



Computer Science E-75

Building Dynamic, Scalable Websites

Harvard Extension School

<http://www.cs75.net/>

Lecture 0: HTTP

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DNS



DNS

- .biz
- .com
- .edu
- .gov
- .info
- .int
- .mil
- .name
- .net
- .org
- .aero
- .asia
- .cat
- .coop
- .jobs
- .mobi
- .museum
- .pro
- .tel
- .travel
- .us
- ...

Web Hosts

web hosting

All this for just \$5.95/month!*

Core Resources

[SIGN UP NOW!](#)

Disk Storage at signup **500 GB**

Automatically Increases Weekly By: 2 GB

Monthly Bandwidth at signup **5.0 TB**

Automatically Increases Weekly By: 40 GB

MySQL 5 Databases Unlimited

Operating System Debian Linux

User Accounts

[SIGN UP NOW!](#)

E-Mail Accounts (POP/IMAP) Unlimited

Full Shell / FTP Users Unlimited

Email

[SIGN UP NOW!](#)

POP / SMTP Access 

IMAP Access 

Web-Based Email Access 

Procm Mail Filtering 

Spam Filtering - SpamAssassin 

Email Addresses (Aliases) Unlimited

Announcement Lists Unlimited

Discussion Lists Unlimited

Vacation Auto-Responders Unlimited

Domains

[SIGN UP NOW!](#)

Free Domain Registration (A \$9.95 Value!) 

Free Domain WHOIS Privacy 

Domains Hosted Unlimited

Subdomains Hosted Unlimited

Virtual Private Servers



Virtual Private Servers

SuperVPS 100 Specifications

\$229 Monthly	Minimum Server Specs
\$0 Setup	Dual CPU Quad Core Intel Clovertown
4 GB Burst RAM	16 GB FB-DIMM dual-ranked RAM
2 GB Guaranteed RAM	RAID 10 Serial Attached SCSI (SAS) Storage Arrays
100 GB Storage	Hot-Spare drives
3500 GB Monthly Transfer	zero downtime during failure
4 IP Addresses	Hot-Swap drives and fans
Hardware RAID 10	replaceable on the fly
Unlimited Domains	Dual Gigabit Network Interfaces
Unlimited User Accounts	64-bit Swsoft Virtuozzo Kernel
CentOS 4 Operating System	

