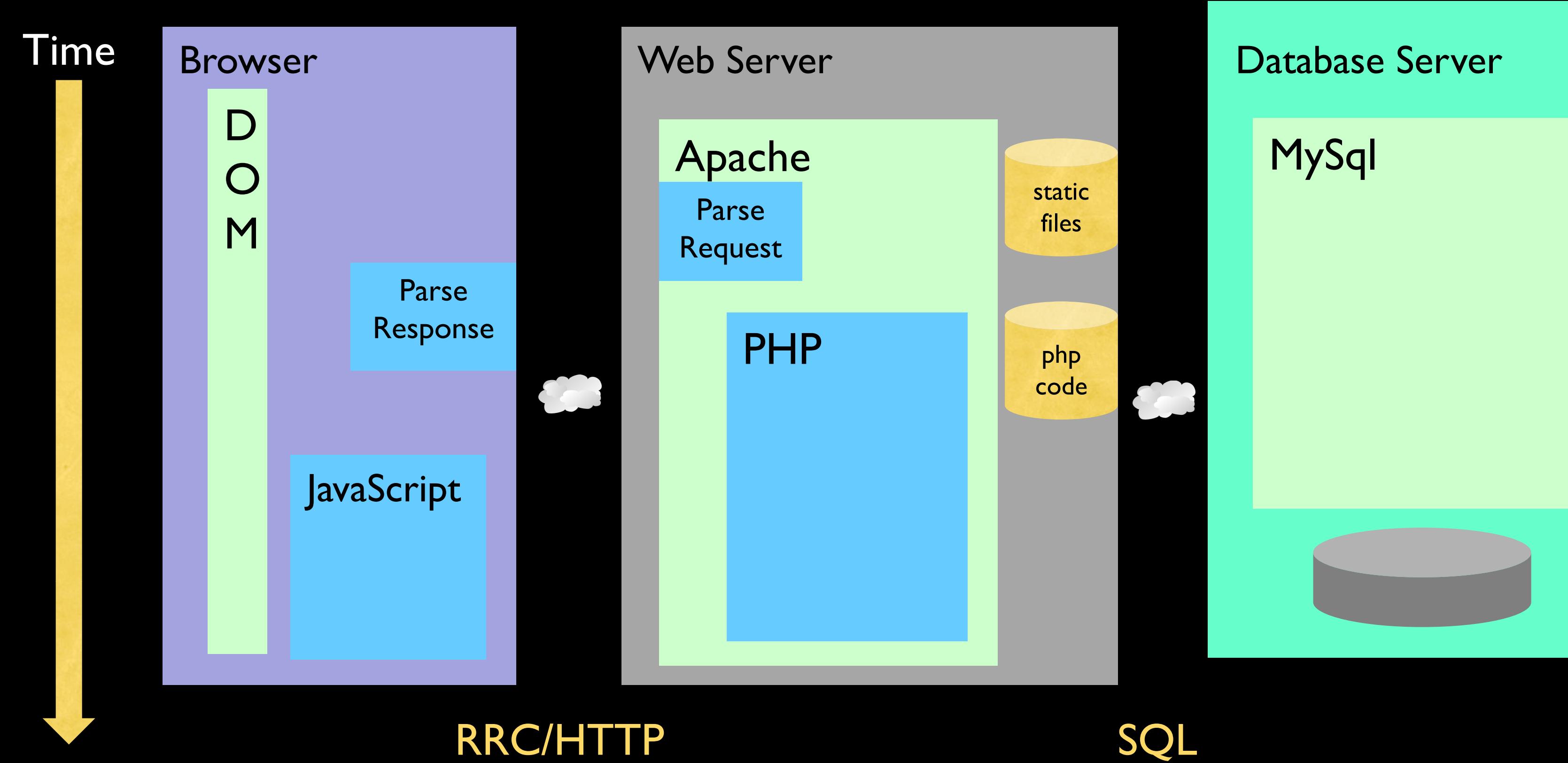


# HTML

Charles Severance  
[www.wa4e.com](http://www.wa4e.com)



<https://www.wa4e.com/code/html.zip>



# HTML

- A way of marking up text to indicate that some text is different than other text
- We “**tag**” portions of the text to communicate meaning

```
<p>You can add a style like  
<strong>bold</strong> to some  
text by enclosing it in the  
<em>appropriate</em> tag.</p>
```

