Creating a Web page with HTML
January 18-23, 2018

Susan's Web Page
I love to bake cookies and cakes!

Prof. Susan Rodger
Class Today

• Some History of web pages
• Learning HTML and creating a web page
• Use Thimble to create web pages

• Due
  – Assignment 1 is due tonight
  – Assignment 2 is due Feb 1

• Next time – add colors with CSS
Browsers on the Web

• First browser called “WorldWideWeb”
  – Hypertext browser/editor
  – Created in 1990 by Tim Berners-Lee at CERN
  – 1991 available on internet

• Lynx
  – Textual browser, 1992, [history](#)
  – Lou Montulli, Charles Rezac, Michael Grobe
CompSci 4, Fall 2010, Home (pl of 4)

Course Announcements

* You will need to put Alice 2.2 on your laptop by Thursday, Sept. 2.
  * August 31 is the first day of class.

[INLINE]

CompSci 4
Introduction to Programming
Via Animation and 3D Virtual Worlds

-- press space for next page --
Arrow keys: Up and Down to move. Right to follow a link; Left to go back.
Help Options P)rint G)o M)ain (delete)=history list
What it looked like in Firefox:

CompSci 4, Fall 2010
Home

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CompSci 4
Introduction to Programming
Via Animation and 3D Virtual Worlds

CompSci 4 is an introductory programming course that teaches fundamental computer science concepts. This version of CompSci 4 uses the tool Alice to create 3-D virtual worlds. You will learn programming constructs such as looping, selection, and data structures, along with how to control objects
Other Browsers

• Mosaic
  – 1993, Univ of Illinois Urbana-Champaign
  – Last version in 1997

• Netscape
  – 1994 by Jim Clark and Marc Andreessen
  – Hired most of Mosaic Engineers and Montulli (lynx)
  – History (pdf)

• Internet Explorer
  – 1995, first version attached to Windows 95, not very popular
  – History (pdf)

• More recent: FireFox, Safari, Chrome
How do these Browsers view the same info?

• Standards
  – Html is HyperText Markup Language
    • NOT a programming language
  – Figure formats (gif, jpeg, tiff)
  – Scripts (javascript, cgi)

• Plug-ins
  – Program provided by companies that are run when specific file is downloaded
URLS

- Uniform Resource Locator
- Address of location of a web site or other Internet service
- Organized first by protocol
  - http, mailto, ftp, file
- Organized next by domains
  - .com, .edu, .org, country (.it, .fr, .de)
- Organized finally by directory on specific machine
Create web pages using Thimble

• Create a free account at https://thimble.mozilla.org
Creating a new web page

- Create a new project

Name of project here

File name

Put html code here

View web page
An HTML file

- Write HTML commands in a text file
- File should have `.html` extension
- View file with browser
  - Save file and check often

- In thimble, default file created is `index.html`
Starting– default for new project

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Made with Thimble</title>
    <link rel="stylesheet" href="style.css">
  </head>
  <body>
    <h1>Welcome to Thimble</h1>
    <p>Make something <strong>amazing</strong> with the web!</p>
  </body>
</html>
```

Welcome to Thimble
Make something amazing with the web!
HTML tags

• First tag “< >“ says, “Begin Mode”
• Second tag “</ >” says “End Mode”
  – note the “/”
• Example
  – <title>Flavor of the Week </title> means
    • Begin title mode
    • “Flavor of the Week” is in title mode
    • End title
  – Can nest several modes
HTML

• Some General HTML rules
  – For tags, case doesn’t matter
    • <html> is equal to <HTML>
  – In the text, spaces don’t matter (free format)
  – <br> starts a new line (doesn’t need end tag)

• Headings
  – Use <hn> for heading size, the smaller n, the larger the heading
  – <h1> … </h1> is largest heading
  – <h4> … </h4> is minor heading
Example: HTML – Basic Page Structure

