

Web Technologies

Objectives

- Create/control appearance & placement of frames
- Control the behavior of hyperlinks on pages with frames
- Use reserved target names to specify a target for a hypertext link
- Browsers that support frames and by those that do not
- Create and implement floating frames

Advantages to Using Frames

- flexibility in design
- information in different Web pages
- remove redundancy.
- site easier to manage.
- update only a few files rather than the whole.
- Web designers create both framed and non-framed versions for a Web site and give users the option of which one to use.

Disadvantages to Using Frames

- The browser has to load multiple HTML files
 - increasing wait time
- Some older browsers cannot display frames.
- Some users do not like using frames.
- Some web authors feel that frames are too constricting.
- Frames can use up valuable screen space.
- The source code is hidden.

Creating a Frame Layout

- The `<frameset>` tag is used to store the definitions of the various frames in the file. These definitions will typically:
 - include the size and location of the frame
 - include the Web pages the frames display
- The `<frameset>` code does not include an opening and closing `<body>` tag.
 - the reason for this is that this HTML file displays the contents of other Web pages; technically, it is not a Web page

Specifying Frame Size and Orientation

- For frame layout
 - use rows and cols attributes of **<frameset>**
- **frameset** is defined by rows or columns, but not both.
- Must choose to layout frames in either rows or columns.

The Frame Syntax

- The syntax for creating a row or column frame layout is:

– `<frameset rows="row height 1, row height 2, row height 3, . . .">`

- *row height* is the height of each row

or

– `<frameset cols="column width 1, column width 2, column width 3, . . .">`

- *column width* is the width of each column

Row and Column Sizes

- Row and column sizes can be specified in three ways:
 - in pixels
 - as a percentage of the total size of the frameset
 - by an asterisk (*)

Defining Rows and Columns Using (*)

- Tells the browser to allocate any unclaimed space in the frameset to the particular row or column.
 - `<frameset rows="160,*">`
creates two rows of frames.
- Specify at least 1 of the rows or cols of `<frameset>` with (*) to ensure that the frames fill up the screen.
- You can use multiple asterisks.
- The browser divides the remaining display space equally among the frames with the asterisks.
 - `<frameset rows="*,*,*">`
creates three rows of frames with equal heights.

Specifying a Frame Source

- To specify a source for a frame, use the **<frame>** tag with the syntax: **<frame src="URL">**
- The URL is the filename and location of the page that you want to load.
- You must insert the **<frame>** tag between the opening and closing **<frameset>** tags.

Nesting `<frameset>` Tag

- Remember that a frameset is defined by rows or columns, but not both.
- To create frames using both rows and columns, one frameset must be nested inside another.
- The interpretation of the rows and cols attributes changes slightly.

Controlling the Appearance of Your Frames

- You can control three attributes of a frame:
 - scroll bars
 - the size of the margin between the source document and the frame border
 - whether or not the user is allowed to change the size of the frame

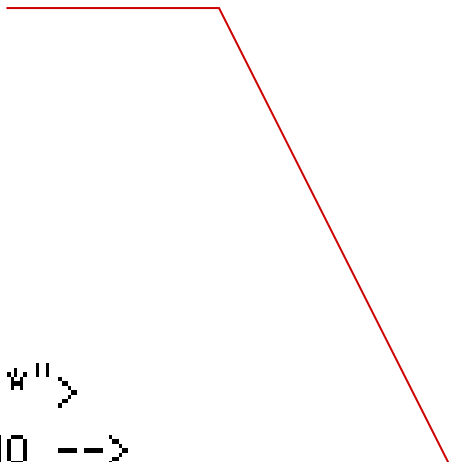
Controlling the Appearance of Scroll Bars

- By default, scroll bars are displayed when the content of the source page cannot fit within the frame.
- You can override the default setting using the **scrolling** attribute.
- The scrolling syntax is: **<frame src="URL" scrolling="scrolling">**
 - *scrolling* can either be “yes” (to always display scroll bars) or “no” (to never display scroll bars)

Removing the Scroll Bars from the Logo Frame

If the complete text cannot be displayed after removing the scroll bars from a frame, you will need to modify the frame margin.

set the scrolling attribute to "no" to remove the scroll bars



```
<frameset rows="85,*">
  <!-- Company Logo -->
  <frame src="head.htm" scrolling="no">
  <!-- Nested Frames -->
  <frameset cols="140,*">
    <!-- List of YCS Links -->
    <frame src="links.htm">
    <!-- YCS Home Page -->
    <frame src="home.htm">
  </frameset>
</frameset>
```

