

## Chapter 4: Creating Your Web Page, Part 1: The Basic Page

There is no shortage of information out there on the web and elsewhere about how to create your own web page. For me to try to create a complete guide to doing this would be a waste of my time and yours. Rather, I want to get you headed in the right direction and with the bare minimum of tools that you will need in order to code up a web page, and how you decide to expand upon this information is up to you.

### Writing HTML: The Easy Way and the Right Way

Web pages are generally written in a computer language called Hypertext Markup Language, or HTML. Creating web pages has become such a common task that a number of software companies have created computer programs that help you make a web page without knowing anything about how HTML works—or even what HTML looks like. Probably the best-known of these programs are Microsoft FrontPage or Expression Web, which are very nice programs that make the creation of a web page about as difficult as the creation of a document in Microsoft Word—in fact, FrontPage looks a lot like Word, and Expression Web isn't all that different.

But FrontPage is a Microsoft product. It is designed to work on PCs (and maybe Macintoshes), but Bill Gates is never going to release a version of FrontPage that works on Unix computers. And, like everything in the world of PCs, FrontPage is surprisingly underpowered. It would be very difficult to make a web page in FrontPage that does things like update automatically every hour with new weather information. There are other HTML editing programs out there, but they all suffer from limitations like this.

Therefore, we are going to write our own HTML code and not use programs like FrontPage. Your HTML document(s) will be written using the vi editor that we have been using.

### The public\_html Directory

Security is always a top concern when you are talking about putting information on the internet. Once your account is on a computer that has a “web server” (i.e., a program that will send your files to another computer, if that computer requests them), you need to be sure that only the files that you WANT to be public ARE public. One of the common security safeguards in Unix is that only files in subdirectories called “public\_html” will be served to other computers over the web. Therefore, use mkdir to create a directory called public\_html:

```
mkdir public_html
```

You might need to change the permissions on this directory so that users on the internet can read the files contained in that directory:

```
chmod a+r public_html
```

(This command changes the mode of the public\_html directory to “all users gain (+) read access”.)

## The index.html File

Inside of your public\_html directory, you are going to want to use vi to create a file called index.html. The index.html file is written in the HTML language, and this will be the file that the web server “serves” to other computers when people want to look at your web page. Put another way, index.html *is* your home page. Therefore, the address of your home page on Atlantic will be:

```
http://atlantic.creighton.edu/~yourlogin/index.html
```

where you would replace “yourlogin” with your login on atlantic. Notice the tilde in front of yourlogin; tilde is a special character in Unix that means “the home directory of”. Since this is a web server (as indicated by the “http://” part of the address), the computer will go to your home directory, move into the public\_html directory, and serve the client a copy of your index.html file. On most web servers, “index.html” is the default file to serve, so your address for your home page could be shortened to just be:

```
http://atlantic.creighton.edu/~yourlogin/
```

The content of the index.html file is up to you. You will use some of these HTML commands (or “tags”) to create a basic web page. Later in the course, we will add some meteorological plots to your web page that are generated automatically every hour, and ultimately we will add the meteorological plots that *you* create in the course!

## HTML Tags

If you use vi and open (or create) your index.html file, all you would have to do is start typing text, and whatever you would type would end up on your web page. However, HTML is not “wysiwyg” (pronounced “whiz E wig”, for “what you see is what you get”) the way a Word document would be. Rather, the simple text of the HTML file would appear, but any formatting that you would add (such as blank lines, new paragraphs, etc.) would be stripped out. For example, suppose that you entered the following text into your HTML file:

