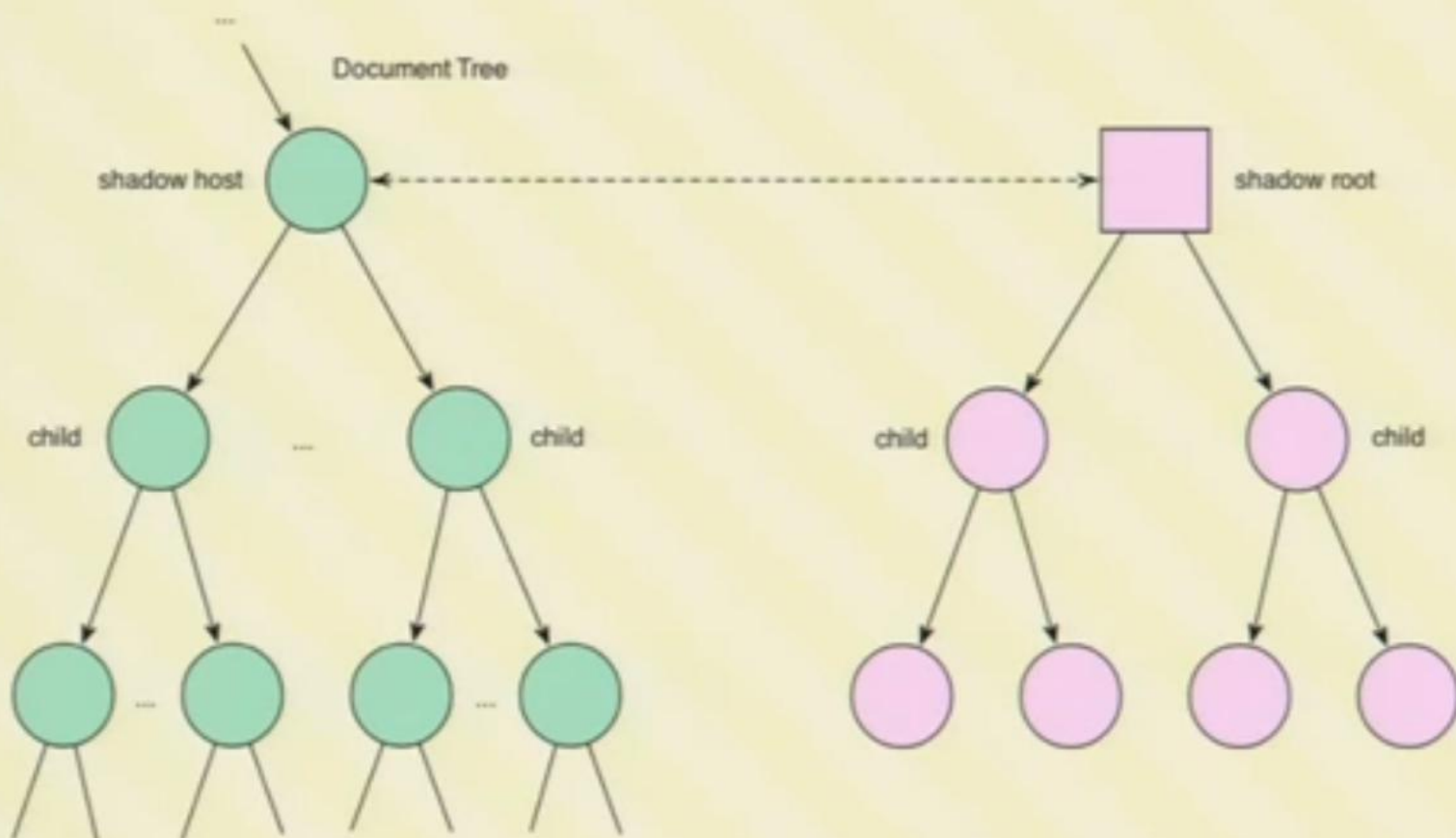
Simple and Declarative

Component **Authors**

More power, more responsibility

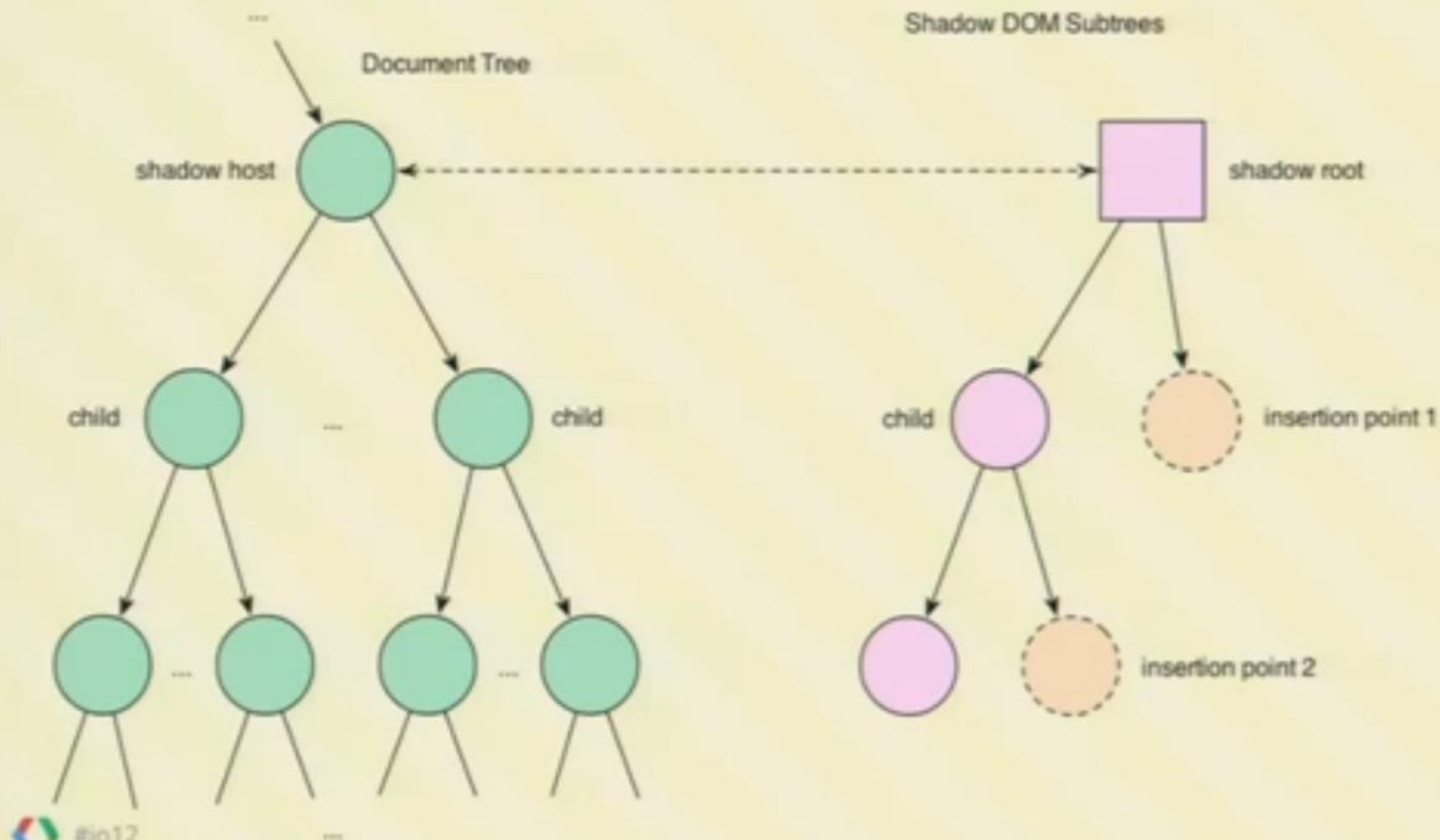
Behind the scenes

DOM Nodes can have Shadow DOM



Behind the scenes

Insertion points are holes in Shadow DOM



Light content punches through insertion points



Behind the scenes

Implementing `<x-choice>`

```
<x-choice>
<div id="choice">
  <div id="icon" class="mask"></div>
  <content select="h3:first-of-type"></content>
  <aside>
    <content select="*"></content>
  </aside>
</div>
</x-choice>
```

HTML

Behind the scenes

Custom Elements: Packaging for Reuse

Define it

```
<element name="x-choice" extends="div" constructor="ChoiceControl">
  <template>
    <div id="choice"><content select="img:first-of-type"><!-- ... -->
  </template>
  <script>
    ChoiceControl.prototype.wasSelected = function() { /* ... */ }
  </script>
</element>
```

HTML

Use it

```
<link rel="components" href="components/choice.html">
<!-- ... -->
<x-poll></x-poll>
```

HTML

```
document.querySelector('x-poll').wasSelected();
```

JAVASCRIPT

Behind the scenes

Implicitly scoped styles limit style influence

HTML

```
<template>
  <!-- surrounding styles don't leak in by default -->
  <style>
    /* These styles only affect inside the template */
    * {
      color: red;
    }
  </style>

  <p>This text will be red...</p>

</template>

<p>...but content in the rest of the document won't be</p>
```