Controlling Frame Margins

- The following should be consider for frame margins:
 - the browser determines the amount of space between the content of the page and the frame border
 - occasionally, the browser sets the margin between the border and the content too large
 - the margin should be big enough to keep the source's text or images from running into the frame's borders
 - the margin should not take up too much space, because you typically want to display as much of the source as possible

Specifying Margins Syntax

- The syntax for specifying margins for a frame is:
`<frame src="URL"
marginheight="value"
marginwidth="value">`
 - *marginheight* is the amount of space, in pixels, above and below the content of the page in the frame
 - *marginwidth* is the amount of space to the left and right of the page
- If you specify only one, the browser assumes that you want to use the same value for both.

Controlling Frame Resizing

- By default, users can resize frame borders
- Web designers can freeze, or lock, frames, so that users cannot resize them.
- The syntax for controlling frame resizing is:
<frame src="URL" noresize>
- The **noresize** attribute

Working with Frames and Hypertext Links

- By default, clicking a hyperlink within a frame opens the linked file inside the same frame.
- You can display hyperlinks in many ways:
 - in a different frame
 - in a new window
 - in the entire window
- When you want to control the behavior of hyperlinks in a framed page, there are two required steps:
 - give each frame on the page a name
 - point each hyperlink to one of the named frames

Assigning a Name to a Frame

- To assign a name to a frame, add the **name** attribute to the frame tag.
- The syntax for this attribute is: **<frame src="URL" name="frame_name">**
 - *frame_name* is any single word you assign to the frame
 - case is important in assigning names: “**information**” is considered a different name than “**INFORMATION**”

Assigning a Name to Each Frame

Once the frames are named, the next task is to specify the target frame for each hyperlink.

the frame name



```
<frameset rows="85,*">
  <!-- Company Logo -->
  <frame src="head.htm" scrolling="no" marginheight="0" noresize name="logo">
  <!-- Nested Frames -->
  <frameset cols="140,*">
    <!-- List of YCS Links -->
    <frame src="links.htm" noresize name="links">
    <!-- YCS Home Page -->
    <frame src="home.htm" marginheight="0" marginwidth="10" noresize name="pages">
  </frameset>
</frameset>
```

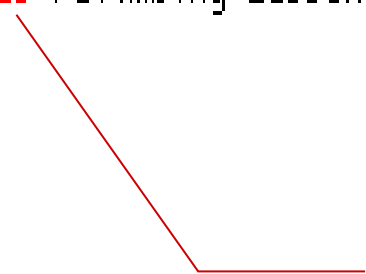
Specifying a Link Target

- You can use the **target** attribute to open a page in a specific frame.
- The syntax for this is: ****
 - *frame_name* is the name you've assigned to a frame on your Web page
- When a page contains dozens of hyperlinks that should all open in the same frame, HTML provides a way to specify a target frame for all the hyperlinks within a single page.

Assigning a Target to a Hyperlink

Make sure to test your hyperlinks.

```
<html>
<head>
<title>Yale Climbing School Links</title>
</head>
<body background="wall2.jpg" text="white" link="white" vlink="white" alink="white">
<font face="Arial, Helvetica, sans-serif" color="white">
<h2>Links</h2>
<font size="2"><b>
<a href="home.htm" target="pages">Home Page</a><br>
<a href="philosph.htm" target="pages">Our Philosophy</a><br>
<a href="lessons.htm" target="pages">Climbing Lessons</a><br>
<a href="tours.htm">Tours</a><br>
<a href="staff.htm">Staff</a>
</b></font>
</body>
</html>
```



**the Web page will
appear in the pages
frame**

Using Reserved Target Names

- **Reserved target names** are special names that can be used in place of a frame name as the target.
- They are useful in situations:
 - where the name of the frame is unavailable
 - when you want the page to appear in a new window
 - when you want the page to replace the current browser window
- All reserved target names begin with the underscore character (`_`) to distinguish them from other target names.
- Reserved target names are case-sensitive, they must be entered in lowercase.

Reserved Target Names

This figure describes the reserved target names.

