

HTML

Web Publishing with HTML

- HyperText Markup Language (HTML) is the language for specifying the *static* content of Web pages
 - *hypertext* refers to the fact that Web pages are more than just text
 - can contain multimedia, provide links for jumping within & without
 - *markup* refers to the fact that it works by augmenting text with special symbols (tags) that identify structure and content type
 - There are many versions of HTML and different

Web Development Tools

- **Many high-level tools exist for creating Web pages**

e.g., Microsoft FrontPage, Adobe PageMill,

Macromedia DreamWeaver, ...

also, many applications have "save to HTML" options
(e.g., Word)

for most users who want to develop basic, static Web pages, these are fine (but they still may produce poorly structured HTML code)

Web Development Tools

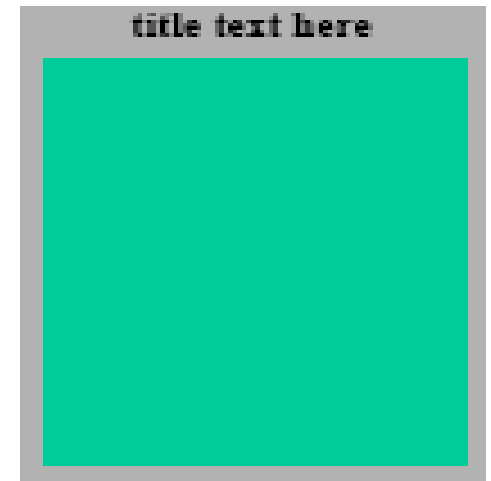
- **so, why are we learning low-level HTML using a basic text editor?**
 - may want low-level control
 - may want to "steal" page components and integrate into existing pages
 - may want dynamic features such as scripts or applets
 - remote editing of web pages may only be possible using a basic text editor
 - In order to write web-based application one needs to know HTML since server-side scripts and programs that programmers write themselves

Major Syntax Components

- **<TAG** parameters="values"> *text* **</TAG>**
- **<TAG** parameters="values">
- You may have many parameters or no parameters at all.
- HTML is not case sensitive
- Values can be case sensitive
- Tags for changing appearance of text, tags for structuring sections, tags for embedding objects, etc.

Page Structure

```
<HTML>  
  <HEAD>  
    <TITLE>title text here</TITLE>  
  </HEAD>  
  <BODY BGCOLOR="#00FF00">  
    Text and tags come here  
  </BODY>  
</HTML>
```



[view page](#)

What Comes in the Head?

<HEAD> </HEAD>	Header section of the HTML page
---	--

Optional Head elements:

<TITLE> ...</TITLE>	Title of page
<SCRIPT ...>...</SCRIPT> <STYLE ...>...</STYLE>	Embedded script programs Specify cascading style sheets
<LINK ...>	Creates associations between pages Useful for printing linked pages
<META...>	Records document information

What Comes in the Body?

- **<BODY ...> </BODY>** Body section of the HTML page.
- **Optional parameters for BODY tag:**

BACKGROUND

Specifies URL of an image to display in the background

BGCOLOR

Specifies the color of the background Specifies the color of the text

TEXT

Specifies the color of the unvisited hyperlinks

LINK

Specifies the color of the visited hyperlinks Specifies the color of the links currently selected

VLINK

ALINK

what is difference between link & alink & vlink

Tags vs. Elements

definition of tag

- HTML specifies a set of *tags* that identify structure and content type
 - tags are enclosed in `<` `>`
 - `` specifies an image
 - most tags come in pairs, marking a beginning and ending
 - `<title>` and `</title>` enclose the title of a page

Tags vs. Elements

definition of element

- an HTML *element* is an object enclosed by a pair of tags
 - `<title>My Home Page</title>` is a TITLE element
 - `This text appears bold.` is a BOLD element
 - `<p>Part of this text is bold.</p>`
 - » is a PARAGRAPH element that contains a BOLD element

Structural Elements

- an HTML document has two main structural elements
 - **HEAD** contains setup information for the browser & the Web page
 - e.g., the title for the browser window, style definitions, JavaScript code, ...

```
<html>– BODY contains the actual content to be displayed in the Web page
  <!-- cpmputer application --
  -- Shoubra faculty of eng --
-->
<head>
  <title>My first HTML
document</title>
</head>
<body>
  Hello world!
</body>
</html>
```

