



## Web Design Basics

by Vince Barnes

If you're reading this there's a good chance that you already have a website or that you want a website and you probably know all the reasons. However.... Some of you might be thinking of creating a personal website. Outstanding! I cannot think of a better way of organizing, and sharing, family memorabilia than on a website. Put in everything you know about your family and preserve that knowledge for future generations. Publish it on the web to share it, and put a back-up copy of it onto a CD for safe keeping. Your family tree, your photos, your stories, everything you add to your site can be saved for the future. It won't fade or rot like paper and photo prints. It can be replicated in its entirety in a few minutes and it can be sent around the world in a matter of moments. Start now and in a generation or two your family will know their history like very few of us do today.

In order to build an effective e-commerce site, you will need to be able to obtain a security certificate to set up and use a secure site. You will need scripts or software to provide shopping cart capability. You will need to provide methods of receiving payment by either incorporating credit card processing into your pages or by providing hooks into processing services like Paypal. Finally you will need to provide the product information, which might well be contained in a database of items. All of these things are very doable, and there are tutorials in our collection to provide you with assistance, should you need it. The question is, if you are going to sell a business on getting a new website, are you going to be able to persuade them of the virtues of all these things, as well as of your ability to effectively provide them? I hope so; but in case there is any doubt, you might consider starting with a simpler approach.

### Where Do I Put My Website?

If you're going to create a new website, the first thing you'll want is a name. This probably means a domain name. A domain name is one of those names ending with ".com", ".net", ".tv" or any one of those other suffixes. A name like this would give you something like `www.yourdomain.name` (".name" is one of the available options!) You can register a name at any of dozens of Domain Name Registrars. You can find a list of registrars at [www.internic.net](http://www.internic.net) and there's also a nice non-technical explanation of the name system there too. Read, learn and enjoy! I said before "probably" to a domain name because it would be possible to hang off someone else's name as in `www.theirdomain.name/yourwebsite` This works, but it's not very elegant and it really doesn't save you much, as you'll see in a moment.

If your web site is going to be seen by anyone other than you -- and why else would you put so much effort into it?! -- you'll need space on a web server to host it. What kind of space -- and what kind of server -- is going to depend largely on what kind of site you want to build. For a personal site, you could use one of the free web hosting services (for example [www.angelfire.com](http://www.angelfire.com) or [www.geocities.com](http://www.geocities.com)), but you'll be inundated with advertising every time you (or someone else) visit your site. The advertising pays for it. You could pay them, or any

other web hosting service (see <http://webhosts.thelist.com/> There is a very low cost alternative. You remember those Registrars you looked at? Many of them offer site hosting at a very low price. I have used [www.DirectNic.com](http://www.DirectNic.com) for quite a long time and they offer registration for \$15.00 and hosting for a year for another \$15.00. They do the DNS, explain all that to you so you can understand it and enable you to set it all up with a couple of clicks. There are similar offers from several of those registrars so you don't have to take my word for it -- check 'em out and find yourself a good deal!

OK, you now have space with a name and you want to put something into it. There are several options open to you for this step also. First, if you used [www.DirectNic.com](http://www.DirectNic.com) or one of the other registrar's with a similar feature you could use their site creator which, for a few bucks, will help you, step by step, build your initial site. You could lay out some bucks for a WYSIWYG (What You See Is What You Get) generator like Dreamweaver or Frontpage (see <http://www.htmlgoodies.com/articles/frontpage1.html>) The only problem with these programs for this type of situation is that unless you already understand the basics of web page design, the method to use to get started is not entirely intuitive. That having been said, these programs do have some good wizards to help you generate some pages, and they have excellent help systems. There just doesn't seem to be a good substitute for some hand-holding and step by step instructions.

Here's what I recommend at this point: use HTML Goodies! This was the first purpose of this site. In here you will find \* FOR FREE \* step by step Primers and Tutorials for each aspect of your new site. These Primers and Tutorials were written with you in mind. They have been organized such that you can use only those you need for your particular choices of design strategy, or you could browse through them for ideas for things to include in your site. I recommend that you start with the HTML Primer Series (see the links at the left) and then create your first page.

In the last of the HTML series (You Graduated!) there is some discussion about getting email, telnet and newsgroup access with your hosting account. Note that this would only apply to a standard UNIX (a server operating system) hosting service, and that these days most hosting service providers don't bundle all these things together anymore. The essential things you need are the space and either FrontPage or FTP upload access. FTP (File Transfer Protocol -- see <http://www.htmlgoodies.com/beyond/ftp.html>) is the most common; FrontPage (and programs that utilize the "FrontPage Extensions") has another method of uploading built in. There is more about FrontPage here: <http://www.htmlgoodies.com/articles/frontpage1.html>

Once you have started your site, these basics will all fall into place for you. At that point you will want to skip around the various other Primers and Tutorials (see the links in the left margin) to find all kinds of other things you can add into it. For a great reference resource, take a look at The Master List (towards the bottom of the left margin), and if you get stuck, take advantage of our Mentors (see the bottom of the left margin); they do an amazing job of responding to questions with great solutions and are always willing to help you out.