MAGIC TARGET NAME	DESCRIPTION
_blank	Loads the document into a new browser window
_self	Loads the document into the same frame or window that contains the hyperlink tag
_parent	In a layout of nested frames, loads the document into the frame that contains the frame with the hyperlink tag
_top	Loads the document into the full display area, replacing the current frame layout

Using the `_self` Target Name

You can use the reserved target name, `_self`, which overrides the target specified in the `<base>` tag and instructs the browser to open the page in the same frame that contains the hypertext link.

```
<html>
<head>
<title>Yale Climbing School Links</title>
<base target="pages">
</head>
<body background="wall2.jpg" text="white" link="white" vlink="white" alink="white">
<font face="Arial, Helvetica, sans-serif" color="white">
<h2>Links</h2>
<font size="2"><b>
<a href="home.htm" target="pages">Home Page</a><br>
<a href="philosph.htm" target="pages">Our Philosophy</a><br>
<a href="lessons.htm" target="pages">Climbing Lessons</a><br>
<a href="tours.htm" target=_self>Tours</a><br>
<a href="staff.htm">Staff</a>
</b></font>
</body>
</html>
```

page will appear in the frame containing the hyperlink

Using the `_Top` Reserved Target Name

To target a link to the full display area, you will use the `_top` reserved target name.

The `_top` target is often used when a framed page is accessed from another. It's also used when you are linking to pages that lie outside your Web site altogether.

```
<html>
<head>
<title>Yale Climbing School Links</title>
<base target="pages">
</head>
<body background="wall2.jpg" text="white" link="white" vlink="white" alink="white">
<font face="Arial, Helvetica, sans-serif" color="white">
<h2>Links</h2>
<font size="2"><b>
<a href="home.htm" target="pages">Home Page</a><br>
<a href="philosph.htm" target="pages">Our Philosophy</a><br>
<a href="lessons.htm" target="pages">Climbing Lessons</a><br>
<a href="tours.htm" target=_self>Tours</a><br>
<a href="staff.htm" target=_top>Staff</a>
</b></font>
</body>
</html>
```

page will appear in the full display area

Frames and Browsers

- To test your Web page, use a browser that does not support frames.
- Another way of supporting browsers that do not display frames is to create a Web page that contains links to the framed and nonframed versions of your Web site.
- It is important to correctly identify the target for hyperlinks within frames.
 - by default, the target of the hyperlink will be the current frame
- Use the `_top` target to hyperlinks to documents that lie outside of the Web presentation.

Working with Frame Borders

- There are additional attributes you can apply to the **<frame>** tag that allow you to change border size and appearance. For example:
 - you can remove borders from your frames to free up more space for text and images
 - you can change the color of the frame border so that it matches or complements the color scheme for your Web site

Setting the Border Color

- To change the color of a frame's border, use the **bordercolor** attribute.
- The attribute can be applied either to an entire set of frames, using the **<frameset>** tag, or to individual frames, using the **<frame>** tag.
- The syntax for this attribute is:
 - **<frameset bordercolor="color">**
 - or
 - **<frame bordercolor="color">**
 - **color** is either a color name or a color value

Setting the Border Color Continued

- Applying the bordercolor attribute to the **<frameset>** tag affects all of the frames and nested frames within the set.
- If you apply the bordercolor attribute to a single **<frame>** tag, that particular color of the border changes in Internet Explorer, but in Netscape Navigator, all of the frame borders change.
- View the page using different browsers and browser versions.

Setting the Border Width

- Another way of modifying frame borders is to change their widths using the **border** attribute.
- The border attribute can be used only in the **<frameset>** tag, and not in individual **<frame>** tags.
- The syntax for the border attribute is:
<frameset border="value">
 - *value* is the width of the frame borders in pixels

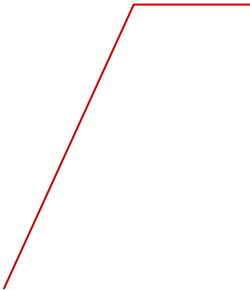
The frameborder Attribute

- Adding **frameborder="no"** to a **<frameset>** tag removes the borders from the frames in your page.
 - by removing the borders, more space for the text and images in each of the Web pages is created
- Internet Explorer also supports the framespacing attribute, which has the same effect as the border attribute.
- Netscape does not support the framespacing attribute.

Removing the Frame Borders

Some Web designers prefer not to show frame borders in order to give the illusion of having a single Web page rather than three separate ones, while other Web designers believe that hiding frame borders can confuse users as they navigate the Web site.

setting the width of the frame border to zero has the effect of removing the border



```
<frameset rows="85,*" border="0">
  <!-- Company Logo -->
  <frame src="head.htm" scrolling="no" marginheight="0" noresize name="logo">
  <!-- Nested Frames -->
  <frameset cols="140,*">
    <!-- List of YCS Links -->
    <frame src="links.htm" noresize name="links">
    <!-- YCS Home Page -->
    <frame src="home.htm" marginheight="0" marginwidth="10" noresize name="pages">
  </frameset>
</frameset>
```

Creating Floating Frames

- Another way of using frames is to create a floating frame.
- A **floating frame**, or **internal frame**, is displayed as a separate box or window within a Web page.
- The frame can be placed within a Web page in much the same way as an inline image.

