

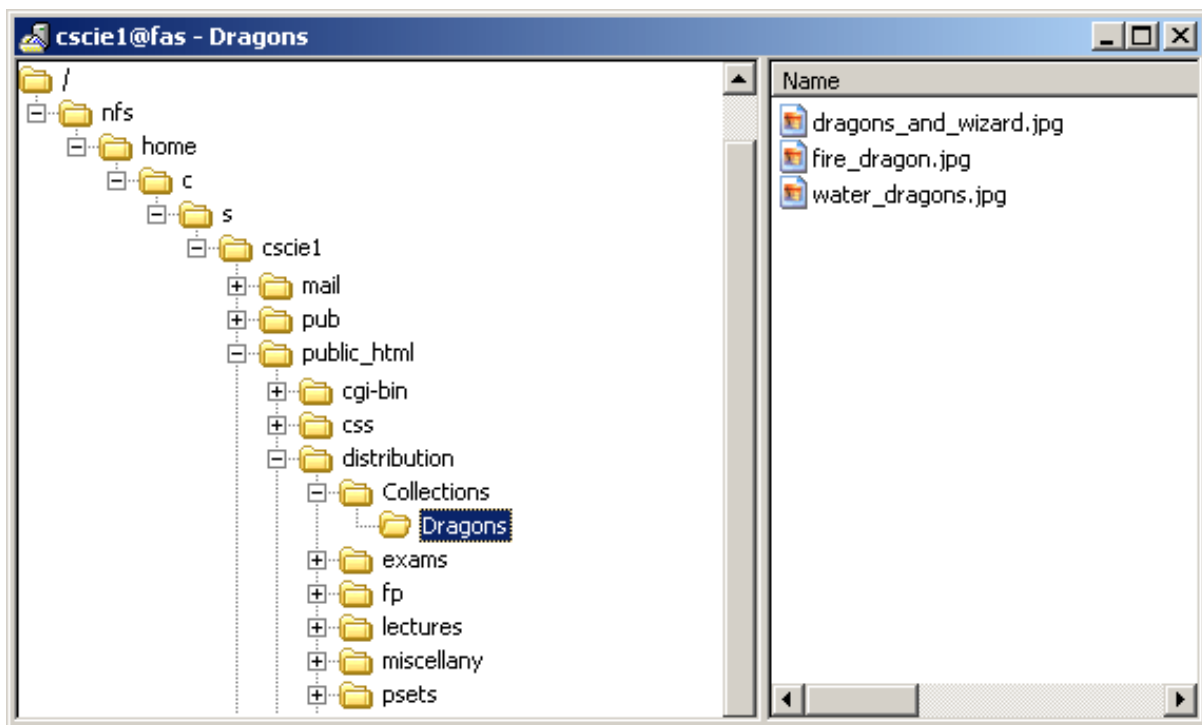
## Problem Set 7: Website Development

*due Thursday, 22 December 2005, by 5:30 P.M. ET*

Please type or write your answers,  
but do not write your answers on the problem set itself (except for question 8).

### The Dragon's Lair. (5 points each.)

Consider the screen shot, below, of a SecureFX session with `fas.harvard.edu`.



1. Note the appearance of '/' atop the left-hand pane; what does this symbol denote?
2. Given the directory structure above, what is the URL of `dragons_and_wizard.jpg` on `www.fas.harvard.edu`? (Note that the course's website is served by `www.fas.harvard.edu` rather than `www.people.fas.harvard.edu`, by which your website is served.)
3. Consider the element below.

```

```

What are the attributes of this element?

**Short Answers. (8 points each.)**

4. Suppose that you've just entered

`http://www.fas.harvard.edu/~cscie1/Collections/Dragons/fire_dragon2.jpg`

into your browser. Unfortunately, upon hitting Enter, rather than being rewarded with a cool image of dragons, you are confronted with a page containing the error message below.

**HTTP Error 403 - Forbidden**

What exactly does this error message mean? Suggest at least two reasons for this error's occurrence.

5. What does it mean for a webpage to be well-formed? How is the well-formedness of a page different from its validity?
6. Speaking of well-formedness, the XHTML in each of the following statements is not well-formed. Tweak each statement so that it is well-formed, making as few changes to the original text as possible.
- a. `<p>Dragons prefer to sleep with <em>one eye open!</p></em>`
  - b. Purple dragons are, no surprise, `<span style="color:purple">purple.`
  - c. I like Puff, the Magic Dragon.  
`<br>`  
I don't like Smaug, J.R.R. Tolkien's nasty dragon.
  - d. It's the `<b>"Dragon Tales"</strong>` show!

