

CREATING A HOME PAGE ON THE WWW FOR YOUR LOCAL USER GROUP AN UNLIMITED RESOURCE FOR LOCAL USER GROUP RECRUITMENT STRATEGIES

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ABSTRACT

At the present time, there are more than 200 local or special interest SAS® user groups in the U.S. alone, and this number continues to grow. Only a small number, however, have utilized the internet to reach their potential members via a home page. Given the popularity and unprecedented growth of the Internet, the World Wide Web offers an exciting way to publicize local user group activities and increase membership. In addition, a basic understanding of web-site development and hypertext markup language (HTML) concepts will significantly broaden a SAS programmer's skill base.

This paper is designed to be an introduction to homepage development. Whether creating a home page for a user group, a company, or a personal website, the HTML language is the same. This paper provides a brief overview of the history of the Internet. It also addresses browsers, which are the "window" to the Internet, explains uniform resource locators (URL's), addresses where web documents reside, and describes how to "hyperlink" one web page to another using the URL address. Finally, basic HTML language is described and a template containing basic necessary elements of a home page is provided.

INTRODUCTION

THE INTERNET - WHAT IS IT? AND WHERE DID IT COME FROM?

The Internet simply put, is a vast network of computer networks that spans the globe. Vast seems to be an understatement when describing the Internet, in that there are estimated to be 20 to 30 million users around the world populating this electronic global village.¹ Estimates by the computer industry are that World Wide Web traffic is growing at an annual rate of 341,000% and is being used by 159 countries around the globe.²

HISTORY OF THE INTERNET

In the early 1960's a group of scientists at the US Department of Defense's Advanced Research Project Agency (ARPA) wanted to see if computers in different locations could be linked to develop an efficient way of sharing related data. Initially the goal was not the creation of today's international computer-linked global community, but rather began as a data network that could survive a nuclear attack. ARPAnet, the earliest version of a network, was launched when it was discovered that networking could link large research computers at major universities to each other.

Use of ARPAnet grew and in 1969 CompuServe was launched as the 1st commercially available online service. In 1986 the National Science Foundation created NSFnet to connect supercomputers around the United States. Within two years this network replaced ARPAnet.

In 1991 Vice-President Al Gore proposed to offer access to students in kindergarten through grade 12. The Internet has continued in unparalleled growth. Over the years it has become the most widely used information retrieval system used, giving access to a global network of multimedia resources and what began as a governmental experiment is now largely a private commercial enterprise. The Internet provides the ability to tap into thousands of information databases and libraries worldwide, retrieve millions of documents, journals, books and computer codes.

ACCESSING THE INTERNET FROM YOUR OWN COMPUTER: A PHONE CALL AWAY

In essence, the Internet is only a phone call away. In order to access the Internet you must have a software package referred to as a browser (such as Netscape, Netscape Navigator) and a direct connection to the Internet via phone line, a network connection or a commercially available on-line service, such as AmericaOnLine or Prodigy.

You must have a Macintosh or PC running Windows with at least a 386 machine, with a minimum 14,400 baud modem. Modems act as a sort of translator between your computer and the phone system and are needed because the information passed between the two is in different forms. Phones process analog signals and computers process information “digitally” as a series of discrete numbers.

The speed of your modem is critical and will correlate with the response time when you are using your browser. Modem speed is described in bits per second or “bps”. One bps means the modem can transfer roughly one bit per second and a letter (or character) is made up of eight bits. The higher the bps rate, the more quickly a modem can send and receive information. A 14,400 baud (bps) modem is usually considered to be too slow for today's web technology so the 28,800 bps or higher modem is well worth the investment. Speedier modems mean that your computer will not be tied up transferring data from the internet to your computer, and if you are paying for access to the Net by the hour, will save you money as well.

Integrated Services Digital Network (ISDN) modems use two or more 64-kbps B channels to carry data across digital phone lines at high speed. Exploring the new electronic world, Net experts can now transport data at speeds of up to 2 billion bits per second - fast enough to send the entire Encyclopedia Britannica across the country in just one or two seconds. But keep in mind that your modem is useless unless you have the software such as Netscape or Internet Explorer that interprets between the computer and the modem.