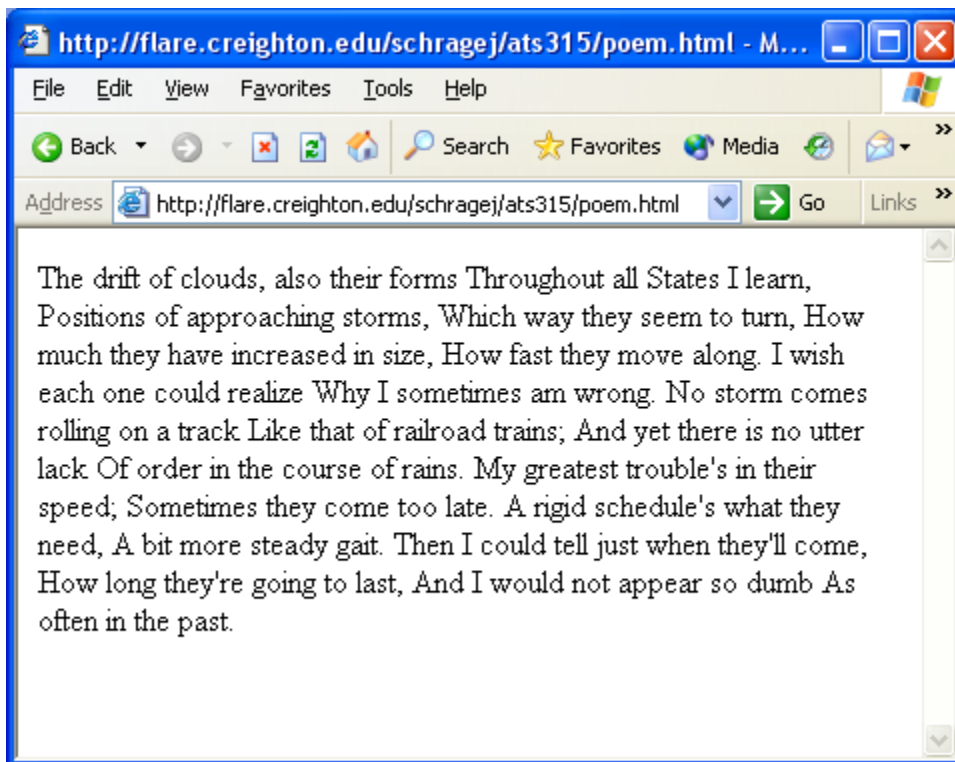
```
The drift of clouds, also their forms  
Throughout all States I learn,  
Positions of approaching storms,  
Which way they seem to turn,  
How much they have increased in size,
```

How fast they move along.  
I wish each one could realize  
Why I sometimes am wrong.

No storm comes rolling on a track  
Like that of railroad trains;  
And yet there is no utter lack  
Of order in the course of rains.  
My greatest trouble's in their speed;  
Sometimes they come too late.  
A rigid schedule's what they need,  
A bit more steady gait.  
Then I could tell just when they'll come,  
How long they're going to last,  
And I would not appear so dumb  
As often in the past.

(from “Soliloquy of the Weather Man”, from  
<http://www.history.noaa.gov/art/weatherpoems.html>.)

When you would try to load that index.html file, you would get something that looks like this:



All of the formatting has been lost, creating a long string of text. We need to establish some formatting in this document, using HTML tags.