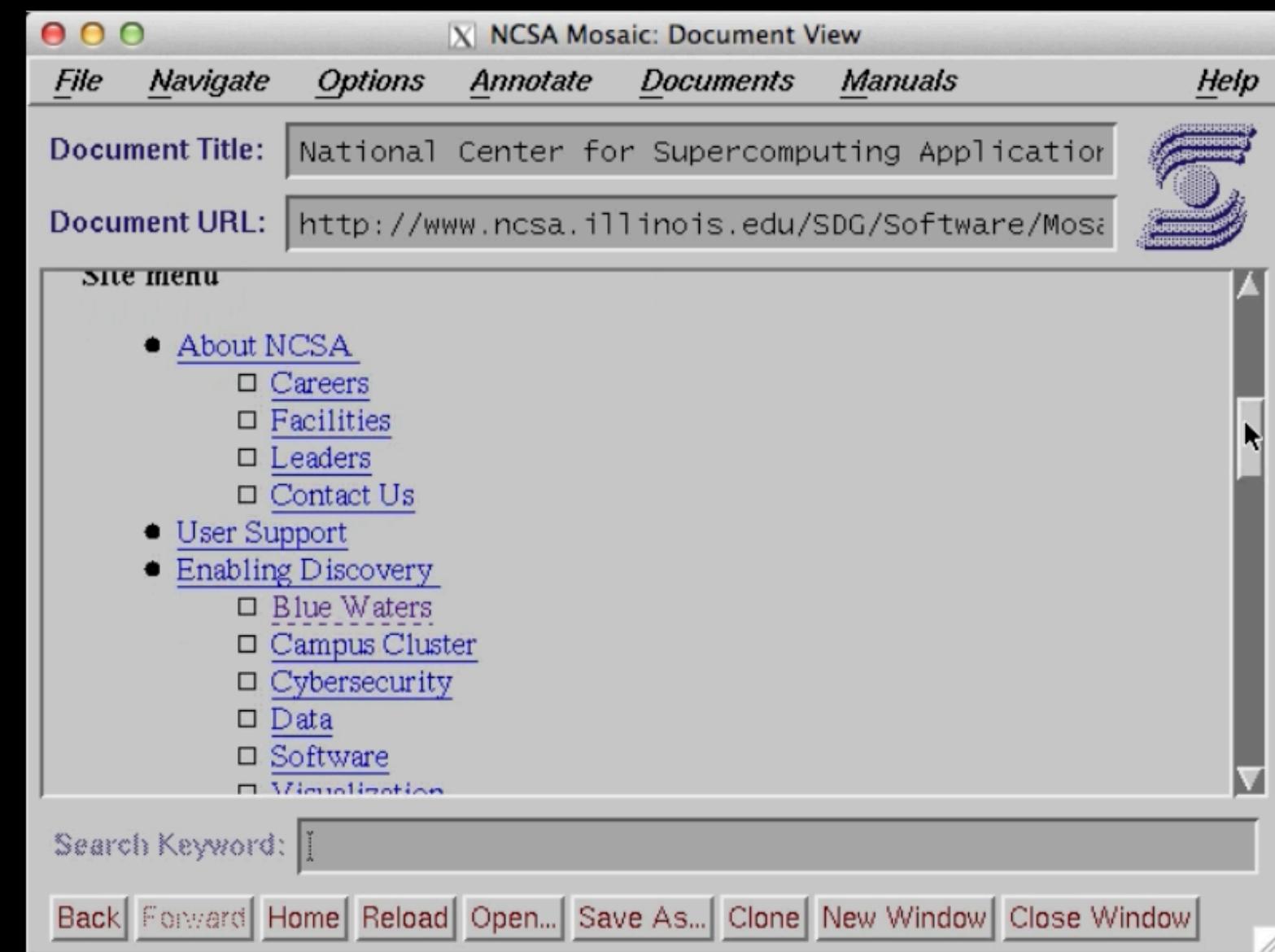
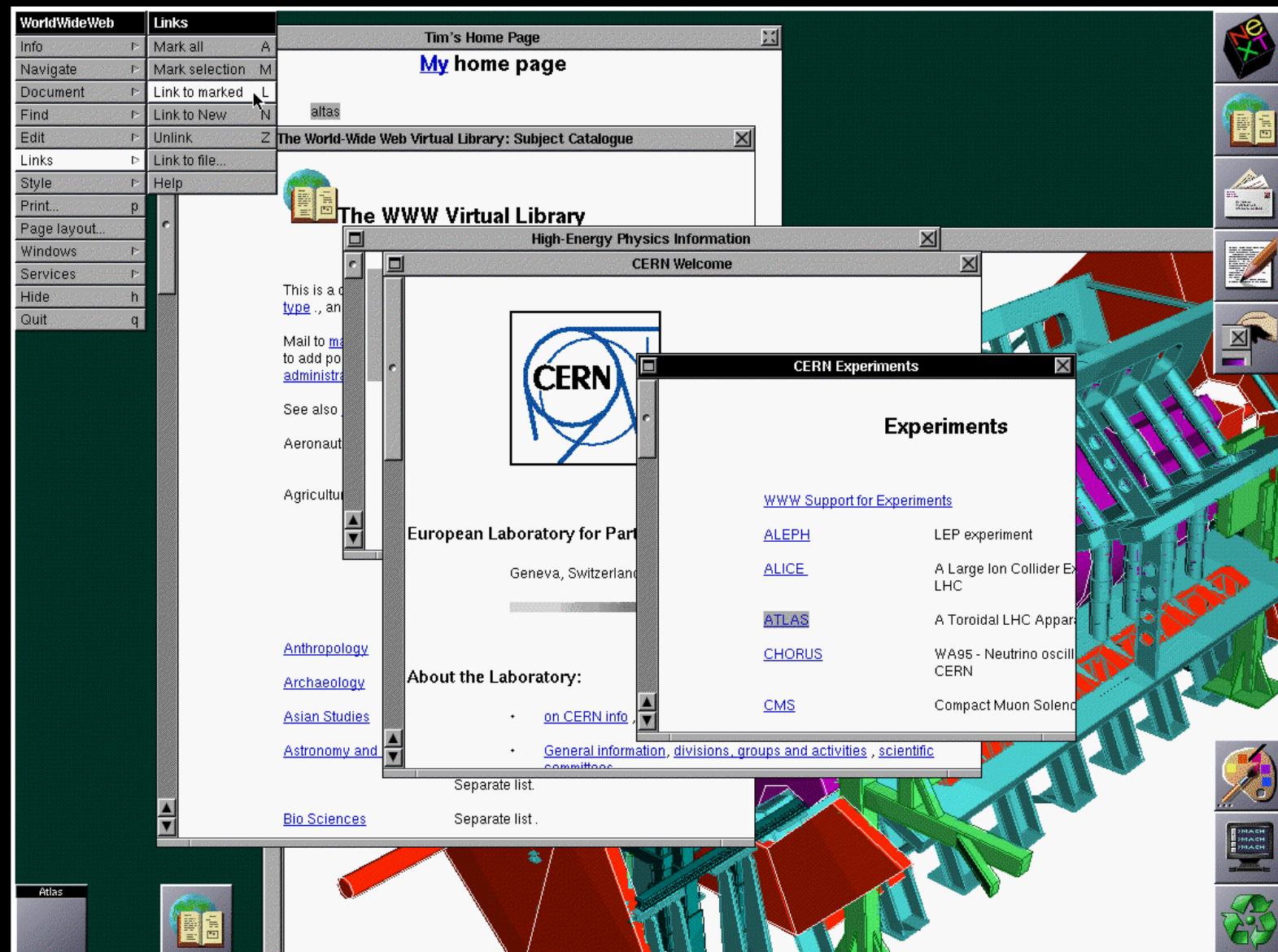
You can add a style like **bold** to some text by enclosing it in the *appropriate* tag.

# The Web is Still Evolving

- Invented in early 1990s
- Became popular in 1994
- Robert Cailliau – co-founder of the World Wide Web



<https://www.youtube.com/watch?v=x2GyILq59rl>



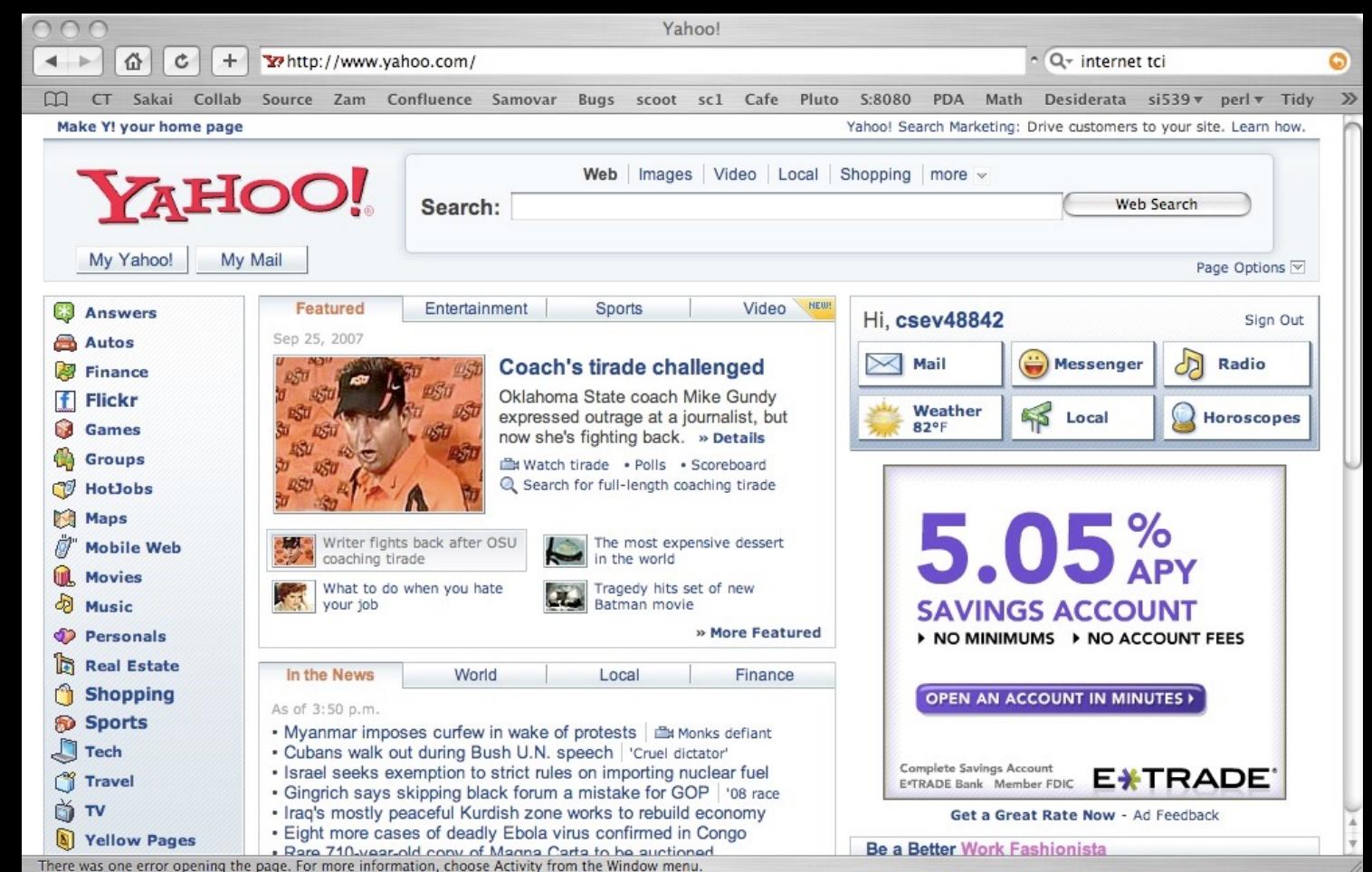
[http://www.w3.org/History/1994/WWW/Journals/CACM/screensnap2\\_24c.gif](http://www.w3.org/History/1994/WWW/Journals/CACM/screensnap2_24c.gif)