The Floating Frames Syntax

- The syntax for a floating frame is: **<iframe src="URL" frameborder="option"></iframe>**
 - **URL** is the name and location of the file you want to display in the floating frame
 - the **frameborder** attribute determines whether the browser displays a border ("yes") or not ("no") around the frame
 - in addition to these attributes, you can use some of the other attributes you used with fixed frames, such as the **marginwidth**, **marginheight**, and **name** attributes

Attributes Associated with the `<iframe>` Tag

This figure shows some of the other attributes associated with the `<iframe>` tag.

Attribute	Description
<code>align="alignment"</code>	How the frame is aligned with the surrounding text (use "left" or "right" to flow text around the inline frame.)
<code>border="value"</code>	The size of the border around the frame, in pixels
<code>frameborder="type"</code>	Specifies whether to display a border ("yes") or not ("no")
<code>classid="URL"</code>	The class identifier of the object
<code>height="value"</code> <code>width="value"</code>	The height and width of the frame, in pixels
<code>hspace="value"</code> <code>vspace="value"</code>	The horizontal and vertical space around the frame, in pixels
<code>marginheight="value"</code> " <code>marginwidth="value"</code>	The size of the internal margins of the frame, in pixels.
<code>name="text"</code>	The name of the frame
<code>scrolling="type"</code>	Specifies whether the frame can be scrolled ("yes") or not ("no")
<code>src="URL"</code>	The location and filename of the page displayed in the frame

Changing Web Page Content

- When changing Web page content, you may want to reload or refresh the Web page:
 - for Netscape, you will need to close and then open the file for the changes to the frames to take effect. Simply clicking the Reload button, your changes are not displayed
 - for Internet Explorer 3.0 and above, in which you can view changes to the page by clicking the Refresh button

Frame Tricks - Example

- Content
 - Frames don't have to load HTML
 - can put SRC="logo.gif", for example
 - sometimes this helps eliminate margins
 - Use <BASE TARGET="_top">
 - Frames can contain frameset documents
 - why? Allows change to part of the frameset

Frame Tricks - Example

- Example

- main_fs.html

```
<FRAMESET ROWS="50, *">
```

```
  <FRAME NAME="banner" SRC="banner.gif">
```

```
  <FRAME NAME="subframe"  
  SRC="sub_fs.html">
```

```
</FRAMESET>
```

```
<NOFRAMES>
```

```
<!-- frameless content -->
```

```
</NOFRAMES>
```


Frame Tricks - Example

- Example

- sub_fs.html

```
<FRAMESET COLS="25%, *">
```

```
  <FRAME NAME="toc" SRC="contents.html">
```

```
  <FRAME NAME="main" SRC="main.html">
```

```
</FRAMESET>
```

```
<NOFRAMES>
```