HTML documents begin and end with
`<html>` and `</html>` tags

Comments appear between `<!--` and `-->`

HEAD section enclosed between `<head>`
and `</head>`

BODY section enclosed between `<body>`
and `</body>`

view page

Text Layout

design

```
<html>
<!-- Computer Application -->
<head>
  <title>Text Layout</title>
</head>

<body>
  <p>
    This is a paragraph of text<br/>
    made up of two lines.
  </p>

  <p>
    This is another paragraph with a
    &nbsp; GAP &nbsp; between
    some of the words.
  </p>

  <p>
    &nbsp;&nbsp;  This paragraph is<br/>
    indented on the first line<br/>
    but not on subsequent lines.
  </p>
</body>
</html>
```

view page

- **for the most part, layout of the text must be left to the browser**

- every sequence of whitespace is interpreted as a single space
- browser automatically wraps the text to fit the window size

- **can override some text layout**

- can cause a line break using the `
` tag (no closing tag)
- can specify a new paragraph (starts on a new line, preceded by a blank line) using `<p>...</p>`
- can force a space character using

Separating Blocks of Text

```
<html>
<!-- Computer Application-->
<head>
  <title>Blocks of Text</title>
</head>

<body>
  <h1>Major heading 1</h1>
  <p>
    Here is some text.
  </p>

  <h2>Subheading</h2>
  <p>
    Here is some subtext.
  </p>

  <hr/>

  <h1>Major heading 2</h1>
  <p>
    Here is some more text.
  </p>
</body>
</html>
```

view page

- can specify headings for paragraphs or blocks of text

- `<h1>...</h1>` tags produce a large, bold heading
- `<h2>...</h2>` tags produce a slightly smaller heading
 - ...
- `<h6>...</h6>` tags produce a tiny heading

- can insert a horizontal rule to divide sections

- `<hr/>` draws line across window

The Basic Web page – A Worked Example

```
• <html>
• <!-- Computer Application-->
•   <head>
•     <title> Bill Smiggins Inc. </title>
•   </head>
•   <body>
•     <h1>Bill Smiggins Inc.</h1>
•     <h2>About our Company...</h2>
•     <p>This Web site provides clients, customers,
•       interested parties and our staff with all of
•       the information that they could want on
•       our products, services, success and failures.
•     </p>
•     <hr/>
•     <h3> Products </h3>
•     <p> We are probably the largest
•       supplier of custom widgets, thingummybobs, and bits
•       and pieces in North America. </p>
•     <hr/>
•   </body>
• </html>
```

view page

Text Appearance

•can specify styles for fonts

```
<html>
  <!-- Computer Application -->
  <head>
    <title>Text Variations and Escape
Sequences</title>
  </head>
  <body>
    <h1>Text Variations</h1>
    <p>We can use <b>simple</b> tags to
      <i>change</i> the appearance of
      <strong>text</strong> within
      <tt>Web pages</tt>.
      Even super<sup>script</sup>
      and sub<sub>scripts</sub> are
      <em>supported</em>.</p>

    <h1>Text Escape Sequences</h1>
    <p>
      &amp; &lt; &gt; &quot; &copy;
    </p>
    <h1>Preformatted text</h1>
    <pre>
      University of Benha
      Faculty of Eng
      Department of Electrical Eng
      Shoubra Street
    </pre>
```

view page

- `...` specify bold
- `<i>...</i>` specify italics
- `<tt>...</tt>` specify typewriter-like (fixed-width) font
- `<big>...</big>` increase the size of the font
- `<small>...</small>` decrease the size of the font
- `...` put emphasis
- `...` put even more emphasis
- `_{...}` specify a subscript
- `^{...}` a superscript
- `<pre>...</pre>` include ready-formatted text

Text Appearance

important table

Escape Character	HTML code	Meaning
&	&	Ampersand
<	<	Less than
>	>	Greater than
@	©	Copyright symbol
á	á	Lowercase a with acute accent
à	à	Lowercase a with grave accent
â	â	Lowercase a with circumflex
ä	ä	Lowercase a with amlaut
å	å	Lowercase a with ring
ç	ç	Lowercase c with cedilla
ø	ø	Lowercase o with slash

Text Appearance

```
<html>
<head>
  <title>my page</title>
</head>

<body>
  <basefont face="arial, verdana, courier"
  size="4" color="green">
  Hello! This is my page.<br>
  All text looks the same<br>
  since I only specified a basefont.<br>
</body>
```

it should only be font not basefont

view page

The `<basefont>` tag specifies a default font-color, font-size, or font-family for all the text in a document.

