

## **The Best Tool for Building a Web Site\***

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*Ms. Leiserson describes the types of Web-authoring systems that are available for building a site and then discusses the various criteria that should be analyzed before deciding which system to use.*

¶1 “How can I make a Web page?” I am asked this question at least once a week—usually by people with good ideas but only a vague sense of what is involved in creating a Web site. While generally there is a clear best answer to each instance of this question, the answer itself varies according to the situation, and finding it requires some analysis. In this article I first examine the spectrum of Web-authoring programs that are available, and then discuss the criteria that must be analyzed to narrow the choices and reach the best answer for a particular situation.

### **Spectrum of Web-Authoring Program**

¶2 The critical issue in building a Web site is choosing the appropriate Web-authoring program. It will be the primary tool in a Web site creation toolbox. The types of software available cover a wide spectrum, ranging from basic and free to multifaceted and very expensive. It’s helpful to have at least a passing understanding of this spectrum, which will continue to evolve at its far end in the future, just a few steps behind the evolution of the Web itself.

¶3 On one end of the spectrum is the text editor, which only shows the raw code. The classic example in this category is NotePad—not because it is the best, but because it comes free with Windows and is thus both ubiquitous and handy. The text editor is the original software from the Web’s early days (early days being eight years ago) and still often the software of choice for many, particularly programmers who live and breathe code as a way of life.

¶4 The next shade of software is the HTML-based Web editor, which also features the actual code but includes many Web-focused extras as well, such as basic

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page templates and HTML help files. HomeSite<sup>1</sup> and BBEdit<sup>2</sup> are generally considered the best in this category, with 1st Page,<sup>3</sup> a freeware package, a close runner-up.

¶5 Then come the so-called WYSIWYG (what you see is what you get) Web-authoring programs. While the category name is not precisely accurate (all of them at best only approximate what a Web page in a browser will look like), nonetheless this is currently the most important type of Web site software. It is the category of the market leaders, in particular Dreamweaver<sup>4</sup> and FrontPage,<sup>5</sup> and the most likely answer to the original question. Beware, however. While they are the reigning champions of the Web site-authoring world, they are entirely different programs, and comparing them has a definite apples-and-oranges quality (more about that later). It also should be noted that there are some other worthy contenders in this category, in particular Adobe GoLive,<sup>6</sup> which is especially well suited to Macintosh and Photoshop users.

¶6 Beyond WYSIWYG, at the developing end of the spectrum, are content management systems (CMS). These represent a burgeoning area of software intended for larger organizations and companies.<sup>7</sup> With a CMS, the skeleton of a Web site (including its structure, navigation, and look and feel) is already set up. The heart of a CMS package is a customized user-friendly interface where “content providers” can enter their news, stories, photos, and so forth into the Web site. In addition, the software usually has various checks and balances built in so that others in the organization can edit and sign off on the original submissions. The beauty of a CMS is that content providers and editors need little or no understanding of Web authoring to maintain a site. However, a CMS is generally a big investment and a battleground of vendors still exists, with no clear leaders having yet emerged. A good example of a CMS being used in the library world is SOLINET’s site,<sup>8</sup> which uses Ektron’s<sup>9</sup> CMS software.

