

Internet Education

Understanding the Web

In Jan. 1999 there were forty-three million registered websites. Seven months later in July there were fifty-six million. Today there are over eighty million. *The Internet will change your life*. If you're "take it or leave it" about the web, that's all about to change. If you already find yourself up late clicking links until your fingers fall off, abandon hope now, because the web's about to get even better.

Academy of Web Design's Internet Education class was developed to show people already using the web how they can make better use of the resources available to them, to help them really understand the workings of the internet and it's common terms, and to help them transcend the blissful high previously attainable only from the best chocolate fudge.

Okay, it's not that good.

There's just no beating fudge.

Internet Education provides some useful learning, though. It's a class designed for people already using the internet who would like to sort through all the facts and information available and learn what you need to know for optimum Internet use. What is a cookie? You'll soon know. What is a plug-in, how does it work and which ones do you need? You'll know that, too. You're going to learn what 56K *really* means, how the internet works, how internet security works, and what resources are available for you in your quest to use the internet effectively. It's easier to effectively use something if you understand it. Academy of Web Design's *Internet Education* class aims to teach you about the technology behind the Internet and to educate you about your choices.

After learning about the technology behind the best websites you'll see the finest of all websites, websites that will flat *blow you away*. You want free DSL Internet service? Keep reading. You want to call your friend in Bangladesh and talk for free all day long? Keep reading. Would you like to know about the best sites for finding a job, running a business, buying on-line, or sites that will keep you happy when you're bored? Well... Okay, you talked us into it. *Internet Education* will show you that stuff, too.

You're also going to learn how to find your own great sites by searching the web. Not the frustrating, stumbling through a dark room kind of searching you might be used to. We'll teach you how to really search, how to search so you actually can find what you're looking for. Searching is a skill. You can spend three hours or three minutes looking for something—it's up to you.

The Internet has almost all the answers. You just have to know what questions to ask it.

Ready?

Here Are Some Terms You've Just Got To Know:

HTML

HTML is the basic language that the World Wide Web is written in.

The HT stands for "Hyper Text"—fast text that shoots all over the world. The ML stands for "Mark-up Language". A mark-up language is a computer language that's basically written in plain English. For example, if you were coding in HTML and you wanted to make the background of your web page red, you would write `<BGCOLOR=RED>`.

HTML = HyperText Mark-Up Language.

If you want to see the HTML behind any web page in the Internet Explorer, click on the “View” pull-down menu, then click “Source”. In Netscape click “View”, then “Page Source”. You’re going to learn how to program in HTML later on. As far as programming languages go, It’s easy. You’ll be surprised.

YOUR BROWSER

The browser is a program that runs on your computer. It’s a program just like Microsoft Word is a program. Netscape Navigator and Internet Explorer are the two most famous browsers. There are others, but I bet you don’t know anybody who uses them.

So, what do the browsers do? Basically, they read HTML. The browser is your HTML interpreter. It reads the HTML as it comes into your computer and shows you color, text, and pictures. This is why the internet works just as fine on a PC as it does on a Mac. The computer itself isn’t reading HTML, the program on the computer, the browser, is the one reading incoming code. The browser has a few other tasks, it also helps to handle data downloads, among other things.

If someone asks you where you get your Internet service from, you’re not going to say “Netscape”. Remember that the Browser is just a program that sits on your computer and helps you to see the Internet as it comes over your phone line.

By the way, browsers are free. They can and should be updated regularly to make sure that they understand and can make use of all the new developments the Internet has to offer. Newer browsers also have added security measures and actually make web pages download faster. Each new browser version is called a “generation”, so Internet Explorer 4.0 is a fourth generation browser. As a web designer, it’s important to know that there are differences between browsers because different site users will be using different browsers to view your page. Don’t worry about the differences now, you’ll learn easy ways to deal with that stuff later.

You can get the Internet Explorer and it’s updates at:

www.microsoft.com/windows/ie/default.htm

You can get Netscape and it’s updates at:

www.netscape.com/computing/download/index.html?cp=hom09tdow

THE INTERNET SERVICE PROVIDER

Your Internet service provider, often referred to as an “ISP” by people who like initials, is the company you pay every month for Internet service. America Online is probably the most famous off all the Internet service providers.

Your computer receives Internet information from your ISP, which is most likely hooked up to the “backbone of the Internet”. The backbone of the Internet is a bunch of bundled wires that provide massive amounts of data at high speeds. The ISP shuttles off some of this data carrying capabilities to you, thereby giving you Internet service.

SERVER

You’ve probably heard the term “server”, probably in conjunction with “the server is down” or “the server is ruining my life!” Do you know what a server is though? A server is a computer, just like the one on your desk. Well, not *just* like it. A server is much more expensive and built to handle a huge amount of information at one time. The server is a main computer that “serves” or gives out information to other computers. Websites are kept on a server and are accessed remotely by individual users.

HOSTING SERVICE

Unless you own your own server to keep your website on, you'll rent space on a server from someone who already owns one. This company will keep or host your site for you. They are referred to as a hosting service. There are literally thousands of hosting services. A good listing of hosts is kept at:

www.microsoftwp.com/wppsearch/ or www.hostindex.com/

Things to Learn:

How does the Internet work, anyway?