The `<basefont>` tag is only supported by Internet Explorer, and should be avoided!

Text Appearance

```
<html>
  <head>
    <title>My Page</title>
  </head>

  <body>
    <basefont color="green" face="arial" size="4">
    Hello! This is my page.<br><br>
    <font color="red" face="arial" size="2">
    This local text looks different.
    </font>
    <br><br>
```

This text looks like the first line.

```
</body>
```

view page

```
</html>
```

```
<p><font size="7" face="Georgia, Arial" color="maroon">C
</font>ustomize your font to achieve a desired look.</p>
```

view page

Background sound

```
<html>
<head>
<title>Bgsound Sample</title>
</head>
<body>
<h1>This is a sample of a page with a background sound</h1>
<bgsound src="bg sound.wav" loop="3" />
</body>
```

❑ The **<bgsound />** works only on Internet Explorer.

❑ the **src=" "** attribute to identify the sound file you want to attach.

❑ The **loop** attribute will allow you to specify how long the sound should play.

❑ **"infinite"** → Endless repeating loop

❑ **1** → sound plays when the page is loaded

❑ **N** → will cause the sound to play **N** times.

Text links

- Click `here` to go to yahoo.
- Specify the target in the ``.
- Then add the text that should work as a link.
- Finally add an `` tag to indicate where the link end

view page

Text format

important table

<code>text</code>	writes text as bold
<code><i>text</i></code>	writes text in italics
<code><u>text</u></code>	writes underlined text
<code><sub>text</sub></code>	lowers text and makes it smaller
<code><sup>text</sup></code>	lifts text and makes it smaller
<code><strike>text</strike></code>	strikes a line through the text
<code><tt>text</tt></code>	writes text as on a classic typewriter
<code><pre>text</pre></code>	writes text exactly as it is, including spaces.
<code>text</code>	usually makes text emphasized
<code>text</code>	usually makes text bold

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Text size

<code><big>text</big></code>	increase the size by one
<code><small>text</small></code>	decrease the size by one
<code><h1>text</h1></code>	writes text in biggest heading
<code><h6>text</h6></code>	writes text in smallest heading
<code>text</code>	writes text in smallest fontsize. (8 pt)
<code> text</code>	writes text in biggest fontsize (36 pt)

Text layout

HTML

Hello world -

a linebreak does not

insert a linebreak in HTML

<p>you will need</p>

<p align="right">to insert</p>

<p align="left">special tags</p>

that will insert

linebreaks

where

you want it!

Another method is of course to write a sentence, that is long enough to force a linebreak.

<nobr>This option can however be turned off<wbr>with the nobr tag,<wbr>unless a wbr is used to force it!</nobr>

<center>You can center</center>

And turn the center off

<div align="center">And on!</div>

<div align="left">Go left!</div>

<div align="right">Go Right!</div>

view page

Lists

- **there are 3 different types of list elements**

- `...` specifies an ordered list (using numbers or letters to label each list item)

- `` identifies each list item

- *can set type of ordering, start index*

- `...` specifies unordered list (using a bullet for each)

- `` identifies each list item

- `<dl>...</dl>` specifies a definition list `<dt>` identifies each term

- `<dd>` identifies its definition

- `text`

- `text`

- `text`

- ``

- `<ul type="disc">`

- `<ul type="circle">`

- `<ul type="square">`

view page

Lists

Numbered Lists

```
<ol>
  <li>text</li>
  <li>text</li>
  <li>text</li>
</ol>
```

```
<ol start="5">
```

```
<ol type="A">
```

```
<ol type="a">
```

```
<ol type="I">
```

```
<ol type="i">
```

```
<ol type="1">
```

```
<ol type="I" start="7">
```

```
<dl>
```

```
<dt>Coffee</dt>
```

```
<dd>Black hot drink</dd>
```

```
<dt>Milk</dt>
```

```
<dd>White cold drink</dd>
```

```
</dl>
```

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Definition Lists

[view page](#)

Lists

A. Introduction

1. Title

- a. Author
- b. Institution
- c. Working title (20 words or fewer)

2. Justification for research

- a. What? Why?

