



## How the Net Works Part VI

# HTML: The Words Behind the Web

By Jay Nelson, Editor

Historically, the World Wide Web is brand-new, just 21 years old, and evolving at a truly incredible pace.

Since first conceived in 1990, the Web has far outstripped all expectations. What started as a relatively simple means of communication between scientists has become highly complicated. Yet, just as the origin of other technologies have powerfully affected the Internet's development, so too the World Wide Web.

The Web began as a means for scientists at CERN, the European high-energy physics lab that someday might blow up the world, to share experimental results. It started with an idea: a clever chap named Tim Berners-Lee thought it would be nice if he could somehow swap "poster sessions" with his buddies at distant universities and research establishments.

A poster session is a physical exhibit of an experiment illustrated on pasteboard. It usually consists of a big title, pictures of the equipment or subjects, a few basic bulleted points, a couple of supporting charts or tables, and a short summary of conclusions.

Sound familiar? Maybe it should. Not only world-class physicists but tired middle school students and their harried parents have spent many sleepless nights preparing exactly this kind of presentation.

Yes, the Web was essentially invented to show off science fair projects. Can't get geekier than that!

Basic HTML works great for displaying simple poster sessions. But for watching movies, reading books, posting opinions, gaming, shopping and so on, not so much. Interacting in any way whatsoever was never even imagined at the start. All that and more has been added on since, sometimes rather clumsily.

The geeks of CERN were blessed with some very smart ideas, but were cursedly clueless about graphic design – a problem that has continued to plague the Web ever since. More importantly, the World Wide Web is the first and only medium ever invented where *the appearance of the information depends mainly on the device it's displayed on and its settings.*

This was intentional, deliberately done to make the Web highly accessible, but it creates some uniquely daunting challenges from a graphic design perspective. Your view of the same document might well be completely different from mine.

*Continued on back*

## The whole world is watching

### The Global Village Is Here

The Internet has become so important that Secretary of State Clinton recently described access to it as "a fundamental human right." The Net that burst the chains of intellectual freedom is beginning to overthrow social shackles, too. This also happened after the last great revolutionary information processing technology, the printing press, was invented.

How far the political revolutions that began with Twitter and Facebook feeds in Tunisia will spread cannot be predicted. But one thing that is clear is that the world has become a very small place. It is now truly a "global village" – a condition that was foretold long before the Internet was created.

A Canadian professor, Marshall McLuhan, who also predicted the Web along with how we "surf" it almost 30 years before it was invented, came up with the term. Another phrase, "*the medium is the message,*" conveyed his realization that communication mediums affect society not by their content as much as by sensory characteristics. New "hot" media like TV affects culture quite differently than the "cool" but more demanding and participatory print media that has shaped our modern society.

How prophetic was he? Way before YouTube, 24 hour news, celebrity meltdowns, and reality TV, McLuhan also said that the global village would then become "global theatre." Close enough!



**SOUTHWEST**

**CYBERPORT** [swcp.com](http://swcp.com) | [help@swcp.com](mailto:help@swcp.com)

New Mexico's Leading Local Internet Service Provider

5021 Indian School NE, Suite 600, Albuquerque, NM 87110-8910 USA

**505.232.7992**

Continued from front

Designers instinctively don't like that *at all*. A webpage designer strives to make her pages look consistently good and function in all browsers. Yet these range from smartphones and tablets with the newest apps to Gramp's clunky old Windows box with obsolete software. Some very talented people have doubtless gone mad from the many conflicting demands.

But every webpage still relies on the fundamental rules laid down in the beginning. Though it's not necessary nowadays to know how it all works to create webpages, a basic appreciation of HTML can only help.

## Playing tag

A **webpage** is a document written in **HTML** (*Hyper Text Markup Language*). The “**markup**” part means that hidden within the document itself are special **tags** that tell the **browser** how the words following or in between these tags should be displayed.

Normally these tags can only be seen if you select “See Source” or the equivalent command under the browser's View menu. All HTML tags are enclosed between angle brackets, so the one for “paragraph” is rendered `<P>`, for instance. Tags can specify types of text – headers, bullet lists, and so forth, or how the type should be rendered, such as in boldface or italic. `<H1>` for the “headline”, for example, causes the text to appear big and bold compared to the rest.

Most tags must be paired – for that, a backslash is used in the second tag to show where the formatting ceases. So to render a headline, the code might read: `<H1>Hi, there!</H1>`.

These elements can even identify what images to place and where to put them. But there are only about forty tags or so altogether in HTML. That's quite a restricted palette and not all are useful anymore. The losers either seemed like a good idea but didn't work out, like the headache-causing `<BLINK>` tag, or proved redundant, like `<STRONG>`, which is much the same as `<BOLD>`. Layout options are also very limited.

Artists are always pushing the boundaries of design, so a number of clever tricks have been devised to deliver ever more complex, uniform, and sophisticated layouts. Since HTML is good with tables, many of these solutions involve frameworks of tables and boxes, lots and lots of boxes, mostly unseen.

The geeks kept eagerly adding new capabilities to the Web, though unfortunately without universal agreement or input from visual artists. Despite everything, **HTML5** is now finally being implemented. It includes a precise and flexible system of controlling layout and design choices which should work much better – if they ever get the bugs out.

Other languages such as PHP have been invented and incorporated into webpages, allowing interactivity by gathering, storing, and changing data. Scripts have

been devised to work implanted in applications and create special display effects. But that's another story.

Even bigger changes are foreseen, with the linking of objects and the evolution of a “**semantic Web**” of meaningful relationships between things and ideas.

## Connecting power

All formatted text documents include invisible tags. The revolutionary aspect of HTML is the “**hyper text**” part. That's where the real genius of Berners-Lee's idea comes in. He wanted more than just footnotes for his online poster sessions. He wanted to be able to go straight to the data that proved his point.

This ability to connect with other documents gives HTML its unique power to literally go beyond ordinary print. For among the tags are ones that can specify the **links** to any Internet location of related information.

Modern webpages contain much more than just HTML, though it remains the irreducible core. What you see on screen is largely made of embedded media files run by a hodgepodge of scripts and links perhaps all governed by a **content management system**. Some content may be furnished by remote servers and all of it can be tailored to each user's browser, region, and personal preferences, which can easily be tracked.

Each Web document is essentially ephemeral but yet a part of all others. As sites grew to the billions that now exist, they developed into a farflung interwoven complex of associated knowledge, ever changing and transcending distance and boundaries. The Web was born more like a global brain than a library.

But the basic connections haven't changed. Links make the Web work, both those of the emotional bonds of human beings as well as those of data. As the Internet evolves, those connections are only likely to get richer, closer, and more elaborate and fruitful in ways that we cannot yet conceive. 



## Lost in the Cloud

“**Cloud computing**” is a means of enabling on-demand access to Internet data and services without knowing the exact location and configuration of the provider's system.

It has become a Web 2 buzzword, generally referring to Web-based tools accessed through a browser that work like programs installed on the machine. It's basically computing offered as a utility, widely used for maps and other interactive displays. Cloud computing is very convenient to users who need to know nothing about the services to use them, and is widely touted as the wave of the future.

However, it's not without risk. Google recently lost 40,000 Gmail accounts in the cloud, with email, folders, saved messages, everything. Blamed on a software update, as of this writing, they're still looking for them. – *CNET*