Okay, you're sitting at your computer and you type "www.awdsf.com". The Academy's website pops up on your screen. What just happened? The web pages aren't just floating around in "Cyberspace" Here's a basic outline of what happens as you request a webpage:

1. Your request for a web page is sent to your ISP, or Internet Service Provider. Sadly, the term "www.awdsf.com" doesn't mean much to a computer. That address needs to be transformed into a number, like a telephone number, so you can connect with the server hosting the web page you wish to see. The "phone-number-like" number is called an IP address. You've seen an IP address if you use the Internet Explorer. When you connect with a site, if you quickly look to the lower left corner of the screen, you'll see something like: "Connecting to 63.193.113.44 ". That's the IP address for the website you're looking for. The web address that you typed has just been translated to an IP address at your ISP by a computer called a DNS computer. Again, an IP address is kind of like a phone number, and it tells your ISP where to send your request for a specific web page.
2. Your ISP sends your request to the server holding the information you need. Remember that IP address? Well, your computer has one too. That's how the server that hosts the web page knows where to send the information, text, and graphics you need to see the web page you're asking for. So your computer says "I want the HTML for such and such page", and the server says "Here you go!"

Take a second to look at some HTML:

(Netscape: View→ Page Source, Internet Explorer: View→ Source).

Do you see any pictures? No? Good. That's 'cause there aren't any. The pictures are referenced, though. A HTML code says "Put this picture here." Your browser reads that request and then asks the main server to send it down. The requests go back and forth until the whole web page is sent and received. That's one of the reasons a web page doesn't pop up all at once, it's making more than one request for each page. Each request is called a "hit". The term "hit" has been used to mean site visits, but that isn't what it means. One page could have 20 graphics on it, and would constitute 21 hits, the HTML and the 20 graphics. Beware of sales people claiming thousands of hits!

Why does line speed matter?

Line speed affects your total Internet experience. It's all about waiting, folks. The faster your line speed, the less time you wait for web pages and data to load. Searches happen faster and the Internet provides a less frustrating experience. Business that use the Internet to transfer large files are most effected by line speed, but as the Internet moves into different aspects of our lives, line speed will become more important to everyone. When we all watch TV over the Internet—it will happen—our line speed will have to be fast enough to carry the massive amount of data needed to provide us with moving pictures and sound. At The Academy of Web Design SF we employ high-speed DSL lines (discussed below). However, most of the sites featured in Academy of Web Design's Internet Education class are easily viewed on a lower speed modem.

What does “56Kb” mean, and what does my modem do, anyway?

To answer this question, we must delve a little bit into how computers work.

Computers communicate in what’s called a binary language. “Bi” means two and “nary” means number.

Computers basically have only two choices in their language, 0 and 1. In English we have our alphabet, twenty-six symbols with which we make up our language. The only symbols your poor old computer has in its language are zero and one. With these zeros and ones, the computer makes up codes. For example, if you hit the “A” button on the keyboard the computer registers “0000001”.

A zero or a one is called a “BIT”—like a little bit of information. (BIT is actually an acronym for Binary Digit, but it’s not really important that you remember that. Some people just like to know everything.)

Again, a zero or a one is called a BIT.

Ready for some more information? Eight bits equal a byte. Bit and Byte, cute, huh? Munch, munch.

You’ve probably heard of a Megabyte. Mega stands for million, so a megabyte is a million bytes, or eight million bits. That’s a lot of zeros and ones. Megabyte is usually abbreviated “MB”. The capital “B” denotes bytes. A small “b” would have meant bits. MB stands for megabytes, or a million bytes. Mb stands for megabits. GB stands for Gigabytes or a billion bytes and KB stands for Kilobytes, or a thousand bytes. So, what does 56Kb stand for? 56k directly translates to Fifty-six thousand bits. If you have a 56K modem, your computer can take in fifty-six thousand zeros and ones every second.

Aside from taking in a bunch of bits, what does your modem do? A standard modem helps your computer communicate over regular phone lines. Standard Internet traffic shares phone lines with people talking. The voice bandwidth carries an analog signal. An analog signal is a signal that travels in a wave, like a sound wave or a light wave. A standard dial-up modem translates your computer’s digital signal into an analog signal so the information can be sent over a standard line. The modem also interprets incoming analog signals and converts them into digital signals your computer can use.

Microsoft, public servants that they are, have a website that will measure your download speed for free. It’s located at:

<http://computingcentral.msn.com/topics/bandwidth/speedtest500.asp>

What are my line speed options?

Standard Modem: Up to 56Kb

Federal Law limits the speed of Internet traffic that one computer can create over normal analog phone lines to 54k. The government wants to make sure that phone lines don’t become congested with Internet traffic, cutting into our ability to communicate with each other. Most new computers come with a 56K modem. Almost all Internet service providers provide 56K service, some for free! You can upgrade to a 56K modem for as little as \$25.00 (current prices).

DSL (Digital Subscriber Line): Up To 1.5Mb, 384Kb For Home Use

The hottest new thing is DSL. A DSL Internet line uses a different bandwidth on the phone line you already have. Instead of sharing space with the analog voice waves a DSL modem sends digital signals over a different part or bandwidth of the same phone line. This means that home users can use the Internet and talk on the phone at the

same time with only one line! On top of that, a DSL line is always on. Never again will your home be invaded by the evil modem screech of death. Most home DSL users can sign on at 384Kb, almost seven times as fast as with a 56K modem. The first time you speed click through twenty websites in the time it used take you to log on, you'll know something is different. DSL Internet service is more expensive for most users. It usually runs about fifty dollars a month, including Internet service. The cost can be offset, though. Considering that many people have two phone lines, one for the Internet and one for voice, when you take into account that a DSL line can eliminate the need for an extra phone line, most people can spend as little as ten dollars more a month and get Internet service seven times faster!

Do the Math:

Normal Service: \$20/mo (phone line) + \$20 (extra phone line) + \$20.00 (Internet service) = \$60/mo

DSL Service: \$20/mo (phone line) + \$40/mo. (DSL + Internet service) = \$60/mo

There is a catch, of course. You normally have to buy a special DSL modem and a network card (\$100-200). Some companies offer a free modem and installation with a service commitment, though.