1996

<http://replay.waybackmachine.org/19961022175643/http://www10.yahoo.com/>

HTML has evolved a \*lot\* over the years - as computers and networks have gotten faster



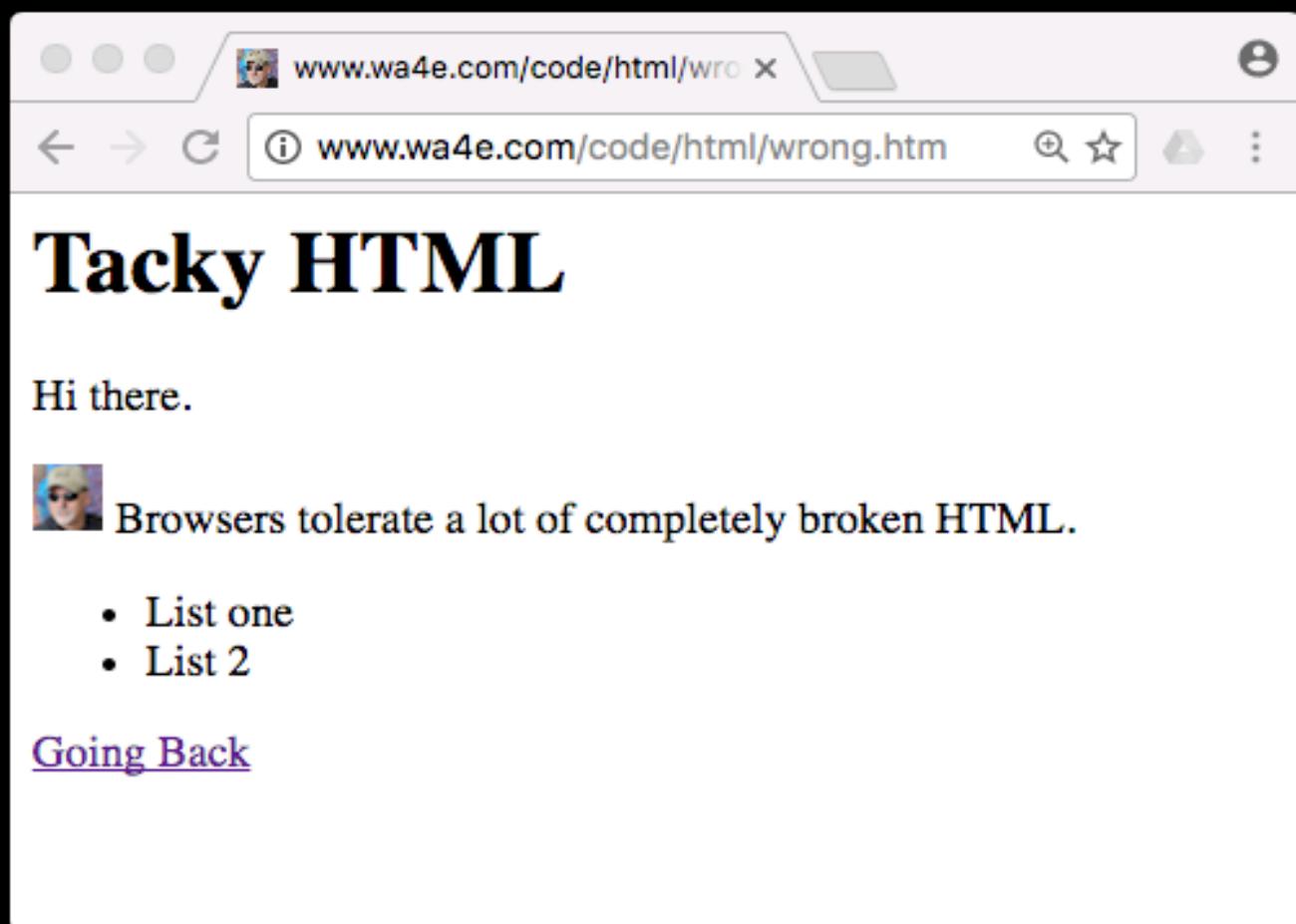
2007

# The Good Old Days

```
<H1>Tacky HTML</H1>
Hi there.

<p><img src=tiny.png>
Browsers tolerate a lot of
completely broken HTML.

<UL>
<LI>List one
<LI>List 2
</UL>
```



# World Wide Web Consortium

- Formed by Tim Berners-Lee of MIT (formerly of CERN)
- Founded to develop standards around HTML, CSS, XML, etc.
- Insure that the web was based on open standards rather than proprietary vendor products - a bit like cat herding



<http://www.w3.org/Consortium/facts>

# Following the Rules

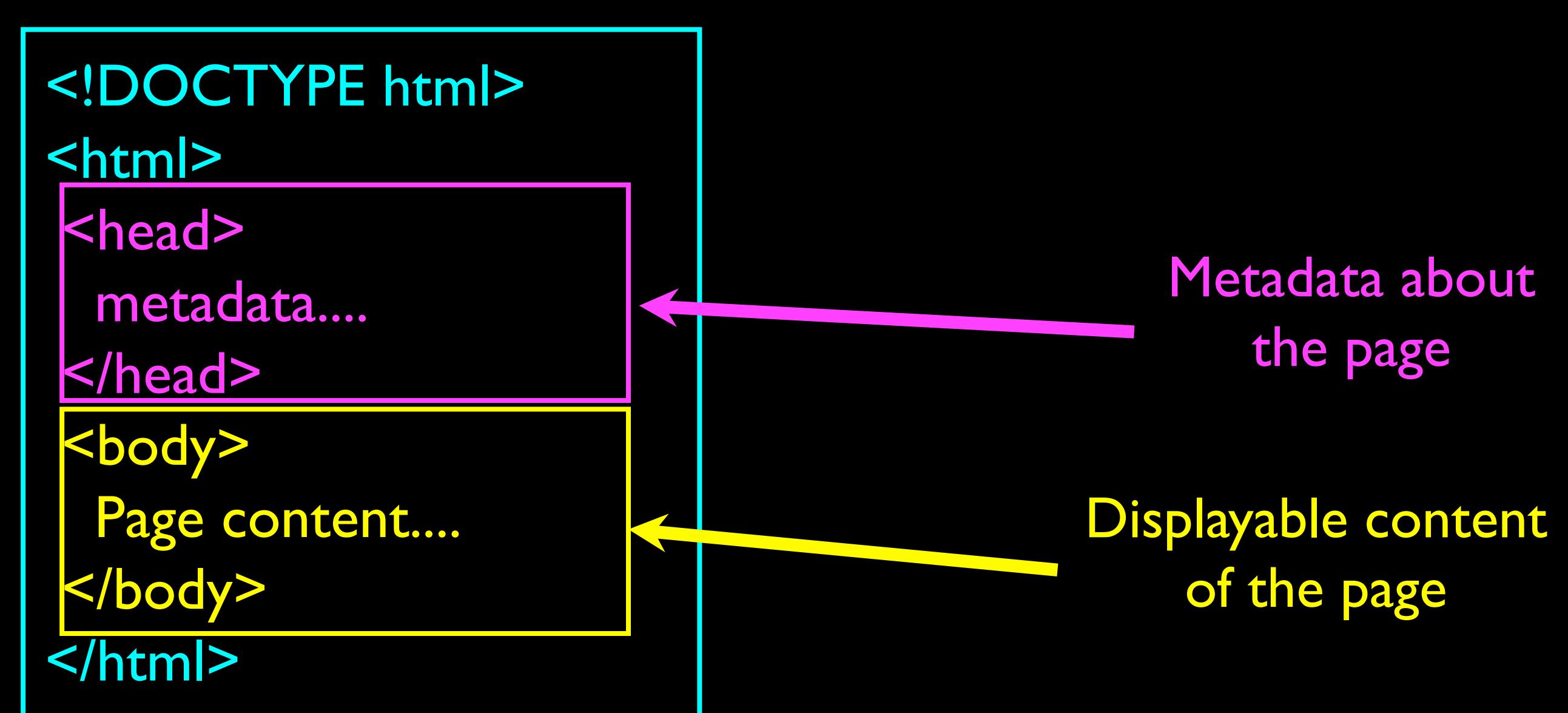
```
<h1>Tacky HTML</h1>
Hi there.
<p>
Browsers tolerate a lot of
completely broken HTML.
</p>
<ul>
<li>List one</li>
<li>List 2</li>
</ul>
```

