OXFORD BROOKES UNIVERSITY

CSS 2.1 Primer

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1. Introduction

1.1 Content and Style

Two aspects of any document are content and style. The content gives the **information** to be presented and the **style** defines how the information is presented. Most publishers have a House Style that is a consistent way of presenting information. The same information printed by two publishers may look quite different. This Primer describes the basic features of Cascading Style Sheets (CSS for short) which is the primary styling language used with HTML.

HTML's main role is to define content. What is needed is the ability for publishers to have control of style. In the context of the Web, the publisher can be the organisation that owns the Web site but it can also be the person viewing the information. It is only by having a clear separation between content and style that this can be achieved. So in this Primer we shall use HTML in most of the examples as a means of defining the **content** and CSS to define the **style**.

CSS is a World Wide Web Consortium (W3C) Recommendation. That means that all the W3C Members (which includes all the main browser manufacturers) have agreed to support it in their products. That does not necessarily mean immediately as each has its own production schedule for enhancements to its products but long term all should support all of the features. CSS first became a W3C Recommendation in 1996 (called CSS 1) and there was a significant update in May 1998 (called CSS 2). Not all of the facilities in CSS 2 were implemented by all manufacturers. A new version is under development called CSS 2.1 that corrects some errors found in CSS 2 and either removes or makes optional those features not supported. It also adds some features that people required (particularly for XML) that were not in CSS 2.

With the ever increasing use of the Web by a large variety of devices, there is a need to profile facilities in specifications like CSS so that a device with limited capabilities can support a consistent subset. Towards this goal, CSS 3 will be divided into a set of modules with profiles aimed at devices like mobile phones, PDA, televisions etc. This work was goes under the general heading of CSS 3. Some modules are near completion while others still have significant work to be done on them. It is still under development and will not be considered further in this Primer. This Primer aims to describe the main facilities available in CSS 2.1

HTML allows a Web page to be laid out and there is some guidance to browsers as to how to represent each element. Thus, **h1** should be larger than **h2** and **em** should be emphasised by some method but that is as far as it goes.

The aim of Cascading Style Sheets (CSS) is to give the page developer much more control on how a page should be displayed by **all** browsers.

A **style sheet** is a set of **rules** that controls the formatting of HTML elements on one or more Web pages. Thus, the appearance of a Web page can be changed by changing the style sheet associated with it. There is no need to make detailed changes within the Web page to change how it looks.

Some of the advantages of using style sheets are **accessibility**, different styling can be provided for different users dependent on their requirements. Separating style and content is **good design** and will normally produce a better and more consistent web site. As one style sheet can be used for a whole web site, it normally means that the overall **size** of the web site is smaller and the downloads required for each page can be decreased by up to 40%. Allwoing browsers to make overall decisions on styling often means that the rendering time by the browser is also shorter. We shall see how styling can radically effect a page's layout and this allows important information to appear early in the HTML markup of the page even if the design requires it to appear later. This can be of use to search engines.

A set of Web pages may use a common style sheet. A Web page may have its own style sheet that refines the information in the common style sheet. Readers may define their own style sheet indicating their preferences. Thus style sheets **cascade** and decisions need to be made as to which style sheet is in control when there is a conflict. But more of that later.

A style sheet **rule** consists of two parts. A **selector** that defines which HTML elements are controlled by the rule and a **declaration** that says what the required effect is. Thus a simple rule is:

```
h1 { color: blue }
```

This says that all **h1** elements in a page should be displayed in blue. The selector is **h1**. **color** is the **property** that is to be changed, **blue** is the **value** that the property is changed to and **color: blue** is the declaration.

1.2 HTML Structure

HTML elements in the body of the document fall into two main classes:

1. Block-level
2. Inline (sometimes called character-level)

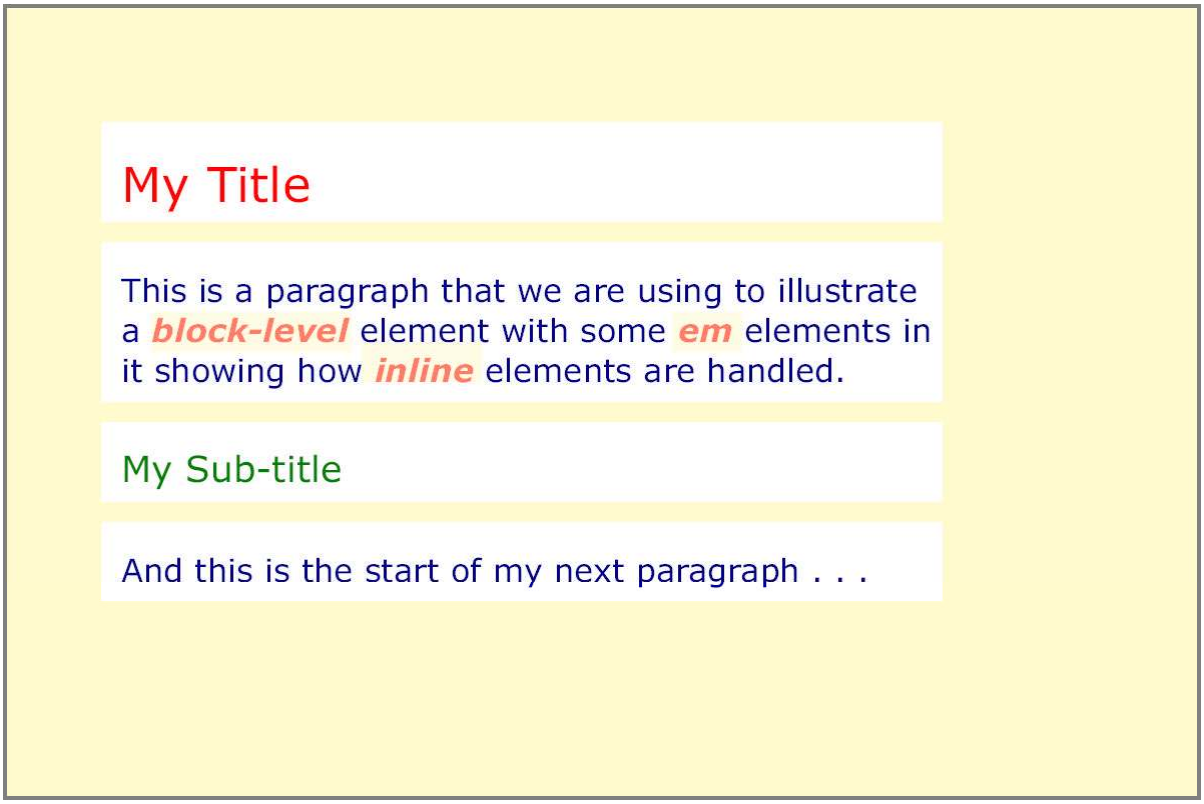

Figure 1.1: Block level and Inline Elements

Lists and tables are special types of elements that have their own unique styling.

When a block-level element is inserted into a document, it terminates the previous element and effectively starts a new line. Some examples are **<p>** and **<h1>**. Inline elements do not terminate the previous element and form part of the previous element; **em** is an example.

The **body** of an HTML page contains text marked-up using block-level elements (**h1, p, ul, div** etc). Each block-level element has an area which contains the content. For a **p** element, this is the area that contains the whole paragraph while for **h1** it is often an area consisting of a single line of text. CSS provides facilities for controlling where that area is placed relative to other areas.