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MODERN DEVELOPMENT TOOLS OF DYNAMIC CONTENT OF THE WEBSITES

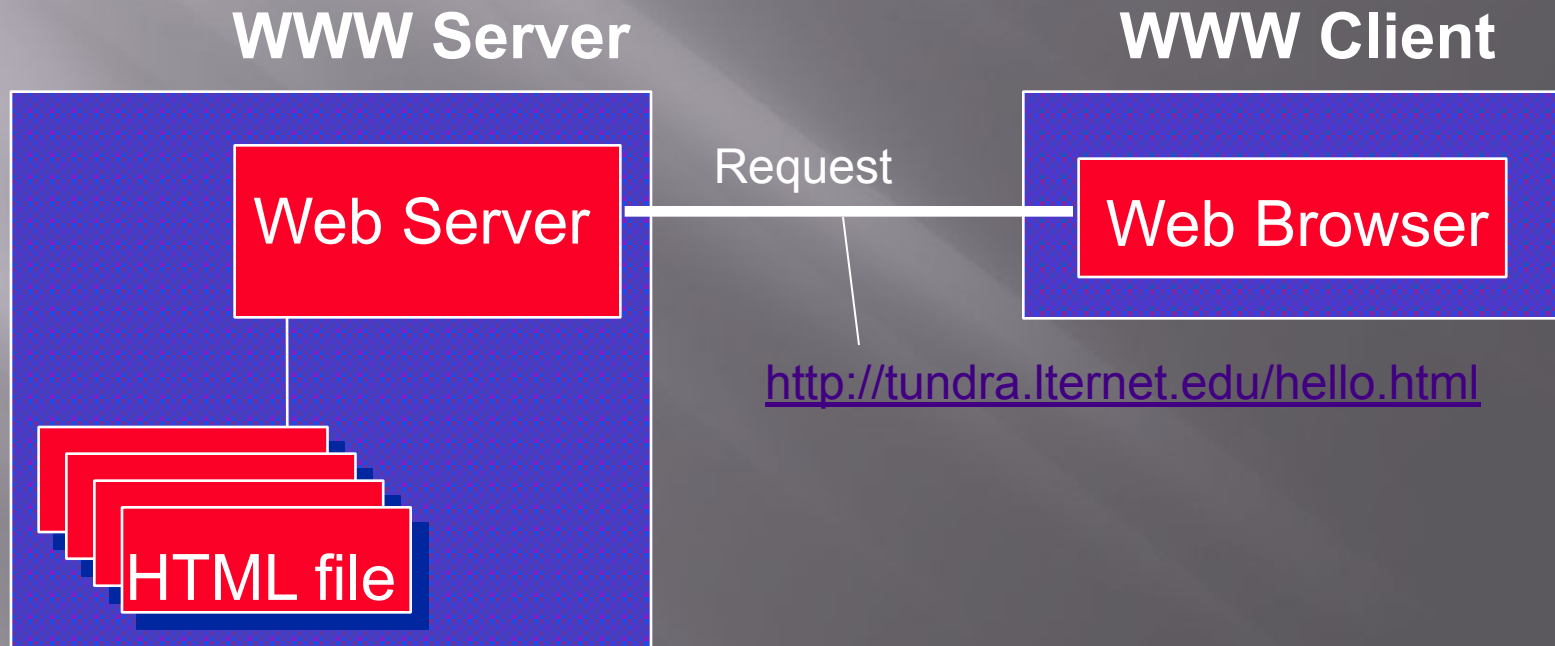Done by: Berdiev K.A
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What is HTML?

- HTML Stands for Hypertext Markup Language
- Markup language means that a specific parts of a document have marks around them, giving them special meaning
- An HTML Document is a text document that uses tags for markup.
- Tags fall between angel brackets and have an open tag and a close tag
  <p>this is paragrapgh text</p>

How Does the WWW Work?

- HTML Documents (pages) stored on a server
- The page is requested by browser from a client using a browser
- The page is fetched and returned to the client by the web server using the Hypertext Transfer Protocol (http)
- Note that a page is identified by a Uniform Resource Locator (URL)

How Does the WWW Work?

WWW Server

WWW Client

Web Server

Request

Web Browser

HTML file

http://tundra.lternet.edu/hello.html

Standards For the WWW

- The World Wide Web Consortium (W3C http://www.w3c.org) is chief standards body for HTTP and HTML

- An international consortium of companies involved with the Internet and the Web.