ASSESSING THE INTERNET

There are four ways to access the internet; 1) a permanent Port-to-Point Protocol (PPP) attached to a network, and 2) a SLIP (Serial Line Internet Protocol) connection, which allows you to use a modem from a remote site to communicate between the server and the Internet. PPP and SLIP connections act as a gateway, passing information on to your computer. Your computer then has to utilize software to figure out what to do with the information. 3) Dial-up accounts or commercially available on-line services, such as America Online, CompuServe, or SprintNet, to name a few, offer all kinds of services in menu format, including FTP (file transfer protocol), TELNET (access to databases, online newsgroups, weather reports) chat rooms, and e-mail.. Your computer essentially goes to

sleep while you are on this service and your interaction will be via programs on the host system. The final way to access the internet is via 4) a BITNET university connection. Using a BITNET connection, you dial into a remote network.

THE UBIQUITOUS WWW HIT RATE

Network computing is everywhere, and a company that has not networked its computers is the rare exception. Users of the Internet can get information by surfing the net and visiting any of the millions of web sites of interest, be it a “chat room” on America Online, or a commercial site. Consider the 1996 Olympic games web site, which was set up and run by IBM. 40,000 tickets to the Olympic games were sold on the web site alone. It was estimated that by the time the games were being played 10 million hits a day were experienced on the web page.³ Creating a web site to disseminate information about your organization is easy to do and very worthwhile.

HTML BASICS

HTML is the formatting language used by the World Wide Web. The acronym HTML stands for Hypertext Markup Language. Hypertext means that an HTML document can contain links or references to other documents, such as SAS Institute's home page, or your regional affiliated User Group. A linked document is usually underlined and printed in colored text, to distinguish it from the rest of the document. You can access this linked additional information by double-clicking on this underlined phrase (or word).

HTML is actually a subset of a language SGML, Standard Generalized Markup Language, which was designed as a typesetting language. The “Markup” part of the language comes from the days when editors used specialized markings to instruct typesetters how to format the text. HTML evolved from this language to be used specifically for WWW applications and for creating hyperlinks to other WWW documents, video, sound or animation files. With HTML you use HTML commands to mark headings, normal paragraphs, lists, and URL addresses (hyperlinks).

While HTML is a variant of Standard Generalized Markup Language (SGML), it differs from other SGML variants in its simplicity. HTML is simple enough to type without using an HTML editor. All HTML files consist of text and HTML tags that describe how the text should be displayed. Extra whitespace within your

document is ignored and text is displayed with a single space between each word. Text is always wrapped to fit within a browser's window in the reader's choice of fonts. Therefore a document that looks great using Netscape may look completely different on another browser, such as CompuServe or America Online. But by sticking with some simple HTML commands, you can be assured that your document will look as good as possible in just about any Web browser.

HTML TAGS

Web documents are not mysterious. In essence a web page is ASCII text that contains HTML "tags". These tags tell the browser how to format the ASCII text to appear readable to the reader.. Some tags tell where paragraphs begin and end, some tags add some physical characteristic, while other tags provide graphic interest to the document.

To convert an existing document into a Web document there are a few things that are essential. All HTML commands are enclosed in a left angle bracket "<" followed by some kind of directive then followed by a right angle bracket ">"; i.e. <p> which are referred to as "tags". Most tags (or HTML commands) come in pairs that mark the beginning and end of text. The end command or container tag is identical to the beginning tag except that it includes a forward slash "/" between the opening bracket and the command name. An example is the bold tag, beginning with and ending with .

Every HTML document must declare itself to be an HTML document. In order to do this <html> must appear first in every document. The very last line should end with </html>, thus ending or closing the html text. And most importantly, the file that you create and save, must end with an html extension (filename.html) or (filename.htm). For example, the Pittsburgh SAS User Group Home page is called psug.html. If this is the only document on your directory, you can name this file index (index.html).

Most HTML documents will contain a header section beginning with the <head> tag and ends with a </head> container tag. In addition there should be a title surrounded by the <title> and </title> commands. The "body" of the document should be marked off with the <body> and </body> commands.

Most browsers recognize at least six heading levels, <h1> through <h6>. Each is given a distinct size and

style. Heading commands need a corresponding </h1> container, unlike paragraph containers which do not require a closing </p> container.

Normal paragraphs are separated with the <p> command and while at this time the closing </p> is optional, the next version of HTML may require the </p> container. Therefore it is at present up to your discretion as to whether to use the closing </p> or not.