3. Findings

4. Conclusions

B. Body of Paper

1. Previous research

2. Research methods used

3. Results and findings

Lists

```
<ol type="A">
<li>Introduction
  <ol>
    <li>Title
      <ol type="a">
        <li>Author</li>
        <li>Institution </li>
        <li>Working title (20 words or fewer) </li>
      </ol>
    </li>
    <li>Justification for research
      <ol type="a">
        <li>What? Why? </li>
      </ol>
    </li>
    <li>Findings </li>
    <li>Conclusion </li>
  </ol>
</li>
<li>Body of Paper
  <ol>
    <li>Previous research </li>
    <li>Research methods used </li>
```

view page

Hyperlinks

```
<html>
<!-- Computer application course-->

<head>
  <title>Hyperlinks</title>
</head>

<body>
  <p>
    <a href="http://www.benha-univ.edu.eg ">
      The University of Benha</a>
    <br/>
    <a href="fontbut.html" target="_blank">
      Open fontbut page in a new window</a>
  </p>
</body>

</html>
```

view page

what is that ?

•perhaps the most important HTML element is the hyperlink, or ANCHOR

– `...`

•where URL is the Web address of the page to be displayed when the user clicks on the link

•if the page is accessed over the Web, must start with `http://`

•if not there, the browser will assume it is the name of a local file

– `...`



Hyperlinks (cont.)

```
<html>
<!-- Computer Application -->

<head>
  <title>Internal Links in a Page</title>
</head>

<body>
  <p>
    [ <a href="#HTML">HTML</a> |
      <a href="#HTTP">HTTP</a> |
      <a href="#IP">IP</a> |
      <a href="#TCP">TCP</a> ]
  </p>
  <p>
    Computer acronyms:
    <dl>
      <a name="HTML"></a><dt>HTML</dt>
      <dd>HyperText Markup Language
      <a name="HTTP"></a><dt>HTTP</dt>
      <dd>HyperText Transfer Protocol...</dd>
      <a name="IP"></a><dt>IP</dt>
      <dd>Internet Protocol...</dd>
      <a name="TCP"></a><dt>TCP</dt>
      <dd>Transfer Control Protocol...</dd>
    </dl>
  </p>
```

- for long documents, you can even have links to other locations in that document

- `...`

- where **ident** is a variable for identifying this location

- `...`

- will then jump to that location within the file

- `...`

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- can jump into the middle of another file just as easily

Hyperlinks (cont.)

```
<body link="green" vlink="blue" alink="red">
```

Click [here to go to yahoo.](http://www.yahoo.com)

Click [here to go to hotmail.](http://www.hotmail.com)

Click [here to go to google.](http://www.google.com)

view page

```
<body link="#0000FF" vlink="#800080" alink="#FF0000">
```

Click [here to go to yahoo.](http://www.yahoo.com)

Click [here to go to hotmail.](http://www.hotmail.com)

Click [here to go to google.](http://www.google.com)

view page

Hyperlinks targets

```
<a href="http://www.yahoo.com" target="_blank">
```

```
<a href="http://www.yahoo.com" target="_self">
```

```
<a href="http://www.yahoo.com"  
    target="_parent">
```

```
<a href="http://www.yahoo.com" target="_top">
```

❑ Predefined targets are:

➤ **_blank** loads the page into a new browser window.

➤ **_self** loads the page into the current window.

➤ **_parent** loads the page into the frame that is superior to the frame the hyperlink is in.

➤ **_top** cancels all frames, and loads in full browser window.