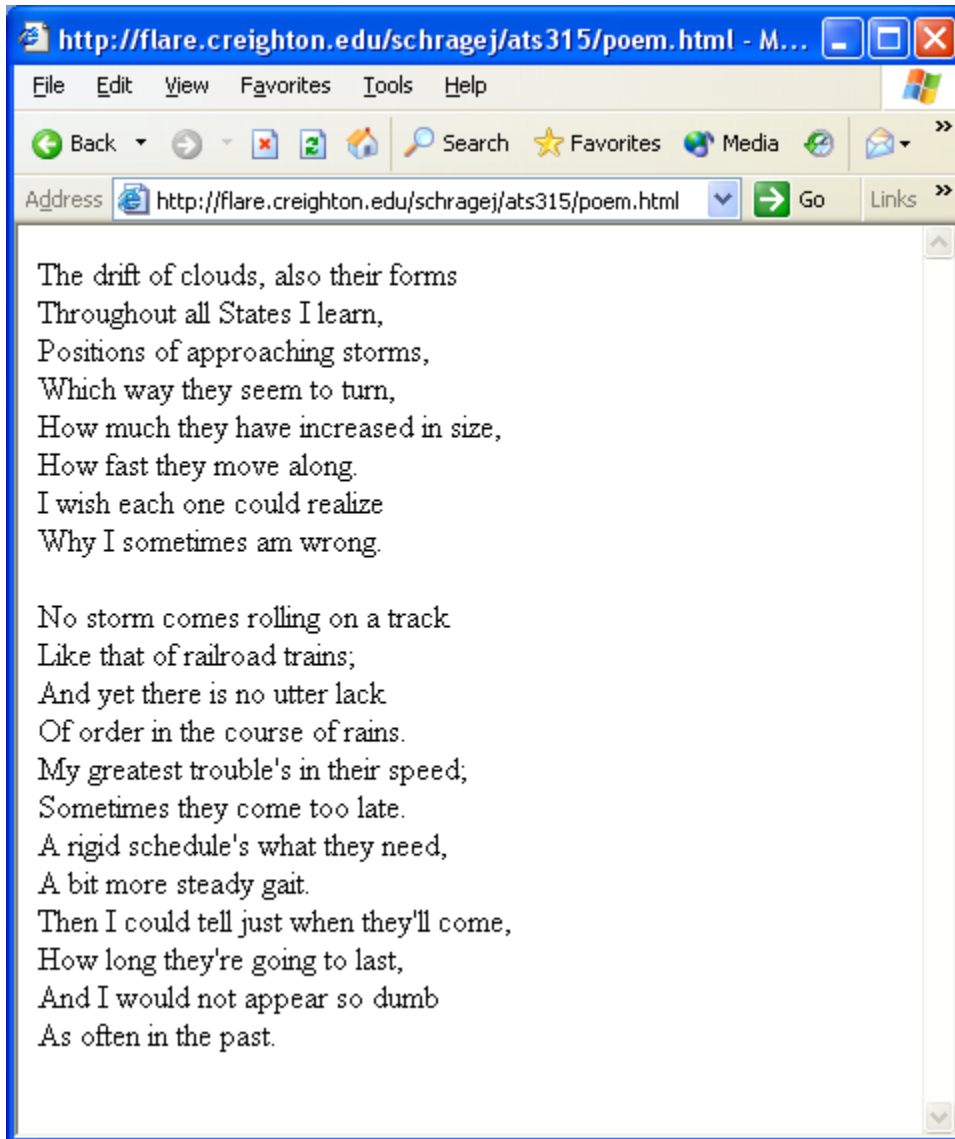
## The <BR> and <P> Tags

The <BR> tag introduces a “break” in the text. After the <BR> tag, text will move on to the next line. After a <P> tag, text moves on to the next line, leaving one line blank. So we can address some of the problems with this web with just these two tags:

The drift of clouds, also their forms<BR>  
Throughout all States I learn, <BR>  
Positions of approaching storms, <BR>  
Which way they seem to turn, <BR>  
How much they have increased in size,<BR>  
How fast they move along. <BR>  
I wish each one could realize <BR>  
Why I sometimes am wrong. <P>

No storm comes rolling on a track <BR>  
Like that of railroad trains; <BR>  
And yet there is no utter lack <BR>  
Of order in the course of rains. <BR>  
My greatest trouble's in their speed;<BR>  
Sometimes they come too late. <BR>  
A rigid schedule's what they need,<BR>  
A bit more steady gait. <BR>  
Then I could tell just when they'll come, <BR>  
How long they're going to last, <BR>  
And I would not appear so dumb <BR>  
As often in the past. <BR>

And here is the output. Notice how the <P> tag created a nice break between the two stanzas:



### The <CENTER> Tag

Two tags are used to begin and end a range of centered text. The <CENTER> tag starts the selection, and the </CENTER> tag ends the selection. In the next example, the <CENTER> tag will be used to create a centered title for the poem.

### The <I> Tag

Two tags are used to begin and end a range of italicized text. The <I> tag starts the selection, and the </I> tag ends the selection. In the next example, the <I> tag will be used in the comments at the end of the poem.

### The <B> Tag

Two tags are used to begin and end a range of bold text. The <B> tag starts the selection, and the </B> tag ends the selection. In the next example, the <B> tag will be used in the comments at the end of the poem.

### The <BIG> Tag

Two tags are used to begin and end a range of large text fonts. The <BIG> tag starts the selection, and the </BIG> tag ends the selection. In the next example, the <BIG> tag will be used for the top of the page. (By the way, you can “nest” the <BIG> tag: <BIG><BIG>This will be really big text!</BIG></BIG>

### The <A HREF> Tag

The <A HREF> tag is used to begin marking a link in the page. You end the link with the </A> tag. Inside of the <A HREF> tag, you need to include the address of the page you are referencing, like this:

```
<A HREF=http://cnn.com>The CNN Web Page</A>
```

Putting all of these tags together, we get this HTML code:

```
<BIG>Weather Poetry</BIG><BR>
```

