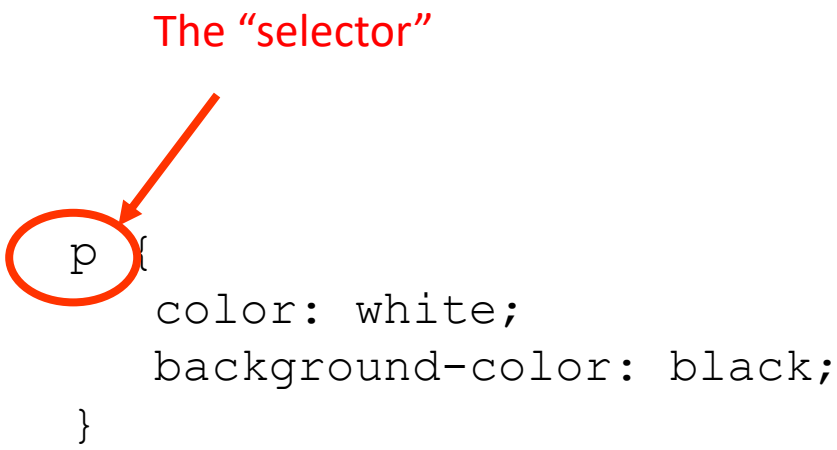
Web Presentation (CSS) for Formatting (continued)

Seven Selectors

CSS Selectors

CSS style rules can be configured for:

1. ✓ HTML element selector
2. class selector
3. id selector
4. descendant selector
5. pseudo selector
6. grouped selector
7. compound selector



HTML element selectors

HTML

```
<p>blah blah blah</p>
```

CSS

```
p {
        font-weight: bold;
        color: red;
}
```

Result: ALL <p> elements are styled

Class selectors

HTML

```
<p class="loud">
        blah blah blah
</p>
```

CSS

```
.loud {
        font-weight: bold;
        color: red;
}
```

Result: elements that have the “loud” class applied are styled; can be used multiple times in the HTML document and combined with other classes

ID selectors

HTML

```
<p id="big-message">
        blah blah blah
</p>
```

CSS

```
#big-message{
        font-weight: bold;
        color: red;
}
```

Result: <p> elements that have the "loud" ID applied are styled; can be used once only in any HTML document

Descendant selectors

HTML

```
<header>
  <p>blah blah blah</p>
</header>

<p>blah blah more blah</p>
```

CSS

```
header p {
        font-weight: bold;
        color: red;
}
```

Result: <p> elements are styled only if they appear nested inside a <header> element

Descendant Selectors

To be more-specific, separate selectors with a space…

CSS

```
.main-menu ul {
        /* target only unordered lists that appear nested inside an
           element with the class "main-menu" */
        margin: 0;
        padding-left: 0;
}
```

HTML

```
<nav class="main-menu">
        <ul>
        ...
```

Descendant Selectors are very important when building navigation menus!

CSS Pseudo-classes

- Pseudo-classes and the anchor element
  - **link** – default state for a hyperlink
  - **visited** – a hyperlink that has been visited
  - **focus** – triggered when the hyperlink has focus
  - **hover** – triggered when the mouse moves over the hyperlink
  - **active** – triggered when the hyperlink is being clicked

```
a:link    {color:#000066;}
a:visited {color:#003366;}
a:focus   {color:#FF0000;}
a:hover   {color:#0099CC;}
a:active  {color:#FF0000;}
```

CSS Structural Pseudo-classes

Pseudo-class	Purpose
:first-of-type	Applies to the first element of the specified type
:first-child	Applies to the first child of an element (CSS2 selector)
:last-of-type	Applies to the last element of the specified type
:last-child	Applies to the last child of an element
:nth-of-type(n)	Applies to the “nth” element of the specified type Values: a number, odd, or even

Pseudo Class Selectors

```
a:link { color: red; }      /* unvisited link; default */
a:visited { color: purple;}/* visited link */
a:hover { color: green; }  /* mouse over link */
a:active { color: blue; }  /* selected link */
```

```
p:first-child {/* Every <p> element that is the first child of its parent */}
p:last-child  {/* Every <p> element that is the last child of its parent */}
p:before {
      /* Insert content before every <p> element */
      content: "- start here: ";
}
p:after {
      /* Insert content after every <p> element */
      content: "! ...the end.";
}
```

Grouped Selectors

To style multiple selectors at once…

CSS

```
.lead, h1, h2 {
     font-weight: normal;
}
```

Compound Selectors

Normal classes in CSS

CSS

```
.lead {
  //target all elements with the
    class “lead”
  font-size: 18px;
}
```