panel.cs75.net



Your Account

Domain Setup

Site Summary / Statistics / Logs

Change Password

Subdomain Management

Login History

Frontpage Extensions

DNS Management

MySQL Management

Support Center

Password Protected Directories

Installed Perl Modules

File Manager

Create/Restore Backups



E-Mail Management

E-Mail Accounts

Mailing Lists

Catch-All E-Mail

SPAM Filters

Forwarders

Webmail: Squirrelmail

Autoresponders

Webmail: UebiMiau

Vacation Messages

Webmail: Roundcube

Spamassassin Setup

MX Records



Advanced Features

Server Information

Custom Error Pages

SSL Certificates

phpMyAdmin

Cronjobs

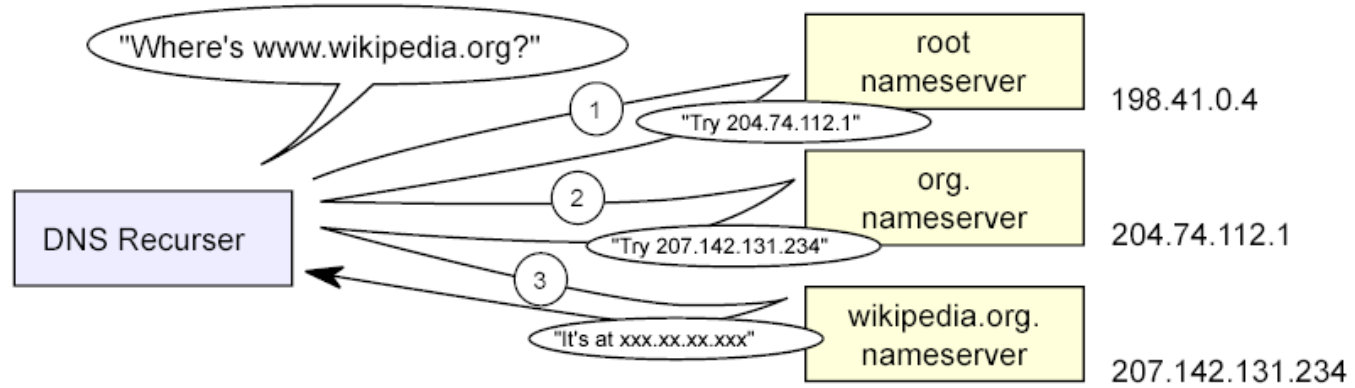
Site Redirection

Mime Types

Domain Pointers

Apache Handlers

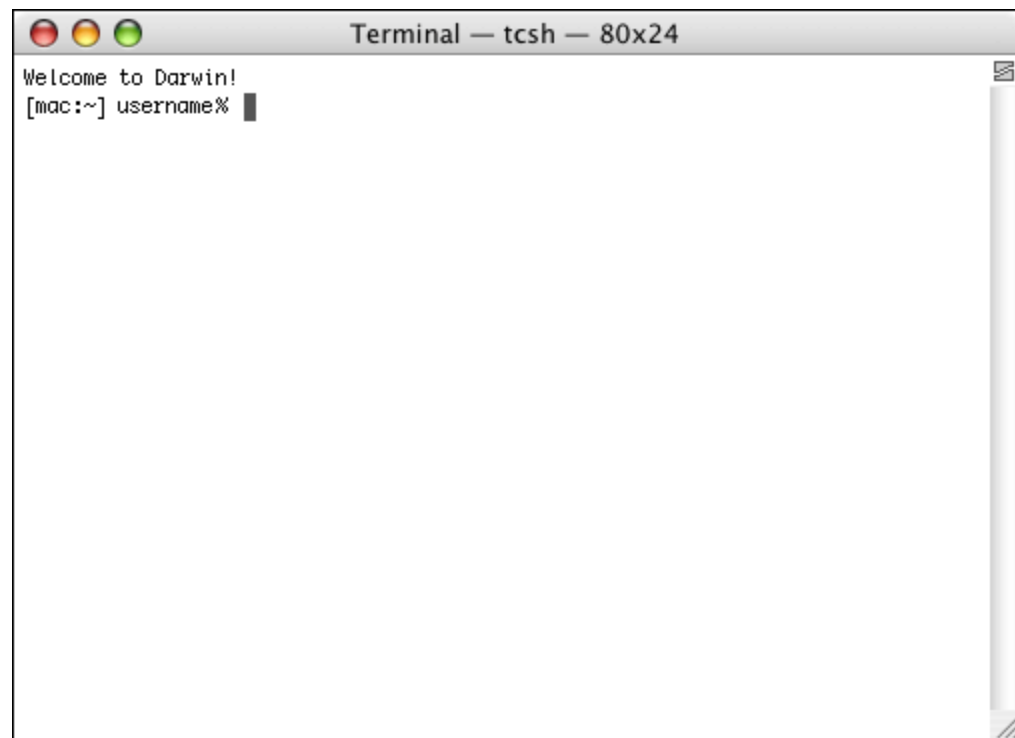
DNS



DNS

- A
- CNAME
- MX
- NS
- ...

