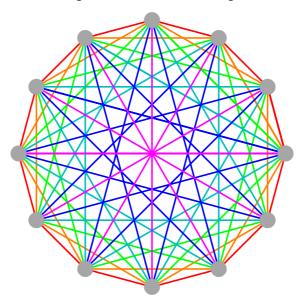
A Newbie's Intro to the Web

Don Lancaster Synergetics, Box 809, Thatcher, AZ 85552 http://www.tinaja.com don@tinaja.com copyright c2006 as GuruGram #66. (928) 428-4073

An early internet model might have looked something like this...



Each gray dot represents a school or a government agency. Each dot or **node** has the ability to upload or download text messages. But each dot was also required to **route** (or forward) any messages it receives to other recipients.

Such a network (or **net** for short) is called a **peer to peer system**. In that **nobody is in charge** and that everybody has the **equal** ability to post, pass on, and receive messages. Such a network has the important property of **scalability** in that more nodes can easily be added. It also has the property of **redundancy**. Should any one comm channel go down or be overloaded, alternate routes through the system can easily be substituted.

It was quickly determined that not nearly as many comm links were required, and a **backbone** system could be substituted. Each node still has several links available

and still forwards messages to the most appropriate link as they are received. And each node is free to resell most or all of its available bandwidth to hundreds or even thousands of sub-node users or customers.

Somewhere along the line, somebody discovered that a rather simplistic language called **HTML** and short for **Hypertext Markup Language** could be used to convert ordinary text messages into a series of embedded instructions that could create graphic-like text pages. Typically each individual message is broken down into one or more packets. Dozens or more packets could combine to form a page.

One possible page definition might be "**About a screen and a half of scrollable information**". Ferinstance, a few packets could contain the actual text info for the page. Others could hold the background wallpaper. Yet others could hold special routines for selection buttons. And still others for each banner ad.

Even better yet, each page could in turn **link to any other page**, no matter **where** it was located on the entire web. The rest, as they say, was history. And the web quickly exploded into one of the most significant and most important happenings of this or any other era.

The web has made communication incredibly faster and simpler. It opens a mind-boggling variety of brand new opportunities. While at the same time utterly demolishing many entire industries. Such as those involving traditional publishing, conventional media distribution, or previously outrageously expensive gatekeepers of information.

Some key points...

The web represents a profoundly fundamental change in how all business, research, communication, and entertainment is gonna happen. It is as profound a development as moveable type, the automobile, or the industrial revolution. And perhaps even fire.

If you have a commercial venture and are not aggressively using the web, it absolutely will squash you like a bug.

While there are bunches of pornography and other items on the web that you may find offensive, these do not normally go out of their way to seek you out.

As with society in general, the web has its share of scams and ripoffs of one degree or another. These are largely avoidable through reasonable cautions.

Web Features and Services

There are several different groups of services that the internet has enabled...

The WEB ITSELF is a collection of many hundreds of millions of linked graphic pages combined with the ability to download other file types.

Companion EMAIL SERVICES allow individuals and companies to send conventional letter-like messages and to instantly communicate 24/7. But raise very real dangers of phishing and spam.

Usenet NEWSGROUPS number in the tens of thousands Some can find you instant answers to any problem; Others rarely get above the unhousebroken level of an unsupervised playground squabble.

Use of CHAT ROOMS is enormously popular among children and teenagers. Especially for music topics.

New PERSONAL MESSAGING services tie groups of people together pager style. These are absolutely essential to purveyors of specialty herbs and spices.

Various BLOGS are daily personal diaries made newly available for worldwide distribution. These can be freely syndicated through new RSS distribution.

Some of these may take additional software. For instance, a mail client such as the **Thunderbird** companion to **Firefox** might be desired for email. Various email filtering services are available to minimize spam. Some of which are amazingly sophisticated. And better newsgroup access involves services with special charges that typically are a few dollars per month.

Understanding URL's

Every location on the web has a **unique address**. Deep down inside, this address is always a sequence of decimal numbers, such as **23.227.234.124**. Because these numbers are hard to remember and easily confused, a system of much more "people friendly" **domain names** are also usually provided.

Such a people friendly address is called a URL...

"URL" is an acronym for any "Uniform Resource Locator".

Just about anything running on the web has to provide for **domain name lookup** to relate the URL's to the underlying true decimal addresses. The first portion of a typical URL provides for addressing **on the web**; the second portion provides for addressing **internal to the delivery server**.