HTML

Works on any element that uses “lead”…

```
<div class="lead">...
```

--or--

```
<p class="lead">...
```

A compound selector in CSS
To be more-specific, combine selectors with element targets with no space in-between…

CSS

```
p.lead {
  //target only paragraphs
    with the class “lead”
color: #333333;
}
```

HTML

Only…

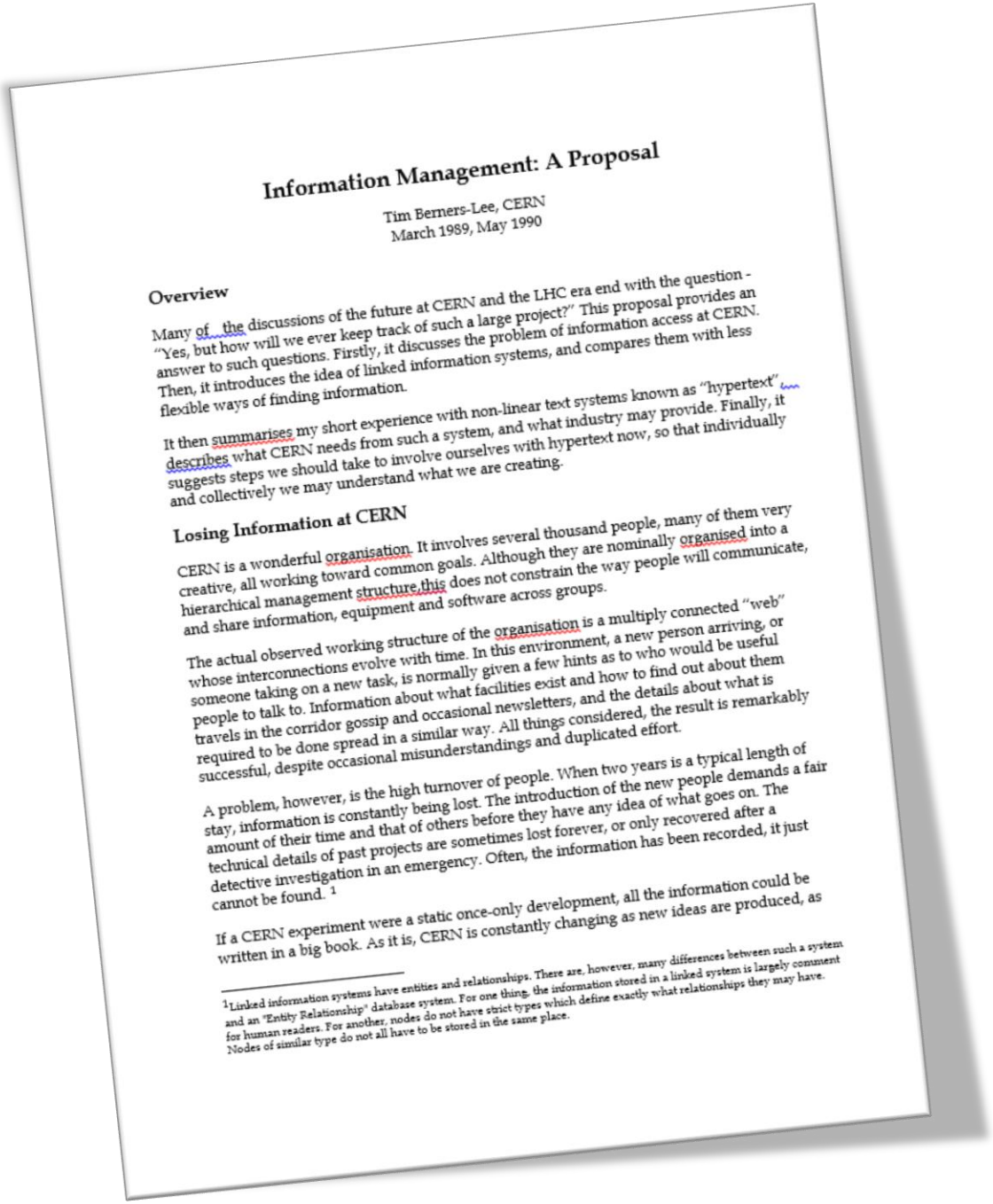
```
<p class="lead">...
```

The Box Model

Content, Padding, Border, and Margin

The Normal Flow

- a.k.a. the "natural" document flow
- The top-to-bottom flow of a document
- Nothing is side-by-side (mostly)
- One long column that's as wide as the "container"
  - On the web, the container is the web browser's viewport



Information Management: A Proposal

Tim Berners-Lee, CERN
March 1989, May 1990

Overview

Many of the discussions of the future at CERN and the LHC era end with the question - "Yes, but how will we ever keep track of such a large project?" This proposal provides an answer to such questions. Firstly, it discusses the problem of information access at CERN. Then, it introduces the idea of linked information systems, and compares them with less flexible ways of finding information.