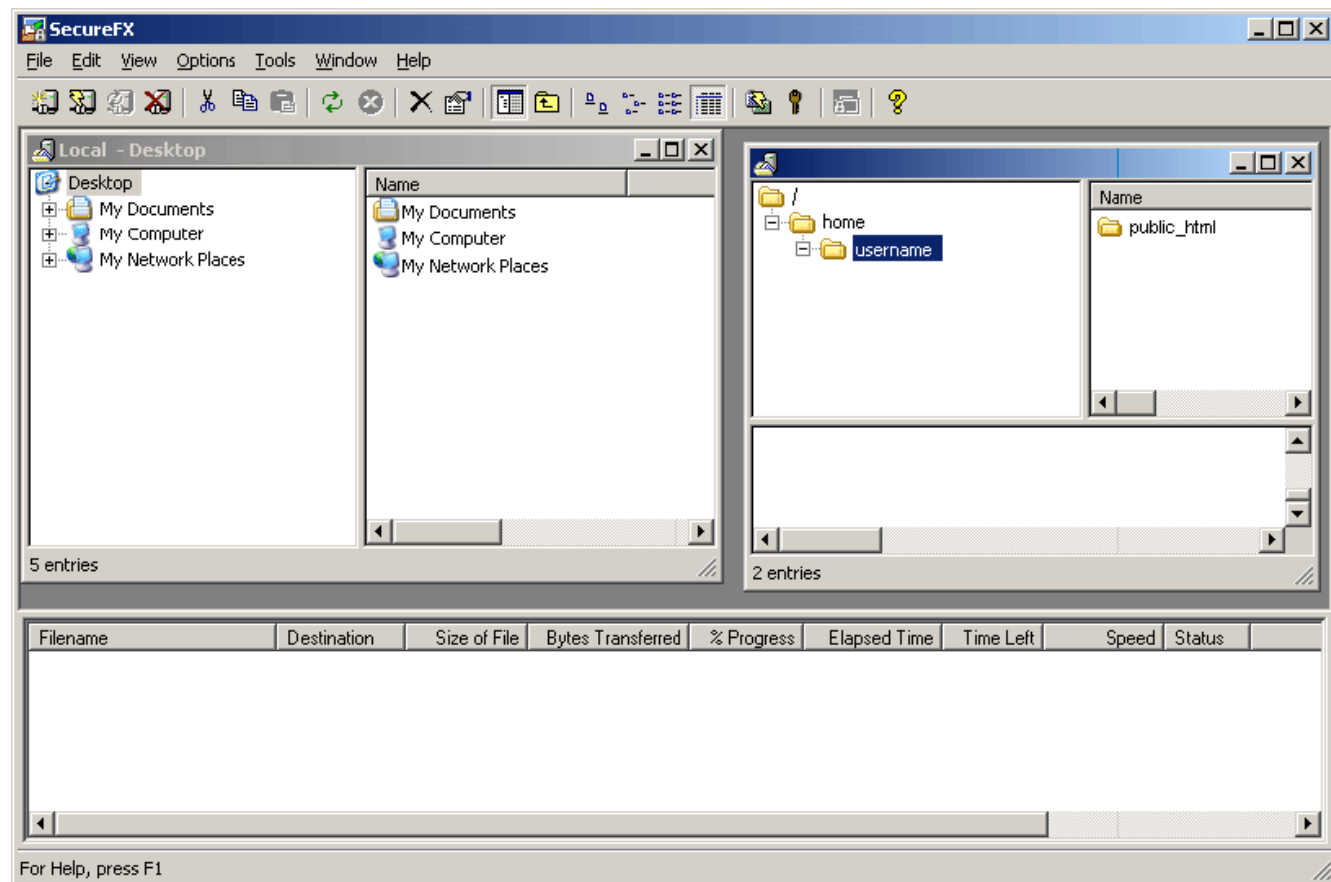
SSH



SSH

- cd
- chmod
- cp
- emacs
- ls
- mkdir
- mv
- nano
- pwd
- rm
- rmdir
- vim
- ...

SFTP



Prerequisites

- Prior programming experience in any language and familiarity with HTML are assumed

Expectations

- Attend or watch all lectures
- Implement five projects

Lectures

- Lecture 0: HTTP
- Lecture 1: PHP
- Lecture 2: PHP, Continued
- Lecture 3: XML
- Lecture 4: XML, Continued
- Lecture 5: SQL
- Lecture 6: SQL, Continued
- Lecture 7: JavaScript
- Lecture 8: JavaScript, Continued
- Lecture 9: Ajax
- Lecture 10: Ajax, Continued
- Lecture 11: Security
- Lecture 12: Scalability