The following are the simple steps to convert a document to HTML.

1. Convert the document to plain text or ASCII format.
2. Begin the document with <html>.
3. Identify the heading with <head>.
4. Next type <title>. Type your title.
End with </title>
5. Any header begins with <h1> and ends with </h1>.
6. Subheadings begin with <h2> and end with </h2> (or <h3> <h3> ... <hn> etc. and end with </hn>
7. Paragraphs begin with <p>.
8. Name the file you have created and save with an html extension. filename.html.

A very simple HTML document would like this:

```
<html>
<head>

<title> ----- </title> </head>
<body>

<h1> ---- </h1>

<p>
<p>

<h2> --- </h2>

<p>
<p>

</body>

</html>
```

By following these guidelines your document can be read by most browsers.

COMMON CONTAINER COMMANDS

The following are a listing of some of the most common HTML container commands.

<u>command</u>	<u>ending tag</u>	<u>description of use</u>
<html>	</html>	begins HTML document
<head>	</head>	begins a heading
<body>	</body>	body of text
<h1>	</h1>	level 1 heading
<h2 to h6>	</h2 to /h6>	level 2 to 6 heading
		a bulleted list
		underlined item
<p>		paragraph
		bolded text
<u>	</u>	underlined text
<i>	</i>	italicized text
		emphasized text (italicized,underlined, bold or displayed in color depending on server)
 	</br>	inserts a line break
<nobr>		keeps text from breaking
<blink>	</blink>	text will blink
<center>	</center>	text will be centered between right and left margin
		changes the size of font 1 is smallest, 7 is largest (default is 3)
<basefont>	</basefont>	any size font from 1-7 to be used as basefont
<hr>	</hr>	horizontal rule across page

LISTS

There are different kinds of lists in HTML: a simple list, numbered or ordered list, bullet or unordered list and definition lists. Ordered lists are numbered. Unordered lists use bullets to mark each item. Lastly definition lists are unique in that you can define the preceding text.

THE TYPE FEATURE

Netscape has added a feature called TYPE that can be included with unordered and ordered lists that allow you to specify the type of bullet or number that you use in a list.

ORDERED LISTS

Ordered lists begin with a tag and elements of the list are numbered using a numeric sequence --1,2,3, etc.

An ordered (numbered) list looks like this:

```
<ol>
  <li> first item
  <li> second item
</ol>
```

You can change the default by using the TYPE modified with the tag. This feature is used with numbered lists:

```
<ol TYPE = A | a | I | i | 1>
```

where TYPE can be assigned in any one of these values:

- A Mark list items with capital letters
- a Mark list items with lowercase letters
- I Mark list items with large roman numerals
- i Mark list items with small roman numerals
- 1 Mark list items with numbers (default)

You can customize an ordered list. Lets say that you want to begin your numbered list with a number other than 1. To do this, you use the START modifier as shown:

```
<ol START=starting number>
```

where starting number specifies the first number used.

You can combine the two features, START and TYPE

```
<ol TYPE=A START=4>
```

would start the numbered list with the roman numeral IV.

UNORDERED LISTS

Unordered lists use the tag and end the list with the container tag.

An unordered list would look like this:

```
<ul>
  <li> first item
  <li> second item
</ul>
```

You can use TYPE along with to override the default bullet. This takes the format:

```
<ul TYPE=Disc|circle|square>
```

For example, here's a list defined to use circles as the bullet symbol:

```
<ul TYPE=circle>
  <li> This is item 1
  <li> This is item 2
  <li> This is item 3
</ul>
```

DEFINITION LISTS

Definition lists are very useful when explanation is necessary. Each item in the definition list contains two parts, a term (indicated with the <dt> tag) and a definition (which uses the <dd> tag). The list begins with a <dl> command and ends with a </dl> command.

