Web Components

PROBLEM

Collisions between the markup, scripts or styles served from various sources

SOLUTION

Encapsulation
(Nothing gets in,
nothing gets out)

IFRAME

```
<iframe src="foo.html"></iframe>
```

- Extra network request
- Multiple rendering contexts
- …

WEB COMPONENTS

In a nutshell, they allow us to bundle markup and styles into custom HTML elements

Shadow DOM

Templates

Custom Elements

Decorator

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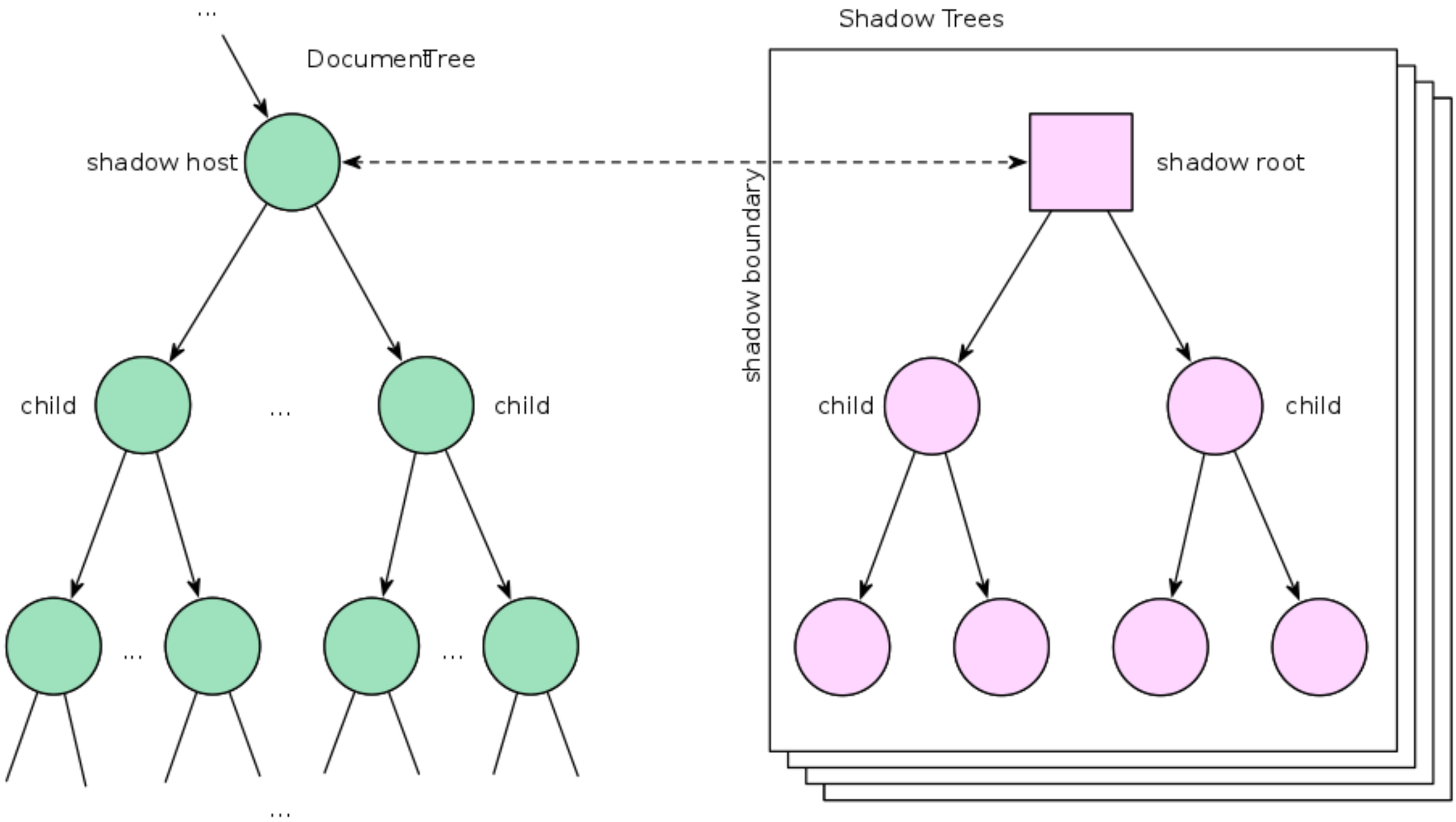
DEMO

```
<video src="" controls></video>
```