```html
<html>
<head>
<title> Susan’s Web Page </title>
</head>
<body>
<center>
<h1> Susan’s Web Page </h1>
</center>
<p> I love to bake cookies and cakes! </p>
</body>
</html>
```
HTML tags start and end document

<html>
<head>
<title> Susan’s Web Page </title>
</head>
<body>
<center>
<h1> Susan’s Web Page </h1>
</center>
<p> I love to bake cookies and cakes! </p>
</body>
</html>
Head tag with title inside
header items don’t show in body of page

<html>
<head>
<title> Susan’s Web Page </title>
</head>
<body>
<center>
<h1> Susan’s Web Page </h1>
</center>
<p> I love to bake cookies and cakes! </p>
</body>
</html>
Body – part that appears in web page

<html>
<head>
<title>Susan’s Web Page</title>
</head>
<body>
<center>
<h1>Susan’s Web Page</h1>
</center>
<p>I love to bake cookies and cakes!</p>
</body>
</html>
H1 header tag – big font

<html>
<head>
<title> Susan’s Web Page </title>
</head>
<body>
<center>
<h1> Susan’s Web Page </h1>
</center>
<p> I love to bake cookies and cakes! </p>
</body>
</html>
Susan’s Web Page

I love to bake cookies and cakes!
HTML

• Add links
<a HREF="http://www.duke.edu">The Duke web page</a>

• Italics or emphasis
  – <i> or <em>

• Darker or bold use
  – <strong> or <b>

• Text exactly as typed with spaces
  – <pre>
Strong tag - bold

<html>
<head>
<title> Susan’s Web Page </title>
</head>
<body>
<center>
<h1> Susan’s Web Page </h1>
</center>
<p> I love to bake <strong> cookies </strong> and <strong> cakes! </strong> </p>
</body>
</html>
HTML - Lists

• Bulleted list (unordered list)
  
  \[<ul>\]
  
  \[<li> item in list </li>\]
  
  \[</ul>\]

• Ordered list
  
  \[<ol>\]
  
  \[<li> first item in list </li>\]
  
  \[<li> second item in list </li>\]
  
  \[</ol>\]

• Can nest arbitrarily deep – lists within lists
Example of ordered list

```
<h2>Favorite Fruit</h2>
<ol>
  <li>Banana</li>
  <li>Pomegranate</li>
  <li>Kiwi</li>
</ol>
```

Susan's Web Page

I love to bake **cookies** and **cakes**!

**Favorite Fruit**

1. Banana
2. Pomegranate
3. Kiwi
**HTML – Table**

- **Tables** – produces simple table

```html
<table border=1>
  <tr> <td> cell 1 </td> <td> cell2 </td> </tr>
  <tr> <td> cell 3 </td> <td> cell 4 </td> </tr>
</table>
```

- `<tr>` - table row
- `<td>` - table data
- `<th>` - Table header
HTML – Images

• Images – displays an image
  
  `<img src="https://users.cs.duke.edu/~rodger/shrfun.gif" />

  Or  `<img src="shrfun.gif" />

  if the file is in the same folder as this web page

• Can upload a file in Thimble into your project
  – Then just do the second way, just give the name of the file

• Add `width=300` other number to set the width of the image.
Example html - table and image

```html
<h2>My cats</h2>
<table border=1>
  <tr><th>NAME</th><th>CHARACTERISTICS</th></tr>
  <tr><td>Keaah</td><td>Half White and half gray</td></tr>
  <tr><td>Selena</td><td>Gray with white paws</td></tr>
  <tr><td>Moe</td><td>Mostly gray with white under chin</td></tr>
</table>
<br>
<img src="kittens-july14.JPG" width=400>
```
How table and image are displayed

<table>
<thead>
<tr>
<th>NAME</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keaah</td>
<td>Half White and half gray</td>
</tr>
<tr>
<td>Selena</td>
<td>Gray with white paws</td>
</tr>
<tr>
<td>Moe</td>
<td>Mostly gray with white under chin</td>
</tr>
</tbody>
</table>

My cats
Classwork 3 - Create a Web page

• Create an animal web page – complete by Feb 1 (when assignment 2 is due)

• Can work with someone else, but both create the same page – copies of each other and can be some different to

• You will link to this web page when you turn in your assignment 2

• We won’t check this one off in class, we will look at it when we look at assignment 2