Here are the key parts to understanding and using a URL...

At a URL address of http://www.tinaja.com/whtnu06.asp:

The http: tells us what set of communication rules are going to be in use. http: asks for hypertext text transfer protocol. This is what nearly everybody uses nearly all the time. But there also is an https: more secure rule set and others.

The // was once intended to hold a username and password. Although manditory, these slashes no longer seems to have any important use or meaning.

The www. tells us that the wide world web is to be searched for the information requested. While rare, other entries here could limit you to an internal network at a company or ask for some other more restricted source.

The tinaja. is the registered domain name being requested. This will be converted to a decimal web address by a process called domain name lookup.

The .com is a classification called an upper level domain. Traditional upper level domains included .com, .net .org and .edu. Or sometimes a country such as .us or .mx or .ca. Many new upper level domains have recently been added.

The / is the dividing point between what is needed for web addressing and what is used internal to the web server. All that follows is internal to the particular computer that is serving the requested info.

The whtnu06.asp is the specific file being requested. This portion of the url can go to arbitrary depth. An example might be .../mypix/dogs/rover/frisbee.jpg.

The rightmost portion of the url **internal** to the web server will obey all of the usual subdirectory and filename type rules.

Thus, a / denotes a file or a subdirectory within a subdirectory. Many hundreds to many thousands of files can be organized and delivered through proper use of subdirectories.

Filetype extensions such as **.htm** or **.asp** will denote web pages. Images will typically be **.jpg**, **.gif**, or the often larger **.bmp**. Those **.pdf** files will use **Adobe Acrobat** to provide high quality technical info. And are used wherever the website wants to **exactly** format what the end user will view.

Any # in a file extension will usually **position you within** the previously selected file or page.

There is considerable abuse potential from a malicious website that tries to get you to download certain filetypes...

NEVER download an .exe file from any untrusted source!

NEVER download a filetype extension you are unfamiliar with from any untrusted source!

Many modern browsers may assume the **http://www.** prefix if you leave them off your web address request. But you should not rely on this.

Finding an ISP

Actually getting on the web yourself is an enormously costly proposal, even if it does gain you total control, superior security, and blinding access speed. Costs could easily approach \$2,000 per month. Instead, most individuals opt to go through an **ISP** or **internet service provider**...

"ISP" is an acronym for an "Internet Service Provider".

Depending upon budget and needs, there are different ISP optons...

- Borrow time on the machines of **families or friends**.
- Use the free access offered by schools or libraries.
- Use service from your company, school, or government.
- Check rental rates at a local internet cafe.
- Find an independent Internet Service Provider.
- Investigate options offered by your **cable company**.
- Check into web offerings from your local phone company.
- See if **WiFi Wireless** is provided free by a hotel or community.
- Identify what **specialized web services** are locally advertised.

Hardware Communicating With Your ISP

There are several different levels at which you'll want to communicate with your **ISP**. The lowest level where the bits pass back and forth between you and the **ISP** can be called the **hardware level**. Some options include...

- **Telephone Dialup** Older and quite slow method uses your ordinary phone line. Ties up your phone during use and can be quite expensive if local access numbers are unavailable.
- Fancier Telco Services Premium grade telephone services such as DSL or T1 or T3 lines can be quite fast but can be rather expensive. These may not be available in rural or high demand areas. Other "last mile" solutions are emerging.
- **Cable DSL** Many cable tv companies now offer internet access services using the same cable as their video channels. This can be fast and quite economical when and where cable is offered. A cable modem and an optional router are needed.
- **Fiber Optics** The bandwidths of copper twisted pair have dramatically improved recently, largely obsoleting costly end user fiber optics. But these still see some use in college campus and in legacy government installations.
- **RF Wireless** Small UHF radios with directional antennas can be used to communicate with local ISP's. These can be fast and economical, but absolutely demand a line of sight path. Tree leaves can totally disrupt error rates and reliability.
- WiFi Area Access —Some hotels and a few communities actually will locally broadcast ISP availability. Anyone within the service area of a few hundred feet can sometimes gain free access. Security can raise serious issues.

