

Web Development From the Ground Up, a Series for Novice Computer Users

Lecture 2

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Lecture Website:

<http://famousphil.com/09web>

Got a quick question?

I'm outside NSC225 WF from 3:10-3:50pm

(Check my calendar/email me to verify, I occasionally cancel)

Recap

- In the Last Lecture, We covered the following
 - What is a browser
 - What does HTML look like
 - How to transfer files to/from the server
- This Lecture will:
 - Cover how to edit files in VIM / Pico / Gedit (5-10 min)
 - Aside: Cover using sftpdrive (now expandrive)
 - Enabling your UB webspace (5 min)
 - Cover DNS and Domain Registration (10 min)
 - Cover types of hosting (10-20 min)
 - Start useful HTML Tags and CSS tricks for Photoshop (5-10 min)
 - Google PageRank Explanation... (5 min)
- Next lecture will:
 - Cover Photoshop CS4 and begin creating HTML from PS
 - Cover more advanced CSS/HTML
 - Begin PHP Development

Editing files live on the server

- Amendment – public_html is where all web based files are located on the server when logging into sftp / ftp
- Using a program like sftp drive might help
 - maps a remote Linux drive to a Windows drive.
 - not free
 - quick demo using sftpdrive
 - It is now expandrive at <http://www.expandrive.com/windows>
- Live demo
 - Using pico, nano, vim via putty and ssh
 - SSH command list (I made it for CSE116) available at:
 - Slideshow on Linux Commands (For your own benefit)
 - <http://www.cse.buffalo.edu/~pjm35/ta/116/linuxhelpV2.pdf>
 - Summary of Commands from slideshow (Word / PDF)
 - <http://www.cse.buffalo.edu/~pjm35/ta/116/CSE116UnixCheatsheet.doc>
 - <http://www.cse.buffalo.edu/~pjm35/ta/116/CSE116UnixCheatsheet.pdf>

Enabling your UB Web Space

- Login to: https://ubfs.buffalo.edu/cgi-bin/ubfs_activatepersonalwebsite.cgi
 - Activate your webspace
 - A public_html directory will show up on your s: drive on any CIT public computing site computer
 - All web files will go into this directory
- Access to your public_html directory elsewhere:
 - Use FTP / SFTP: host: ubunix.buffalo.edu and use your ubit name and password

UB Web Space Comments

- Does NOT support PHP
 - <http://www.acsu.buffalo.edu/~pjm35/hello.php>
 - php code is between <? ?>
- If you have a club website, PHP is supported.
 - Oracle is the main database server
 - Oracle is much more efficient
 - Downside: oracle costs thousands of dollars
 - MySQL is free and is widely used with PHP applications
 - I have not yet had the opportunity to work with oracle
 - This series focuses on MySQL which is not supported by the central web server team
 - MAKES NO SENSE!

Get CSE webspace

- The CSE department at UB offers space on `cheshire.cse.buffalo.edu` for PHP development.
 - I'm not sure if non CSE students can get this
 - its worth a try – email `cse-consult(AT)buffalo.edu`
 - Sites show up at `www-student.cse.buffalo.edu/~user`
 - `Tethys.cse.buffalo.edu` is the MySQL server.
 - IEEE possibly will be using tethys for its database in the upcoming months.
 - We also may be migrating to non university hosting
- CSE webspace can be insecure
 - If you put PHP code on your student space, your code will show if you goto www.cse.buffalo.edu/~user/script.php
 - Not sure if this has been fixed yet, I asked last semester

Get Real Web Hosting!

- This is perhaps the best solution.
- This will cost anywhere between \$20 - \$160 / year depending on who you go with and what you get

Choosing your Domain Name

- Domain Name - your identity on the Internet (eg. Famousphil.com)
 - Choose a name that you want!
- Types of TLDs (Top Level Domains)
 - .com – commercial / business – networksolutions.com owns the backend (might be outdated)
 - .net – network related websites
 - .org – organization – Student clubs might want to choose this
 - .edu – educational
 - .gov – government
 - .us – Located in the United States
 - .ca – Located in Canada
 - .mobi – mobile access – as of 2006
 - .me – personal websites – as of 2008
 - others
- Generally, you will Purchase your web address through a registrar
- Trademark owners and Corporation owners have to approve a name be registered by you if you attempt to take a registered trademark as your domain name
 - retreadproducts.com example