**Tags must be lowercase.**  
**Attributes must be**  
**enclosed in quotes.**  
**Tags must be closed.**



# HTML Tags

# Structure of an HTML Document



# Special File Names

- When a URL points to a directory in your web server, it looks for a file with a special name:  
**index.html, index.htm, index.php, etc.**
- While there is a convention, the “default file” is configurable.
- Usually **index.htm** or **index.html** is a safe bet.
- This only works when viewing through a web server - when viewing from disk, you must view the file.



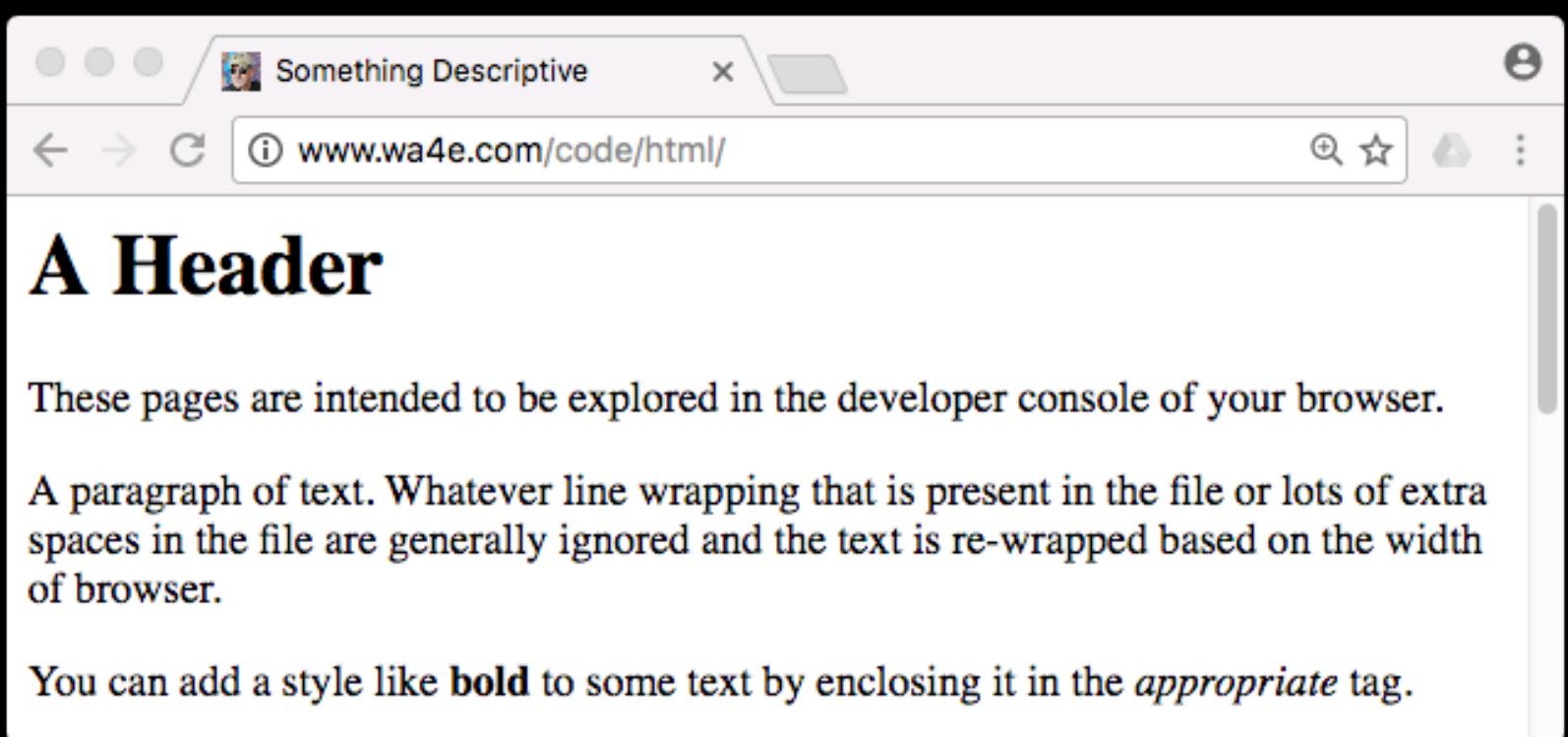
# Multiple Files

We can put multiple files in the same directory and then use them in relative links.

```
csev$ ls -l
-rw-r--r--  1 csev  staff   618 Dec 18 22:56 index.htm
-rw-r--r--  1 csev  staff  883 Dec 18 22:57 images.htm
-rw-r--r--  1 csev  staff   679 Dec 18 22:57 tables.htm
-rw-r--r--  1 csev  staff  5909 Dec 18 22:57 tiny.png
csev$
```

<strong>bold</strong> to some text by enclosing it in the <em>appropriate</em> tag.</p>