These days for an individual at home, use of a cable company ISP can often be a good choice for your primary internet access. You get reliable high speed **24/7** communications for a fairly nominal monthly charge. Without tying up a phone line. You will also need a black box called a **cable modem** between your incoming cable and your computer. While you can rent these, buying them for \$29 or so makes much more sense.

If you want to have more than one computer on your cable service or if you have a local network between several home of small business computers, you will also need a second black box called a **hub**, a **switch**, or a **router**. While all of these act as "traffic cops", the fancier router does the best job in that it will send you only **essential** traffic where it belongs. Hubs and switches are largely obsolete. Interconnections between your computers are normally made via readily available **Ethernet** cables. At one time, two types of Ethernet cables (both crossed and uncrossed) were required. Today, most routers offer a switch or connector option that allows a standard straight cable. Various wireless options are also available at extra cost and complexity. While convenient, wireless may not be as secure.

Software Communicating With Your ISP

Once you have established a hardware communications path, you'll need a higher **software level** to organize what you send and receive and what you are going to do with it. The two most common software means of ISP communication are ...

WEB BROWSER - The most common modern we Typically run on a Windows or platform. Provides viewable page easy navigation, and a wide van of file download options.	Mac ges,
FTP TRANSFER - An older and more secure meth use for web page maintenance. only required when you have yo website and want to deliver con	Normally our own

The most popular and best known web browser is Microsoft's **Internet Explorer**. However IE has become extremely vulnerable to malware, viri, trojans, and such. Instead, the free **Firefox** browser and its companion **Thunderbird** mail client are far better choices today. A number of other specialty browsers are available, but Firefox and IE together utterly dominate.

Finding Useful Websites

There are now many hundreds of millions of web sites worldwide. How can you find those that can end up of interest to you? Here's some strategies...

- Use **Google** or another **search engine**.
- Keep links in a **notebook** or PDA when found.
- Guess, as in http://www.walmart.com.
- Pull down your Browser's recent web history.
- Save with your Browser's Bookmark options.
- email yourself a list of visited links.
- Create a **web page** of your favorite links.

Your foremost starting point on any web search should be to use a **search engine**. **www.google.com** is presently the top dog of many hundreds of web search services. Links to several dozen more can be found on my **home page**.

Google is so important that **Firefox** has now made room for it in their upper righthand window corner. To use **google**, type one or more keywords into the search window. If you get too many hits, try adding additional search terms. Or **place your search terms in quotes**.

Otherwise, a search on my name might find you Pennsylvania Dutch towns and English WWII bombers and as **false hits**.

A search engine will almost always overwhelm you with useful links. If you do not seem to be getting anywhere, chances are that you may not be using the best keywords. Try reading whatever files you do get and see if they cannot suggest some more tightly focused search terms for you.

I've placed many thousands of web links on my **Guru's Lair** website. In particular, I've gathered the hundred or so links that I personally find most useful and link most often to my **home page** at **www.tinja.com#offsite**.

Amazon Books	Best new and used book sour
Area Codes	Telephone area code lookups
CNN	Cable News Network
Chem Elements	Chemical periodical table
Currency Exch	World currency conversions
eBay	Web's greatest auction site
Google Maps	Streets, trip info, aerial photo
Kelly Blue Book	Used car prices & trade in val
Loan Amort	Monthly payments & loan ma
Movie Reviews	Movie, DVD's and video review
Patent Search	US patent and trademark offi
Reverse Phone	"Backwards" phone directory
Stock Quotes	Stock and commodity prices
Topozone	Topographic map access
Thomas Registry	Manufacturer's directory
U-Haul	Trailer and truck rentals
UPS	United parcel service rates
Weather Channel	Instant weather info
World Factbook	CIA definitive world geograp
Zip codes	Post office zipcode lookup

Here's a sampler of some sites you may find of interest...

Some Cautions

There's a well known classic **New Yorker** cartoon of "**Nobody knows you are a Dog on the Internet**". Thus...

"NET" is an acronym for "Not Entirely True"

Anybody can put anything on the net at any time for any reason. Thus, for every legitimate **science** site, there will be a dozen "not even wrong" **pseudoscience** sites. While many sites will be exactly what they appear to be, others may have hidden agendas. Yet others are incompetent or sorely misguided. Others are often totally clueless, run by junior high students, are wannabees, or have a loose grip on reality. And yet others are out to steal everything from your email address to your passwords to your site access to your VISA numbers to your entire identity.

Some common sense suggestions...

