

Web Authoring—How Do I Get Started?

The computer has become a tool not only for improving academic achievement, but for creating student-centered learning.

Nearly everyone has seen or used the World Wide Web (WWW). Educators have discovered the WWW for publishing course materials, creating supplements to classroom instruction, and assigning student activities. Technology teachers who are integrating computer technology into their curricula are developing student skill profiles in areas like desktop publishing, graphic design, computer programming, and academic research.

The computer has become a tool not only for improving academic achievement, but also for creating student-centered learning. Students who create Web sites for clubs, classes, personal use, or other purposes are utilizing problem solving, concept attainment, and teamwork skills during the process. Publishing on the WWW offers one the ability to write anything imaginable with no limitations as to what

can be put in print, and offers accessibility to information from anywhere. Also, the cost is next to nothing. Whatever the topic of choice, publishing a Web site allows educators and students to express themselves and advertise their affiliations creatively.

How Do I Get Started?

The following ideas are provided for technology education teachers and students who want to publish materials electronically and are seeking avenues for designing homepages. These ideas are presented to enable one to get started in creating a Web site.

Publishing a Web site requires access to an internet server. For some teachers, this service is provided by their educational institution. If the former is not available, there are many internet service providers (ISP) offering internet services in most regions of the country. Determining the costs and services associated with an internet connection and choosing which ISP to use raises

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concerns. It is recommended that anyone seeking to establish an account should shop around. The industry standard for most internet service providers is 150 access hours monthly, an e-mail account, and 5 megabytes of space for Web authoring. MCI, as an example, provides these services for about \$14.95 a month. To simplify the process, Geo Cities and Tripod offer personal Web site space for free. These sites are located at <http://www.geocities.com/join/> and <http://www.tripod.com/build/>. Remember that anyone seeking internet access will be required to have a computer and the appropriate application software.

What Basic Requirements are Needed?

Web site development can be accomplished with any computer housing the appropriate software and configured for internet access. Windows and Macintosh are the two most popular computer platforms. The basic requirements for Web site development are as follow:

- A capable multimedia computer (i.e., low budget system requirements, 486sx, 33mhz central processor, 8 MB RAM, SVGA color display, mouse or other pointing device)
- 14,400 BPS modem minimum or T-1 connection
- A scanner
- Digital camera
- Color printer
- Authoring software (optional)

- Server space and an internet account
- A word processor (i.e., HTML capable word processors: Microsoft Word, Claris Works, Word Perfect; text only word processors: Notepad for Windows and simple text for Macintosh)
- File Transfer Protocol (i.e., Win-Sock FTP for Windows and Fetch for Macintosh)
- Graphics program (i.e., Adobe PhotoShop, Windows Micrografx Picture Publisher, Microsoft Photo Editor, etc.)
- A WWW browser (i.e., Netscape and Microsoft Internet Explorer)

Note, industry formats for publishing images on the Web require all images and graphics to be digitized as CompuServe Graphics Interchange Format (GIF) or Joint Photographic Expert Group (JPEG) file formats. The Adobe PhotoShop User Guide 4.0 (1997) defines GIF as "a commonly used program to upload documents to the CompuServe Information Service and other online services, and to pass documents between other types of computers. GIF is a compressed format that is designed to minimize file transfer time over phone lines" (p. 47). Adobe further states that "JPEG compression economizes on the way data is stored and identifies and discards extra data not essential to the display of the image" (p. 48).

Who Can Publish?

Anyone can publish a Web page after requesting server space from

an already able ISP. There are some restrictions to the type of material one can publish. This is where sound professional judgment and administrative support is needed, especially when having students publish personal Web sites as class assignments. The classroom instructor must be aware of and conform to school district internet use policies.

Electronic publishing is much like publishing in any other medium. It is unethical to use materials created by someone else without permission. This is not an issue if publishing one's own work, but critical when publishing the works of others. It should be considered that all work done by other people is copyrighted work and one must have written consent from the originator to use it. Examples include pictures, graphics, and text.

How Do I Publish?

WWW browsers (i.e., Netscape and Microsoft Internet Explorer) present information by means of HyperText Mark-up Language (HTML). In order for the information to be viewed, it is required that the desired published information be written in this code. Microsoft Word, Claris Works, and Word Perfect are examples of software that can transfer text to HTML code. Windows Wordpad, Windows Notepad and Macintosh Simple Text are examples of software with text editing capability only. Three simple steps to consider in using HTML are as follow:

1. Prepare documents in a language such as HTML.
2. Have a server to deliver the documents, complete with full-time line connection to the internet.
3. Mount the Web site on the WWW.