Business DSL is available at up to 1.5Mb/sec. The cost, usually around \$400/mo, is higher than home service, but is still a bargain when compared to other high-speed options.

DSL links:

www.pacbell.com/products/business/fastrak/dsl

www.flashcom.com

Cable Modems

You can also receive high-speed Internet access from your cable TV network. With speeds usually falling around 400K, cable modems can download data in seconds that might take *days* with a standard dial-up connection. Because it works with your existing TV cable, it doesn't tie up a telephone line. Cable internet service does have it's drawbacks. Unlike DSL, cable service is not a guaranteed speed. The more people using it the slower it goes... Cable modems usually run about \$40/mo, including Internet service. Sadly, cable service is not yet available in San Francisco, but is available in other bay area locations.

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

T-1 & T-3 Lines

A T-1 line is an expensive super high-speed alternative usually used only by business. Like DSL, a T-1 line is a dedicated connection, meaning that it is permanently connected to the Internet. It is possible to lease only a portion of a T-1 line. You can lease them in blocks ranging from 128 Kbps to 1.5 Mbps. A T-3 line is significantly faster, at 45 million bits per second. The backbone of the Internet consists of T-3 lines.

ENTERTAINMENT AND MULTI-MEDIA—THE FUTURE OF THE NET

Things to Learn:

What is Streaming audio / video and why is good?

Streaming is a technique used for transferring data, usually video, animation or sound. Instead of waiting for the whole file to download before it starts playing, sites that utilize streaming can start showing you the video or playing the sound the second that data starts “streaming” into your computer. As the Internet grows, streaming technologies are becoming increasingly important because most users do not have fast enough access to download large multimedia files quickly. To view websites that utilize streaming you might need to download a special program called a plug-in, discussed below.

What is a plug-in and which ones do I need?

A plug in is a program that works with your browser (Netscape or Internet Explorer). A plug-in connects or “plugs-in” to your browser and helps the computer to understand special kinds of data. Plug-in’s allow you to do things that the browser itself is not capable of doing, like viewing multimedia files. If a page needs a plug-in to work correctly usually it’ll let you know. You’ll get a message saying something like “this page requires ‘Plug-in Brand X’. Would you like to download the plug-in?” Some plug-in’s will automatically install themselves. Others need to be downloaded and installed like normal programs.

Necessary Plug-Ins. These Are the Ones You’ve Just Got To Have:

Before you go downloading these plug-in’s you may just want to make sure that you have the newest version of your browser. Most of the new versions come with the below plug-in’s.

THE FLASH PLUG-IN

Allows viewing of 2-D and 3-D Director and Flash animation files, which are very popular on the Internet. Flash sites are heavily animated and interactive, and are the beginning of the second real evolution seen on the Internet. According to Macromedia, the company that makes Flash, over 90% of Internet users have the Shockwave plug-in. Shockwave is a free and fast loading download that comes included in newer versions of Netscape and Internet Explorer.

http://www.macromedia.com/shockwave/download/index.cgi?P1_Prod_Version=ShockwaveFlash

REALPLAYER

Every day, millions of people enjoy live and on-demand audio and video with the RealPlayer. RealNetworks is the leading developer for Streaming Media software. RealSystem software is used to deliver content on more than 85% of all Streaming Media enabled Web pages. Currently there are over 60 million unique registered users of the RealPlayer. This Multimedia Player is free and is one of the more popular plug-ins on the web. Real offers a \$29.99 version of the RealPlayer, but most people can get by just fine with the free version even if you have to hunt around some on Real’s site to find it.

www.real.com

QUICKTIME

Quicktime is pretty much the same as the Realplayer, but is preferred by some content providers. Consequently, you need it too. Each time a new version of Quicktime and the Realplayer come out they've improved the way the Plug-in can stream sound and video. Fickle developers often switch back and forth between the Realplayer and Quicktime depending on which format works best at the moment.

<http://www.apple.com/quicktime/>

ADOBE ACROBAT VIEWER

Adobe Acrobat Reader is free software that lets you view and print Portable Document Format (PDF) files. Almost any document can be saved as a PDF file, allowing people access to files they don't have the corresponding program for. Example: people without Adobe PageMaker can view PageMaker files in PDF format. Acrobat Reader also lets you fill in and submit forms online. Among companies currently utilizing Adobe Acrobat forms is the IRS, who lets you fill out and submit PDF forms online.

www.adobe.com/prodindex/acrobat/readstep.html

What is file Compression and what am I supposed to do with this .Zip file?

What can you do with those huge files to make them smaller? Compress the file and make it smaller!

You've just downloaded a file off of the Internet. It has an extension like ".zip" and you can't seem to make it work. What's going on? Well partner, you've got yourself a compressed file. You need to uncompress it.

You've got a folder full of things that you want to e-mail. Your e-mailer only lets you attach files one at a time. Or maybe you've got a four-megabyte file and your e-mail only allows for a three-megabyte attachment. Compression can solve both of your problems. You can compress, or "zip" multiple files into one file, to be uncompressed later. If you compress a four megabyte file chances are that it'll shrink down small enough for your three megabyte server to allow the file.

Compression software uses complex mathematical equations to scan a file for repeating patterns in the data. It replaces the data with smaller codes that take up less room. For example, one way compression software works is to replace repeating text characters with a code. When compressing a picture file, compression software would find all of the red pieces, for example, and replace them with a code.