It then summarises my short experience with non-linear text systems known as "hypertext", describes what CERN needs from such a system, and what industry may provide. Finally, it suggests steps we should take to involve ourselves with hypertext now, so that individually and collectively we may understand what we are creating.

Losing Information at CERN

CERN is a wonderful organisation. It involves several thousand people, many of them very creative, all working toward common goals. Although they are nominally organised into a hierarchical management structure,this does not constrain the way people will communicate, and share information, equipment and software across groups.

The actual observed working structure of the organisation is a multiply connected "web" whose interconnections evolve with time. In this environment, a new person arriving, or someone taking on a new task, is normally given a few hints as to who would be useful people to talk to. Information about what facilities exist and how to find out about them travels in the corridor gossip and occasional newsletters, and the details about what is required to be done spread in a similar way. All things considered, the result is remarkably successful, despite occasional misunderstandings and duplicated effort.

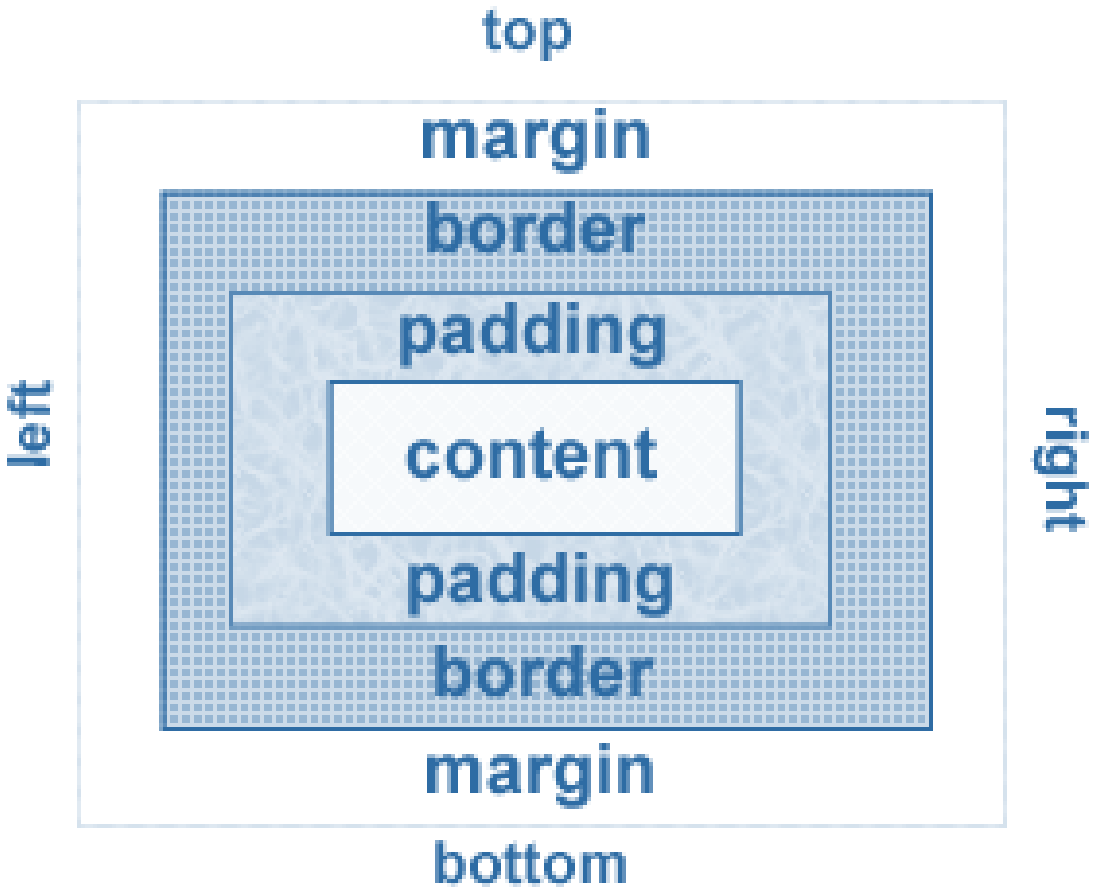
A problem, however, is the high turnover of people. When two years is a typical length of stay, information is constantly being lost. The introduction of the new people demands a fair amount of their time and that of others before they have any idea of what goes on. The technical details of past projects are sometimes lost forever, or only recovered after a detective investigation in an emergency. Often, the information has been recorded, it just cannot be found. [1]