Jumping into organized list

```
<html>
<title>Jazz Institute Internal Phone Book</title>
<body>
<h1>Jazz Institute Internal Phone Book</h1>
Section Shortcut: <a href="#a-c">[A-C]</a>
<a href="#d-h">[D-H]</a>
<a href="#i-l">[I-L]</a>
<a href="#m-n">[M-N]</a>
<a href="#o-s">[O-S]</a>
<a href="#t-z">[T-Z]</a>
<br />
<a name="a-c"></a>
<h2>A-C</h2>
Benson, George (x5531) <br />
Coleman, Ornette (x5143) <br />
Coltrane, John (x5544)
<a name="d-h"></a>
<h2>D-H</h2>
Dorsey, Tom (x9412) <br />
Ellington, Duke (x3133) <br />
```

```
<a name="i-l"></a>
<h2>I-L</h2>
Jackson, Milt (x0434) <br />
Laffite, Guy (x5358) <br />
<a name="m-n"></a>
<h2>M-N</h2>
Monk, Thelonious (x3333) <br />
Noone, Jimmy (x5123) <br />
<a name="o-s"></a>
<h2>O-S</h2>
Parker, Charlie (x4141) <br />
Peterson, Oscar (x8983) <br />
Reinhardt, Django (x5351) <br />
<a name="t-z"></a>
<h2>T-Z</h2>
Taylor, Billy (x3311) <br />
Tyner, McCoy (x4131) <br />
Waller, Fats (x1321) <br />
</body>
</html>
```

view page

Tables

- tables are common tools for arranging complex layout on a Web page
 - a table divides contents into rows and columns
 - by default, column entries are left-justified, so provide for

alignment

```
<html>
<!-- Computer Application-->
<head>
  <title>Tables</title>
</head>
<body>
<h2>A Simple Table</h2>
  <table>
    <tr>
      <td> Left Column </td>
      <td> Right Column </td>
    </tr>
    <tr>
      <td> Some data </td>
      <td> Some data </td>
    </tr>
  </table>
</body>
</html>
```

`<table>...</table>` specify a table element

`<tr>...</tr>` specify a row in the table

`<td>...</td>` specify table data (i.e., each column entry in the table)

view page

Tables formatting

Tag	Meaning
<code>border="n"</code>	Width of enclosed area surrounding table; if border="0", this also eliminates the grid lines within the table itself
<code>cellspacing="n"</code>	Spacing between individual cells
<code>cellpadding="n"</code>	Space between border and contents of cell
<code>width="n"</code>	Desired width; overrides automatic width calculations (value or percentage)

Example

```
<h3>Common Cable TV Channels</h3>
<table border="1" width="75%">
<tr><td>MTV</td></tr>
<tr><td>EPSN</td></tr>
<tr><td>CNN Headline News</td></tr>
<tr><td>WTBS Atlanta</td></tr>
</table>
```

view page

view page

Tables formatting

```
<table border="1" bgcolor="yellow" bordercolor="red">
<tr>
<th>Heading</th> for making head cell to the table
<th>Another Heading</th>
</tr>
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td></td>
</tr>
</table>
```

view page

Tables formatting

```
<table border="5" width="75%">
<tr>
<th>Show</th><th>Airs on</th>
</tr>
<tr align="center"> to define align of the text in the cells
<td>Sherlock Holmes</td><td>Monday</td>
</tr>
<tr align="left">
<td>Lovejoy</td><td align="right">Monday</td>
</tr>
</table>
```

view page

Tables formatting

```
<table border="5" width="75%">
<tr>
<td colspan="2" align="center">
<span>Arts & Entertainment Network</span>
</td>
</tr><tr>
<th>Show</th><th>Airs on</th>
</tr>
<tr align="center">
<td>Sherlock Holmes</td><td>Monday</td>
</tr>
<tr align="center">
<td>Lovejoy</td><td>Monday</td>
</tr>
</table>
```

view page

Images

- can include images using `IMG`

- by default, browsers can display `GIF` and `JPEG` files

- other image formats may require plug-in applications for display

we can url of a photo on the web or a photo on the computer

to define text appear when no picture

```

```

to define text appear while clicking on the picture

- again, if file is to be accessed over the Web, must start with `http://` (if not, will assume local file)

```
<html>
<!-- Computer Application -->
<head>
  <title>Images</title>
</head>
<body>
  <img src=Sample.jpg" alt="Sample" title="Sample Picture" />
  <p>Ready To Run</p>
</body>
</html>
```

view page

Images

```
 <br>
```

```
 <br>
```

```
 <br>
```

```
 <br>
```

```
<br>
```

```
<br> to define space between image and page border
```

```
<br>
```

```
<br>
```

view page

Alignment of images

important table not very clear

```

```

```

```

```

```

```

```

```

```

```

```

```

```

view page

Wrap text around

```

```

```
bla bla bla bla bla<br>
```

```
bla bla bla bla bla<br>
```

```
bla bla bla bla bla<br>
```

```