Here's a sample of a definition list:

```
<dl>
  <dt> first item
  <dd> first item definition

  <dt> second term (or title)
  <dd> definition
</dl>
```

This is what you would see in the browser:

```
First Term
  First term definition.
Second Term
  Second term definition
```

UNIVERSAL RESOURCE LINKS (URLs)

A Universal Resource Link is the address that allows servers to find your document. For example because the Pittsburgh SAS® User Group home page resides on a Unix account on the University of Pittsburgh Unix, the address of PSUG's home page is rather lengthy: **http://www.pitt.edu/~jmatthew/psug.html**. Because the Pittsburgh SAS® User Group home page has been hyperlinked to the SAS Institute home page, you can find this home page by accessing the SAS® Institute's home page <http://www.SAS®.com> and then looking

under "User Groups", then "Local User Groups", then "Pennsylvania", and then finally "Pittsburgh". While in key strokes this may not seem simpler, in actuality it may be simpler than trying to remember where the "tilde" key is for some users.

LINKS IN HTML DOCUMENTS

Links are what make Web documents so exciting. Linking your home page to affiliated groups is easy. For instance, the Pittsburgh SAS® User Group home page is linked to both the SUGI home page and the NESUG home page so that someone could access both the SUGI and NESUG home page without leaving the PSUG web site. A URL (Universal Resource Link) is the address of the document or resource we link to. It takes the form:

```
protocol://machine.name{:port}/directory/document.name
```

The protocol is the Internet protocol used to reach the document or resource. On the Web it is typically "http", but it can be any of a number of others, such as ftp, gopher, telnet, etc. The machine.name is the name of the host where the document resides (i.e. www.pitt.edu/~jmatthew/psug.html or www.sas.com). The port portion of the address is optional and only necessary when a resource is accessible through a non-standard TCP port number. The directory and document name are self explanatory, i.e. ~jmatthew/psug.html.

To link your home page to another site's home page you would type:

```
<a href="URL"> some message here which will appear underlined followed by the ending tag </a>
```

Always put the URL in quotes following the "href=" and put the text of the link after the > and before the .

for example to link to the SAS® User Group International home page, type

```
<a href="http://www.sas.com/usergroups/sugi/intro.html">
SUGI </a>
```

Four of the regional user groups have created home pages. To link to the **NorthEast SAS User Group (NESUG)** home page type the following HTML code:

```
<a href="http://www.pace.edu/nesug/index.html"> your
desired text for NESUG here </a>
```

Note that the URL for the NorthEast SAS Users Group, i.e. <http://www.pace.edu/nesug/index.html> is enclosed in quotes within the `` tag. The hyperlinked code must end with a `` container.

The URL for the other regional SAS users groups that maintain home pages are the following:

South Central SAS Users Group (SCSUG):

<http://ourworld.compuserve.com/homepages/CJac/sesug.htm>

Western Users of SAS Software (WUSS):

<http://webworldinc.com/wuss/index.html>

MidWest SAS Users Group (MWSUG):

<http://www.biostat.wustl.edu/mwsug.html>

Or, if you would like SAS Institute to link your document to their home page, you can complete the online form found via the Institute's Home Page. Go to www.sas.com and choose "Users Groups", then "Other SAS® Users Groups", then "request a link" to access the electronic form.

MAIL WINDOWS

The following nifty code will create a automatic mail window within your web page to allow users to e-mail you without having to type in your e-mail address. The HTML code for this e-mail window is the following:

```
<a href="mailto: your e-mail address here " your e-mail again here </a>
```

Note that jmatthews@v1.wpic.pitt.edu is the full e-mail address. This address is enclosed in quotes within the `` tag. The `` ending tag is required as it is with other hyperlinked documents.

For example to include the mail window in the Pittsburgh SAS User Group web site, the HTML code using my e-mail address, as an example, is as follows:

```
<a href = "mailto: jmatthews @ v1.wpic.pitt.edu" jmatthews @ v1.wpic.pitt.edu </a>
```

The e-mail address that is not contained within the double quotes appears on the web page as underlined text, as if it were hyperlinked. When a user double

clicks on this underlined text, an automatic e-mail window appears with the e-mail address that is within the double quotes appearing in the to: window. The user can then tab between windows to add his return address and message.

SOURCE CODE

Once you have accessed a home page that strikes your fancy, remember that you can access the source code from which the page was built and use that code in your own documents. In Netscape, click on View and then Source to see the HTML code. In Mosaic, use the Document Source option in Mosaic's File menu to call up a window that will show you the HTML for the current document being viewed.

Any HTML document's source code can be studied and clever HTML code can then be borrowed. Experiment with new tags and see what occurs. Even graphics and pictures can be downloaded by copying to the clipboard and then downloading into your documents.