If a CERN experiment were a static once-only development, all the information could be written in a big book. As it is, CERN is constantly changing as new ideas are produced, as

[1] Linked information systems have entities and relationships. There are, however, many differences between such a system and an "Entity Relationship" database system. For one thing, the information stored in a linked system is largely comment for human readers. For another, nodes do not have strict types which define exactly what relationships they may have. Nodes of similar type do not all have to be stored in the same place.

The Box Model – CSS properties that work together

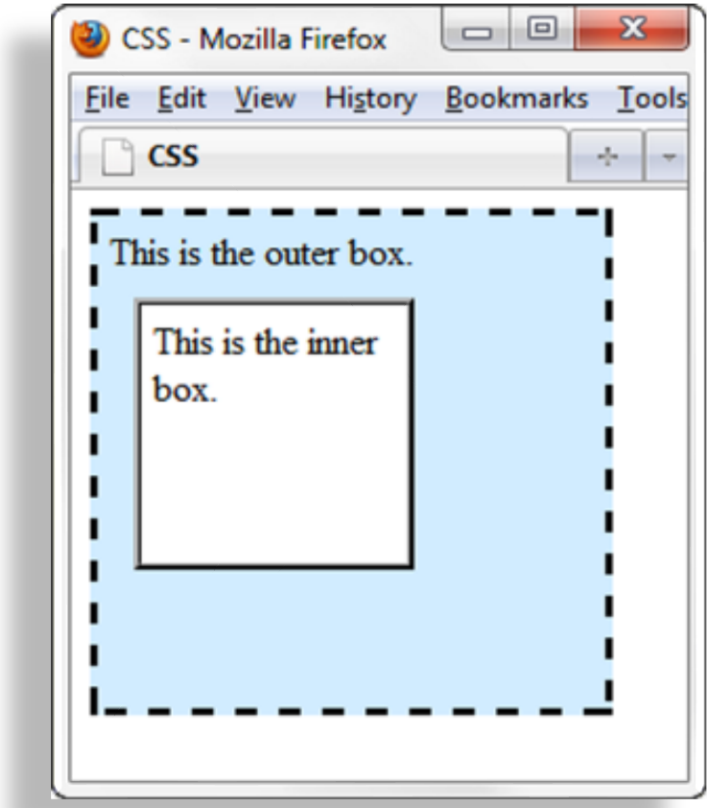
- **Content**
  - Text & web page elements in the HTML element
- **Padding**
  - Area between the content and the border
- **Border**
  - Between the padding and the margin
- **Margin**
  - Determines the empty space between the element and adjacent elements



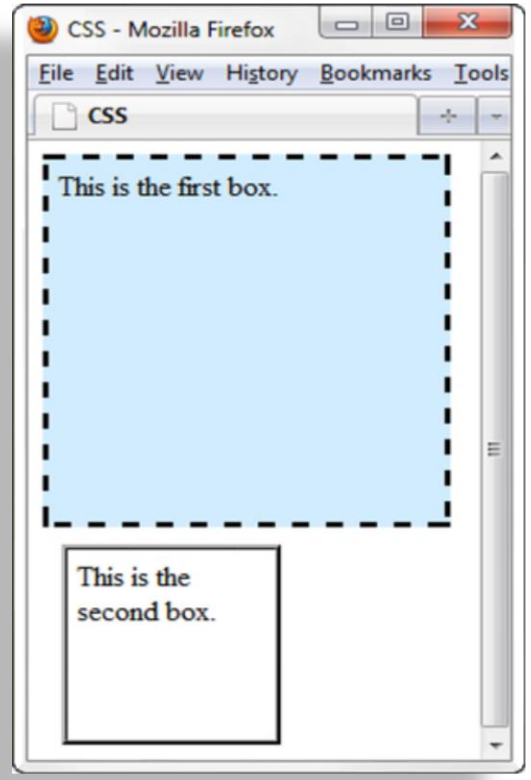
Note: the box model applies to both BLOCK elements and INLINE elements (but works best on BLOCK elements)