```

```
bla bla bla bla blabla bla bla bla blabla bla bla bla blabla bla  
bla bla blabla bla bla bla bla<br>
```

```
bla bla bla bla blabla bla bla bla blabla bla bla bla blabla bla  
bla bla blabla bla bla bla bla<br>
```

```
bla bla bla bla blabla bla bla bla blabla bla bla bla blabla bla  
bla bla blabla bla bla bla bla<br>
```

view page

Image mapping

```
  
  <map name=example>  
    <area shape=Rect Coords=0,0,29,29 href="http://www.yahoo.com">  
    <area shape=Rect Coords=30,30,59,59 href="http://www.hotmail.com">  
  </map>
```

view page

Adding Comments

- Comments can be added to an HTML file
- Comments are ignored by the HTML interpreter.

```
<!-- These can be added to an HTML file-->
```

```
<!--
```

```
    These are also comments
```

```
-->
```

Frames

- frames provide the ability to split the screen into independent parts

Frames are going out of fashion, partly because they interact poorly with web search engines (i.e. search engines cannot generally access the data stored in the inset frame objects).

Frames can also “break” the regular behaviour of browsers, most notably the “Back” button on the browser can behave in unexpected ways.

Frames

- Frames present a different template for HTML documents they were introduced as a standard in HTML 3.2
- Rather than HEAD and BODY, the document has HEAD and FRAMESET.
- The FRAMESET divides the document in a set of frames, each referring to URL.
- Frames contain sub documents, however, while a frame is an HTML document per set, the set of frames is also a document.

Frames

```
<html>
  <head>
    <title>My Frames Page</title>
  </head>

  <frameset cols="120,*">    defines size of columnn
    <frame src="link.html" name="menu">
    <frameset rows="*,50">    defines size of row
      <frame src="imagealign.html" name="main">
      <frame src="fontbut.html" name="bottom">

  </html>
```

view page

Frames

```
<HTML>

<head>
  <title>My Frames Page</title>
</head>

<frameset rows="16%,84%">
  <frame src="top.htm" name="top">
  <frameset cols="50%,50%">
    <frame src="left.htm" name="left">
    <frame src="right.htm" name="right">
  </frameset>
</frameset>

</HTML>
```

view page

Frames

```
<frameset rows="50%,50%" cols="50%,50%">  
<frame src="topleft.htm" name="topleft">  
<frame src="topright.htm" name="topright">  
<frame src="botleft.htm" name="botleft">  
<frame src="botright.htm" name="botright">  
</frameset>
```

[view page](#)

Non resizable frame

```
<frameset cols="120,*" frameborder="0" border="0" framespacing="0">  
<frame src="menu.htm" name="menu" noresize>  
<frame src="frontf.htm" name="main" noresize>  
</frameset>
```

view page

Scrollbars frames

- ```
<frameset cols="120,*" frameborder="0" border="0" framespacing="0">
<frame src="menu.htm" name="menu" noresize scrolling=no>
<frame src="frontf.htm" name="main" noresize scrolling=auto>
</frameset>
```

how does it work?

view page

# HTML Validators

- Browsers try to guess how to render pages in presence of incorrect HTML.
- Browsers don't guess the same way.
- When there is incorrect HTML the result is unpredictable.
- With errors, some pages may still look fine with some browsers but not with others.
- Some browser specific HTML is non conform to the standards.
- W3C HTML validation service  
<http://validator.w3.org>

# Web rules of thumb

- HTML and CSS provide lots of neat features, but just because you can add a feature doesn't mean you should!
  - use color & fonts sparingly and be careful how elements fit together  
e.g, no purple text on a pink background, no weird fonts  
e.g. I find white text on a black background difficult to read
  - use images only where appropriate  
e.g., bright background images can make text hard to read  
e.g., the use of clickable images instead of buttons or links can slow access
  - don't rely on window or font size for layout  
e.g., font size may be adjusted by viewer, window constrained
  - don't be annoying  
e.g., no pop-up windows, excessive advertising, silly music

# Project 1

- [project1](#)