HTML

LBSC 690: Jordan Boyd-Graber

October 1, 2012
Goals

- Review Assignment 1
- Assignment 2 and Midterm
- Hands on HTML
Outline

1 Homework and Midterm

2 HTML
Midterm will be in class in four weeks, October 29
- Calculator okay, but not needed
- Closed book
- Like assignment 1, but cumulative
- More conceptual questions
- You’ll have whole class
- Should only take an hour
Assignment 2

- Make a website with a number of pages
- Must be done by hand
- No sharing of HTML
- E-mail links to page with CSS and without
Outline

1 Homework and Midterm

2 HTML
Hexadecimal

1. Base 16
2. Four binary numbers correspond to a Hex character
3. To convert decimal to hex, first write in binary
4. Then convert each block of four bits
5. Example: 1701
**Hexadecimal**

1. Base 16
2. Four binary numbers correspond to a Hex character
3. To convert decimal to hex, first write in binary
4. Then convert each block of four bits
5. Example: 1701 in decimal is 0b11010100101 in binary
Hexadecimal

- **Base 16**
- Four binary numbers correspond to a Hex character
- To convert decimal to hex, first write in binary
- Then convert each block of four bits
- Example: 1701 in decimal is 0b11010100101 in binary
- In hex, it’s 0x6A5

<table>
<thead>
<tr>
<th>Hex</th>
<th>Binary</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0000</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0001</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>0010</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>0011</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>0100</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>0101</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>0110</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>0111</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>1000</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>1001</td>
<td>9</td>
</tr>
<tr>
<td>A</td>
<td>1010</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>1011</td>
<td>11</td>
</tr>
<tr>
<td>C</td>
<td>1100</td>
<td>12</td>
</tr>
<tr>
<td>D</td>
<td>1101</td>
<td>13</td>
</tr>
<tr>
<td>E</td>
<td>1110</td>
<td>14</td>
</tr>
<tr>
<td>F</td>
<td>1111</td>
<td>15</td>
</tr>
</tbody>
</table>
Why does this matter for HTML?

```html
<HTML>
  <HEAD>
    <TITLE>Example HTML</TITLE>
  </HEAD>

  <BODY bgcolor="#FF0000">
    Hello world!
  </BODY>

</HTML>
```
HTML Colors

- First two hex digits are red, next two are green, final two are blue
- Go from 00 to FF
- Some written colors also work (try "blue")
- Hex colors give you more control
- Every tag has beginning and end (with a couple of exceptions)
- This is the **markup**
- Not case sensitive (but will expect lowercase in the future)
- Browsers try to do the best they can with ill-formed HTML
- Every tag has beginning and end (with a couple of exceptions)
- This is the **markup**
- Not case sensitive (but will expect lowercase in the future)
- Browsers try to do the best they can with ill-formed HTML
- Review of the tags we’ve learned / seen so far
- HTML, BODY, HEADER, TITLE
Adding Links

From a file called “index.html” in a directory called “awesome”.

- This is the **hypertext**
- Local: “foo.html” (both foo.html and index.html are “awesome”)
- Relative: “stuff/foo.html” (stuff is a subdirectory in “awesome”)
- Relative: “../foo.html” (foo.html is in the directory above “awesome”)
- Absolute: “http://www.google.com” (fully formed address)
- E-mail: “mailto:jbg@ugcs.caltech.edu”

This seems complicated . . .

Don’t be tempted to just put everything in a single directory. It gets confusing. Use subdirectories for related pages, all images, and hierarchical pages.
Adding links

```
<HTML>
  <HEAD>
    <TITLE>Example HTML</TITLE>
  </HEAD>

  <BODY BGCOLOR="#FF0000">
    Hello <A HREF="http://xkcd.com">XKCD</A>!
  </BODY>

</HTML>
```
Formatting

```html
<html>
  <head>
    <title>Example HTML</title>
  </head>
  <body bgcolor="#FF0000">
    <b>Bold</b> and <i>italic</i>
  </body>
</html>
```
H1, H2, H3, H4
Smaller and smaller titles
Useful for organizing long documents
Resist the urge to create *ad hoc* fonts
We’ll learn how to customize with CSS soon
The Harvard University Library system comprises about 90 libraries, with more than 15 million volumes. It is the oldest library system in the United States, the second largest academic. The largest and best-known library building at Harvard is the Widener Library in Harvard Yard, Cambridge, Massachusetts.
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The largest and best-known library building at Harvard is the Widener Library in Harvard Yard, Cambridge, Massachusetts.

