JavaScript

Getting started with JS in the browser

Progressive Enhancement

What is it?

Why is it *a* good practice?

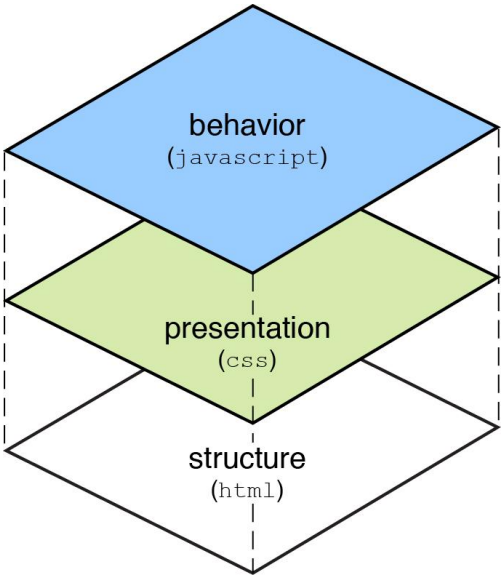

Figure 1.1 Graphical representation of progressive enhancement

JavaScript Fallbacks

What does it mean to have fallbacks for JS?

Why is it important?

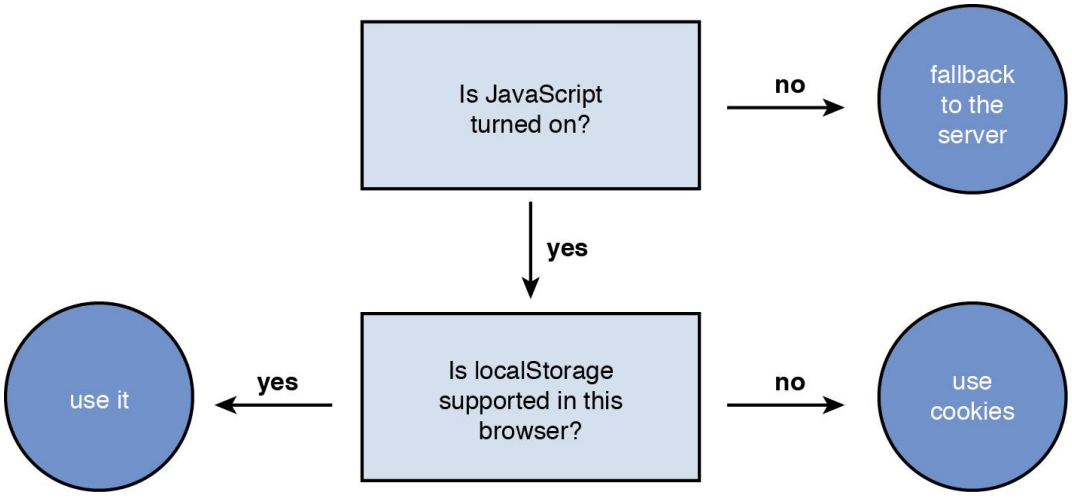

Figure 2.3 Flowchart - using proper fallbacks in JavaScript

Performance

Why is performance important?

What are some ways we can improve it?

DOM

What does DOM stand for?

What is the DOM?

```
<!DOCTYPE html>
<html>

<head>
    <meta charset="utf-8">
    <title>Basic DOM Example</title>
</head>

<body>
    <h1>Hello World</h1>
    <p>
        While this is a <strong>very basic HTML docuent</strong>,
        it actually serves as a detailed example of the document object model.
    </p>
</body>

</html>
```