## Whitespace and line wrapping



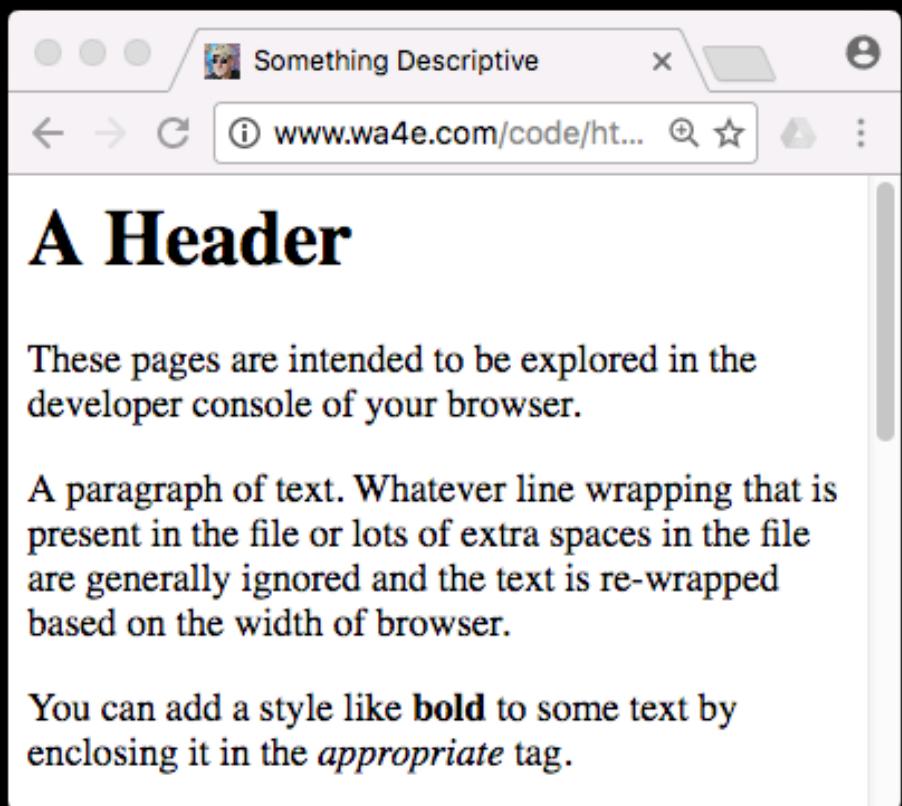
A screenshot of a web browser window titled "Something Descriptive". The address bar shows the URL "www.wa4e.com/code/html/". The main content area displays the following text:

## A Header

These pages are intended to be explored in the developer console of your browser.

A paragraph of text. Whatever line wrapping that is present in the file or lots of extra spaces in the file are generally ignored and the text is re-wrapped based on the width of browser.

You can add a style like **bold** to some text by enclosing it in the *appropriate* tag.



A screenshot of a web browser window titled "Something Descriptive". The address bar shows the URL "www.wa4e.com/code/ht...". The main content area displays the following text:

## A Header

These pages are intended to be explored in the developer console of your browser.

A paragraph of text. Whatever line wrapping that is present in the file or lots of extra spaces in the file are generally ignored and the text is re-wrapped based on the width of browser.

You can add a style like **bold** to some text by enclosing it in the *appropriate* tag.

# Tags Have a Beginning and /End...

<p>You can add a style like  
<strong>bold</strong> to some  
text by enclosing it in the  
<em>appropriate</em> tag.</p>

# HTML Tag Basics

Start tag

End tag

<h1>Hello World</h1>

Tags “mark up” the HTML document. The tags are read and interpreted by the browser but not shown.

A self-closing tag does not need a corresponding end tag.

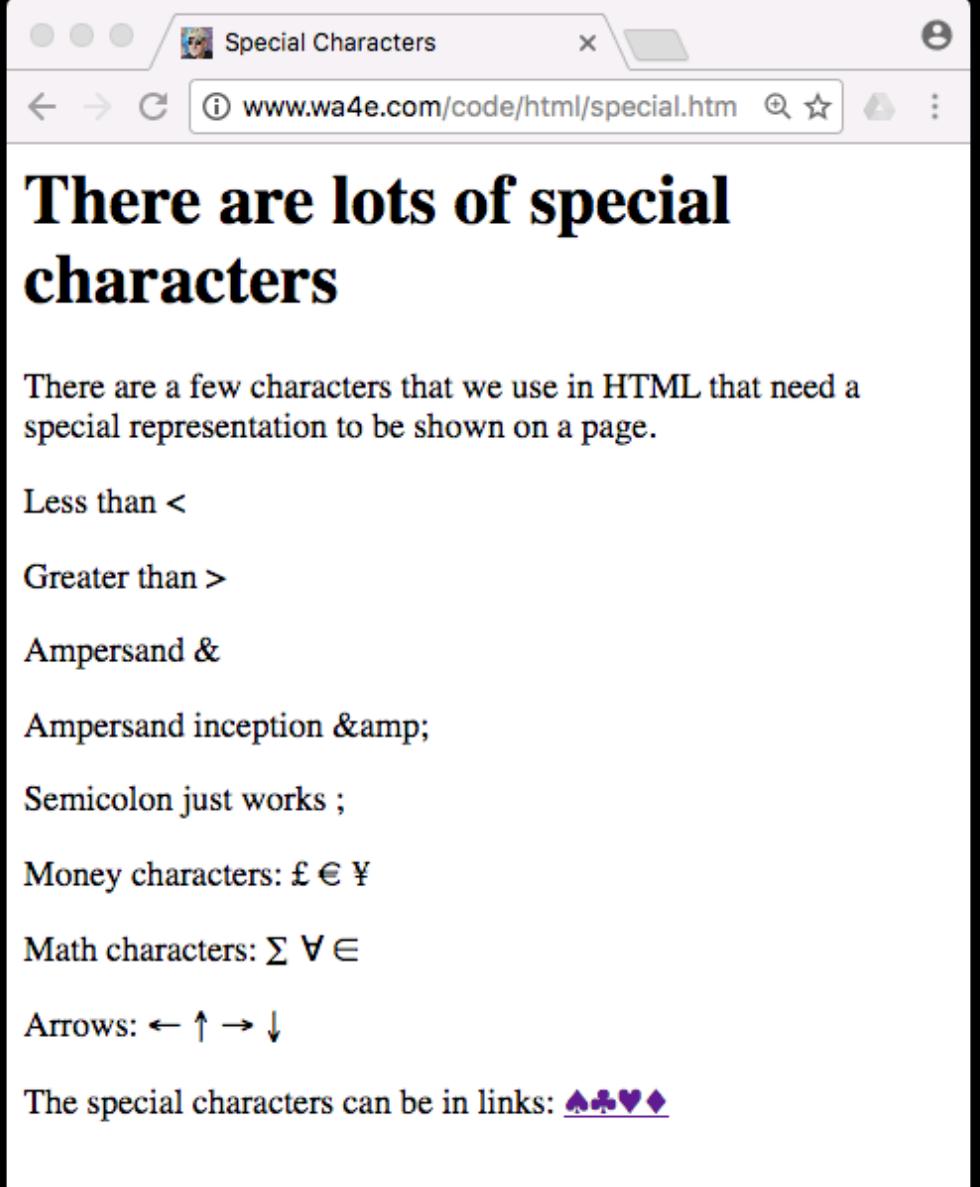
Attribute



Self-closing tag

# What about < s ?

```
<p>Less than &lt;</p>
<p>Greater than &gt;</p>
<p>Ampersand &amp;</p>
<p>Ampersand inception &amp;amp;</p>
<p>Semicolon just works ;</p>
<p>Money characters: &pound; &euro; &yen;</p>
<p>Math characters: &sum; &forall; &isin;</p>
<p>Arrows: &larr; &uarr; &rarr; &darr;</p>
<p>The special characters can be
in links: <a href="lists.htm">
&spades;&clubs;&hearts;&diams;</a></p>
```



The screenshot shows a web browser window with the title "Special Characters". The URL in the address bar is "www.wa4e.com/code/html/special.htm". The page content is as follows:

**There are lots of special characters**

There are a few characters that we use in HTML that need a special representation to be shown on a page.

Less than <

Greater than >

Ampersand &

Ampersand inception &amp;

Semicolon just works ;

Money characters: £ € ¥

Math characters: Σ ∀ ∈

Arrows: ← ↑ → ↓

The special characters can be in links: ♠♣♥♦

# HTML Comments

```
<!-- Ignore this for now :) -->
<p style="border-style: none; position:fixed;
bottom: 10px; right: 10px;">Go to the
<a href="navdetail.htm">very last page</a>.</p>
```



# Links and more links...



# HTML Links

- One of the key things about HTML is making a set of pages and creating “hypertext” links amongst those pages.
- Links are what make the “web” into a web of interlinked documents.
- The interlinked nature of the web leads to the “intelligence” that search engines like Google appear to have.

```
<h1>The First Page</h1>
<p>
If you like, you can switch to the
<a href="http://www.dr-chuck.com/page2.htm">
Second Page</a>.
</p>
```



A link is a “hot spot” on the page. It can be text or an image. Often it is visually marked to make it easier to “notice” so as to encourage users to click!