A bit about Registrars

- GoDaddy.com is a decent registrar (\$8/year)
 - **GODADDY IS A HORRIBLE WEB HOST- DO NOT BUY HOSTING FROM THEM!!!! YOU WILL REGRET IT!!!**
 - Godaddy has a decent DNS hosting service that comes free with domain names
- **If you want advanced DNS features with a super easy to use interface**
 - **use DNSExit.com (\$12/year) as a registrar**
 - **I recommend this service strongly even for regular domain registrations, even though it does cost a bit more. They are fast and don't push other services on you.**
 - **They don't host websites so they won't try to get you to host with them!**
 - **No ads!**

Registering your Domain Name

- Public Registration
 - Your details are accessible by a whois search (www.whois.net)
 - Cheaper
- Private Registration
 - Your details are kept private and a corporation that provides this service will put their contact information in the public whois records, they will forward all administrative information to you
 - Usually \$5-10 per year extra
- Your contact information **MUST** be up to date!
 - Used for trademark / copyright concerns.
 - I have never been contacted by someone who randomly found my whois. I have also never gotten telemarketing calls as a result of my whois information. I have gotten occasional marketing emails from businesses wanting to promote my domain
 - Cover email I got Wednesday from ICANN
 - » (Internet Domain Name Authority)

Domain / Hosting tips

- During domain registration, you will be asked to enter either name servers or parked name servers
 - usually provided free by your hosting company
 - More details next slide
- Some registrars will ask if you want to host with them, be careful!
- Some hosting companies will offer a free domain registration with hosting.
 - Remember, with some hosts, if you don't like the hosting, you may end up losing your domain registration or have to pay a huge fee to get it back. This is why it doesn't hurt to register your domain with another entity.

Name Servers On the Registrar

- These are servers that run DNS (Domain Name Services) and are typically ran by your host.
 - These map yourdomain.tld to the server address in TCP/IP V4. Format
 - (Transmission Control Protocol / Internet Protocol Version 4).
 - The internet is running out of IPV4 addresses, this is why IPV6 (a much bigger naming system) has been introduced and will be the new internet standard addressing in a few years. Your host should provide more information about this when the time gets closer.
 - IPV4 address looks like: 67.220.192.165 (famousphil.com)
 - » You can type in 67.220.192.165 into your browser to see this site
 - In the format NS3.MATTHOUSE.US / NS4.MATTHOUSE.US
 - These servers become authorities for your domain and provide all the information regarding your domain so others can find you
 - In dedicated hosting – you have to make ns.yourdomain.tld at the registrar
 - Called Child Name Servers
 - Beyond the scope of this lecture series

Subdomains

- Formatted similar to: subdomain.yourdomain.tld
- Created on your host's DNS server
- www.famousphil.com is a subdomain technically!
 - “www.” Means world wide web and is technically where your home page should exist
 - Most hosts will make famousphil.com and www.famousphil.com load the same page
- <http://famousphil.com/calendar/day.php> and <http://calendar.famousphil.com/day.php> are the same directory in this example.
 - One points to the subdomain calendar, other points to a directory located in public_html
 - Both are acceptable, for Search Engine Optimization (SEO), choose one and stick with it.
 - On CPanel, creating a subdomain makes the appended directory calendar automatically

Hosting Control Panels

- In the hosting industry, all hosts (that I know of) provide some sort of a means to modify your account
 - Includes – Add/Remove FTP, Email, Subdomain accounts
- Types of hosting panels
 - CPanel – Industry Standard! - www.cpanel.net
 - Supports Linux. Windows added this past year.
 - Demo on my private servers as a user
 - Fast to load on servers
 - Plesk (Windows / Linux) – www.plesk.com
 - Demo on Plesk's Site - [Here](#) (auto login as user)
 - Usually slow to load pages
 - Very nice interface!
 - Helm (Windows)
 - Webmin – minimal control panel that is free to hosts
 - www.webmin.com
 - Screenshots on Webmin's site - <http://webmin.com/demo.html>
 - Custom control panels –
 - Godaddy, it is awful, you can't do anything!
 - Dreamhost – Never used it, heard ok stuff about it
 - SSH / Virtuozzo / Parallels – Only in dedicated / Virtualization

Windows or Linux Hosting???