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1. While now a Macromedia product which comes bundled with Dreamweaver MX, HomeSite was originally an independent product from Allaire. See MACROMEDIA HOMESITE, at <http://www.macromedia.com/software/homesite/> (last visited Jan. 23, 2003).
  2. BBEdit is a Macintosh product from Bare Bones Software. See BARE BONES SOFTWARE, at <http://www.barebones.com/> (last visited Jan. 23, 2003).
  3. 1st Page 2000 is a product of Evrsoft. See EVRSOFT, at <http://www.evrsoft.com/1stpage/> (last visited Jan. 23, 2003).
  4. Dreamweaver is a product of Macromedia. The current version is Dreamweaver MX. See MACROMEDIA DREAMWEAVER MX, at <http://www.macromedia.com/software/dreamweaver/> (last visited Jan. 23, 2003).
  5. FrontPage is a Microsoft product. The current version is FrontPage 2002. See MICROSOFT FRONTPAGE, at <http://www.microsoft.com/frontpage/> (last visited Jan. 23, 2003).
  6. See ADOBE GOLIVE 6, at <http://www.adobe.com/products/golive/> (last visited Jan. 23, 2003).
  7. For more information on CMS, see Michael Stoner, *Content: The Key Component of Your Web Strategy*, at [http://www.mstoner.com/prebuilt/mStoner\\_CMS\\_1.pdf](http://www.mstoner.com/prebuilt/mStoner_CMS_1.pdf) (Mar. 2002) (introducing the CMS concept); CMSWATCH, at <http://www.cmswatch.com/ContentManagement/Products/> (last visited Jan. 21, 2003) (providing ongoing and detailed product analyses).
  8. SOLINET, at <http://www.solinet.net/> (last visited Jan. 23, 2003).
  9. See EKTRON CMS 300, at <http://www.ektron.com/cms300.cfm> (last visited Jan. 23, 2003).

¶7 Special mention goes to one very new contender in the CMS category—Macromedia Contribute.<sup>10</sup> It's actually a hybrid—using familiar tools such as Dreamweaver and FrontPage as the parent software for the Web professionals who set up and orchestrate the site, and Contribute as the child interface for the content providers. While it doesn't have all of the features of a full CMS system, with its user-friendly approach to both Web professionals and nontechnical content providers, it has enormous potential.

¶8 There are also specialized subcategories of CMS. The most well-known example in our world is course management system software or “courseware.” The primary contenders in this arena are Angel,<sup>11</sup> Blackboard,<sup>12</sup> Prometheus (now owned by Blackboard),<sup>13</sup> and WebCT.<sup>14</sup> In addition, law schools can use LexisNexis Web Courses and TWEN: The West Education Network.

### Criteria in Choosing Web-Authoring Software

¶9 Let's now return to the critical issue of *which* software to choose for use in building a particular site. Web professionals ask themselves this question repeatedly because the quality and longevity of a site, as well as the efficiency with which it is produced, hang in the balance. In answering it, there are certain criteria to evaluate. In approximate order of importance they are:

- Has it already been chosen for you?
- What support is available?
- How large is the site?
- What is the server software?
- What type of site is it?
- What is the learning curve?
- How important is adherence to standards?
- How important is accessibility?
- Will scripting languages be used, and if so, which ones?

¶10 There is no single criterion that can answer the question, with the possible exception of the first—has it already been chosen for you? This may seem obvious, but at times it can be masked by institutional issues. A common example is volunteering to help with a Web site for a professional organization. The people who manage the Web site may be unclear about what software is best for their system. It can even be hard to find out who they are. In such instances, it is best to use

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10. See MACROMEDIA CONTRIBUTE, at <http://www.macromedia.com/software/contribute/> (last visited Jan. 21, 2003).

11. See CYBERLEARNING LABS, at <http://www.cyberlearninglabs.com/> (last visited Jan. 23, 2003).

12. See BLACKBOARD, at <http://www.blackboard.com/> (last visited Jan. 23, 2003).

13. See BLACKBOARD PROMETHEUS, at <http://company.blackboard.com/prometheus/> (last visited Jan. 23, 2003).

14. See WEBCT, at <http://www.webct.com/> (last visited Jan. 23, 2003).

the most adaptable (typically standards-based) programs, such as text editors or Dreamweaver.