“**a**” is short for “**anchor**” and “**href**” is short for “**hypertext reference**”

```
<h1>The Second Page</h1>
```

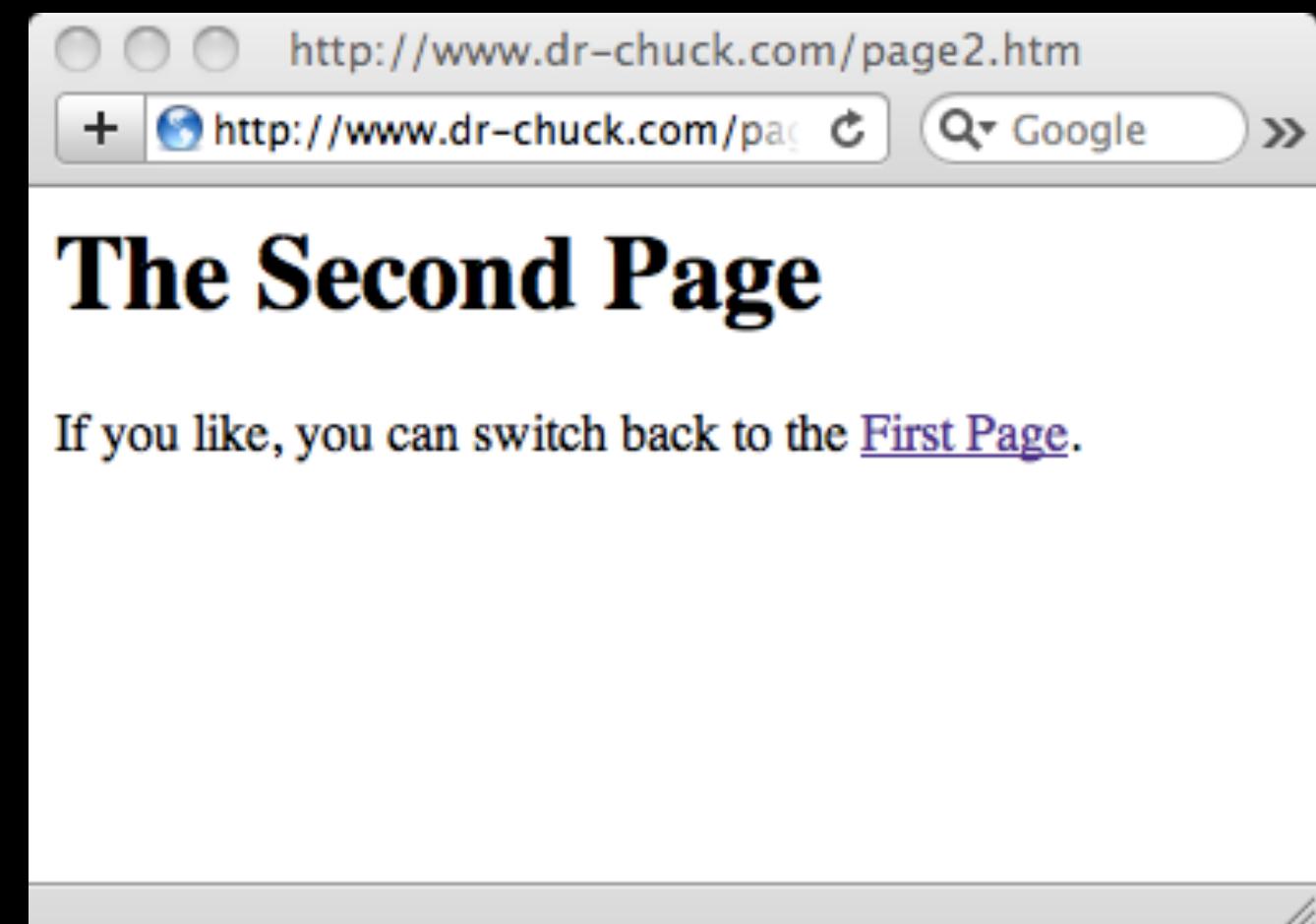
```
<p>
```

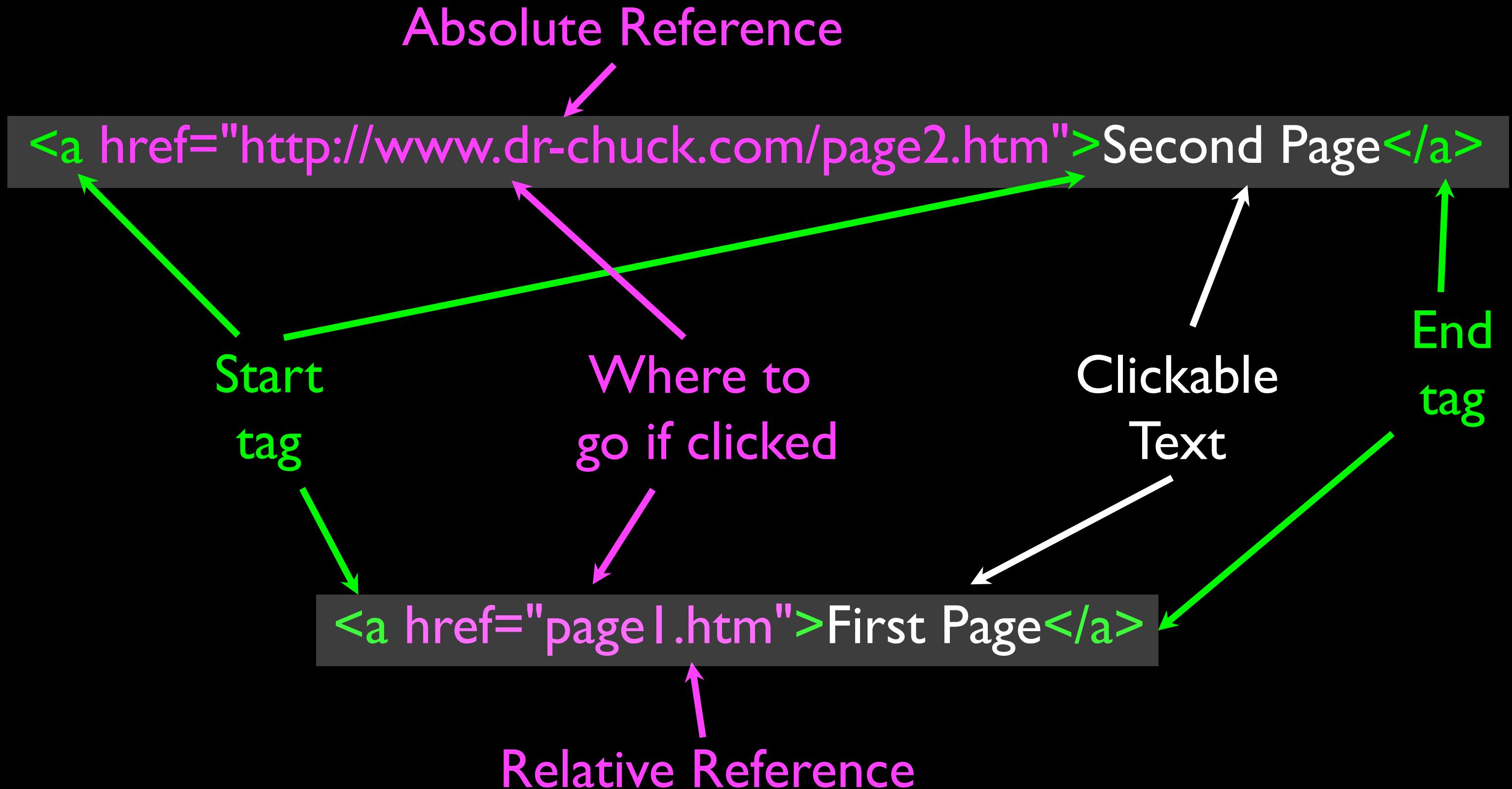
If you like, you can switch back to the

```
<a href="page1.htm">
```

```
First Page</a>.
```

```
</p>
```





