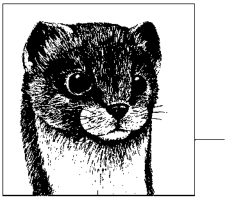

Basic Box Properties

The box model was briefly introduced in Chapter 16 as one of the fundamental concepts of CSS visual formatting. According to the box model, every element in a document generates a box to which such properties as width, height, margins, padding, and borders may be applied.

These element box properties (as well as those for positioning as discussed in Chapter 21), are at the heart of CSS-driven layout and design. Effects that once required tables, such as putting text in a colored box, can now be handled entirely with style sheets. This is just one way that style sheets have liberated developers from the inappropriate use of (X)HTML elements for visual effects. And that's just scratching the surface. Many visual effects created with CSS box properties simply weren't possible before using (X)HTML alone.

The box model is also at the core of some of the most notorious headaches for web developers, namely, the fact that all versions of Internet Explorer for Windows (except IE 6 and 7 running in Standards mode, as described in Chapter 9) interpret the width of the box differently than all other CSS-compliant browsers. This has made it necessary for web developers to jump through all sorts of hoops to replicate layouts consistently on all browsers. For more on the IE/Windows box model problem, see Chapter 25.

This chapter covers the box model in more depth and introduces the basic box properties for specifying size and adding margins, borders, and padding, as listed next.

```
height
width
max-height
max-width
min-height
min-width
margin-right
margin-left
margin-top
margin-bottom
margin
border-top-style
border-right-style
border-bottom-style
border-left-style
border-style
border-top-width
border-right-width
border-bottom-width
border-left-width
border-width
border-top-color
border-right-color
border-bottom-color
border-left-color
border-color
border-top
border-right
border-bottom
border-left
border
padding-top
padding-right
padding-bottom
padding-left
padding
```

The box model will be addressed again in Chapter 21 as it relates to positioning and the layout of the page.

The Box Model, Revisited

According to CSS, every element in a document, both block-level and inline-level, generates a rectangular box called an *element box*. Figure 19-1 shows all the areas and boundaries defined by the CSS box model.

At the core of the element box is the content itself, called the *content area*. Its sides are referred to as the *inner edges* of the element box. The width and height of an element are calculated as the distance between these inner edges.

The *padding* is the area held between the content area and an optional border. The *border* is one or more lines that surrounds the element and its padding.

Background colors and images applied to an element are visible in the padding and extend behind the border (if there are gaps in the border style, the background color will show through).

Finally, on the outside of the element border, there is an optional amount of *margin*. The margin area is always transparent, which means that the background of the parent element shows through.

The outside edges of the margin area make up the *outer edges* of the element box. The total width that an element box occupies on the page is measured from outer edge to outer edge and includes the width of the content area plus the total amount of padding, border, and margins.

Keep in mind that when you specify the `width` value for an element, that sets the width of the content area only, so there's some extra math to do before you know the total width of the element. This calculation may be critical for positioning elements precisely on a page.

Here is where the IE/Windows box model problem comes into play. With the exception of IE 6 and 7 in Standards mode, Internet Explorer for Windows