The most popular file compression software for PC's is WinZip. You can use WinZip to compress and uncompress any type of file. Compressed WinZip files have a ".zip" extension. To uncompress a zipped file, just double click it. WinZip will automatically open and uncompress the file for you. WinZip is free and is available for download at:

www.winzip.com

A file that has been zipped has an icon that looks like:



Compressing a file with WinZip can be confusing. Here are some handy directions for you:

INSTRUCTIONS TO ZIP (COMPRESS) A FILE OR FILES

- 1) You can select more than one file by Ctrl clicking them. Right Click the file, files, folder, or folders that you want to zip.
- 2) Choose "Add to Zip"

- 3) Choose "I Agree".
- 4) Make sure "Recurse Folders" is clicked. This will leave your original file or folder alone and make a zipped copy.
- 5) Under "add to archive", Click New. (each zip file is considered an archive)
- 6) In the Create In window, click down and select desktop.
- 7) Name your file. This is what the zip file will be named.
- 8) Click OK
- 9) Click ADD

You'll now have a new zip file on your desktop. That's it!

MAC Compression

The most popular compression software for the MAC is Stuffit, made by Aladdin Systems. WinZip will not open a file that has been "Stuffed". If PC users are trying to open a file that their friend the MAC user has sent them they will need to get the Stuffit Expander, available for free at:

www.aladdinsys.com/expander/expander_win_login.html

MP3. What's all the Hubbub?

MP3 is a type of compression shrinks audio files in such a way that sound quality is preserved, but the file size is significantly smaller than it would be as a regular CD song file. MP3 allows you to download and stream near-CD quality music and audio from the web. MP3 works by, among other things, removing all sounds that are inaudible to the human ear. This means you're able to stream music directly into your computer and out your speakers or you can download an entire song in only a few minutes with a slow modem. After that, you can play the song instantly—as many times as you want—regardless of your modem speed!

MP3's are often abused to illegally publish copywritten music, but MP3's themselves are not illegal. MP3's can be played on the Real Player or embedded into a Flash based website.

Viruses. What are they, how do they work, and how you can foil their evil schemes.

A virus is the computer equivalent of keying your car or throwing a brick through your window. Viruses are programs written to mess with you and make your life miserable. According to statistical information presented at the 1994 Virus Bulletin Conference in Jersey, Channel Islands, most people who write these programs are 17-26 year old males. Too much testosterone, not enough direction, I guess.

Some viruses are silly. The Wazoo virus, for example, works with Microsoft Word. Every time you hit the "W" key, the computer types "Wazoo". Most viruses are not that nice, though. Many viruses target your hard drive, completely erasing it. Good morning, ALL your stuff is gone. Viruses have been known to spin your hard drive in such a way that creates enough frictional heat to set your computer on fire. If your plastic computer catches on fire, what do you think is going to happen to your pressboard desk—and your house if you're not around?

You can get a virus in a couple of different ways. You can download one off the Internet. The virus could come attached to any file. There have been known instances of established companies with viruses attached to their

downloadable files, unbeknownst to them. You can also get a virus by saving a file on a floppy disk. If that computer has a virus, usually the Virus will secretly save itself to the disk. When you put the disk in a new computer the virus will offload itself, infecting the new machine. Viruses can be hidden in attached e-mail files, too, but you can't get a virus from just looking at an e-mail. You have to purposely download an attached file.

Now, you could decide never to download anything from the Internet, but you won't really be able to avoid it in the future and you're probably going to have to share floppy disks sooner or later, anyway.

You need a virus checker. It's not optional. You flat need one. Virus checkers are programs that, well... check for viruses. They scan downloads and files going into your computer for recognized viruses or instructions that may be new viruses. The virus checker needs to be updated periodically in case any new viruses have been found. The most popular programs can be set up to update themselves automatically while you're on the web. The top two virus checkers are Norton Anti-Virus, by Symantec Systems, and McAfee Anti-Virus. They can be found for around \$20.00.

www.symantec.com

www.mcafee.com

EFFICIENT SEARCHING—FIND WHAT YOU WANT TO FIND

Things to know:

Search Engines vs. Directories and **Hybrid Search Engines**

How a search engine works

SPIDERS

Search Engines employ a program called a spider, also called a crawler. The spider visits a web page, reads it, and then follows links to other pages within the site. The spider, depending on what type of search engine it's working for, can record the just the title, the whole home page, or the whole web site. The spider returns to the site on a regular basis, such as every month or two, to look for changes.

INDEX

Everything the spider finds goes into the second part of the search engine, the index. The index, sometimes called the catalog, is like a giant book containing a copy of every web page that the spider finds. If a web page changes, then this book is updated new information.

SEARCH ENGINE SOFTWARE

Search engine software is the third part of a search engine. This is the program that sifts through the millions of pages recorded in the index to find matches to a search. The software also helps rank the returns in order of what it believes to be most relevant. This is how a search engine decides what to show you.

How a directory works:

A directory such as Yahoo depends on humans for its listings. You submit a short description to the directory for your entire site, or editors write one for sites they review. The sites are then catalogued into categories, again depending on where the editor decides to put them. A search looks for matches only in the descriptions submitted.

What is a Meta-Search Engine, and why will I use one from now on?

A meta-search engine looks through more than one search engine and simply displays the results. They save you time spent searching different search engines. Their drawback is that they do not display as many results and often the results that are displayed are shown in lesser detail. Some meta-search engines do not remove duplicates either, so you end up with the same page listed a bunch of times.

What is Deep Crawl?

A search engine is said to deep crawl if it records information about a website's linked pages, that is, pages that are not the home page. A search engine doing deep crawls will list many pages from a web site. Other engines will usually list far fewer pages from a site. Current search engines that conduct deep crawls are AltaVista, Google, Inktomi, and Nlight. Deep crawl engines return a lot of extraneous info, but make a good last resort.

Is there any difference in the big search engines?