Sections

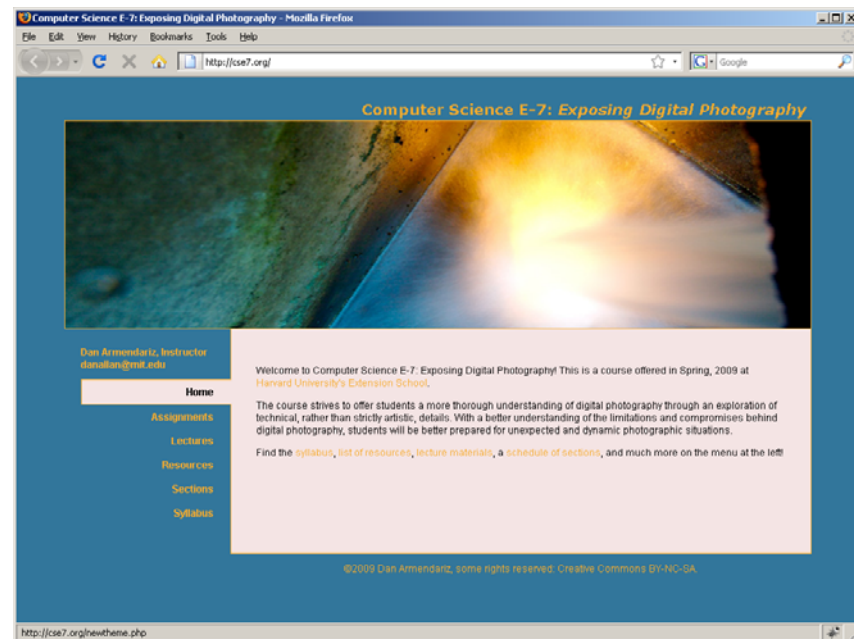
- To Be Announced

Projects

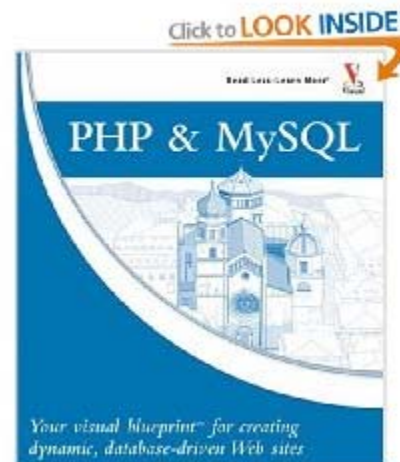
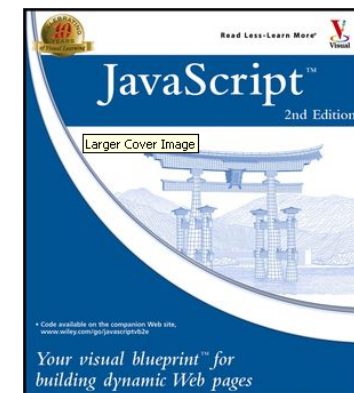
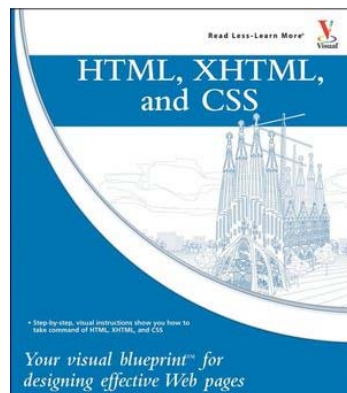
- Project 0: Setup
- Project 1: PizzaML
- Project 2: C\$75 Finance
- Project 3: Google Mashup
- Final Project

Computer Science Fair

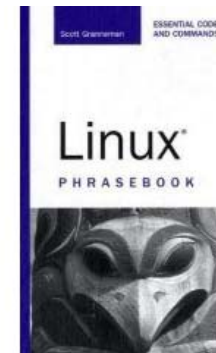
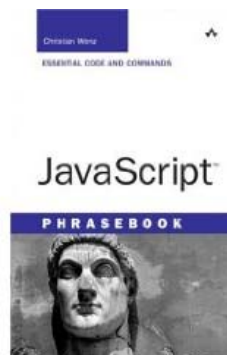
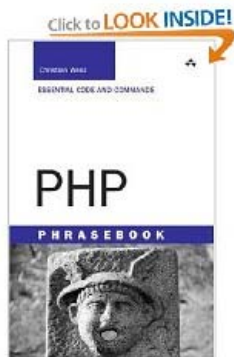
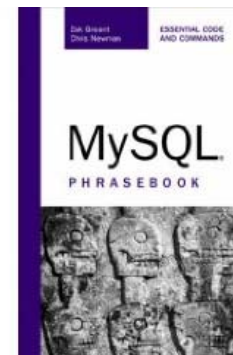
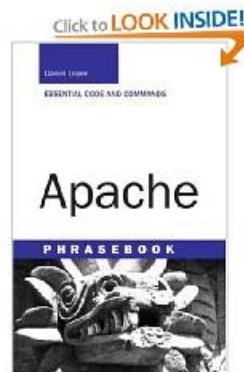
Monday, 18 May 2009, 6:30 p.m. – 8:30 p.m.