You are now on your way to mastery of the art of publishing on the World Wide Web!  
Congratulations!!

## The Importance of Design

A good website starts life in the design stage. There are several aspects of the site that are formed at this stage, including among other things, layout, color, sound, content, functionality and maintainability. No reasonable person would start to build a house without designing it first, no reasonable website builders should begin construction without a design either. While I admit there may be a better chance of succeeding with the un-designed website than with the un-designed house, you are selling yourself short if you skip the design stage. A friend of mine says (about programming computer systems) "you can't debug a system; you can only debug a system design. Sure you can fix the syntax things, but it's in design where the bugs are eliminated -- or introduced!" Wise words! The same holds true for a website, though by "bug" we might mean something a little different.

If design is so important, how should we go about it? This introduction is intended to help you take a structured approach to the design of your site, and maybe make life easier as you revisit some aspects of your earlier work. This is a process I go through all the time with my own sites. The more you do, the more you realize the benefits of good design work.

I used the analogy of a house design a moment ago; there are some good parallels to be drawn between these two types of design. The design of a house involves not only the appearance of the finished house, but also the material of which it is made, the manner in which the material is used (sorry, I can never resist a good pun!), the time and expense required to put it together, the ease of access and the usability of its rooms and the building's durability and maintainability. A website design involves the look and feel of the site, the languages and server resources it will use, the programming and data structures involved, the time and programming abilities needed, end-user ease of use and site maintenance. Design a house, design a website. Same thing -- almost <G>!!

I hope I have convinced you of the importance of taking a little extra time in the design stage of your development work. "A stitch in time saves nine," my Grandma used to say. And the web wasn't even around then!

The next parts of this series will take you through the conceptual details of the design elements mentioned in the first paragraph. Your chances of creating an attractive, interesting and easily maintained website are much higher if you read through these design tips, and bear their considerations in mind as you proceed with your design.

## Layout, Color & Sound

The Layout of a web site encompasses multiple dimensions. First there is the question of how to lay out the items that are to appear on a page; then there is the hierarchy of pages in the site. To a degree, these aspects must be considered together. For instance, is the site going to have a "cover page" like the cover of a magazine? If so, the layout of the cover can include a more extravagant graphical image and perhaps less detail, much like a magazine cover. Also, if the site is going to have a complex hierarchy, there may need to be a two (or more) dimensional navigation mechanism which has to be accommodated in the design of pages. Modern trends in site design seem to indicate that covers, while they are great for a personal, or family web site,

are usually not the best idea for a business site. The key to informational sites is to provide information access in the simplest possible fashion. For commerce, the key is to provide access to products and product information with as few clicks as possible, including the checkout process. If a business site is to have some sort of cover, it should include and index (links) to all of the most important information the site contains. It is not a good idea to waste your visitors' time with superfluous levels of "click-throughs".

There are several things to bear in mind when laying out a page. Western languages, including English, are read from left to right and top to bottom. This provides a natural flow for elements on a page. For instance, titles should be above the body of material; introductory material should be to the left of the material it introduces, much like a left margin. The layout of a page in a legal notepad follows this principle. Following this basic concept yields a page whose layout is intuitively understood by the reader. This is a good thing!

Provide space between different ideas on a page so that the separation of the ideas is clear. Too much information crammed onto a page has the effect of concealing most of it. All intuitive navigation is lost when the eye is overloaded, and the usefulness of the page is diminished.

Color is also very important. Too little, and the page looks dull and boring; too much and overload sets in -- the visitor will leave in a hurry to save their eyes! If you have an artists eye, fantastic! That is the talent needed to use color most effectively on a page. With my particular level of color skill, I find it best to consult a graphic artist! To be most successful with your site be realistic. If you have color skill, you don't need me to advise you. If your color skills are not that great, or if you are not sure, it is best to consult an artist. If that is not possible, make sure you don't overdo it! Too little color is better than too much.

When it comes to sound, the notion that too little is better than too much needs to be taken to its extreme! With two exceptions, ANY sound is too much! There is no such thing as too little sound! Sound on a web page is an irritation, plain and simple. The first exception is on a page whose known intent is sound, such as a music sampler page or some humor pages. The other exception is where the viewer has been previously informed (that is, prior to linking to this page) that they are going to hear something, such as by a link to a flash presentation, or to a video page. The golden rule is: don't subject your visitor to sounds unexpectedly. One of the joys of web surfing is the ability to absorb yourself with following an information thread around to global net without disturbing anyone around you. As soon as you hit unexpected sound, that joy is abruptly shattered. The page that offends in this way is not likely to be revisited!