What Do I Need?

If media integration tools are in place (i.e., hardware, software and peripheral equipment), the next step is to develop a storyboard to display ideas. See below for an example of a storyboard.

Gather photographs, graphics, sound, and video. Compose the text desired. Then, electronically digitize all resources and enter them into the computer. Once these are in place, begin writing HTML code. Once you have created your introductory (index) page, save it as an HTML file titled "index.html". Succeeding Web site pages, as illustrated below, should be saved as HTML files titled "page1.html", "page2.html", etc. Keep in mind that Web authors should exercise liberty and use titles that index

the topics of each Web page accurately (i.e., webauthoring.html).

There are programs called editors that automatically create the HTML code necessary for publishing a Web page. Examples of these programs are Pagemill, Ardvark, Netscape Communicator and Gold, Microsoft Explorer, Front Page, Hot Dog, and Hot-MeTal. HTML editors are software applications that enable one to design a Web site visually without writing mark-up tags in plain text. It is recommended, however, that one learn HTML before using an editor.

How Do I Write Code?

HTML documents are plain text, also known as ASCII files, which can be created using any text editor. The minimum codes required for a Web site are noted below.

HTML consists of links or jumps (mark-up tags) that are fundamental components of the structure of a text document, i.e., head, title, and body (see page 7). Simply, HTML tags are used to mark the elements of a file for a

browser. Mark-up tags can be plain text, graphics, video, sound, or a combination of all of these.

The head element identifies the first part of the HTML code that contains the title. The title element contains the document title and its contents in a global context for WWW viewing. The body is the largest part of the HTML document and contains the content of the document. The minimum elements (tags) that Web sites have are <html>, <head>, <title>, and <body>. Corresponding tags are needed at the end of each element </html>, </head>, </title>, and </body>. Images can be added by writing a tag such as this (). Links can be added with this tag (title of page). A free helpful guide accessible via the internet is NCSA's-A Beginner's Guide To HTML. It is an invaluable reference created by the University of Illinois, Urbana, and can be found on the WWW at <http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html>.

Uploading, Maintaining, and Beta Testing

Once the Web site is completed, upload and house it on the internet by using File Transfer Protocol (FTP) software. Common FTP software applications are WS-FTP for IBM compatible computers and Fetch for Macintosh. Consult with the ISP on the techniques involved with uploading and downloading files to and from the internet. Test the site to

STORYBOARD DESIGN IDEAS

Team:	Project Name:	Story Board #1
<i>Index Page</i>	<i>Page #1</i>	<i>Page #2</i>
■ Text	■ Text	■ Text
■ Links or Jumps	■ Links or Jumps	■ Links or jumps
■ Photographs (Optional)	■ Photographs (Optional)	■ Photographs (Optional)
■ Graphics (Optional)	■ Graphics (Optional)	■ Graphics (Optional)
■ Sound (Optional)	■ Sound (Optional)	■ Sound (Optional)
■ Video (Optional)	■ Video (Optional)	■ Video (Optional)