They are different, as they will clamor to convince you. Sometimes the differences are minimal to the end user. You should become comfortable with a number of search tools. If one doesn't work, you can try another. You can find a comprehensive ranked listing of major search engine reviews at:

www.searchenginewatch.com/reports/reviewchart.html

When searching, here are some tricks to try:

Boolean Operators

Boolean means one way or the other. A Boolean question can only have two answers. Yes or no. Off or on.

Boolean symbols that can be used to aid in searching:

AND: Finds only documents containing all of the specified words or phrases. **Peanut AND butter** finds documents with both the word peanut and the word butter.

OR: Finds documents containing at least one of the specified words or phrases. **Peanut OR butter** finds documents containing either peanut or butter.

Symbols are also used in Boolean searching

+ Inserted without spaces before a word means that word **MUST** be contained in the document. **Peanut +butter** finds documents that may or may not include Peanut, but will always include butter.

- Inserted without spaces before a word means that word **MUST NOT** be contained in the document. **Peanut -butter** finds documents that may or may not include Peanut, but will never include butter.

Quotes (“ ”) inserted around a string of words finds documents with those words right next to each other, exactly like you typed them.

Edit→ Find (Ctrl +F)

Find what you’re looking for in a retrieved page instead of reading the whole dang thing. This trick will save you so *much time!*

Think of words that mean the same thing.

If you can’t find what you’re looking for think of words or phrases that mean the same thing or are related. Make a list. You’d be surprised at what you can find.

Try the URL

Type in `www.”the company”.com` or `www.”the item”.com`. Silly, but it works.

Copy your search terms.

Use Edit→ Copy on your search terms. If your search doesn’t work out you can try looking for the same thing on a different search tool.

Search for a topic specific search engine.

You’ll find your question about anything Filipino easier to answer at www.gsilink.com/gspot/, the official Philippines search engine. There are a number of topic specific search tools out there. Try searching for “medical search engine”.

Ready, Set, Search! Searching sites to checkout

A couple of big guys:

- a) www.yahoo.com
 - i) A human compiled directory
 - ii) The most visited site on the Internet, lots of good stuff.
- b) www.altavista.com
 - i) The largest search engine. Alta Vista utilizes deep crawl, which makes it a good last resort.

Meta-Searchers

- c) www.askjeeves.com
 - i) You can ask questions in plain English
 - ii) Amazing built in database of questions and answers
 - iii) Searches a number of other search engines and displays the results in easy to scan pull-down menus
 - iv) Children's search www.ajkids.com voted best children's search engine by PC Magazine
- d) www.savvysearch.com
 - i) Program Savy search to look through up to 100 search engines that you specify
 - ii) Great resource for finding specific search engines
 - (1) www.savvysearch.com/custom?getcustom=customcategory

Good Search Sites

- e) www.google.com/
 - i) Google is a new kind of hyperlink based search engine. They subscribe to the idea that a link to a site is an endorsement of that site. Google uses a complicated mathematical analysis, calculated on more than a billion hyperlinks on the web, to return high-quality search results so you don't have to sift through junk.
 - ii) Unlike many other search engines, Google tries to return results where your search terms are in close proximity to one another. If you're searching for "Dog pound" You don't want sites that talk about the weight of dogs.
- f) www.go.com
 - i) Go.com's "Search **within** these results" helps you to narrow down your search when you get the dreaded "10 million sites matched your search". You can slowly narrow your search until you are left with only a couple of sites.
 - ii) They list reviewed sites first, trying to find the best sites on the web.
 - iii) Go.com highlights your search terms were found in the website.

Couldn't I just get someone else to do the work?

- g) www.looksmart.com/live/
 - i) This amazing service employs professional web surfers who get back to you within twenty-four hours. They'll answer questions on any subject and will find that hard to find site for you.
- h) www.about.com

- i) Their “experts” have searched the web so you don’t have to! The Mining Co, recently sold to About.com, is a network comprising hundreds of dedicated, topic-specific human experts. They find all the good links and let you know what to try.
- i) www.liszt.com/news (Newsgroups)
- i) Usenet News is the official name of a part of the Internet known as the "Newsgroups", a vast, incredibly varied collection of bulletin boards where individuals post messages and others read them and respond to them. There are currently over 20,000 different newsgroups organized around every imaginable topic. You’d be surprised at how willing some people are to help you out, sometimes at length!
- j) www.chatlist.com/
- i) Ask someone something in real time, or just get to know some folks.

I'll look around if I can get something for free...

- k) www.shareware.com/
- i) Search through more than 250,000 free shareware files and applications

Searching for specifics.

- l) www.usps.com/
- i) Find those pesky zip codes
- m) www.pc411.com
- i) Find business using their name or phone number
- n) www.555-1212.com/
- i) Find people and business using the largest database available, the phone companies! Reverse look-up, too.
- o) www.mapquest.com & www.maps.yahoo.com/py/maps.py
- i) Get Maps and driving directions
- p) www.sportsearch.com
- i) Just sports, baby! The name says it all. Find anything about sports.
- q) www.nytimes.com/library/tech/reference/cynavi.html
- i) This is the page that the New York Times sends their reporters to when they have to look for something. They should know.
- r) www.savvysearch.com/custom?getcustom=customcategory

- i) Mentioned earlier, Savy Search has a great list of useful search tools.
- s) <http://www.learn2.com/>
- i) Learn some stuff, fool! Great how to stuff here. Fix a sink, buy a car.

Free Search Program

- t) http://express.infoseek.com/subdocuments/express_details.html
- i) Go Express Search is an Internet search application that you install on your computer, just like your browser or your e-mail software. It efficiently and simultaneously searches using the best Internet search engines. Go Express Search doesn't just find information for you, it also stores the results on your disk so you can browse them later offline, organizes them in a clear manner and removes duplicates automatically. Go Express Search also has many of the cool features as Go.com, such as the search within results option.