# Absolute vs. Relative

```
<a href="http://www.dr-chuck.com/page2.htm">Second Page</a>
```

A hypertext reference can be a full URL and refer to some other page anywhere on the Internet.

```
<a href="page1.htm">First Page</a>
```

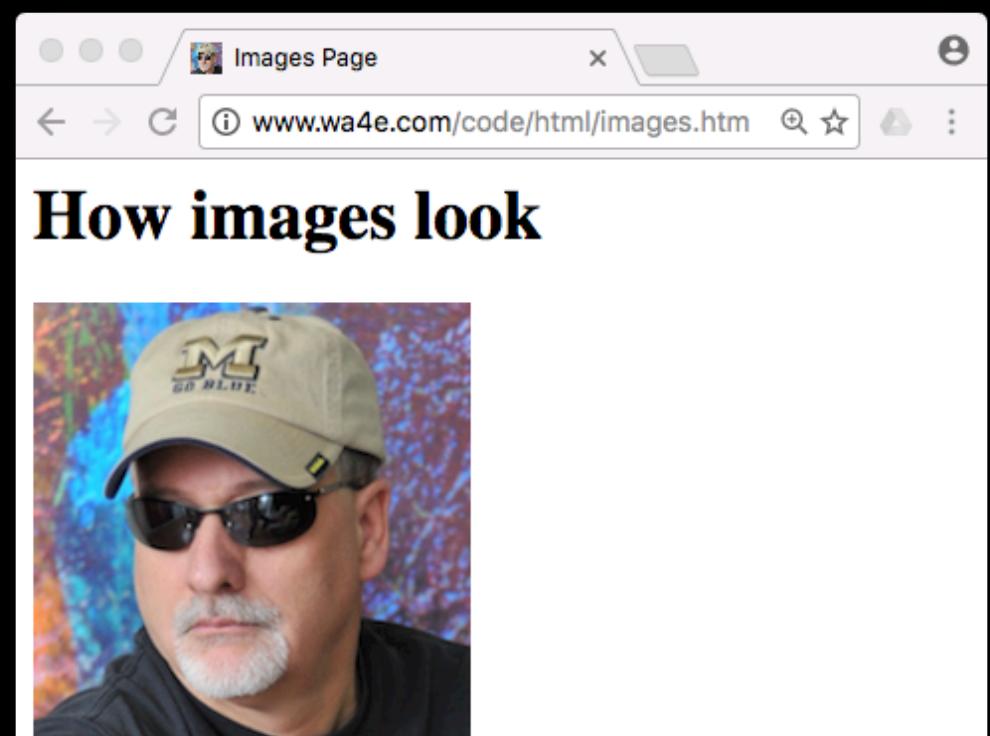
Or the reference can be a file name that is assumed to be in the same folder as the current document (relative reference).

# Images

<**p**>

Images can be <**img** src="tiny.png"> right in the middle of text like a character. And we can even make an image a clickable <**a href="lists.htm"><img** src="tiny.png"></**a**> link to another page.

</**p**>

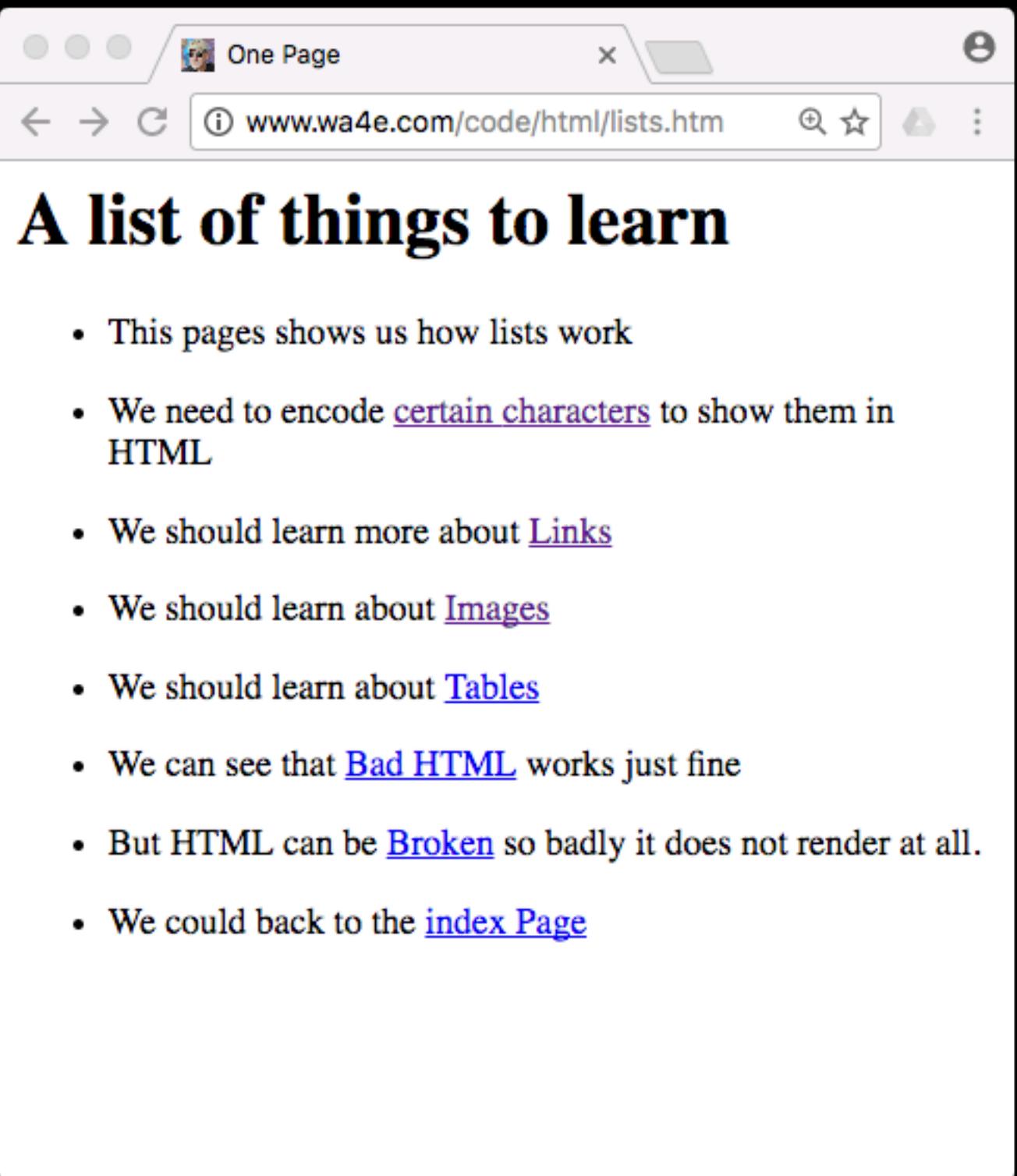


Sometimes you put the image all by itself in a paragraph. If we knew CSS, we could center the image in the page. Don't be tempted use the **center** tag as it is deprecated.

Images can be  right in the middle of text like a character. And we can even make an image a clickable  link to another page.