Listing 4.1 Basic HTML Structure to illustrate the DOM

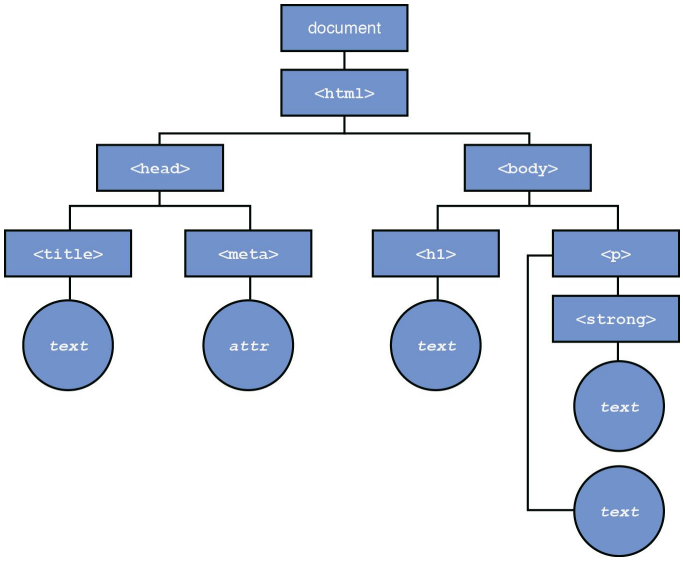

Figure 4.1 A graphical representation of the Document Object Model (DOM)

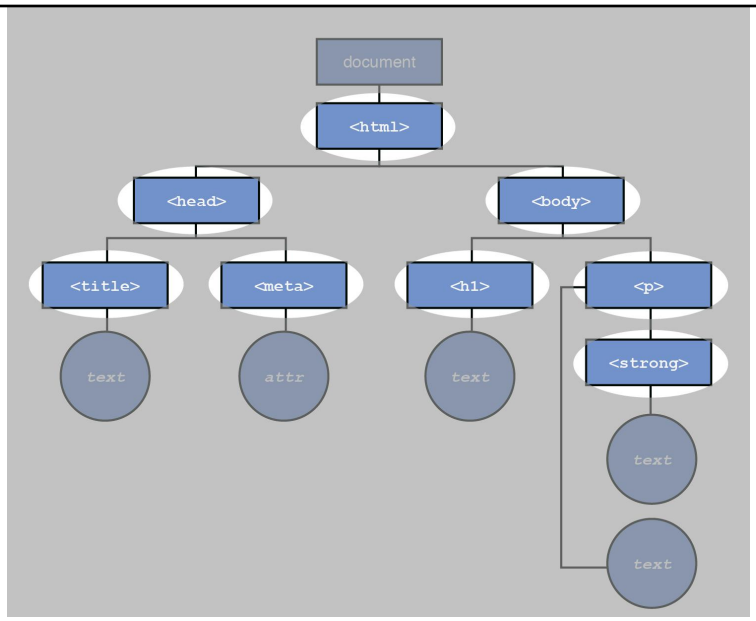

Figure 4.2 Highlighting the element nodes from our DOM.

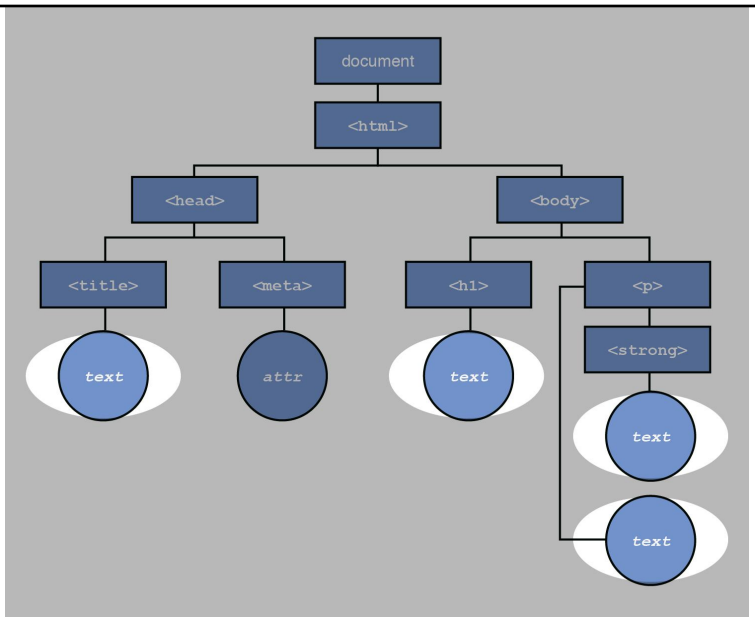

Figure 4.4 Highlighting the text nodes in our DOM.