COMMERCE—FASTER, CHEAPER, AND TAX FREE

Do you want to buy stuff on the web or sell stuff on the web? Before you can buy or sell stuff there's some

Stuff you should know:

Can I find deals over the web?

The answer is yes. The web gives you access to purchases that you would have never found otherwise. Using the World Wide Web you can comparison shop like never before, looking in a number of stores in only a few minutes. Net stores can offer deals for many reasons but they definitely have less overhead than as normal stores. They don't have to pay for presentable storefronts or salesmen.

Can I make money on the web?

Also a big "yes". Web storefronts can offer their goods and services to a worldwide client base. People are spending an average of twice as much on line every month. Your unique or specialty products can find their way into buyer's hands with minimal or no advertising cost.

Is buying over the web safe?

There is a fair amount of anxiety about buying over the web. In the early days of web commerce hackers would set up programs to spy on net traffic and copy credit card information if seen. In those early days, credit card information was sent over the web like any other data. The same is not true today. Internet commerce sites use a special kind of coding called encryption to make sure that your credit card cannot be spied on or stolen while in transit. A server, appropriately called a secure server, operates this coding.

The Netscape Corporation has created the best-known secure server technologies. It uses a security protocol called Secure Sockets Layer (SSL), which provides data encryption. A Secure Sockets Layer server also allows everyone in the payments process knows who everyone else is, and can prove it. The cardholder, the merchant, and the acquirer can be fully authenticated.

Both Netscape Navigator and Internet Explorer recognize when you are about to send a credit card online and will strongly recommend against it if the transaction is not secure. Either way, federal law stipulates that you can only be held liable for up to fifty of your stolen credit card dollars.

Of course you should use your own judgment when asked to send a personal check. Just as many mail order scams are perpetrated by convincing victims to send checks, which are quickly cashed, web based scams often use the same technique.

How can I get a website for my business?

FIRST YOU HAVE TO ACTUALLY BUILD THE WEBSITE.

Keep in mind that the way your site looks matters, but so does ease of use. An ugly site will turn away visitors and an engaging one will pull them in. As nice as a site looks, people will quickly turn away if it's confusing or hard to use. Ask to see samples of a designer's work before contracting with them.

- 1) HTML – HTML is the basic language of the World Wide Web. As far as computer languages go it's really easy.
- 2) HTML GENERATOR – There are design programs that allow you to place text, images, and animations on the screen while translating your actions to HTML behind the scenes. These programs save you a lot of time and allow you to see what you're doing while you're doing it. Sadly you still need to know HTML. The Internet develops and grows faster than HTML translators and basic HTML knowledge is still required to really know what you're doing. The most popular of these programs are Macromedia Dreamweaver, Adobe Go Live, and Microsoft Front Page.
- 3) MACROMEDIA FLASH – Flash is the standard for Internet animations and, according to many web designers, the next generation of the web. Flash allows for almost everything that HTML does, but cooler.
- 4) IMAGE EDITOR – If you're going to have a world class website your images have to look good. There are many programs designed to optimize images. Macromedia's Fireworks is designed specifically to make sure web images look as good as possible while having the smallest feasible download time. Fireworks can also create web effects such as split images and Java rollovers. For an example of images optimized with Macromedia's Fireworks visit:

www.discovery.com/stories/science/spacestation/2a1_z1.html

If you're really serious about image manipulation you need to learn PhotoShop. PhotoShop, by Adobe Software, is the big daddy of image editing. The standard for web designers, PhotoShop is also *the* professional photo editor. Take yourself out of the picture like you were never there, or put yourself in. Get rid of the dark circles around your eyes or cover up some trash with a bush. With PhotoShop you can take your priceless thirty-year-old photos that have turned yellow and cracked, and make them look brand new. Get them printed at a print shop for a dollar and hang them on the wall. PhotoShop is definitely cool and is the most powerful image editor you can use, but it takes a bit to get the hang of it. You'd probably be best advised to take a PhotoShop class at a good computer school. Experts agree that The Academy of Web Design SF is a good choice.

Where can I host my site?

You can't just have a website; you have to have it somewhere. The term used for keeping your web site on the web is "Hosting". Sometimes a web site is said to be "parked". It would be unfair to recommend a good host when there are so many available. A good listing of hosts is kept at:

www.microsoftwpp.com/wppsearch/ or www.hostindex.com/

Here come the deals—Commerce on the web

Online Super Stores

- a) www.amazon.com
 - i) The largest of the online stores.

Special Deals

- b) www.accompany.com/ & <http://www.mercata.com>

- i) Aggregate shopping. You team up with other buyers to secure a low bulk price.
- ii) Search or shop by category

Auctions

- c) www.amazon.com
- d) www.ebay.com
- e) www.bytesearch.com/
 - i) Byte Auction will take you to the largest auction meta search on the web

Meta-Shopping

- f) www.mysimon.com
 - i) My Simon searches thousands of on-line stores and shows you the lowest prices.
 - ii) After you search, click on the column head to sort by price, brand, or merchant
- g) <http://www.insweb.com/>
 - i) Comparison shop for auto, life, home-owner's, renter's, and health insurance.

Travel

- h) www.lowestfare.com/
 - i) Rated best online travel agency. Great deals!
- i) www.priceline.com
 - i) Name your own price! They'll get back to you within an hour. You do have to buy it if they find it, though.
 - ii) Priceline has more than travel, but it was rated as an innovative travel tool, so here it is.
- j) <http://expedia.com/promos/hpm/default.asp>
 - i) Like Priceline, but only for Hotels. They have a special hook-in with hotels and can get you some super low rates.