HTML Structure Matters – nested vs. stacked

```
<div>
    This is the outer box
    <div>
        This is the inner
        box
    </div>
</div>
```




```
<div>
    This is the first box
</div>
<div>
    This is the second box
</div>
```



The Float Property

Wrapping text around another element

The Float

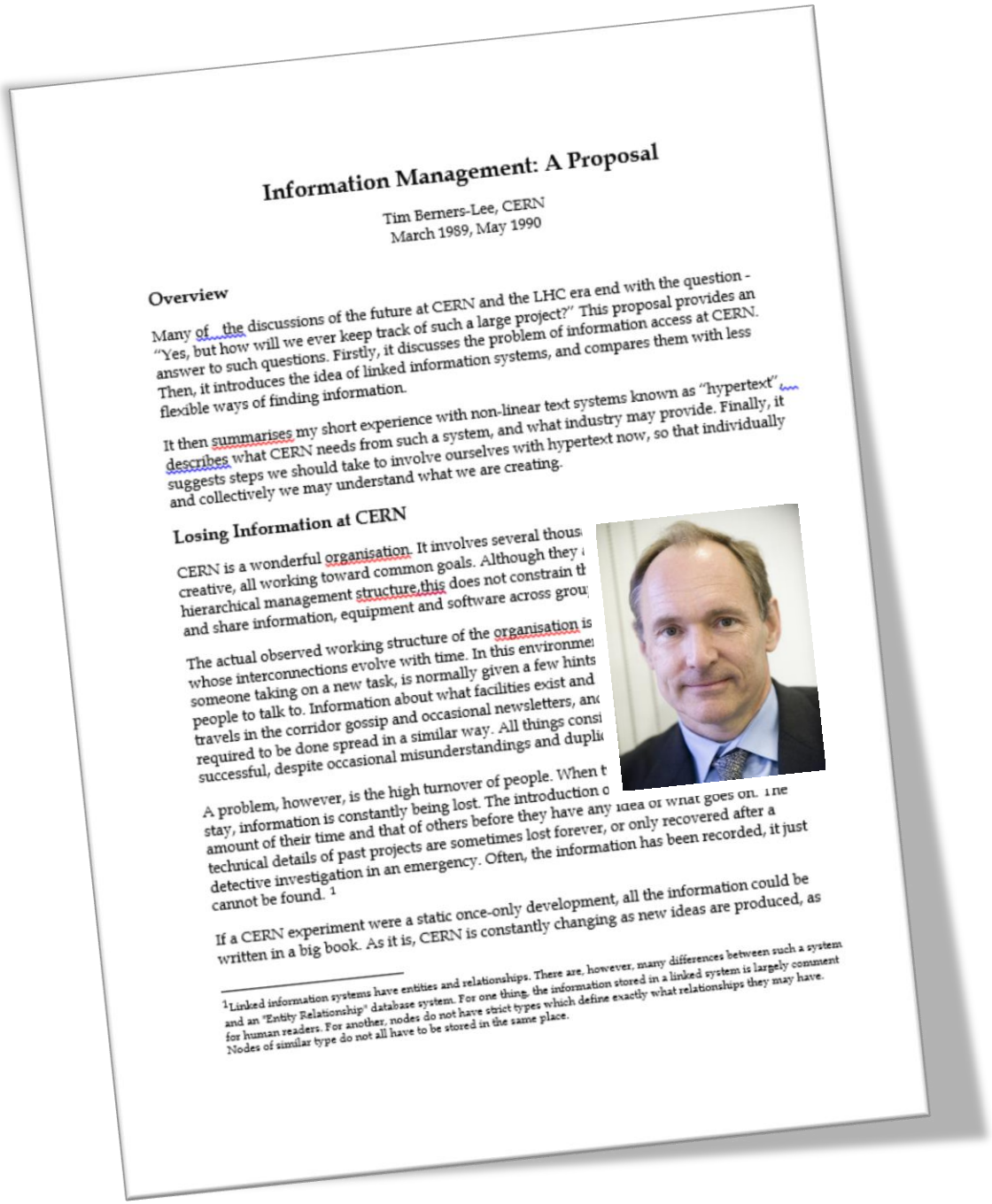
- For small elements
  - photos, tables, figures …whatever
- Lets the text flow around it
- Changes based on the width of the viewport

```
img { float: right; }
```

-- or –

```
img { float: left; }
```

Note: there is no `float: center`



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Float fix 1 – "clear"