- W3C was founded in 1994 by Tim Berners-Lee, the original architect of the World Wide Web

- Develop open standards so that the Web evolves in a single direction rather than being splintered among <u>competing factions</u>

Browsers

- Netscape and MSIE are the big two.
- They contributed to browser wars, non standard html tags (<font>), substandard browsers (Netscape 4)
- Browser Alternatives
  - Mozilla Fire Fox – Open Source, Standards Based
  - Opera - Standards Based, lots of features
- Alternatives are better browsers, fast, and they Kick butt!

What is HTML?

- Important to remember HTML tags were originally designed to define the content of a document
  <p>means this is a paragraph</p>
- Examples of tags

<html>   Defines an HTML document
<body>   Defines the document's body
<h1> to <h6>   Defines header 1 to header 6
<p>   Defines a paragraph

           Inserts a single line break
<hr>   Defines a horizontal rule
<!-->   Defines a comment

Example HTML Document

```html
<html>
<head>
<title>Hello</title>
</head>
<body>
<h1>Hello World!!</h1>
<p>this is a simple HTML document</p>
<table width="100%"  border="1" cellspacing="1" cellpadding="1">
      <tr>
            <th>Column 1 </th>
            <th>Column 1 </th>
      </tr>
      <tr>
            <td>data 1 </td>
            <td>data 1 </td>
      </tr>
</table>
</body>
</html>
```

Example HTML Document
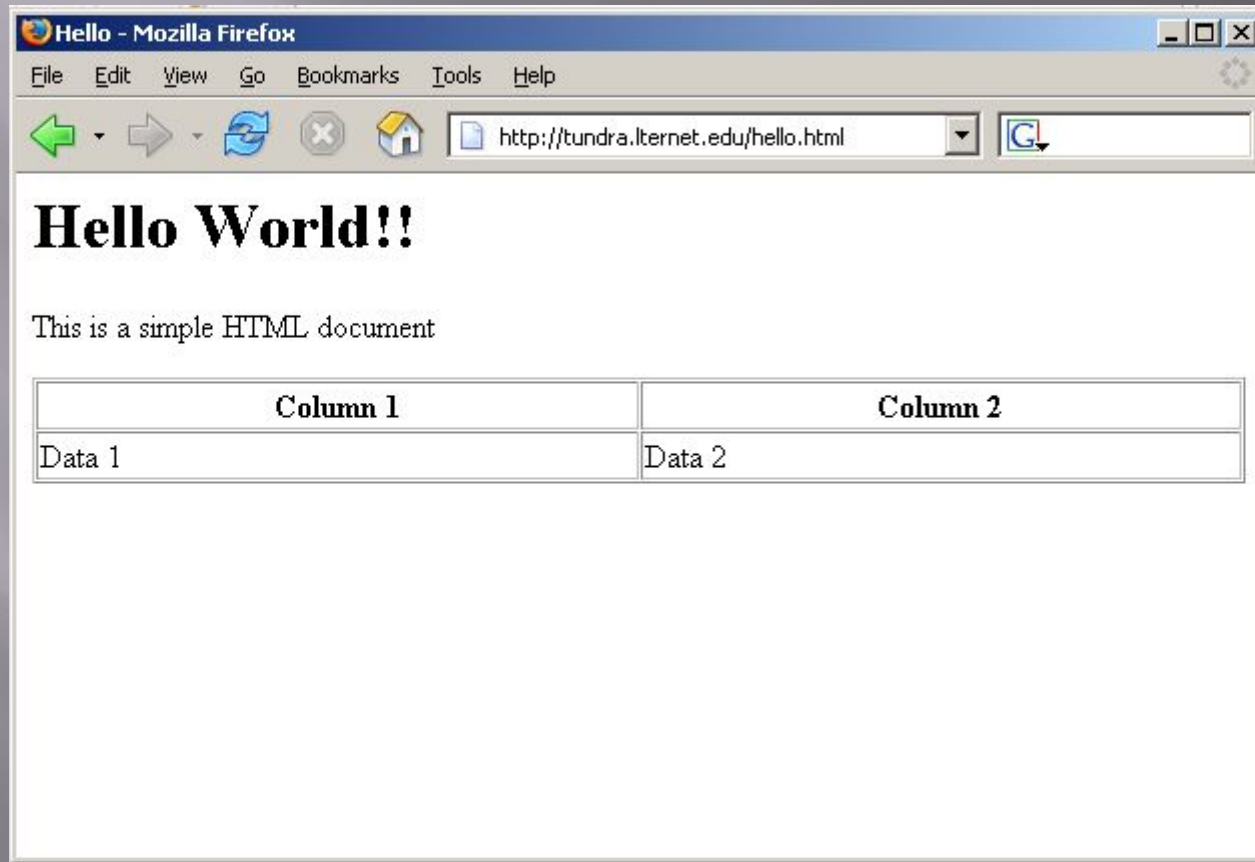
Adding Style to our pages