ALWAYS get at least a SECOND or THIRD opinion when any significant money, time, energy, sanity, or health issues are involved in anything web related.

ALWAYS ask "Why are you telling me this?

AVOID using Internet Explorer! It is simply too vulnerable to malware. Today, Firefox is a much better choice.

ALWAYS have defensive measures in place that include Norton, SpySweeper, Pest Patrol, or similar.

Think twice about anything foreign.

If it seems too good to be true, it is.

Becoming an Alpha Geek

As with most anything computer involved, **hands on is everything!** Thus, Your foremost secret to becoming web literate is simply to **jump in with both feet and start doing stuff**.

As any Alpha Geek can tell you, the keys to the kingdom lie in being able to ...

MUDDLE THROUGH!

First Surfing Projects

Let's look at my choice of a group of first surfing projects. The goal here is to present some topics that seem impossibly difficult at first glance, lead to some interesting and obscure web nooks and crannies, and can (with practice) be done by most anybody in thirty seconds flat.

Our first group of web surfing tasks needs nothing but **Google**, usually **reached** with the search bar often found in the upper right corner of **Firefox**...

2N2222 Data Sheet **Arivaipa Rug Road Calico Cats Copeland Scroll** Ghee **Giraffa Camelopardalis Glenn Miller's Stairway to Heaven Great Molasses Flood Grover Cleveland Fennel Seed History of the Pretzel** Kingman Reef **Kursk Tank** L-Carnitine **Martinez Luge 4WD Mount Graham Aerial Tramway** Namibia P51 Mustang **Pittsburgh Harmony and Butler Street Railway Reae Cordic Saw Palmetto Triangle Shirtwaist Vortex Cooler** Walnut Grove Dam Disaster

Your goal here is to **add one new fact** to anything you already know about each topic. Naturally, to really master the web, you'll want to dig a lot deeper to fully explore each subject.

Our second group of projects is only slightly more difficult. These are questions you want to find the answers to. Typically, one particular website **other than Google** will be your best choice for a fast answer. One list of candidate websites can be found at <u>http://www.tinaja.com</u> and clicking on **Offsite Resources**. We already saw a selection of these above. Here are the questions...

What is the monthly payment loan amortization of \$700 invested at 8 percent for 9 years?

Where can you find an aerial photograph of your home?

What is the subject matter of US Patent 6,655,322?

What is the driving time between Las Vegas NV and Las Vegas NM?

What is the area code for Des Moines?

What is the dealer trade-in value of a 1995 Plymouth Voyager in fair condition with 350,000 miles on it?

What is the present currency exchange rate between US Dollars and Mexican Pesos? Between Malawai Kwachas and Polish Zlotys?

What very special place does the Dutch Blue Creek AZ topographic map reveal to you?

Who played the three lead roles in the movie version of The Mouse That Roared?

What was the latest Phelps Dodge stock closing price? What was the latest commodity price on copper?

What is the atomic number of Molybdenum? Its melting Point? Its Boiling Point?

What are the best aquaculture books for professionals? For students? For those with a casual interest?

What is the weekend weather forecast for Gatlinburg, TN?

What are the midweek rates for one-way U-Haul trailer rentals between Thatcher AZ and San Diego CA? Between San Diego CA and Thatcher AZ?

Your Own Web Site

If you also want to **provide** information **to** the web, you'll want to set up your own web site. This will consist of your **home page**, which is normally an **.HTM** or **.ASP** document and is often internally named **default.htm** or **default.asp**. Per the rules of the **server** in use by your ISP. Plus as many other pages in **subdirectories** in any of a variety of file types as you care to be able to deliver.

Setting up and maintaining a web page is a lot of work and demands a variety of technical and artistic and communication skills. Many of these are easily learned.

Some of the reasons you might like to have your own website include...

- ~ You have items you want to sell.
- ~ You are offering technical or other services.
- ~ You want to provide a reference library.
- ~ You want to attract customers to you.
- ~ You have a message you want to spread.
- ~ You wish to preserve archival records.
- ~ You want to entertain or educate others.
- ~ You want to promote a political position.
- ~ You are on an ego trip and just want to.

Your ISP normally hosts your web pages for you. You do not have to use the same ISP for your internet access and for your website and home page delivery. If you can still find one, a knowledgeable and independent local ISP may be a lot easier to work with. Especially if you want to get into anything fancy or need technical problems resolved or quick help.