**Abra Kadabra! (10 points.)**

7. There exists a group of wizards that use the Internet to share their spells, potions, and dragon-taming techniques by creating webpages that detail their methods and strategies. Unfortunately for them, the dragons are also quite high-tech and check the wizards' pages daily to learn the new techniques and figure out ways to fight against them. In a rash underestimation of the dragons' intelligence, the wizards use some XHTML magic to hide the information by modifying their webpages so that all of the text appears white. Since the background color is also white, the text doesn't seem to appear on the page!

Demonstrate how the wizards could implement this trickery by writing some well-formed and valid XHTML and CSS with your own secret message that you wouldn't want dragons to read. Keep in mind that there's no fancy wizardry involved! Since the wizards have a large site, your XHTML and CSS should be in separate files. Specifically, your XHTML should be at `http://www.people.fas.harvard.edu/~username/wizards.html`, while your CSS

should be at <http://www.people.fas.harvard.edu/~username/wizards.css>, where username is your FAS username.

Within comments (flanked by `<!--` and `-->`) in your XHTML, explain how the wizards could read each other's secret messages without viewing the source code of the document.

### Contact The Tolkien Society for Details. (16 points.)

8. Consider the XHTML below.

```
<!DOCTYPE html
PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"DTD/xhtml11-transitional.dtd">

<html>
  <head>
    <title>There There Be Dragons!</title>
  </head>
  <body>
    <div align="center">
      <h1>There There Be Dragons!</h1>
      <br />
      <table border="0" cellspacing="10">
        <tr>
          <td>
            <p>
              <a href="http://www.tolkien.co.uk/">
                
              </a>
            </p>
          </td>
          <td align="left">
            <p>
              <h2>Contact The Tolkien Society for Details</h2>
              <h3>
                <a href="mailto:webmaster@tolkiensociety.org">The Tolkien Society</a>
              </h3>
            </p>
          </td>
        </tr>
      </table>
    </div>
  </body>
</html>
```

Within the confines of the empty browser window on the last page of this document, sketch the webpage that would be generated by this XHTML, were you to view it with a browser.<sup>1</sup> You may assume that `dragons_and_wizard.jpg` is simply a drawing of a wizard's hat.

You are welcome to seek the assistance from an XHTML book or online reference, particularly with any tags unfamiliar to you. However, it is expected that you will *not* save the above XHTML in a file and view that file with an actual browser. Consider this an exercise of thought, not of copy-paste.

### Twenty Unique Start Tags?! (35 points.)

9. Okay, enough drawing of webpages. It's time to make a webpage! We'll leave its design largely up to you, but let's put forth a few guidelines, below.
  - i. The URL of your page must be  
  
`http://www.people.fas.harvard.edu/~username/twenty.html`  
  
where username is your FAS username.
  - ii. Your page must contain at least one image.
  - iii. Your page must contain at least one `mailto:` link and one link to another website.
  - iv. Your page must include at least one SSI tag.
  - v. You must use at least two different styles using CSS defined in your page (*i.e.*, don't use a separate file for your style sheet).
  - vi. Your page must be XHTML 1.0-compliant (*i.e.*, well-formed and valid).
  - vii. Your page must contain at least twenty unique start tags.

While the specific contents of your page are up to you, things of beauty are encouraged. However, your work be evaluated solely on the basis of its compliance with XHTML 1.0.

We suggest that you build your page incrementally, confirming its well-formedness and validity (with, say, the W3C's validator at <http://validator.w3.org/>) often.<sup>2</sup>

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<sup>1</sup> You should tear that page out of this printout and submit it along with the rest of your work.

<sup>2</sup> Trust us. Finding and fixing errors in 10 lines of XHTML is a lot easier than in 20 lines.

**Extra Credit. (5 points.)**

10. Although XHTML 1.0 is based on HTML 4.0, the former differs from the latter in a number of ways. Possibly by conducting a bit of research or doing a bit of reading, point out at least five fundamental differences between XHTML 1.0 and HTML 4.0.

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