- Cascading Style Sheets (CSS) is a W3C Recommendation

- Styles define how to display html

- Styles can be attached to or imbedded within HTML documents

- A single HTML document may use one or more stylesheets that are then applied according to specified priorities

HTML with styles embedded

```
<html>
<head>
<title>Untitled Document</title>
<style type="text/css">
<!--
h1 {font-family: Georgia, "Times New Roman", Times, serif; font-size: 24px;
        color: #FFFFFF;background-color: #0000FF; padding: 10px;}
h2 {font-family: Georgia, "Times New Roman", Times, serif; font-size: 24px;
        color: #FFFFFF; background-color: #990033; text-align: right; border: thin dashed #FFFF00;}
h3 {font-family: Geneva, Arial, Helvetica, sans-serif; font-size: 36px;
        background-color: #999999; text-align: center; width: 300px; border: dashed #0033FF;}
-->
</style>
</head>
<body>
<h1>Simple CSS Example </h1>
<h2>heading 2</h2>
<h3>heading 3</h3>
<p> </p>
<p> </p>
</body>
</html>
```
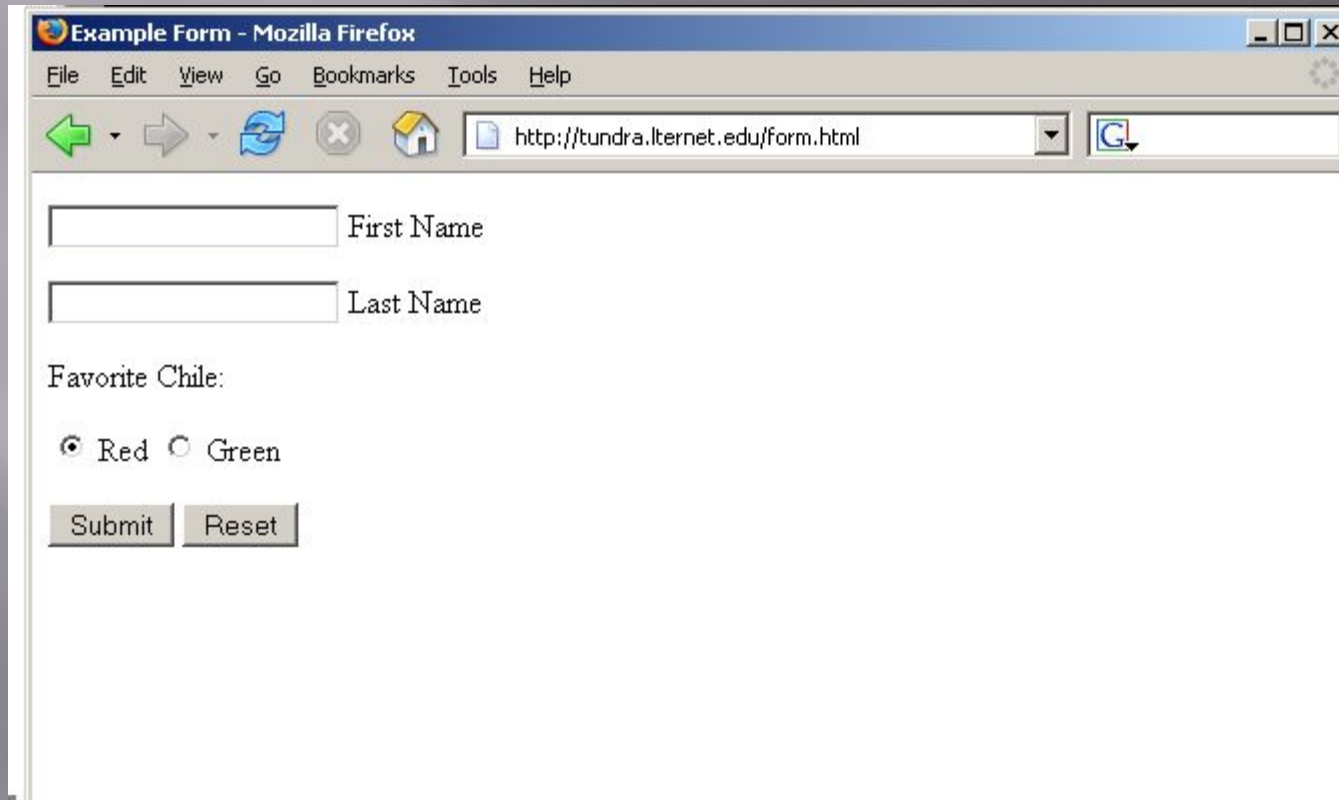
Web Forms