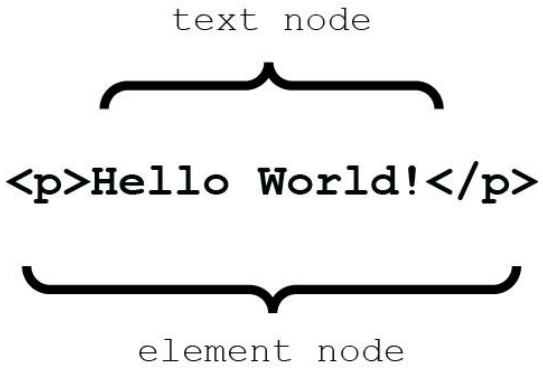

Figure 4.3 Showing the difference between an element node and a text node

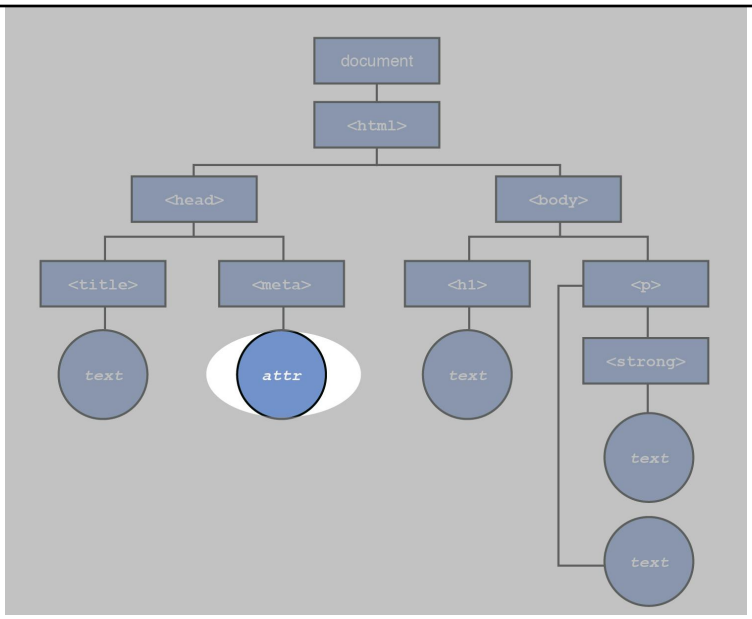

Figure 4.6 Highlighting the only attribute node in our DOM example.

Accessing Elements

Target by tag name or ID:

```
document.getElementByTagName("h1");

document.getElementById("someID");
```

Moving around the DOM

Remember that relationships in the DOM are like a family tree.

The following properties get the described element, relative to the target:

- `parentNode`
- `previousSibling`
- `nextSibling`
- `firstChild`
- `lastChild`

Handling Multiples

The elements returned from getElementsById() are in an array.

You can access a single element from the array by using array notation.

To use each element returned, use a for loop.

Modifying Attributes

Does it have the attribute?

- `hasAttribute("class")`

Use JavaScript to add/remove attribute

- `setAttribute("class", "someClass")`
- `removeAttribute("class")`

```
var paras = document.getElementsByTagName("p");

for (int i = 0; i < paras.length; i++) {
    current = paras[i];
    current.setAttribute("class", "hide");
}
```

Using a for loop to hide each paragraph

Add / Remove Elements

We can modify the DOM to add / remove elements, changing the look of the page.

- createElement()
- createTextNode()
- appendChild()
- removeChild()

Create a New Paragraph

Add a new paragraph with text:

```
var target = document.getElementById("target");
var p = document.createElement("p");
var text = document.createTextNode("text here");
p.appendChild(text);
target.appendChild(p);
```

Assignment

Fix up Moonflower's Coffee Shop:

https://github.com/htc-ccis2591/dom-access

Due next week before class.
Fork & Submit *a* Pull Request.