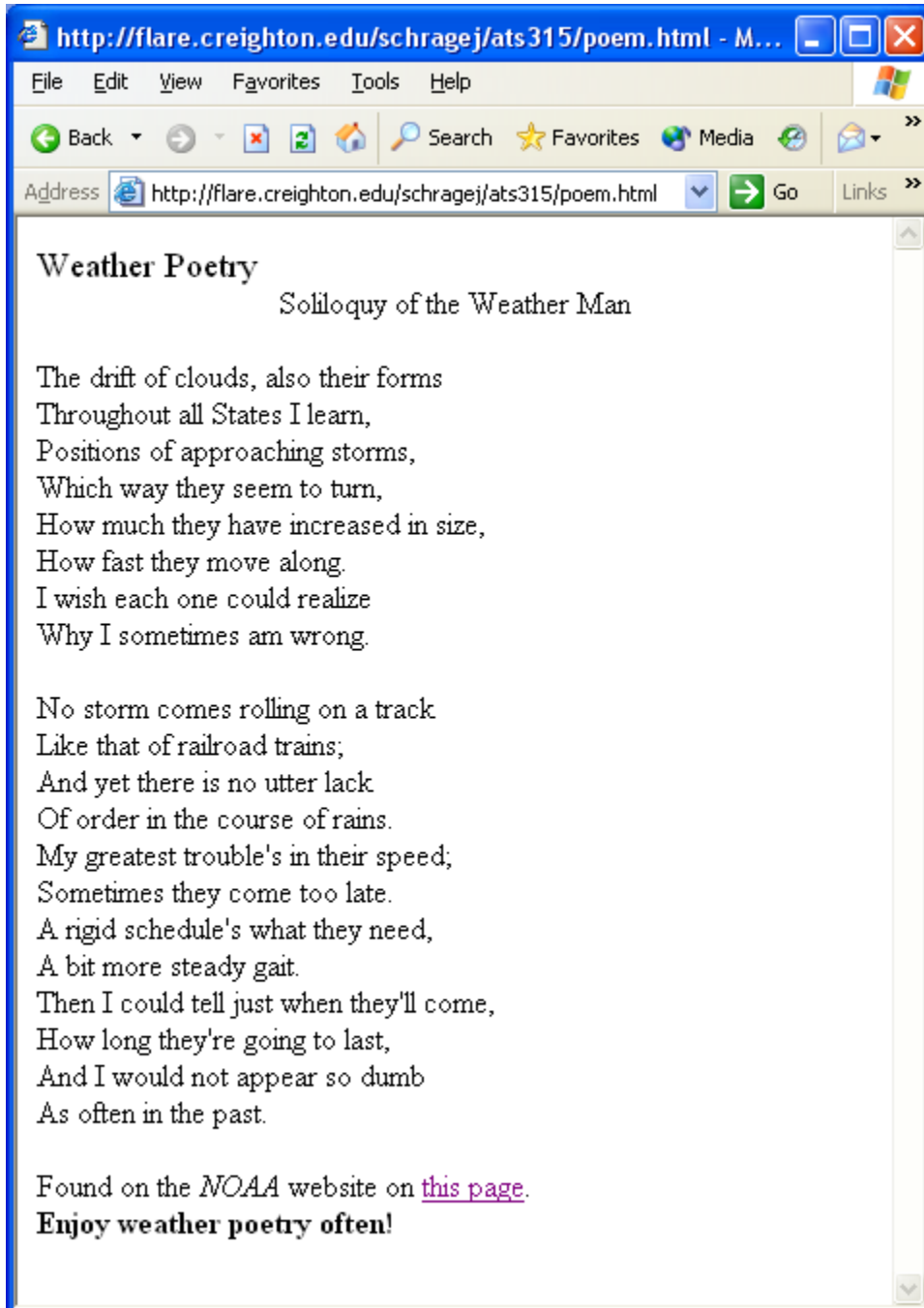
```
<CENTER>Soliloquy of the Weather Man</CENTER>  
<P>
```

```
The drift of clouds, also their forms<BR>  
Throughout all States I learn, <BR>  
Positions of approaching storms, <BR>  
Which way they seem to turn, <BR>  
How much they have increased in size,<BR>  
How fast they move along. <BR>  
I wish each one could realize <BR>  
Why I sometimes am wrong. <P>
```

```
No storm comes rolling on a track <BR>  
Like that of railroad trains; <BR>  
And yet there is no utter lack <BR>  
Of order in the course of rains. <BR>  
My greatest trouble's in their speed;<BR>  
Sometimes they come too late. <BR>  
A rigid schedule's what they need,<BR>  
A bit more steady gait. <BR>  
Then I could tell just when they'll come, <BR>  
How long they're going to last, <BR>  
And I would not appear so dumb <BR>
```

```
As often in the past. <BR>
<P>
Found on the <I>NOAA</I> website on
<A
HREF=http://www.history.noaa.gov/art/weatherpoems.html>this
page</A>.<BR>
<B>Enjoy weather poetry often!</B>
```

This HTML code produces the following web page:



## Adding Graphics to a Web Page

Most of time, you will want to have more than just text on a web page. In particular, the whole point of this exercise is that we are eventually going to be adding realtime weather graphics to your website. Therefore, understanding how to add graphics will be very important.