- Forms are used to collect input from the client.
- A form is an area that can contain form elements.
- Form elements are elements that allow the user to enter information (like text fields, textarea fields, drop-down menus, radio buttons, checkboxes, etc.) in a form.
- A form is defined with the <form> tag.

Example Form

```html
<form action="example.php" method="post" name="example" id="example">
 <p>
      <input type="text" name="lastname">
      First Name</p>
 <p>
<input type="text" name="lastname">
   Last Name
</p>
 <p>Favorite Chile:    </p>
 <p>
   <input name="fav_chile" type="radio" value="red" checked>
   Red
   <input name="fav_chile" type="radio" value="green">
   Green</p>
 <p>
   <input type="submit" name="Submit" value="Submit">
   <input type="reset" name="Reset" value="Reset">
 </p>
</form>
```

Example Form

Webpage Layout and Website Design

- Technical definitions:
  - A webpage is a single HTML document
  - A website is a collection of related webpages
- Designing a good website requires more than just putting together a few pages

Web Page Layout

- Layout of web pages is very important
- Poor layout makes for -
  - Difficult navigation
  - Hard to locate information on page
  - Visually unappealing

A 2 x 2 Layout

Adopt a Puffin
Project Puffin

Project Description
Background Information
Research Stations
The Puffin Burrow
The Seabird Center
Suggested Readings
Education Programs
Project Staff
All About Puffins

Project Puffin
What is Project Puffin?

The National Audubon Society started Project Puffin in 1973 in an effort to learn how to restore puffins to historic nesting islands in the Gulf of Maine. At that time, literally all the puffin eggs in Maine were in two baskets - Matinicus Rock and Machias Seal Island. Although puffins are not an endangered species (they are abundant in Newfoundland, Iceland, and Britain), they are rare in Maine. The two surviving colonies were very vulnerable to a disaster such as an oil spill, or accidental establishment of predators such as rats or mink.

The Project began with an attempt to restore puffins to Eastern Egg Rock in Muscongus Bay, about six miles east of Pemaquid Point. Puffins had nested there until the early 1880's when hunters took the last survivors of this once-flourishing colony. The restoration of puffins to Eastern Egg Rock is based on the fact that young puffins usually return to breed on the same island where they hatched.

Young puffins from Great Island, Newfoundland (where about 160,000 pairs nest) were transplanted to Eastern Egg Rock when they were about 10 - 14 days old. The young puffins were then reared in artificial sod burrows for about one month. Audubon biologists placed handfuls of vitamin-fortified fish in their burrows each day and, in effect, took the place of parent puffins. As the young puffins reached fledging age (the time when birds leave the nest), they

Table within a table

The outer table

The inner table

The inner table

Centered with three columns

Really complicated design!

Site Map

- A site map is designed to show the connections between pages
- A graphical site map uses lines to connect linked pages

Site Map

- Interior or
- Internal
  - Pages

Get vs Post

- With the Get method, the browser appends the data onto the URL

- With the Post method, the data is sent as "standard input." (as part of the header in the request)

Get vs Post

- ▣ Get example

  <form action="example.php" method="POST" name="example" id="example"><form action="example.php" method="post" name="example" id="example">

- ▣ Post Example

  <form action="example.php" method="GET" name="example" id="example"><form action="example.php" method="post" name="example" id="example">

CSS Document

```css
h1 {
        font-family: Georgia, "Times New Roman", Times, serif;
        font-size: 24px;
        color: #FFFFFF;
        background-color: #0000FF;
        padding: 10px;
}
h2 {
        font-family: Georgia, "Times New Roman", Times, serif;
        font-size: 24px;
        color: #FFFFFF;
        background-color: #990033;
        text-align: right;
        border: thin dashed #FFFF00;
}
h3 {
        font-family: Geneva, Arial, Helvetica, sans-serif;
        font-size: 36px;
        background-color: #999999;
        text-align: center;
        width: 300px;
        border: dashed #0033FF;
}
```