Note that...

Your ISP hosts your actual web pages for you 24/7.

Working copies of your present and future web pages should also be on your local or home computer

You usually place or edit your web pages by using an older FTP file transfer program.

One example of a FTP program is available through **Ipswitch.com**. ISP hosting charges vary with the amount of service and storage space provided. But typically will range from free (beware of hidden annoyances!) to \$49 per month or so.

The first step in setting up a web page is to **select an ISP** that can offer hosting services. Chances are they will provide you with a DVD or other media resource that will give you a nice collection of useful software and utility tools.

The second essential step is picking a **domain name**. The domain name will be the address through which others on the web can reach you. There are two types of domain names. The **virtual domain** is a free subdirectory in your ISP's host machine. But such a name will **only** be useful so long as you keep the same ISP. It might also conflict with "real" domain names elsewhere on the web.

"Real" web domain names instead are fully portable and you are guaranteed exclusive worldwide use of your registered URL. Registration costs typically vary

from \$10 to \$29 per year. You usually will register your URL domain name through the folks at **Network Solutions**. Or one of their competitors.

You can check to see if your domain name is still available by going on over to **www.networksolutions.com/cgi-bin/whois/whois**.

Needless to say, you should avoid any names that are "too close" to name brand biggies, are excessively cute, quickly get tired or lame, tend to confuse, or any that might offend users.

Naturally...

It does not matter how long your URL is. It is what you do with it that counts.

So how do you learn all of the skills needed to become an alpha geek webmaster? As always, the foremost rule is to **muddle through** by doing lots of ongoing and hands-on experiments. And to **test, test, and test again**. Here are some approaches to improving your website building skills...

Use a web template — A web template is a "fill in the blanks" or a "paint by numbers" system where you take a standard layout and modify it for your own uses. These are offered by ISP's, by organizations wanting to get their members online, and by free web template websites. Here is an example **auctioneer** who uses a stock template from the leading **auctioneering association**. While "Paint by numbers" is simple and easy, it can end up with a distinct "Paint by numbers" look about it that often seems a step or two below fully professional. **WARNING:** Free web template websites are usually loaded with trojans, viri, malware, and similar nasties. **Do not download what you do not trust!**

Steal the Plans — If you see a website or an effect that you like, you can usually find the code that they used with your Browser's **view page source**. Naturally, if you steal the plans, you'll want to **completely** change **all** text, modify the colors, and make other changes that will make the result uniquely yours. One gotcha: Fancier server based **.ASP** files will only give you the **result** of their coding and not the actual **.ASP** code itself.

Learn HTML — Most web pages are based on a language called HTML. Easily learned HTML is not nearly as complex as most computer languages as it is simply a way of **marking up** text to embed special hidden instructions. Most HTML commands are enclosed in a pair of carats. Ferinstance, you would use <**b**> to **make this bold**</**b**>. Most other HTML commands are nearly as simple. And you needent learn the entire language at once. No matter what you do in web hosting, **at least some HTML familiarity is an absolute must**. Of the many available HTML Books, one very good choice is HTML for Dummies. **Use Commercial Layout Programs** — There are a number of commercially offered web page layout programs available that simplify and automate your creating of useful content. But do not entirely eliminate the need to learn at least a little **HTML**. If you are serious about hosting a larger or fancier website, use of one of these fairly costly programs is a must. One popular program is **Front Page** which I do not care for. My own preference is to use Adobe's **GoLive** instead.

Add Bells and Whistles — Once you have your basic web pages up and running, there's a lot of goodies you can add to them to make them more interesting and more convenient to your viewers. Some possibilities include...

- Proper Header Keywords that help search engines.
- HTML Tables that improve positioning and layout.
- HTML Frames that split the screen but limit your area.
- CSS Stylesheets that others like but I do not use.
- .ASP files for server side programming. The real biggie is for includes which are similar to subroutines and let you have master templates and global boilerplate. Or for exotic uses such as our Auto-Rotating Banners
- JavaScript for client side programming. Examples include our **bouncy bricks** and our **Magic Sinewave** Calculators. Some users disable JavaScript, so make sure you have graceful defaulting.
- Internal website search. Providing this feature is a must. Contact your ISP for the many options available. Be sure you can search for phrases as well as individual words.
- Adobe Acrobat .PDF files. Any time you want to control exactly what your viewer will see, an Acrobat .PDF file is essential. .PDF files have long been **the** standard for industrial data sheets and similar technical data.
- **Byte Range Delivery** This ISP provided feature will be essential for .PDF files and anytime else a page or two is to be viewed before any long document completely downloads. This should be a standard feature these days, but make **absolutely certain** your ISP provides it.
- Avoid Annoyingly Garish Glitz I very strongly feel that sound effects, music, video clips, and such can cause much more harm than good. Especially when they are not user selectable options. In general, less is more on a website. Often, a "classic" or a "retro" look serves you better.