There are two ways in which an image can be part of a website:

1. The image can be embedded into the text—making the image “clickable”.
2. The image can be the “background” or “wallpaper” for the web page.

Creating a wallpaper is slightly more complicated than embedding an image into the text, so we’ll take care of the embedded images first.

To add an image to your page, you will need to have the image files in your public\_html directory. Where do you get image files? That’s up to you—

- You could “swipe” them off the internet (by saving images that you find online).
- You could draw your own pictures in Microsoft Paint, Adobe Illustrator or Photoshop.
- You could scan your own drawings.
- You could use images from a digital camera.

However you decide to get these images is fine with me. The more complicated question is how to get these images into the public\_html directory on your computer. There are lots of tools out there for moving files from one computer to another—stuff like ftp, sftp, WinSCP, FileZilla and so on. For our purposes, though, the mechanics of HOW to move files like this is not the point of the assignment, so whichever files you want to move to Atlantic, just email them to me and I will transfer them to your account for you.

Now to add these images to your web page, use the <IMG SRC> tag, including the name of the image file:

```
<IMG SRC=tornado.gif>
```

This will add your image to the web page wherever you inserted it in the HTML code. It is important to be “tidy” with this; for example, consider the following HTML code:

```
This is the tornado I saw this summer.  
<IMG SRC=tornado.gif> It was very cool.
```

This produces the following web page:



Notice how messy this is. The image was just inserted right into the text. It would have been much better to have, maybe, centered the picture, and then had the caption underneath it, or something like that.

Images can be hyperlinks. Just include the `<A HREF>` tag around the `<IMG SRC>` tag, and the picture will now to a link to some other page:

```
<A HREF=http://cnn.com><IMG SRC=CNNlogo.gif></A>
```

## Backgrounds and Wallpapers

Backgrounds and wallpapers are very popular on the internet, so I'll briefly discuss how you would add these features to a web page. Both of these features are added as part of the `<BODY>` tag in HTML.

To use backgrounds and wallpapers, the entire HTML code in your .html file needs to be surrounded by a pair of `<BODY>` and `</BODY>` tags. Therefore, you will probably want the very first line of index.html to be `<BODY>` and the very last line to be `</BODY>`.

“Background colors” are colors that will be used behind the text of the web page. Backgrounds in HTML are specified using a fairly horrible “hexadecimal” code system, and you really don’t want to know how this system works. Rather, let me refer to you a nice web page that has hundreds of colors to look through and the corresponding hexadecimal color codes:

<http://www.december.com/html/spec/color.html>

(If that website is not available, just use Google to search for “hexadecimal code color” and you’ll be fine.) So suppose that you decide that you like the color corresponding to the code #8FBC8F. Then modify your <BODY> tag to specify this background color (or “bgcolor”):

```
<BODY bgcolor=#8FBC8F>
```

To use an image as a wallpaper on a website, modify your <BODY> tag to specify the background wallpaper that you are going to use:

```
<BODY background="mywallpaper.gif">
```

## More HTML Tags

There are many, many more possible HTML tags, but these will be enough (more than enough, really) for you to accomplish the goals of the course. Feel free to scour the web or the local bookstore for more information about these and other tags. In particular, I would think that the <UL> tag might be very useful, as it produces bulleted lists. Very powerful results can be created using tables (<TABLE>) and frames (<FRAME>) but these tags are fairly complicated, so I’m not really recommending that you spend time on these tags right now.

## Assignment 2: Your First Web Page

For this assignment, you need to create a basic web page. The exact content of the page is up to you, but it needs to contain at least the following elements:

- An example of a <CENTER> tag.
- An example of a <BIG> tag.
- An embedded image.
- A link to another web site.
- An example of a <I> tag.

Simply completing the assignment shown above will be worth 85%. To get a grade better than 85%, it will be necessary to “impress me” by going beyond the basic assignment. Make use of other tags in HTML. Make your web page “make sense” by perhaps having a theme of related links and images. Have a nice layout, with nice colors. You could *really* impress me by learning about other possible tags online—in particular, I think that you would find the <UL> (i.e., “unordered list”) tag useful.

This assignment is worth 10 points.