



Short Paper

Adding style and behaviour to Web pages with a dash of Spice

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Abstract

Extensions to HTML become simple to handle with a new language from HP that blends style sheets and scripting. Spice is an amalgam of CSS and JavaScript. HP is developing a free browser as a proof of concept for Spice and will be demonstrating this at WWW7 on Developer's Day. HP has submitted Spice to the World Wide Web Consortium, see <http://www.w3.org/TR/1998/NOTE-spice-19980123.html> © 1998 Published by Elsevier Science B.V. All rights reserved.

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1. Handling HTML extensions with Spice

Application developers frequently find the limitations of HTML get in the way. Wouldn't it be nice if you could just add your own tags and write a few lines of script to handle them? HP has been busy developing a solution based upon a new way to combine style sheets and scripting, building upon CSS and JavaScript. The result called "Spice" allows you to add new style properties and to define or import support for new ways to render HTML.

1.1. Style sheet basics

Spice extends JavaScript to add cascading style rules using the same syntax as CSS. The style rules specify the kinds of objects (for instance text, images and form fields), that will be used to render the markup and their properties. To understand how this works you first need to understand how the browser handles the HTML (or XML) markup.

Markup consists of text interspersed with paired start and end tags, for instance `<h1>` and `</h1>`. Each pair acts to mark off a section of the document. The browser uses the tags to build a hierarchical representation of the

document. This is often called the document parse tree. For XML, this can be done without any prior knowledge of the meaning of the tags. For HTML life is not so simple, and the browser has to use an empirical knowledge of how HTML tags are used in practice, as this often departs from the official recommendations.

The style sheet consists of a set of rules. Each rule has two parts: a left-side giving the pattern that defines which elements in the document it applies to, and a right-side that specifies one or more style properties to be applied to these elements. If more than one rule applies to a given element, the most specific rule will take precedence over less specific rules.

The document is formatted starting with the element at the root (top) of the hierarchy, and then traversing the hierarchy depth-first to find and apply the styles for descendant elements. To make this less abstract here is an quick tutorial.

This is a style sheet written in Spice. It differs from CSS only in a few details caused by the need to make the syntax fit comfortably with JavaScript. It starts by importing the document, block and inline rendering objects. The first rule sets the font family and size for the document. The display property specifies that the HTML element is to be rendered using a document object, `h1` and

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