# A List ...

```
<ul>
<li><p>This pages shows us how
lists work</p></li>
<li><p>We need to encode
<a href="special.htm">certain
characters</a>
to show them in HTML</p></li>
<li><p>We should learn more about
<a href="links.htm">Links</a>
</p></li>
<li><p>We should learn about
<a href="images.htm">Images</a>
</p></li>
</ul>
```



The screenshot shows a web browser window titled "One Page". The address bar displays the URL "www.wa4e.com/code/html/lists.htm". The main content area of the browser shows the following text:

## A list of things to learn

- This pages shows us how lists work
- We need to encode [certain characters](#) to show them in HTML
- We should learn more about [Links](#)
- We should learn about [Images](#)
- We should learn about [Tables](#)
- We can see that [Bad HTML](#) works just fine
- But HTML can be [Broken](#) so badly it does not render at all.
- We could back to the [index Page](#)

# Tables

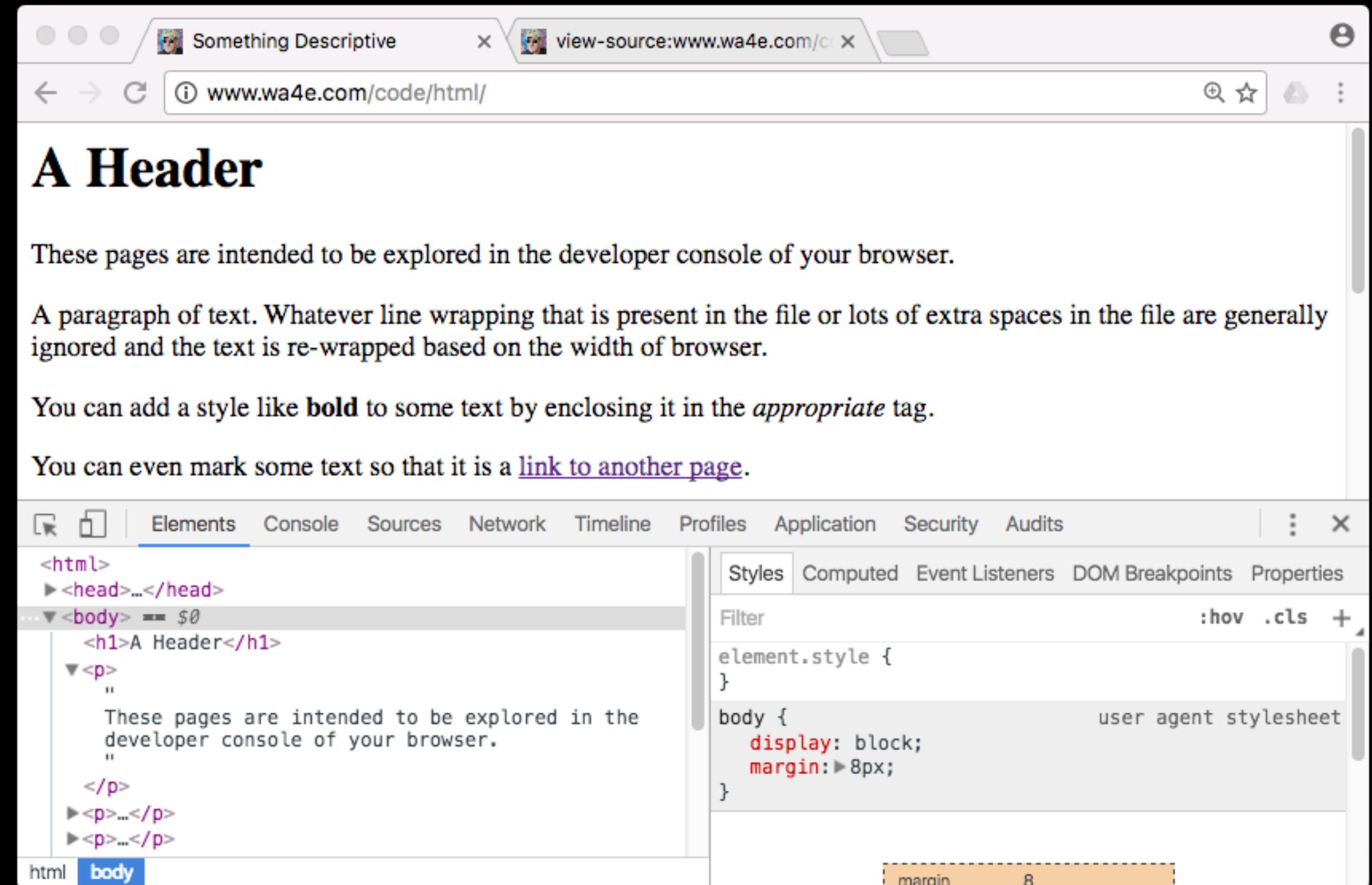
```
<table>
  <tr>
    <th>Make</th>
    <th>Model</th>
    <th>Mileage</th>
  </tr>
  <tr>
    <td>Ford</td><td>Edge</td>
    <td>10348</td>
  </tr>
  <tr>
    <td>Pontiac</td><td>Vibe</td><td>73630</td>
  </tr>
</table>
```

**Tables in HTML**

Make	Model	Mileage
Ford	Edge	10348
Pontiac	Vibe	73630
Honda	Civic	7365

Back to the [the lists page.](#)

# Explore Sample Code



The screenshot shows a browser window with two tabs: "Something Descriptive" and "view-source:www.wa4e.com/code/html/". The address bar shows "www.wa4e.com/code/html/". Below the tabs is a toolbar with back, forward, search, and other icons.

The main content area displays the heading "A Header" and a paragraph of text: "These pages are intended to be explored in the developer console of your browser." A note below states: "A paragraph of text. Whatever line wrapping that is present in the file or lots of extra spaces in the file are generally ignored and the text is re-wrapped based on the width of browser."

Below the text, there is a note: "You can add a style like **bold** to some text by enclosing it in the *appropriate* tag." Another note says: "You can even mark some text so that it is a [link to another page](#)."

The bottom half of the screenshot shows the developer tools' Elements panel. The "Elements" tab is selected. The DOM tree shows the structure: <html>, <head>, <body> (with \$0 as its ID), <h1>, and <p>. The content of the <p> tag is: "These pages are intended to be explored in the developer console of your browser." The Styles panel on the right shows the following CSS rules:

```
element.style {  
}  
  
body {  
    display: block;  
    margin: 8px;  
}
```

The "margin" rule is highlighted with a yellow dashed border. The status bar at the bottom right shows the number "8".

# Explore Sample Code

The screenshot shows a browser window with two tabs: "Something Descriptive" and "view-source:www.wa4e.com/code/html/". The source code tab displays the following HTML:

```
1 <html>
2 <head>
3   <title>Something Descriptive</title>
4 </head>
5 <body>
6 <h1>A Header</h2>
7 <p>
8 These pages are intended to be explored in the
9 developer console of your browser.
10 </p>
11 <p>
12 A paragraph of text.
13 Whatever line wrapping that is present in the
14 file                                or lots
15 of extra spaces in the file are generally ignored
16 and the text is re-wrapped based on the width
17 of browser.
18 </p>
19   <p>You can add a style like <strong>bold</strong>
20     to some text by enclosing it in the <em>appropriate</em>
21     tag.
22 </p>
23 <p>
24   You can even mark some text so that it is a
25     <a href="lists.htm">link to another page</a>.
26 </p>
27 <p>
28 <pre>
```

# Summary

- HTML has gone through many changes and evolutions.  
It started clean and simple - then got ugly and nasty - now we are back to a clean and simple approach.
- A key to modern/clean HTML is that formatting is handled using CSS - Cascading Style Sheets.

# Acknowledgements / Contributions



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Continue new Contributors and Translators here