### *Support*

¶11 Closely related to this is the question of support. Often companies and organizations will choose and then support only one or two pieces of Web software—not to save on the cost of the software, but rather to save on the cost of staffing and workflow. Support itself is a fuzzy concept. It can mean simply that a particular product is the software that the information technology department will (or will not) purchase and install on your machine, and you risk IT's wrath if you install anything else. In defense, this is because installing untested software can compromise other critical software already on a computer, plus IT is frequently understaffed. In an ideal world, support will also mean training or even one-on-one help on an as-needed basis. No matter what the level of support, however, if the organization you are doing Web work for supports certain software, that's going to be your best choice. If it's a question of working with two organizations (for example, a law school and a library system) that support different Web-authoring software, this will require some negotiations. Knowing as much as possible about the software options is particularly important in these circumstances. Another possibility is that you will be on your own, without any support. While not confined by organizational issues, you also will not automatically have a resource to turn to when there are glitches. In this situation, the learning curve of the individual products becomes a more critical factor.

### *Server Support*

¶12 Another major factor in choosing an authoring program that again looms large in an organizational context is server software. Server software is what turns a regular computer into one that generates Web pages for users around the world. If an organization is very Microsoft-centric, then probably its Web servers will use IIS (Internet Information Services)<sup>15</sup> and the logical authoring software to choose will be FrontPage. FrontPage is tightly integrated with IIS and the two work very well together. If, on the other hand, the servers use Apache,<sup>16</sup> FrontPage is less likely to work and Dreamweaver or a text editor will be a better choice. A third possibility is that you are selecting your own Internet Service Provider (ISP). Once again, with this independence, the tables are turned. You can choose an ISP based on the software that works best for you. You can specify, for example, that the server includes the FrontPage extensions or that it supports PHP.

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15. IIS 5.0 comes with Windows 2000. See MICROSOFT WEB AND APPLICATION SERVICES, at <http://www.microsoft.com/windows2000/technologies/web/default.asp> (last visited Jan. 23, 2003).

16. See APACHE SOFTWARE FOUND., at <http://www.apache.org/> (last visited Jan. 21, 2003).

### *Size of Site*

¶13 A very different issue is the size of the site. Under fifty pages is generally considered to be a small site. FrontPage, with its wizards for setting up certain types of sites and canned designs, is frequently the best choice for a small site, particularly if it is for personal use. Dreamweaver, on the other hand, is generally considered the software of choice for Web professionals and very large sites. It is built to generate extremely clean code (it even has a code validator built into it) that will render correctly on a wide range of browsers.

### *Type of Site*

¶14 In a similar vein, different software lends itself more readily to different types of sites, in particular intranets. This is an area where FrontPage can shine. An intranet by definition is for a closed audience. Thus you can know and probably even have some influence over the browsers used to access it. One of FrontPage's drawbacks is that it can generate code that will not run properly on a number of browsers. However, with an intranet, this does not have to be an issue. If the server runs IIS, including "SharePoint Team Services and FrontPage Extensions,"<sup>17</sup> you can easily use various FrontPage components to build such interactive features as announcement and message boards. Such features normally require fairly sophisticated programming, but with this configuration it's easy and inexpensive to set up a basic interactive "Sharepoint Team Services" intranet site.

### *Learning Curve*

¶15 Perhaps the biggest impediment to creating Web sites is simply learning how to do it, no matter what the software. There is a reason for this. While some packages may be easier to learn than others, none is easy. FrontPage is generally considered the simplest to learn. I have always found this surprising, since it relies on its own peculiar terminology (for instance, a "web" is in fact a Web site you are building) and often stymies users when they are ready to move their work from their own hard drive to the server. However, its interface is closer to Microsoft Word's, and (not surprisingly) it does do the best job of importing other types of Microsoft files. Also, it has more wizards and can edit images to a limited extent. In my experience, however, truly mastering it takes about as much time as mastering Dreamweaver or even learning the basic HTML tags.

### *Adherence to Standards*

¶16 Standards, the bedrock of the Web,<sup>18</sup> can also be important in choosing Web-authoring software. Standards-compliant sites are the most flexible and extensible.