Free Stuff!

- k) www.free.com
 - i) Free stuff!

- l) www.free2try.com
 - i) Free trials and promotions. Take advantage of corporate America!
- a) www.microav.com/
 - i) FREE 56K Internet access from Alta Vista
 - ii) Ads pop up to pay for your access
- m) www.freeDSL.com
 - i) Free DSL Internet service. (There are catches. Make sure you read the agreement)
- n) <http://www2.buttonware.net/index.html?mring>
 - i) Download free programs including ones that speed up your analogue modem

2) Grocery Shopping

- a) www.webvan.com
 - i) Free delivery (for now)
 - ii) ½ hr delivery window
 - iii) Over 26,000 items
 - iv) Priced lower than Safeway's normal prices
- b) www.peapod.com
 - i) \$5.00 delivery
 - ii) next day delivery, 2 hour window
 - iii) 24,000 items
 - iv) Priced lower than Safeway's normal prices
 - v) Can sort by price or fat content
 - vi) You can type in a shopping list. Pea Pod will bring those items up for you.

THE BEST OF BUSINESS—SITES THAT MAKE YOU MONEY

Business Sites to Check out

Below you can find some of the best business sites and services the web has to offer.

****Unless otherwise noted, all the sites listed are free.**

The Stock Market

- i) <http://www.moneywords.com/> or www.motleyfool.com
 - (1) Financial terms explained.
- ii) <http://www.cnnfn.com/>
 - (1) CNN Financial: A top rated investment page. Everything you could look for in an investment. Online brokers, news, money Converter, etc. Watch CNNfn TV in the "Services" section.
- iii) <http://www.ostman.com/alert-ipo/ai.exe?cobrand=ostman>
 - (1) Alert-IPO: Don't you wish you could have got in early on those soaring tech stocks-back when the prices were still in the single digits? Look here to read IPO filings months before the companies in question actually "go public."
- iv) www.pathfinder.com/money/broker/
 - (1) Independent service that automatically recommends an online broker based on your needs and budget.
- v) <http://www.alertweb.com/>
 - (1) Sends you e-mail alert when total portfolio value goes below / above an amount, or total portfolio gain surpasses 50% so that you can rebalance it. Can also send a monthly reminder (e.g. mail the rent). Can remind you of birthdays, anniversaries, or any important event.

Business Resources

- vi) <http://www.smartbiz.com/>
 - (1) One of the Web's best business resource guides. A clear and concise guide to most business topics. Also has a business superstore, trade show information, and many other resources.
- vii) <http://www.lawoffice.com/>
 - (1) Law information online. God forbid that you need a lawyer but if you do, you're better off with a lawyer that specializes in what you need them for. Lawoffice is the largest online database of available lawyers and their specialties. Put in where you live and what you need and out pops a lawyer. Lawoffice.com also helps businesses, professionals and consumers navigate through legal issues that affect their professional and personal lives. An extensive database of materials

covers more than 400 legal topics ranging from business issues, such as commercial, taxation, bankruptcy, real estate and intellectual property law, to consumer-related issues, such as estate planning, health, family and employment law.

viii) www.intershipper.net/

(1) Automatically compares shipping rates between the major carriers. Save a bunch of money!

ix) www.prweb.com

(1) Press releases for your business—free! Used by major corporations in place of thousand dollar services.

x) <http://www.click2send.com/>

(1) Send and receive files up to fifty megabytes.

Personal Business

xi) <http://www.10minuteresume.com/>

(1) Free resume builder and submission service

xii) <http://www.debtconsolidation.com/>

(1) Save lots of money by letting this non-profit organization consolidate your debts and offer you lower interest rates and lower monthly payments

xiii) <http://www.mortgagequotes.com/>

(1) Database of nationwide rates. You put in what you're looking for and the site returns data from over 1500 lenders (so you can find the best deal)

xiv) <http://www.mrwakeup.com/>

(1) Reminder service that includes actual telephone wake-up calls.

xv) <http://www.mytalk.com/>

(1) You call an 800 number and they *read you your e-mail!*

xvi) <http://www.mediaring.com/>

(1) Make *FREE* long-distance calls over the Internet

(2) There are a number of programs that do this, but media ring is judged to be the best.

Government Deals

xvii) <http://www.financenet.gov/sales.htm> & <http://www.treas.gov/auctions/>

(1) FREE information on government sales, auctions, seized properties and unclaimed items. All those great deals you never knew how to find!

xviii) <http://www.fedmarket.com/>

(1) Doing business with the Government

Entertainment Sites To Check out:

Streaming Net Video and Audio

- b) <http://radio.sonicnet.com/>
 - i) Free music on the web. No commercials. Just music in the genera that you like.
 - ii) You can also Mix and match your favorite music to build and broadcast *your very own Internet radio station*. You choose which artists are heard on your station and how often.
- c) www.broadcast.com/
 - i) Live continuous broadcasts of over 448 radio stations and networks.
 - ii) Broadcasts of 65 TV stations and cable networks
 - iii) Sports broadcasts and other programming from over 475 college and professional sports teams
 - iv) Live music, including concerts and club performances
 - v) On-demand music from the CD Jukebox with over 3100 full-length CDs
 - vi) Live and on-demand special interest shows and Internet-only "Webcasts"
 - vii) Over 1,600 full-length audiobooks
- d) www.atomfilms.com/
 - i) Short Oscar winning films and cartoons
 - ii) One of the coolest looking sites around—designed with Macromedia Flash.
 - iii) WARNING some of this stuff may not be for everyone, folks. If you don't watch R rated movies you might want to be careful at Atom Films.
- e) www.shockwave.com & www.macromedia.com/software/flash/gallery/collection/
 - i) Official Shockwave sites showcasing Flash type movies, cartoons, games and websites

What Do You Want To Do Tonight?