- Use Redirects with Care. It is sometimes necessary to use a redirect to switch the user to a newer website. ALWAYS leave the user enough time so their back arrows still work.
 NEVER let a user response end up somewhere unexpected.
- Get Search Engine Listed While Google and the other search engines will eventually find you, it is best to be proactive and make sure they know you exist. Any games you try to play to raise your ranking on a search engine will often fail miserably.
- **RSS Syndication** If you have a news page or a blog that you change daily or at least often, **RSS syndication** lets all of your better users instantly and automatically find out what you have to say. Syndication is free and easy but does demand a bunch of attention to detail. Be sure to continually check your **.RSS** posts to make sure they pass a **validator**. And do be certain to update your **RSS file** every time you have new content to offer. One useful book is **RSS for dummies**.
- Use your logfiles! to find your users, trends, referrals, and errors.
- Add a Shopping Cart. If you want to sell anything online, a shopping cart service that lets you securely accept VISA or MC online is essential. While there are bunches of these of varying quality, cost, and longevity, those that are associated with PayPal would seem to be your best bet.

Testing Your Web Pages

There is little that is more infuriating on the web than a "**404**" broken link. Uncaught spelling errors will label you as a junior high school student or worse. Any errors in structure or idiom, of course, clearly identify you as either a Nigerian Scamster or a member of the Hungarian Mafia.

Because of this...

Continuous testing of your website is mandatory!

It should go without saying that you'll want to use a good spell checker either during or immediately after any page creation. And that you should always have **someone else** carefully proof and critique your work.

If you only have a few links, they can (and should) be easily tested manually. An extremely useful and relatively unknown tool is **Doctor HTML**. Besides doing automatic link checking of most **.HTM** and **.ASP** files, this program can spot all sorts of programming, layout, and spelling errors for you. Single page tests can be done online at no charge.

Sadly, **Dr HTML** cannot link check **Acrobat .PDF** files. Instead, the full **Acrobat 7** includes an automatic link checker under **Advanced --> Links --> Verify**.

It does not pay to link "too deeply" into someone else's website. You might get challenged on intellectual property, and really deep links sometimes go out of date quickly. Links that assume your viewer has a specific piece of software installed (Such as an **Acrobat Reader** or a video player) can cause you grief. At the very least, **their use should be clearly labeled**. The same goes for the assumption that a particular Browser version is in use or that JavaScript has been user activated.

Should a crucial website "go dark" on you, an archival link can sometimes be found on the **Wayback Machine**. Regardless, you should **never leave a broken 404 link anywhere on your website**.

One of the best tools for site checking are the **log files** you should insist your ISP makes available to you. Besides quickly finding broken internal links, these can tell you bunches about how popular your site is, its popularity trend, and who else on the web is referring your site. Log files can even be used to instantly spot **eBay** image theft.

Additional info on using and interpreting log files appears here, here, and here. Commercial packages such as **Webtrends** are also readily available.

Disaster can strike at any instant, and there is no reason whatsoever to suspect that your ISP is going to be in business tomorrow, let alone next week.

Because of this...

Weekly backup of your website is a must!

How often you backup is determined by the simple question "How much can you afford to lose?" Make sure at least some of your backups are in different buildings, in a bank vault, or in a highly unexpected place. Make sure you backup **both** your local **and** your ISP hosted files!

For More Help

Some more tutorials and additional resources appear on our **Web Links** and **Web Tutorials** library pages, while **eBay** specific topics can be found in detail in our extensive **Auction Help** library. Recommended **HTML** books are found **here**, and more general webmastering books **here**.

Custom consulting is available per our **InfoPack** service. Additional **Gurugrams** depend upon your ongoing support as a **Synergetics Sponsor** or **Partner**.