video.html

SHADOW DOM

Shadow Host, Shadow Root, Shadow Boundary



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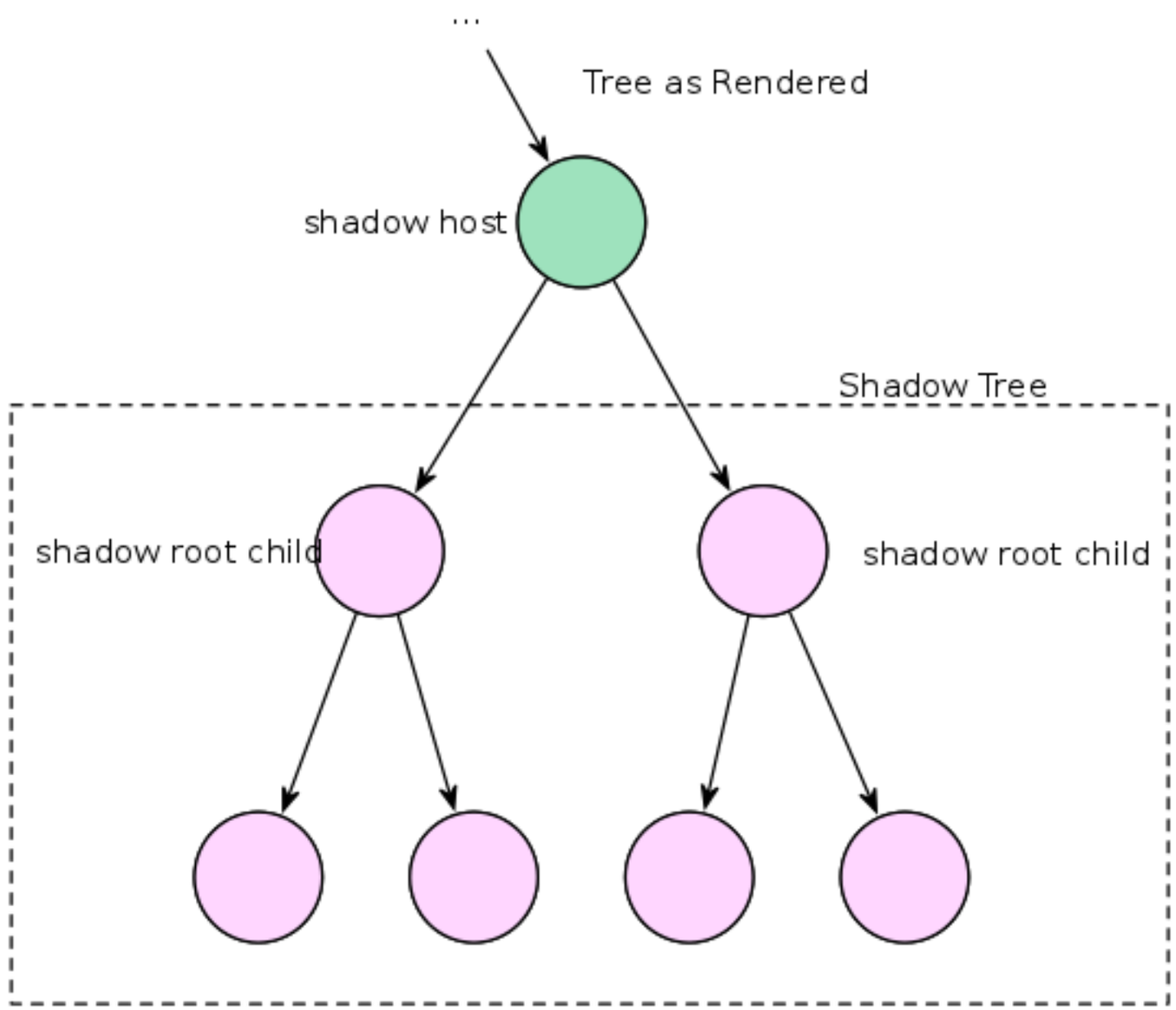

```
<body>
  <div id="container">
    <div>Hello!</div>
  </div>

  <script type="text/javascript" charset="utf-8">
    var host = document.querySelector('#container');
    var root = host.createShadowRoot();
  </script>
</body>
```

shadow-dom.html

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```
<body>
  <template>
    <style type="text/css" media="screen">
      h1 {
        color: red;
        font-size: 2em;
      }
    </style>

    <h1>Hello World!</h1>
  </template>

  <div id="container">
  </div>

  <script type="text/javascript" charset="utf-8">
  var tmpl = document.querySelector('template');
  var container = document.querySelector('#container');
  container.appendChild(tmpl.content.cloneNode(true));
  </script>
</body>
```

IMPORTS

```
<link rel="import" href="hello-world-tmpl.html">
```

import.html

Basic Demo

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CUSTOM ELEMENTS