<html>
<head>
<title>Example HTML</title>
</head>
<body bgcolor="#FF0000">
<p>The Harvard University Library system comprises about 90 libraries, with more than 15 million volumes. It is the oldest library system in the United States, the second largest academic.</p>
<p>The largest and best-known library building at Harvard is the Widener Library in Harvard Yard, Cambridge, Massachusetts.</p>
</body>
</html>
Other ways of breaking text.

- Horizontal rule (HR)
- Line break (BR)
- No close tag, just like images
- Consequently, valid HTML should have `<BR/>` to show it's its own end tag
Images

Download from http://goo.gl/2d0w3
Images

- HEIGHT and WIDTH attributes allow you to adjust size (if only one is specified, scale is proportional)
- If attribute ends with percentage sign (%), then image is scaled by that percent
- Otherwise, dimensions are pixels
- GIF and PNG images can be transparent (this is a property of the file)
- Not all browsers display all images or display them the same way
- Use ALT tag, and don’t use to display text
  - Translation
  - Screen readers for blind
  - Mobile devices
How Big is Okay?

- These days, it’s safe to assume 800 wide, 500 high (minus browser) monitors.
- Make sure your page looks reasonable for many different sizes.
- Even if your files look okay locally, make sure you try loading it over Internet.
- Make sure your page is the right size in terms of filesize: don’t use big files when small ones work.
Tables

- Often used to create grid layout on webpages (alternative is DIV or FRAME)
- Three levels of nesting: TABLE, TR (row), TD (data / cell)
- Both TABLE and TD can have widths
- TD also allows you to align contents vertically and horizontally
- Your responsibility to get number of columns right
### Tables

```html
<HTML>
  <HEAD>
    <TITLE>Example HTML</TITLE>
  </HEAD>

  <BODY BGCOLOR="#FF0000">
    <TABLE WIDTH="100%" BORDER="1">
      <TR>
        <TD ALIGN="CENTER">
          <IMG SRC="flag.png" WIDTH="50" />
        </TD>
        <TD VALIGN="TOP">
          B
        </TD>
      </TR>
      <TR>
        <TD VALIGN="BOTTOM">
          C
        </TD>
        <TD ALIGN="RIGHT">
          <IMG SRC="flag.png" WIDTH="50" />
        </TD>
      </TR>
    </TABLE>
  </BODY>
</HTML>
```
Lists

<HTML>
  <HEAD>
    <TITLE>Example HTML</TITLE>
  </HEAD>
  
  <BODY BGColor="#FF0000">
    <OL>
      <LI>George Washington</LI>
      <LI>John Adams</LI>
      <LI>Thomas Jefferson</LI>
      <LI>James Madison</LI>
      <LI>James Monroe</LI>
      <LI>John Quincy Adams</LI>
      <LI>Andrew Jackson</LI>
      <LI>Martin Van Buren</LI>
    </OL>
  </BODY>
</HTML>
Lists

- Also an unordered list (UL)
- Lists can be nested
- You can change bullet / numbering (but don’t ask me how)
<HTML>

<HEAD>
  <TITLE>Example HTML</TITLE>
</HEAD>

<BODY>

<FORM ACTION="nothing.php" METHOD="get">
  <TEXTAREA NAME="pattern" ROWS="5" COLS="30">
    I am the very model of a modern major general.
  </TEXTAREA>

  <HR/>

  <INPUT TYPE="radio" NAME="said" VALUE="orphan">
    Orphan  </INPUT>  <BR/>

  <INPUT TYPE="radio" NAME="said" VALUE="often">
    Often  </INPUT>  <BR/>

  <INPUT TYPE="submit" VALUE="Submit" />
</FORM>

</BODY>

</HTML>
Forms

- Allow information to be sent back to server
- All input fields need to be inside a FORM tag
- Tells where data should be sent (take INFM 743)
- Types
  - text
  - password
  - radio
  - checkbox
  - subset
- Each form has **name** and **value**.
Hints

- Google “HTML + thing you want to do”
- Look at the source code of pages you like
- Start outward and work your way in
- Check frequently
- Add comments

<!—- This text will not display in a browser --->
Recap

- Hexadecimal
- Editing and Uploading
- HTML

Next ...

Discussion, special requests, hands on creation of pages.