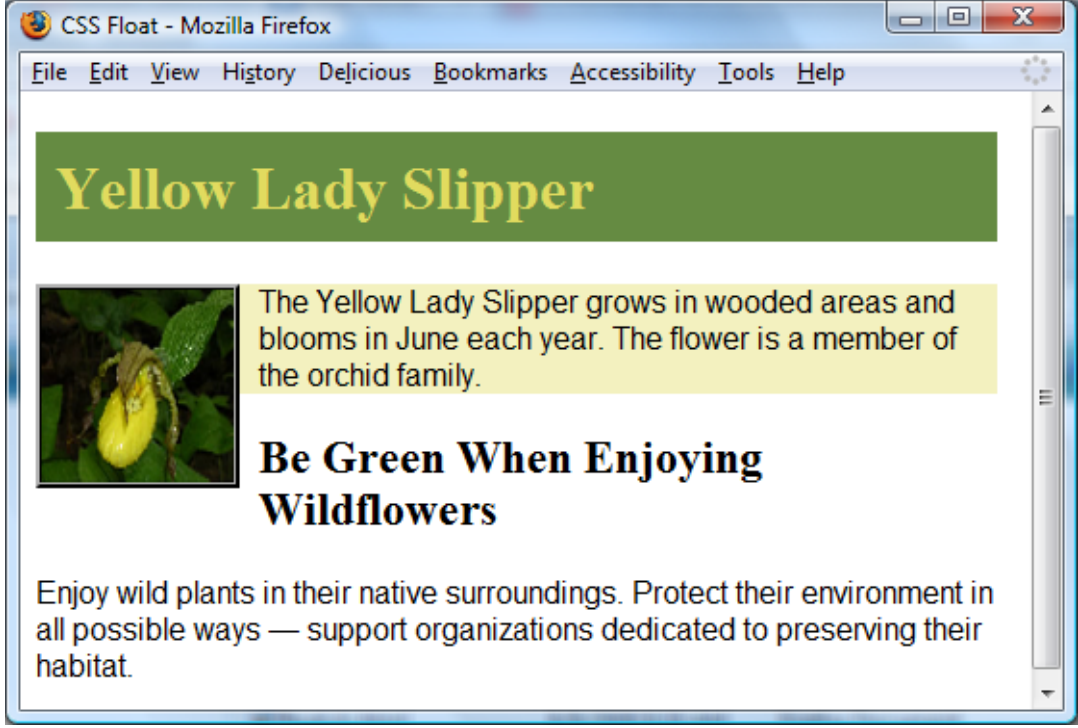
- The `clear` property
  - In the HTML, whatever comes next needs to "clear" the float

```
img { float: left; }
h2 { clear: left; }
```

Float fix 2 – "overflow"

- The `overflow` property
  - In the HTML, the floated element needs to be inside a block element that gets the `overflow` property

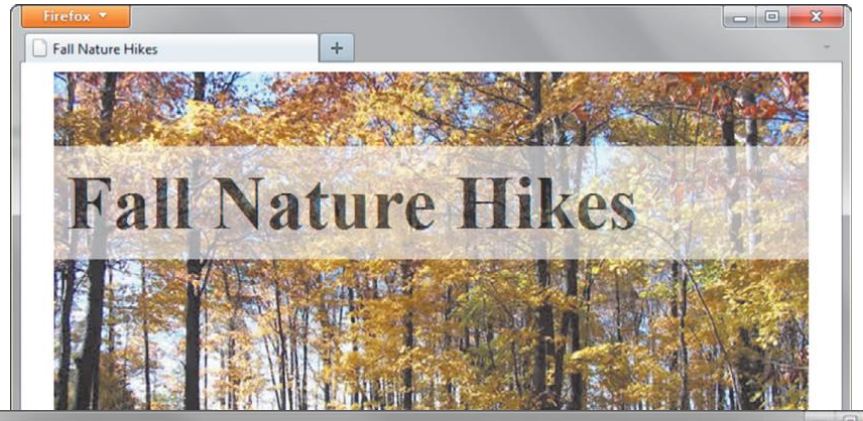
```
div { overflow: auto; }
img { float: right; }
```



New(er) CSS3 Properties

W3C's Latest Addition to the Web Standard

```
background-color:#FFFFFF;
opacity: 0.6;
```




```
border-radius: 15px;
```

Logo with Rounded Corners

```
border-radius: 15px 30px 100px 5px;
```

Logo with Rounded Corners

```
box-shadow: 5px 5px 5px #828282;
```