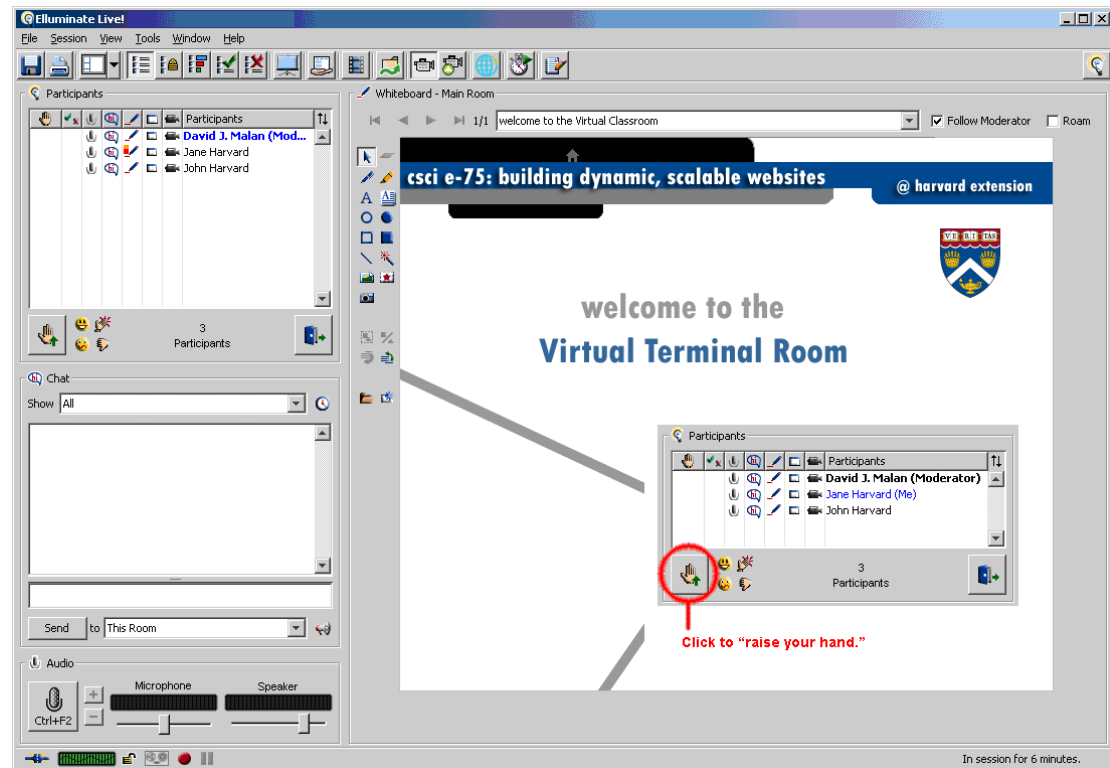
Books for Those Less Comfortable



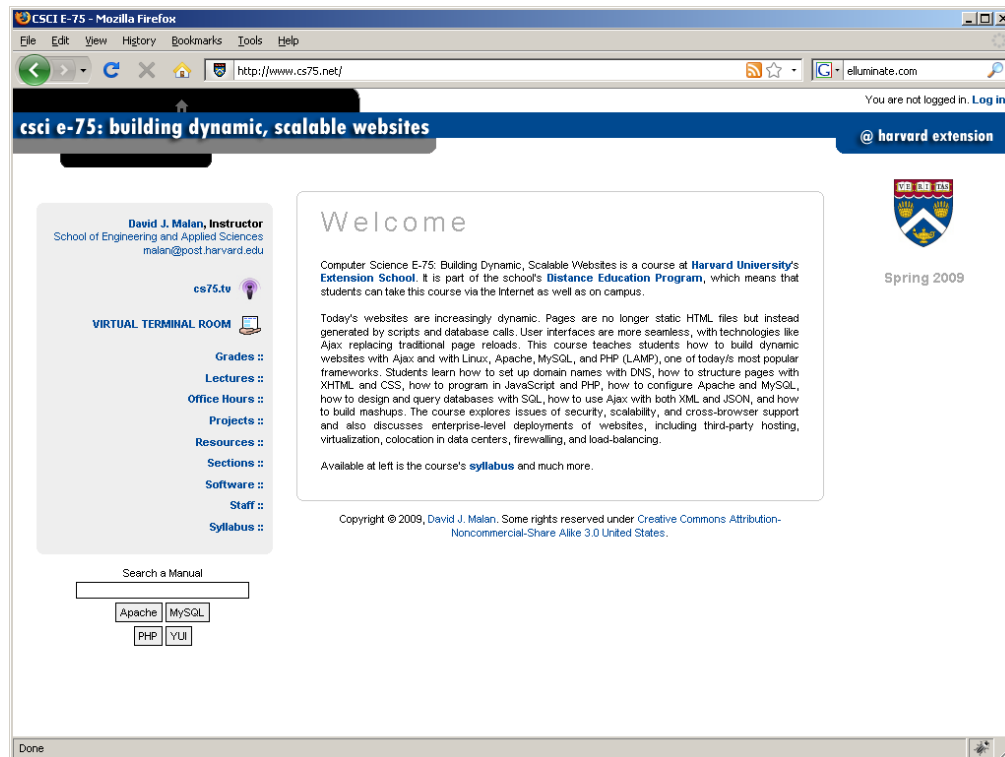
Books for Those More Comfortable



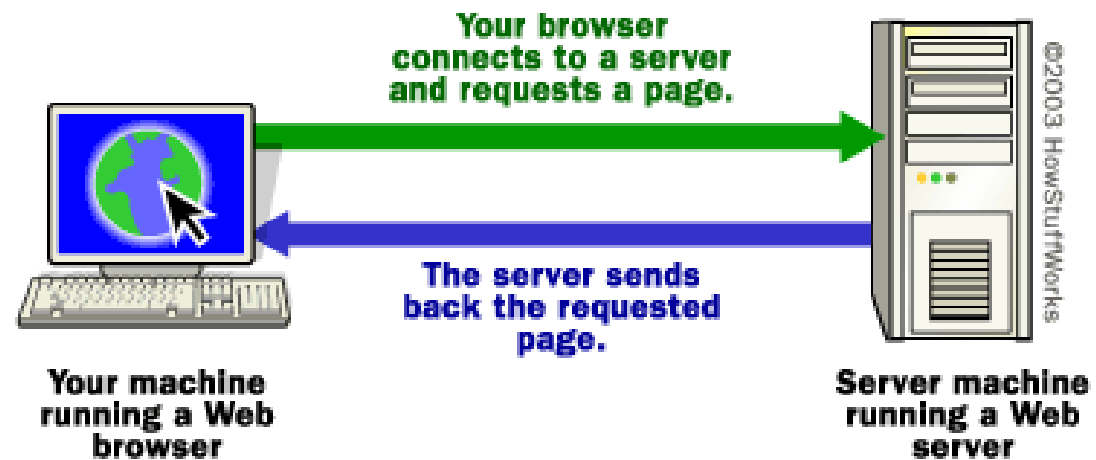
Virtual Terminal Room



www.cs75.net



HTTP



XHTML

```
<!DOCTYPE html  
  PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<html xmlns="http://www.w3.org/1999/xhtml">  
  <head>  
    <title>hello, world</title>  
  </head>  
  <body>  
    hello, world  
  </body>  
</html>
```


CSS

```
<!DOCTYPE html
  PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <style type="text/css">
      <!--
        body { background: #fff; }
      -->
    </style>
    <title>hello, world</title>
  </head>
  <body>
    hello, world
  </body>
</html>
```

CSS

```
<!DOCTYPE html
  PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <link href="styles.css" rel="stylesheet" type="text/css" />
    <title>hello, world</title>
  </head>
  <body>
    hello, world
  </body>
</html>
```

Validity

- XHTML

<http://validator.w3.org/>

- CSS

<http://jigsaw.w3.org/css-validator/>

Cross-Browser Issues

- Firefox
- Internet Explorer
- Safari

<http://browsershots.org/>

Yahoo! UI Library (YUI)

- YUI Reset CSS