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17. FrontPage Extensions are a specialized set of programs on a Web server that work with FrontPage components. They are not needed for standard Web code.

18. See Anna Belle Leiserson, *Netscape, Standards, and You*, 94 LAW LIBR. J. 667, 2002 LAW LIBR. J. 41.

To rely on extremely proprietary code is, in the worst case scenario, to balkanize the site. Currently Dreamweaver excels at helping Web authors create standards-compliant code. One might think that hand-coding would be the best, but hand-coding typically lacks the double-checks that are structured into Dreamweaver. FrontPage, on the other hand, is weaker in this area. It can make it easy to add certain otherwise hard-to-code components, such as a search engine, to a site, but that comes with a price. The price is that most of these components are run by “web-bots,” which in turn rely on FrontPage Extensions, a nonstandard Web technology. This means the site will be locked into Microsoft technologies and not easy to adapt outside of this realm should the need arise.

### *Accessibility*

¶17 Similarly, Dreamweaver is better for creating accessible sites. This is not a coincidence; there is a large overlap between standards-compliance and accessibility. For federal department and agency sites in particular, which must adhere to requirements imposed by section 508 of the Rehabilitation Act,<sup>19</sup> accessibility is a key issue. It is possible to configure a tool like Dreamweaver so various accessibility pitfalls are automatically flagged. For example, when you are about to add an image to a page, it can have a window pop up to remind you to use “alt tags” (for a brief written description), improving your site for the visually impaired.

### *Scripting Languages*

¶18 Finally there is the issue of what scripting languages and databases, if any, the site will use. A script is a type of computer program called on by another piece of software rather than running on its own. Thus scripts can be invoked by a Web page, making them the form of programming best-suited to the Web. They are what create “dynamic” as opposed to “static” Web pages. Closely related to scripts are the databases they can interact with. On its own, a script can do things such as showing the date or putting the data from an interactive form into a file or e-mail. However, such uses are limited. Where they have the most power is in combination with a database. It’s rather like chips and salsa—each great on its own, but even better together. A database in and of itself is a mass of data that can be accessed with queries. With a Web page, the embedded script, rather than an end user, creates the query and pulls the appropriate data out of the database. This database-to-Web capability is at the heart of ultra-successful Web sites such as Amazon.com and Google.

¶19 Again FrontPage shines for those with small sites and simple needs. Several of its wizards and templates offer some built-in scripts, including database-to-Web. However, these tools are very basic. Any degree of customization will require using one of the various script languages. Javascript is probably the

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19. 29 U.S.C. § 794d (2000).

most common, and both FrontPage and Dreamweaver support it. Dreamweaver actually has some level of support for all of the most common scripting languages, including ASP, CGI, and PHP, and is particularly strong in its support of ColdFusion. FrontPage, on the other hand, focuses on ASP. Scripting languages and databases are actually somewhat codependent. As a Microsoft product, it is not surprising that ASP works best with Access and Microsoft SQL Server. PHP, on the other hand, is an open source product and therefore plays particularly well with open source databases, including MySQL and PostgreSQL.

### **Conclusion**

¶20 I realize that such an onslaught of programming TLAs (three-letter acronyms) is not endearing to many librarians. Moreover, decisions about scripting languages and database software are typically in the realm of information technology and Web professionals. However, such choices at times do end up in our realm, for example, with small sites and management decisions. Also it is helpful to have a general sense of the driving forces behind the development of Web-authoring software, not to mention the general strengths and weaknesses of the different options, when choosing a tool for oneself. The acronyms themselves matter less than the basic concept behind them—that full-blown Web-authoring tools are just that, and these considerations factor in to which products work best under various circumstances.

¶21 In general, while it is often difficult to quickly answer what seems an innocent and simple question—“How can I create a Web page?”—by first answering a few other crucial questions, it ultimately is possible to figure out the best tool, and hopefully give a greater sense of the adventure ahead for an aspiring Web author.