### **Web Site Content - Style**

Now to discuss a little about the style of included content.

Before anything else, I have to mention rule number one of content. Regardless of the type of website you are building, the first rule of content is to keep it fresh. Getting new visitors to your site is always a challenge (and a topic for another discussion!) If you want to keep your site lively, then it is imperative that you keep your visitors coming back. A couple of visits with the same old stuff there will slow them right down. A couple more visits and they'll be gone, perhaps for ever. Not a good thing! Fresh produce in the store, fresh news in the newspaper, fresh

content on the website -- it stands to reason!

There is no such thing as a "web style" of content. The use of a particular style is to enhance the effectiveness of the type of content, and not to enhance the web. What this means is that you should not think first about the fact that you are providing content for a website, and how that should be styled. Instead you should be thinking, for example, "This site is for children. I need to make this easy to read, and to use a friendly, personal and uncomplicated manner of speech." This way the content style adapts to the subject matter and happens to be on the web, rather than adapting to the web and happening to be for children.

What style to apply depends on the type of website you are building. If you are building a personal website, be personal. Talk to your reader as if they were there with you. This holds especially true for photo album sites. The big mistake people make with their web albums, is to forget that normally, when they show their pictures to their friends, they are there themselves to explain them. Be there in the site. For example, "Aunt Peggy, Chicago, February 2000" is a hopeless caption in comparison to "This is Aunt Peggy (Pat's twin) at her birthday party in Chicago in 2000. She and Steve obviously had a good time - I don't think she'll be using those shoes any more!" Even without seeing the picture, it's more interesting, don't you think?

A business web site should get down to business, but shouldn't be dry. A little humor and a little color are the spices that can change a product description into an enticing overview of a product's capabilities. Some subjects are strictly factual. Law, for example. While intriguing, perhaps, to lawyers, it bores the pants off most sane people! Even science and mathematics, which have a reputation for being less than thrilling to the majority of folk, can be exciting when well presented. Scour the web for discussions of Fermat's Last Theorem. Look and some of the mathematical sites and compare them to Simon Singh's work. You'll see what I mean.

Above all, remember that you are talking to people. As you write the content, imagine that your audience is there with you and that you are providing it directly to them. Talk to them as you would normally, business-like to business people, politely to casual acquaintances and personally to friends and family. There is no special trick to the web. It is merely a medium to carry your message to your audience; nothing more.

Of course, the real beauty of writing is that you get to say something, then change it before it is heard! It's amazing how frequently we have a great idea, blurt it out and then realize just how not-so-great it actually was! When designing your site, blurt all you want -- then go back and fix it!!

### **Web Site Functionality**

Functionality seems frequently to bring to mind interaction between the site and the site visitor. While this may be a part of the topic, and is something I'll talk about in a minute, it's not the start of it. To determine the most important aspect of a site's functionality requirement, ask the question "what is this site's purpose?" The purpose describes the function the site must fulfill. For example, a site might be to describe a company and its products. It could be to sell some tickets or perhaps it's to show off Johnny's pictures. In each case, the site's purpose describes the function it must perform. Its quality of functionality is determined by how well it performs that

function.

I labor the point a little because it is all too easy to be distracted by an aspect of "functionality" to the extent where the primary purpose is obscured. In the above examples, for instance, the ticket sales site might involve some validation, some interaction, some storage and recollection of orders, etc. In trying to accomplish all these things it is easy to forget that what you really have to do is sell tickets. Focus on ensuring that numbers are entered where numbers are required, dates are valid and dollar amounts are calculated and forget to mention the name of the performance for which you are selling the tickets and the site's functionality is about zero, no matter how technically wonderful it might be!

The first golden rule of function is "be quick and to the point." Don't subject your visitors to flash and pizzazz on the way to your grommet sales page. Take them there right away and ask them "A bag of a dozen, or a box of one gross?" Fewer clicks equals much better. Also in this category is the reminder to optimize graphics before including them in a page. If your JPG looks more or less the same compressed to 10K bytes as it does compressed only to 15K, use the higher compression (the smaller file) -- smaller files load quicker. Quicker equals much better.

The second golden rule is "think like your visitor, not like yourself." If you went on a trip to Chicago, London and Sydney and now are putting the photos onto a gallery site, don't label them "First", "Second" and "Third" because that's the order in which you visited the cities. You know that, but your visitor will have a much easier time understanding "Chicago", "London" and "Sydney"!