- Unless you need ASP, Cold Fusion, MSSQL, Exchange, or other Windows only hosting technologies, you should use Linux!
- Linux Servers control at least 60% of the internet
 - [From: http://news.netcraft.com/archives/2009/10/17/october_2009_web_server_survey.html](http://news.netcraft.com/archives/2009/10/17/october_2009_web_server_survey.html)
- Linux has better uptime

Better uptime with Linux??

- This is because of updates and stability
 - I performed a Ubuntu Server 8.10 to 9.04 upgrade doing a single reboot (its possible to do it with no reboots but it is tricky). This is like going from Microsoft Windows XP to Windows Vista without rebooting and not changing any applications
 - Updates normally don't need a reboot either.
- There are admins that will argue: If there is a problem, Windows will tell you what the problem is in detail before it becomes a problem, Linux will not tell you there is a problem, you have to discover it on your own!

Disk Space Warnings

- Many hosts will claim “unlimited bandwidth” or “unlimited disk space”
 - Most hosts have Terms of Service contracts with an Acceptable Usage Policy (TOS/AUP) that limits both and / or says that all files must be on the website and linked to publically (preventing hidden links).
 - These resources are not unlimited, there is a physical limit to any service!

Signing up for a host

- You will provide
 - your name
 - website name
 - Contact information
 - Money (normally via credit card or paypal)
- You will get
 - Web space
 - An address to login to your control panel at
 - A support email
 - Name servers to set your domain to – at the Registrar

Recommended CPanel Hosts

- You can probably convince me to host your site or provide you with a sub-domain to play with
 - www.matthouse.us <- my hosting business
- BlueHost – www.bluehost.com
 - Hostmonster (subsidiary of BH) – www.hostmonster.com
 - Hosts a couple million websites – could be more now.
- 3ix – www.3ix.org –
 - Very cheap hosting (\$1/month)- I used them for a long time. Not sure how their support / uptime is now, but it was good a few years ago.

Why do I discourage UB hosting?

- UB hosts on the central web server
 - This server handles the main www.buffalo.edu site!
They lock it down so this site stays up for the long term!
 - Very stiff
 - NO Control Panel!!!
 - 3-6 days normally to have one tiny permission error fixed
 - » Most companies take hours or less!
 - Windows file permissions on a Linux system – Makes managing files / permissions unbearable
 - Suggestions
 - Pay for a professionally hosted website!

Jumping into HTML

- I'm going to come back to more HTML after Photoshop a lot more, but we need some information to understand the Photoshop stuff
- Show: view the source of any webpage in
 - Firefox
 - Google Chrome
 - Internet Explorer 8
 - *Find a view source option in the browser

The `<a>` Anchor Tag

- The href attribute defines the link URL or address.
 - This address can be relative to where the page is , or it can be a full path link including http://
 - For example, if we are at <http://famousphil.com/09web/index.html> and we specify href="lecture1.pdf", it will link to <http://famousphil.com/09web/lecture1.pdf> because we are in the same directory
- **Example:** `Phil's Site`

Dangers of hyperlinks

- Website Example...
 - <http://famousphil.com/09web/hyperlink.htm>

The code...

```
<body>
```

```
<p>
```

```
  <a href="http://www.microsoft.com">Click here to goto Apple!</a>
```

```
  <br />
```

```
  <br />
```

```
  <a href="http://www.apple.com">Click here to goto Microsoft!</a>
```

```
</p>
```

```
</body>
```

Adding an Image

- ``
 - Src = Source of image – This can be relative or an absolute location
 - This came off from IEEE's site... could be <http://wings.buffalo.edu/sa/ieee/images/header2.png>
 - alt = What should the browser place there if it can't find the image
 - If the image doesn't show up or for search engines, this will contain text that the image has on it normally
 - Affects Google page rank (next)
 - self closing tag
 - Padding differences in IE to Firefox will be shown next lecture

Google Page Rank

- Calculations that determine the importance of a webpage
 - Page A links to Page B means Page B is more important
 - Importance of A is factored into this calculation
 - Can't pay to modify page rank
 - Sponsored links or paid links do not help PageRank if Google finds out you paid for the link
 - Page Rank can be modified by Google in exceptional cases
 - Security concerns
- Goal: Get a high PR

Page Rank Tips

- In my experience, single links from multiple other sites increases PR the most
- Make content easy to find on your website!
 - I got burned...
- PR changes every 3 to 6 months in my experience
- PR is generally higher for sites that have been registered for a longer time
- Learning more:
<http://www.webworkshop.net/pagerank.html>