BUILDING A USER GROUP HOME PAGE

Michael H. Smith, User Group Liaison for SAS Institute, Inc. has some suggestions about what to include in your web page. He suggests that you consider including a purpose statement about your user group, past and current newsletters; past meeting agendas, meeting dates, locations and agendas, a list of officers or steering committee members, and bylaws. He also advises making sure that you do not include copyrighted material such as SUGI papers, etc. Once you have determined the content of your web page you are ready to get started building a home page. This paper will not attempt to describe the how-to's of obtaining server space, but rather assumes that users either have access to a server or can obtain server space.

To create an HTML document that can be accessed by browsers, if you are using a Unix server, you will first need to create a public directory and within that directory an HTML subdirectory. Once you have established this directory then you can create your document in Notepad within Program Manager in Windows, or use an editor program (I used PICO within the Unix platform). And remember that while HTML code is NOT case sensitive, a Unix server is case sensitive, so it is safest to write your HTML code in lower case.

Please note that the word processor may split an HTML tag differently than it should appear in your document.

Your document should always begin with an HTML command:

<html>

Next we should include a heading.

<head> Welcome to the YOUR CITY home page
</head> a header tag always requires a closing or ending tag

<body> <p> A brief description of your mission

<h1> type a heading in this space </h1>

 an ordered list of officers and contact information
 name and phone number
 name and phone number
 ending command for an ordered list

<p> type all the text that you would want to see in the body of your home page---

<p> -- as many paragraphs as you wish --

<h2> BYLAWS </h2>

<ol type=I> list of bylaws with roman numerals
 roman numeral I bylaw
 roman numeral II bylaw
 roman numeral III bylaw
 to end the list

<p> paragraphs containing BYLAWS

 -- a list of officers and contacts --

<p> Let's link our home page to the SUGI 23 home page.....

C lick here to access information about the upcoming SUGI 23 meeting

<p> Let's link our home page to the MidWest Users of SAS Software home page.....

 See the WUSS homepage

Finally end the document with

</body> the ending tag for the <body> command

</html> the ending tag for the HTML code

That is how easy it is to build a home page.

TROUBLE SHOOTING

Writing HTML code is simple, but not fool-proof. The most common error when creating an HTML document is forgetting to use the ending tag. For example, begins bolded text. The ending tag must appear at the point where the bolded text should stop. If you find a whole section of your document bolded or italicized, or appearing in a larger font than you would have expected, look for a missing ending tag. This is the easiest mistake that novice HTML coders make when creating HTML documents

There are also web sites that will debug your HTML code for you. Simply submit your file to one of the may online HTML syntax validation programs available. Do a search on the web to fin them, or use the following URLs:

<http://www.cc.gatech.edu/grads/j/Kipp.Jones/HaLidationn/validation-form.html>

<http://www.hal.com/~markg/WebTechs/validation-form.html>

<http://www.research.digital.com/nsl/formtest/>

<http://uts.cc.utexas.edu/~churchh/htmlchek.html>

ON-LINE RESOURCES

For a wonderful overview of the Internet, including a very thorough and up-to-date listing of the Internet Access Providers including fees, etc. check out the Electronic Frontier Foundation's home page at the address listed:

http://www.eff.org/pub/Net_info/EFF_Net_Guide/netguide.eff

The Electronic Frontier Foundation is a non-profit civil liberties organization working int he public interest to protect privacy, free expression and access to public resources and information online.

Other excellent on-line resources include:

A Beginners Guide to HTML at:

<http://www.ncsa.uluc.edu/Internet/WWW/HTMLPrimer.html>

The HTML Quick Reference Guide at:

http://kuhttp.cc.ukans.edu/lynx_help/HTML/quick.html

Composing Good HTML at:

<http://www.willamette.edu/html-composition/strict-html.html>

CONCLUSION

The World Wide Web is fast becoming the most popular communication vehicle and building a home page for your local user group, another organization or for yourself can be fun and easy. By mastering a small number of simple HTML commands you can build an informative home page.

This paper is not meant to be a complete overview of HTML, but rather includes enough simple HTML code to build an impressive HTML document in a short amount of time.. Remember to use the KISS principle (keep it simple, silly), and get great ideas from other web pages, by accessing their source code. And lastly have fun creating your home page.

REFERENCES

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