A minimum HTML text document will look like this.

```
Source of: file:///A:/webauthoring.html - Netscape

<html>

<head>

<title>Technology Education</title>

<body>

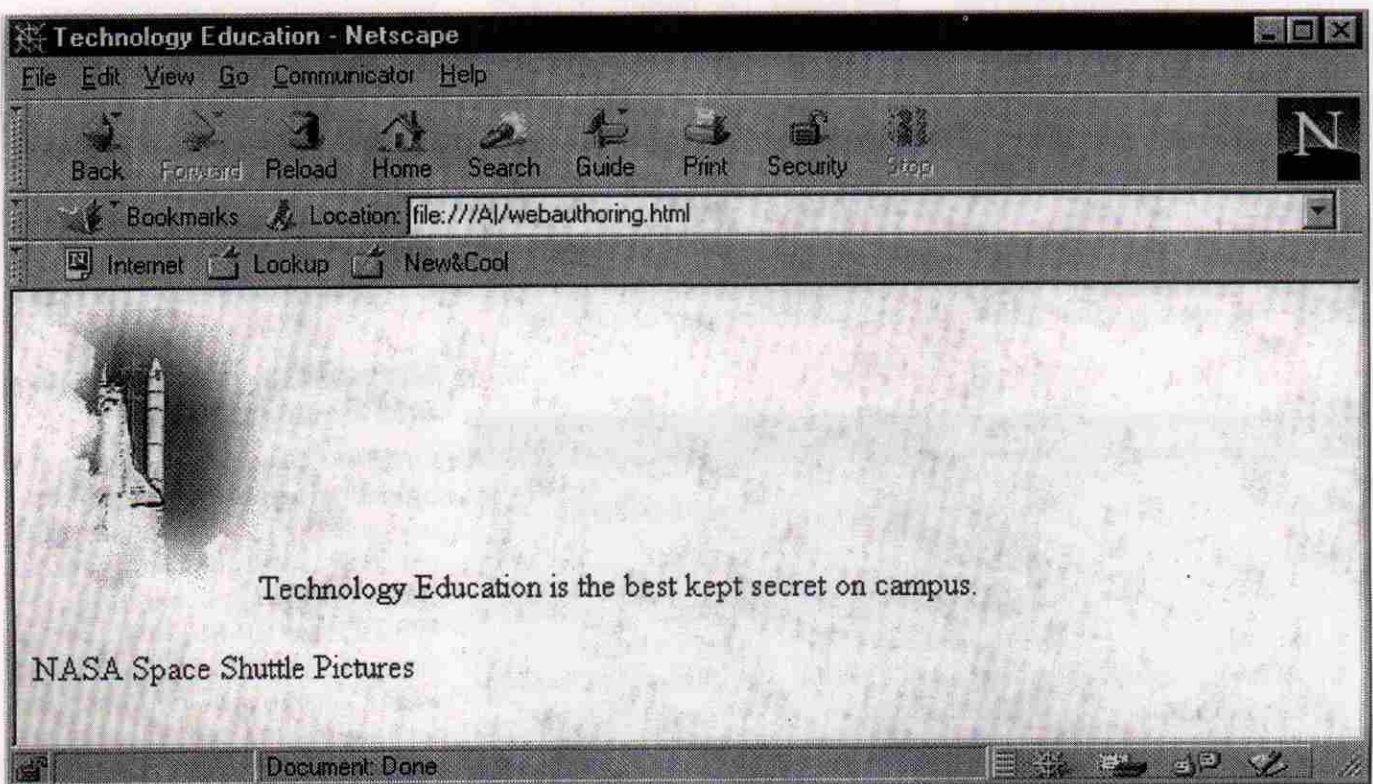
Technology Education is the best kept secret on campus.

<a href="http://www.spider.msfc.nasa.gov"> NASA Space Shuttle Pictures</a>

</body>

</html>
```

The results look like this.



Source: NASA Space Shuttle Pictures (<http://www.spider.msfc.nasa.gov>).

GLOSSARY

ASCII—Computer or word processor generated documents written in plain text format.

Browser—An internet application software used for viewing graphics, images, text, sound, and video on the internet.

FTP—An internet application software, file transfer protocol, for transferring software, text, and graphics between computers.

GIF—A file format, given to photographs and graphics. Also known as CompuServe GIF.

HTML—A programming code, hyper text mark-up language used for viewing information on the WWW that utilizes hyper links or links to jump from one site to another.

ISP—An organization, internet service provider, that allocates file space and connectivity to the internet.

JPEG—A file format, Joint Photographic Expert Group, given to photographs and graphics.

Modem—A device that permits communication transmission between computers and telephone lines, converting digital information to analog.


T-1—A portion of the internet that acts as the main connection to the top structural level of the internet.

WWW—Wide area hypermedia information retrieval internet initiative aiming to give universal access to a large universe of documents for viewing graphics, images, text, sound, and video.

make sure that everything works and appears correctly.

Conclusion

Utilizing Web site development in the classroom is an outstanding method of instruction for publishing course materials, supplementing classroom instruction, and assigning student activities. It is a student-centered learning activity for advertising clubs, classes, personal use, or other purposes. Also, it is an excellent problem solving activity that involves concept attainment and learning teamwork.

There are many internet service providers offering Web site publishing assistance and access at a minimal cost. Basic requirements are a capable multimedia computer, the appropriate application software, and access to the internet. Anyone can publish a Web site once one understands the techniques and ethical concerns involved. To that end, creating a Web site generates a feeling of accomplishment while providing challenges. Success in Web authoring requires time, imagination, and a desire to learn. 

Reference

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