HTML With CSS attached

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>Untitled Document</title>

<link href="css.css" rel="stylesheet" type="text/css">
</head>

<body>
<h1>Simple CSS Example </h1>
<h2>heading 2</h2>
<h3>heading 3</h3>
<p> </p>
<p> </p>
</body>
</html>
```

HTML with CSS attached
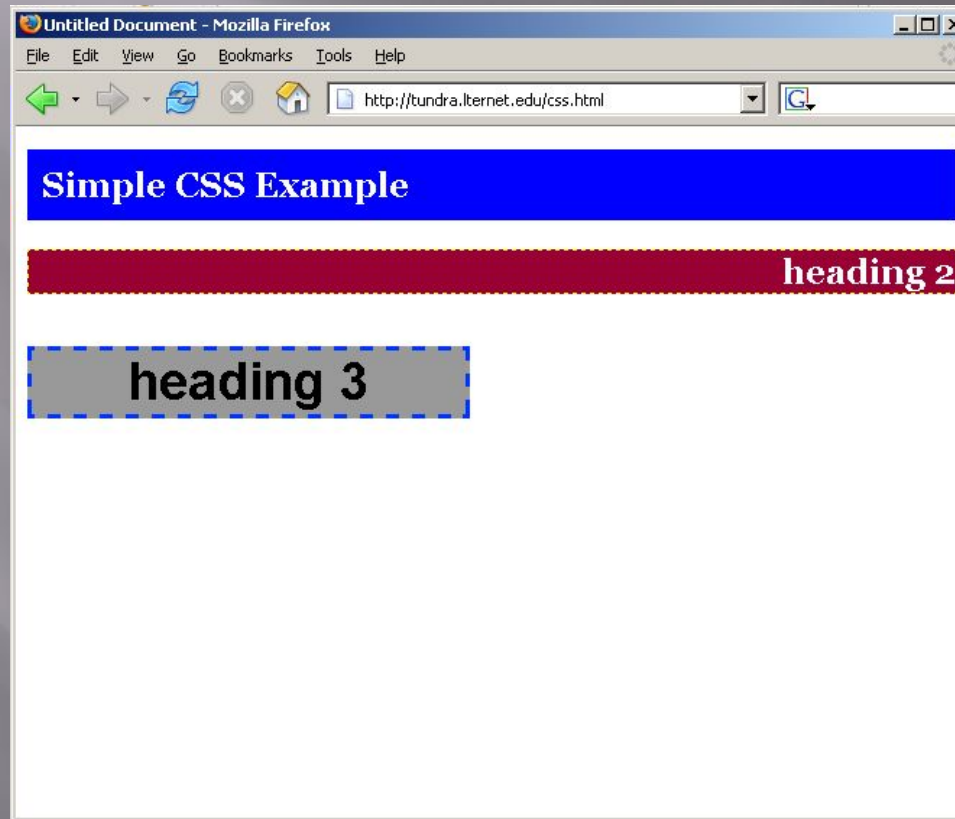
Advantages of stylesheets

- Stylesheets separate content from presentation
- Greatly decrease the amount work required when changing the look of a website.

Conclusion

▫ Web pages are served to clients by web servers when a client requests a URL

▫ Requests are handled using HTTP

▫ HTML provides structure to web pages through the use of tags.

▫ CSS provides style to web pages. Style can be attached in seprated documents or can be imbedded into an html document

WEBSITE DESIGN

Information Arcitecture

What is a website

- A site (location) on the World Wide Web. Each Web site contains a home page, which is the first document users see when they enter the site. The site might also contain additional documents and files. Each site is owned and managed by an individual, company or organization.

  - webopedia.com

Web site development essentials

- Web site development is is a mix of various disciplines.
- Well designed websites are a combination art, science, and practicality

What is Information Architecture?

"Information architecture is the science of figuring out what you want your site to do and then constructing a blueprint before you dive in and put the thing together."

- webmonkey.com

IA – Site Structure

Develop a site structure listing

Section 1
    Section 1.1
    Section 1.2

Section 2
    Section 2.1
    Section 2.2
        Section 2.2.1
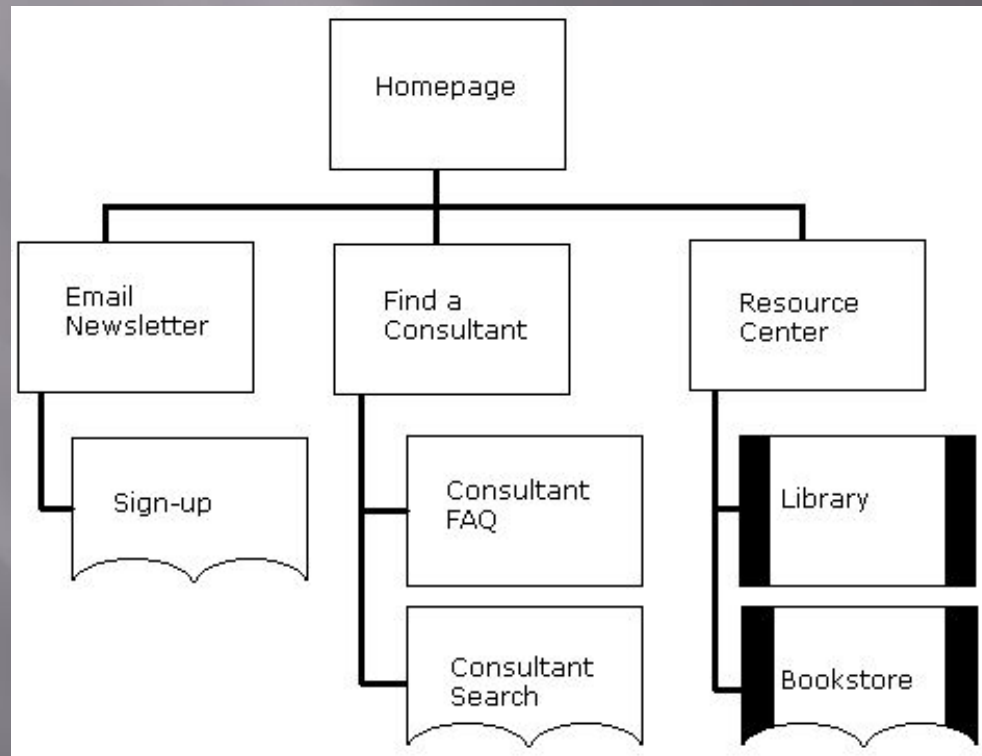   Section 2.2.2
        Section 2.2.3
    Section 2.3
    Section 2.4

Section 3

IA – Site Structure

- Develop Architectural Blueprint

IA tutorial:

http://webmonkey.wired.com/webmonkey/design/site_building/tutorials/tutorial1.html

Example Template

Organization of Biological Field Stations

Organizational Activities
- Join OBFS
- OBFS News/Jobs
- Annual Meetings
- Publications/Reports
- Bylaws
- Operations Manual
- Gallery
- Newsletters
- Forums

Directory
- Stations
- People

Research
- Metadata Catalog
- Methods Bibligraphy
- NSF Support

Education
- Courses
- FIRST II

{Body}

- Copyright 2003 Organization of Biological Field Stations-
Any opinions, findings, conclusions, or recommendations expressed in the material are those of the author(s).
Please contact stromber@socrates.berkeley.edu with questions, comments, or for technical assistance regarding this web site.

Essential Web Site Components

- Domain Name
  - Create an identity
- Search Feature
  - Find content.
- Timely Content
  - Content is updated regularly.
- Topic Based-Content
  - News, employment, a particular research project
- Professional Logo
  - Guiding principles

Web Page Optimization

- Limit the number of multimedia applications
  - Javascript, java applets, flash, shockwave
- Use consistent images and style sheets
- Use consistent navigation (text readers)

Web Technologies

- Basic Requirements
  - Web server, server side technology, database server
- Programming Languages
  - CGI, Embedded Languages
- Architectures
  - LAMP
- Third Party Solutions
  - Stand alone applications, Portals, Content Management Systems

LAMP

▣ LAMP is Open Source – Free

▣ There's an extensive support network for all LAMP components.

  ■ http://www.onlamp.com

▣ LAMP works well and is secure

  ■ Its component technologies offer tremendous flexibility, rapid development, high performance, and fewer security and stability problems than many far-costlier proprietary solutions.

How it works

Linux Server

WWW Client

WWW Server Apache

WWW Browser (Firefox)

request

HTML file

PHP

MySQl Database