Our designer wants a tabstrip, not an accordion

No sweat, swapping components is easy

HTML

```
...  
<link rel="components" href="components/tabs.html">  
...
```

HTML

```
<!-- ... -->  
</hgroup>  
</section>  
<x-tabs>  
  <h2>Poll</h2>  
  <section>  
    <div id="choices">  
      <content select="x-choice"></content>  
    </div>  
  <!-- ... -->
```



```
poll.html x embedded-poll-example.html x screen.css x
135 <content select="h2: first-of-type">Subtitle</content>
136 </hgroup>
137 </section>
138 <x-accordion>
139   <h2>Vote</h2>
140   <section id="poll">
141     <div id="choices">
142       <content select="x-choice"></content>
143     </div>
144     <div id="voting">
145       <input placeholder="Email (optional)" name="email">
146       <button><content select="span.label-title: first-of-type">Place my vote
147     </div>
148   </section>
149   <h2>Results</h2>
150   <section>
151     Results go here.
152   </section>
153 </x-accordion>
154 </template>
155 <script>
156
```

Using x-poll on other sites

Changing what's exposed in the DOM

```
...  
<link rel="components" href="http://awesomepolls.com/components/awesome-poll.html">  
...
```

HTML

```
<x-awesome-poll href="http://pollsite.com/poll/324">  
  <!-- Don't expose any of the internals so embedders can't muck with them -->  
</x-awesome-poll>
```

HTML

New poll!!!!!! 6/27/12



What's your favorite part of HTML5?

Select which feature is your absolute fave.

Vote



Semantics



Offline & Storage



Device Access



Connectivity



Multimedia



Graphics & Effects



Performance



CSS3

Email (optional)

Place my vote!

Results

Archives

- June 2012 (2)
- May 2012 (1)
- April 2012 (6)
- March 2012 (3)
- February 2012 (2)
- January 2012 (1)
- December 2011 (3)
- November 2011 (1)
- October 2011 (4)
- September 2011 (3)
- August 2011 (2)
- July 2011 (1)
- June 2011 (5)
- May 2011 (4)

OMG Kittens!!!! 6/23/12

```
embedded-poll-example.html — parkour-io-2012
poll.html x embedded-poll-example.html x SCREEN.CSS x
34     </ul>
35 </div>
36 <div class='content'>
37   <section>
38     <h1>New poll!!!! <span>6/27/12</span></h1>
39     <x-awesome-poll href="http://awesomepolls.org/html5">
40 |<!-- Un-comment to demo poll markup API
41     <aside>Vote for CSS3, cuz its teh awesome!!</aside>
42     <label>VOTE NAO!!!</label>
43   —>
44   </x-awesome-poll>
45 </section>
46 <section>
47   <h1>OMG Kittens!!!! <span>6/23/12</span></h1>
48   <p>As most of you already know, kittens are my <strong>absolute fave</strong>.
    excitement when my new neighbors moved in, and it turns out that have THE. CUTE
    strong>
49   </section>
50 </div>
51 </div>
52 </body>
53 </html>
```

Using x-poll on other sites

Markup as API

```
<x-awesome-poll href="http://pollsite.com/poll/324">  
  <aside>Your custom question subtitle</aside>  
  <label>Your custom "submit my vote" text</label>  
</x-awesome-poll>
```

HTML

Quick aside

CSS Variables

CSS

```
:root {  
  var-my-color : green;  
  var-my-border: 1px solid var(my-color);  
}  
  
h2, h3 {  
  border: var(my-border);  
}
```

Using x-poll on other sites

Styling via CSS Variables

Component **author** uses variables to expose style hook points

```
* {  
  font: var(poll-font);  
}  
  
h2 {  
  color: var(poll-title-color);  
}
```

CSS

Component **user** applies styles to the element

```
x-awesome-poll {  
  var-poll-font: "Comic Sans MS", "Comic Sans", cursive;  
  var-poll-title-color: #FF86FF;  
}
```

CSS

poll.html

x

embedded-poll-example.html

x

screen.css

•

```
34     }
35
36     .sidebar h2 {
37         text-decoration: underline;
38     }
39
40     .content section h1 {
41         color:blue;
42     }
43
44
45     .content section h1 span {
46         color:yellow;
47     }
48
49
50     x-awesome-poll {
51         -webkit-var-poll-font: "Comic Sans MS", "Comic Sans", cursive;
52         -webkit-var-poll-title-color: #FF86FF;
53     }
54
```


There's a great big beautiful tomorrow

The Declarative Renaissance

- Guardrails, not etiquette
- Interoperable widget libraries
- Multiple authors on a page without stepping on one another's toes
- Many use cases fully declarative
- Declarative goes faster
- Rise in shared semantics

The future's not as far away as you might think

- Shadow DOM, CSS variables shipping in Chrome soon
- Effective polyfills are coming soon
- Other browser vendors are excited

Help the future arrive faster

- Follow
 - [Web Components + Page \(goo.gl/K8UEj\)](https://goo.gl/K8UEj)
- Learn
 - Introduction to Web Components
 - CSS Variables Spec
- Discuss
 - Public Webapps Standardization Mailing List
 - CSS Standardization Mailing List
- Experiment
 - Web Components Polyfill (requires Shadow DOM support)
 - Mozilla's x-tags Custom Elements Polyfill (works on all browsers)

<Thank You!>