```
…
  <hello-world>
    <div>Hello!</div>
  </hello-world>

  <script type="text/javascript" charset="utf-8">
    …
    // Register our new element
    var helloWorld = document.registerElement(
      'hello-world', {prototype: HelloWorldProto});
  </script>
…
```

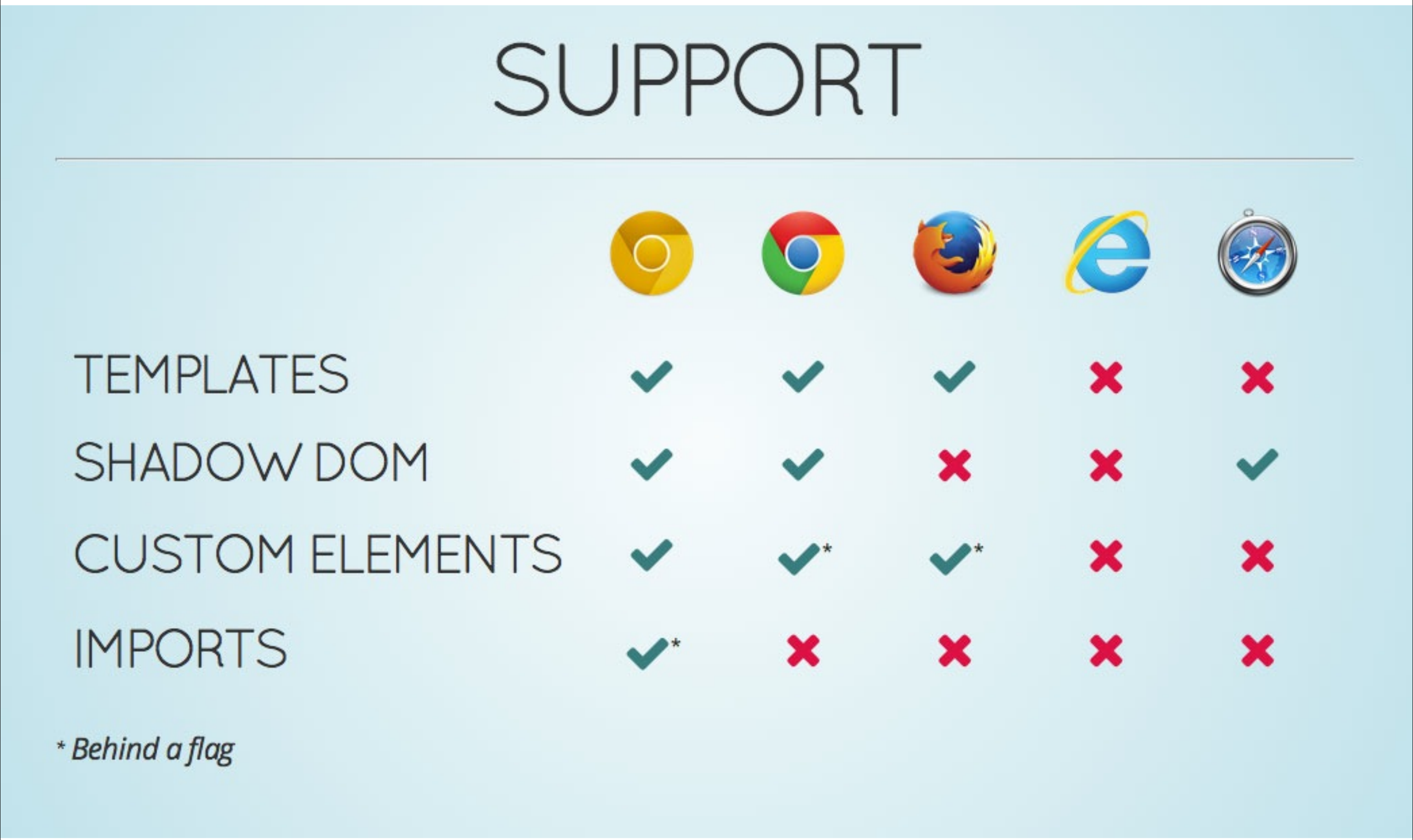
custom.html

LIFECYCLE CALLBACK METHODS

Callback name	Called when
createdCallback	an instance of the element is created
attachedCallback	an instance was inserted into the document
detachedCallback	an instance was removed from the document
attributeChangedCallback(attrName, oldVal, new Val)	an attribute was added, removed or updated

Browser Support

BROWSER SUPPORT



POLYMER

http://www.polymer-project.org/

- Polymer is a library for the web, built on top of Web Components.
- Encapsulation is the key to creating scalable, maintainable applications. All Polymer resources are components.

Questions?

LINKS

http://w3c.github.io/webcomponents/explainer/
http://www.w3.org/TR/2013/WD-components-intro-20130606/
http://css-tricks.com/modular-future-web-components
http://www.html5rocks.com/en/tutorials/webcomponents/customelements/
http://dev.tutsplus.com/tutorials/intro-to-shadow-dom--net-34966
https://speakerdeck.com/stopsatgreen/future-css-in-web-components