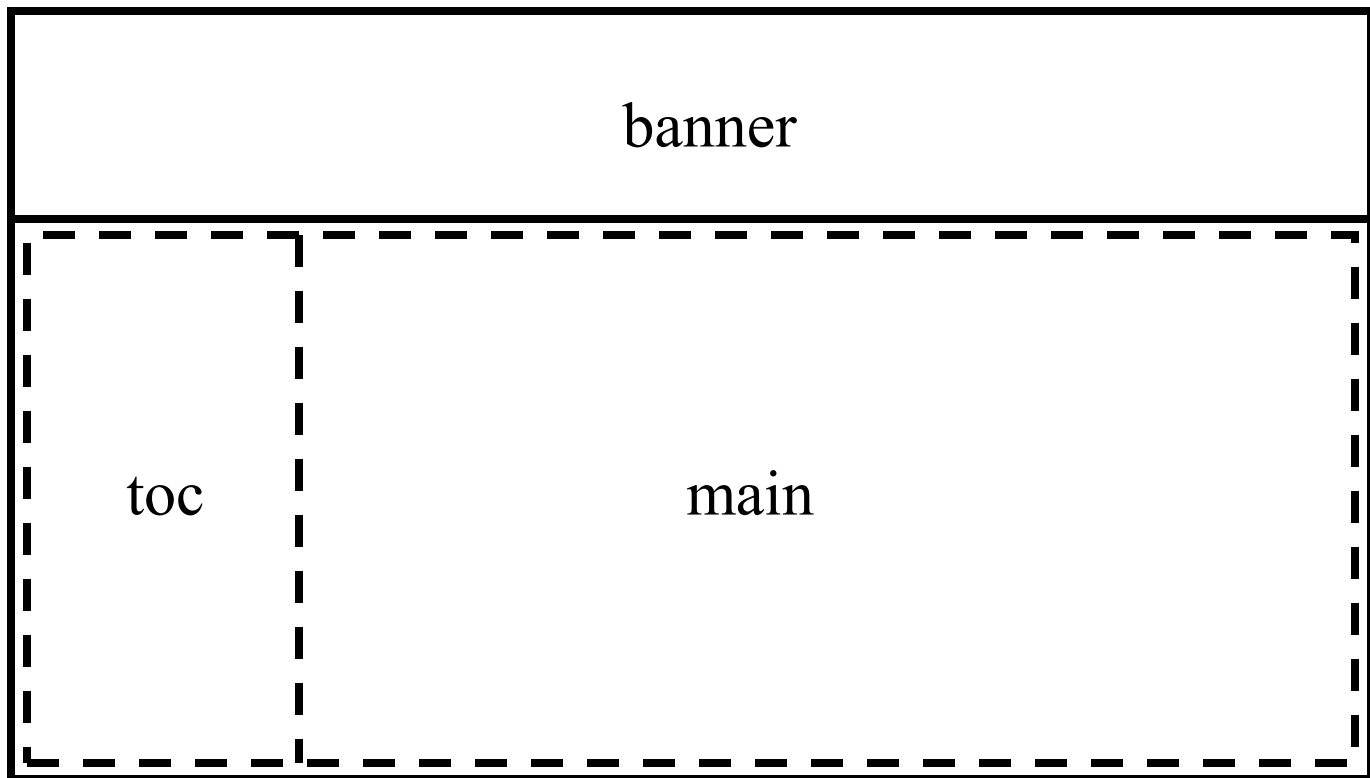
```
<!-- frameless content -->
```

```
</NOFRAMES>
```

Frame Tricks - Example

- Result

Dashed lines indicate "subframe"



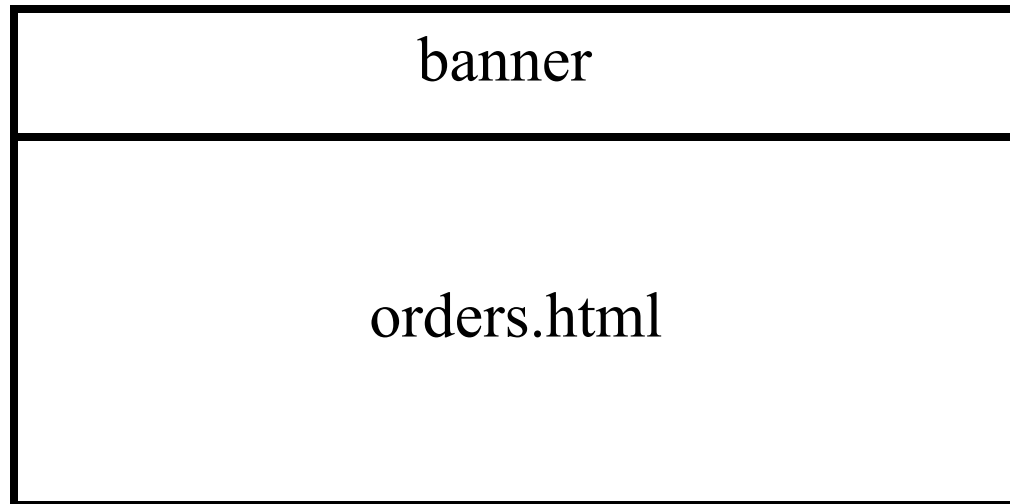
Frame Tricks - Example

- Reloading subframe

- in banner.html:

- ``

- results in:



Summary

- How to display multiple Web pages in a Web browser using frames,
- How to create a frame layout and specify the source document for each frame,
- How to control the behavior and appearance of each frame,
- How to specify which frame will contain the results of an activated hyperlink,
- How to support "frame-blind" browsers.
- Extensions supported by some browsers.

Thank You

- Thank you