The third golden rule is "assist, don't constrain." If they have typed "1.6" in your quantity field, don't say "Invalid Quantity". Say something like "Please enter only whole numbers in Quantity." Remember also, courtesy rocks! My example here is so much better than "Enter only whole numbers in Quantity." As your site visitors, they are guests in your home. Treat them as such! A little humor can sometimes help too. Used sparingly, and always with careful taste, it can help your visitor to relax, feel comfortable and have a better overall experience of your site. After the above error message (the one that includes "Please!") we could add "By the way, the system prefers larger numbers!" Be careful though, not to trivialize what you are trying to do.

On the technical side, the real secret to interactive functionality, or any type of technical "specialty", is to keep it simple. Simpler equals much better! As you look at adding some new function to your page, ask yourself if it really adds to the site's ability to fulfill its purpose. If it sort of does, sort of doesn't, ask yourself if the site might actually be a little better off without it. That's often the case. We see something new and neat, and want to incorporate it into the site, but on reflection, we see that the site is just fine without it. Remember, simpler equals much better.

### Web Site Maintainability

As you design and write your website, you become very familiar with the structure you use, the layout of the various pages and the manner in which you tied them all together. Time goes by; you add a little more here, a little more there and sooner or later your site has grown into something huge. The trouble is, after a while your memory of those early details fades; you

forget what this was for, what that should be linked to, why these are here instead of there. Now, when you make a small change, you run the risk of all sorts of things falling apart! You have entered the "Website Maintenance Nightmare"! Please don't let this happen to you!

There are three golden rules to help avoid the nightmare, related to consistency, structure and annotation.

First, be consistent! If you use one method and style throughout your site, you will have only one method and style to remember (or to relearn!) This does not mean that everything has to look the same. It means that you should apply consistent styles and use a consistent method throughout. For example, instead of applying font styles to each piece of text on your pages, you would be more certain of consistency by applying a style sheet to all your pages and keeping your styles in it. If you don't know how to do that and are just starting out, don't worry for now - just remember it's something you're going to want to do. If you need to find out more right now, check out the tutorial at <http://www.htmlgoodies.com/beyond/css.html>

Another example is the use of frames. If you decide to use frames, use the same frame structure throughout. It's not wise to use a frames page here and tables there, accomplishing a similar layout. Choose one, and use it throughout. Again, if you are new to site design, just hang on to this thought. When you have gone through the tutorials, you will have encountered both frames and tables. A little experience will give you a feel for the virtues of each and you'll be able to make your choice. The trick here is to stick with a consistent method. This of course, does not mean that you should not use both frames and tables. It means you should not use both to accomplish the same thing. For example, don't create a table on one page to hold a menu on the left side of your page (like the one on the Goodies site) and hold it in a frame on another page. As you develop pages, you will know when you are encountering something similar to something you have already done. When you do, do it the same way (or, if you have found a better way, change every instance to the new way!)

The structure of a site is usually determined by the nature of its content. The trick here is to create a folder (directory) structure that matches the content structure. For example if you are creating a photo album and have different page sets for each year, keep the sets in folders named for each year. Remember to use consistent names such as /1999/family and /2000/family and you will be able to match your site navigation to your folder structure. It is also a good idea to ensure that you don't crowd out a directory. Keeping certain files separated helps. For example, if you use Server Side Includes to help with consistency (a very good idea - see <http://www.htmlgoodies.com/beyond/ssi.html>) keep all your "include" files in a folder named ssi - be sure to include the path in references to them! I also like to keep images in a folder of their own, along with the pages that reference them. For example, the folder /John contains pages about John, and the folder /John/Pics contains the images used in those pages. Jane's pages and pictures would be in /Jane and /Jane/Pics. (Note also that UNIX/Linux systems are case sensitive - they see Jane and jane as different things; Windows systems are not (by default) case sensitive - they see Jane and jane as the same.)

Annotation is simply the use of comments. Don't get caught in the trap of thinking that comments only explain your methods to strangers for them to copy. The "stranger" who will learn from the comments is most likely going to be you, a little while after you wrote the

comments, when you have forgotten why and how you accomplished something but now need to change it. Trust me, you will thank yourself for leaving yourself notes! This holds especially true for programming in such languages as JavaScript, PHP and Perl. Things have a tendency to wind up with names that seem brilliantly enlightening when written, and virtually meaningless a few of months later!

If some of these notions don't make much sense to you at this point, don't be concerned. Try to keep the concepts in mind though, consistency, structure and annotation -- you will be your own best friend if you do!

Having read all of this series through to this point, you have completed the Non Technical Introduction and are now ready to start coding! We hope that you now feel more comfortable with the notion of developing a web site and that the concepts are no longer alien to you. The next step is to start on our Primers. You'll find them in the contents index links on the left of our web site pages.

I wish you the best of luck and hope that you enjoy your website development experiences and find it to be a satisfying venture.