<http://developer.yahoo.com/yui/reset/>

- YUI Fonts CSS

<http://developer.yahoo.com/yui/fonts/>

YUI Reset CSS

```
<!DOCTYPE html
  PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <link rel="stylesheet" type="text/css"
      href="http://yui.yahooapis.com/2.5.2/build/reset/reset-min.css" />
    <title>hello, world</title>
  </head>
  <body>
    hello, world
  </body>
</html>
```

YUI Fonts CSS

```
<!DOCTYPE html
  PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <link rel="stylesheet" type="text/css"
      href="http://yui.yahooapis.com/2.5.2/build/fonts/fonts-min.css" />
    <title>hello, world</title>
  </head>
  <body>
    hello, world
  </body>
</html>
```

Forms

- Text Fields
`<input name="email" type="text" />`
- Password Fields
`<input name="password" type="password" />`
- Hidden Fields
`<input name="id" value="123" />`
- Checkboxes
`<input checked="checked" name="remember" type="checkbox" />`
- Radio Buttons
`<input name="gender" type="radio" value="F" />`
`<input name="gender" type="radio" value="M" />`
- Drop-Down Menus
`<select name="state">`
 `<option value=""></option>`
 `<option value="MA"></option>`
 `<option value="NY"></option>`
`</select>`



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