- f) www.tvguide.com/ & www.tv.yahoo.com/
 - i) Why buy TV guide when you can get all the information for free on their website?
- g) <http://bayarea.citysearch.com/>
 - i) The answer to the age old conversation:
"What do you want to do?"
"I don't know, what do you want to do?"

- ii) Find local restaurants. Search by genre, rating, and price. Use the restaurant finder at the bottom of: http://bayarea.sidewalk.citysearch.com/San_Francisco/Food_Drink/Restaurants/ **Make sure you select “top picks”
 - iii) Movie listings and reviews. Where is the movie? When is it showing? How much is it? What’s the theatre like?
 - iv) Local Events and Festivals. Never miss that great happening in the park.
 - v) Dance clubs, bars, and concerts. Classical Jazz to techno. Happenings for every age group and personality.
- h) www.kozmo.com
- i) Movie rental delivery service. It’s cheaper than blockbuster and delivery is free. For an extra dollar, they’ll even come and pick the movie up again! Why ever leave your house? You must wear clothes when you answer the door.

I’m Bored. Hey, Mr. Internet, Entertain Me And Give Me Good Stuff!

- i) www.script-o-rama.com/
 - i) Why watch a movie when you can read one? Original scripts and transcripts for your favorite movies, television shows and animated features.
 - ii) Read sequels that never were, first drafts, and parts of your favorite movies that ended up on the editing room floor.
 - iii) It takes about as long to read a movie as it does to watch one. Try it. You’ll like it.
- j) www.imdb.com/
 - i) Internet Movie Data Base
 - ii) The IMDB is the **ultimate** movie reference source and covers everything you could ever possibly want to know about movies. It’s fully hyperlinked both within the database and to thousands of external sites and is updated continuously. Find out anything about any movie. Who’s in it? Who made it? How much did it cost? Anything.

It’s Not Illegal to Look...

- k) www.thegamblersedge.com/
 - i) We’re not telling you to gamble online. That would be illegal in this state. This site is one of the top rated online gambling sites, though.
 - ii) Get gambling tips.
 - iii) Play free games
 - iv) Link to online Casinos. Online casinos usually have you deposit money in an offshore account, which they credit or debit when you win or lose. Check your local regulations before you play anonymously.

- l) www.warez.com/
 - i) Free but (mostly) illegal games, applications, and MP3's
 - ii) Pronounced *wares*, a warez site refers to commercial software that has been pirated and made available to the public via the Internet. Typically, the pirate (also called a *cracker*) has figured out a way to de-activate the copy protection scheme used by the software. Note that the use and distribution of warez software is illegal unless you already own the software and are making one back-up copy for your own use. In contrast, shareware and freeware may be freely copied and distributed.
 - iii) Warez sites are among the most widely proliferated illegal sites. Files from games to applications to pirated music can be found on warez sites.
 - iv) The Academy of Web Design SF is in no way recommending that you download anything from an illegal site. We only point out the existence of Warez in an effort to educate our students. The Academy of Web Design SF also assumes no responsibility for any damage done to your computer or it's files by a virus contained in any downloaded file.
- m) Anarchists Cookbook www.phreebyrd.com/~nero/tacb/
 - i) Scary stuff. How to build a bomb, thermite, whatever. This is stuff anyone can find. Kids, terrorists, anyone. Freedom of speech, folks.
 - ii) We assume no responsibilities for any misuse of the information presented in this website. The processes and techniques herein **should not be carried out under any circumstances**. Serious harm or death could occur from attempting to perform any of the methods described on this site.
 - iii) This site contains some adult language and juvenile ideas.
- n) Emulation Pages www.davesvgc.com/
 - i) Emulation refers to the ability of a computer to imitate another program or computer. The computer sets itself up to run like another machine, thus enabling the computer to run the other machine's software, too.
 - ii) Play old Atari or arcade games. Play Sony Play Station or Nintendo 64 Games!
 - iii) Most Emulators and the software they run (called ROM's) are illegal and violate copyright laws. Some copyrights have been released and are available legally.

Sports, Sports, and More Sports

- o) www.cnn.com/
 - i) CNN and Sports Illustrated, teamed up
 - ii) Features a "Live cast" Quiet, play-by-play, as it happens scorecard (minimize-able for stealth viewing)
- p) www.sportingnews.com/
 - i) The website for the nation's leading sports newspaper. Information, stats, articles, shopping, and contests

- q) www.espn.com
 - i) ESPN's Site
- r) www.audionet.com/sports/
 - i) Audio broadcasts of all types of sporting events, shows, and interviews

Stuff You Didn't Know Existed But Can't Live Without

- s) www.intermute.com/
 - i) InterMute can be set to filter unwanted advertisements, animated images, cookies, pop-up windows, referrers, background music, Java, JavaScript, and more.
 - ii) \$19.95, 14 day money back guarantee.
- t) www.recipeland.com
 - i) One of the largest, best organized, and most navigable recipe sites.
- u) www.gator.com/
 - i) Gator automatically fills out forms and remembers your login names and passwords. Gator also comes with over \$50 of premium coupons to popular shopping sites!
 - ii) Gator stores your personal information in an encrypted file on your computer - you control what information goes where at all times!
- v) www.incredible-adventures.com/
 - i) Adventures that are, well, incredible.
 - ii) Fly in a fighter jet, cruise the ocean in a sub, drive a race car
- w) <http://www.service911.com/>

These people will solve your computer problems. Get free support help, though tutorials, videos, e-mail, or live chat with a technician. Free!