

## Before You Speak with a Web-Development Firm

The design and development of your Web site can be an exciting prospect. Many people can't wait to jump into the fray. But before you interview potential Web-development firms, there are a number of issues—technical and not—you will want to consider. This white paper is designed to bring you up to speed on how to evaluate the strengths and weaknesses of firms seeking to win your project.

Because there is no one-size-fits-all answer to the question of “How do I find the right firm?” this paper will focus on medium size and larger organizations looking to design and implement a new Web site. However, the topics presented here should provide useful insights for small organizations too, as well as for organizations looking to redesign an existing Web site.

The task of designing and developing a Web site can be broken down into three general skills:

1. Graphic Design
2. Content Design
3. Technical Implementation

Each of these contributes to the success of your project and should be included in your search for a Web-development firm.

### Graphic Design

A full understanding of graphic design and the options for developing a visual aesthetic that projects the values of your organization is beyond the scope of this paper. For greater insight into the graphic-design process, please refer to additional white papers elsewhere on the Bidwell ID Web site. Here are a few insights to help you get started.

### Look at a firm's Web sites

One of the best indicators of the design capabilities of a Web-development firm is also the easiest to access: look at Web site projects completed by each firm you want to consider. The firm's own Web site will include links to completed projects,

but it is well worth a phone call to ask directly for links to sites they have developed within your particular industry. In addition, ask about the firm's design and problem-solving abilities concerning specific past projects, including:

- How is this project similar to ours?
- How is it different?
- What were the most difficult design issues you had to tackle?
- What constraints did the client place on the design?
- What might you have done differently without those constraints, and why?
- How well is the solution working for the client?

### Identity and Marketing Integration

You will need to consider how your Web-site design integrates with your ongoing branding and marketing efforts. How will your logo, organization's color scheme, and promotional materials be addressed in the design of your Web site? Existing materials are usually your first source for generating Web-site ideas. Be sure to include staff early enough in the process to get their buy-in and support. Your marketing developers should be able to provide insight into the graphic design details of your organization and be able to make strong recommendations. A smooth and effective relationship between your marketing/identity staff and your selected Web-development firm will play an important role in the success of your Web-site project.

### Content Design

The primary goal of any Web site is delivering information (content) to your visitors in a context (design) that reinforces the values and goals of your organization. Visitors to your Web site should be able to find what they need easily and come away with a positive sense of your organization.

### Raw Content

Before you sit down with a candidate firm, you should have a clear sense of the content you

expect to put online. At this point, the information is considered raw, meaning it is not edited or organized. A firm will help you edit and organize the information. Still, it is a good idea to explore some options of how that content will be organized. Again, because the Web itself is an encyclopedia of Web-site design solutions, finding Web sites for organizations similar to yours can be helpful in fleshing out possibilities for content, as well as how that content might be structured.

### Structure

How your Web-site information is structured is the heart of the development process. By “structure” we mean how your content is organized, which determines how quickly and easily visitors find what they are looking for. This is true for Web sites of all sizes, but becomes more critical as the size of the organization and the amount of online information increase. In practice, well-structured Web sites are “transparent,” meaning that users don’t notice their structure. Users simply find what they need without much effort. Conversely, poorly-structured Web sites scream out their shortcomings. Users’ frustration at not finding what they need, or getting lost in the site, can eclipse their reason for visiting the site in the first place. The end result is a lost prospect, customer, or member.

In discussing content structure with candidate firms, look for insight into how they develop a Web site. Present your raw content and initial ideas. Ask them how they would begin structuring that content, and most importantly, why. A good firm will show sensitivity to the particular needs of your organization, or type of organization. You want a thoughtful discussion as opposed to vague suggestions or something that sounds like a boilerplate solution.

The discussion should consider:

- What content will all users need? most users? few users?
- Will most users be looking for specific information, or just getting a general sense of your organization?
- Do you want to lead users to particular content to highlight specific aspects of your organization?
- Is there in-depth content (e.g. downloadable PDF or MS Word documents) or printed materials that you would like to make accessible?

### Navigation

Navigation refers to how the links throughout your Web site are organized and presented. Along

with content structure discussed above, navigation determines how easy it will be for your visitors to find what they need, as well as to see the things you wish to highlight.

There are three aspects to consider in navigation design:

- Hierarchy—the importance of certain groups of links over others
- Location—where links are on the page, their position in the layout
- Look—how the links will appear, graphically

In browsing, you will notice these approaches to navigation:

- Horizontal menu—text links in a horizontal row at the top of each page
- Vertical menu—text links in a column along one side of each page
- Links in text—highlighted words in the body of text on a page
- Sidebar links—graphics, buttons, etc., usually located on the left or right side of a page
- Footer menus—secondary horizontal menu at the bottom of each page

Again, there is no one-size-fits-all method for determining what will work best for your particular Web site. The potential Web-development firm must show sensitivity to your organization’s needs as well as any established standards for sites of your organizational type. For example, if you are building a site for a university department, is there a pattern to the navigational structure of other university department sites? If so, do these standards work well, and should they be adopted for your site?

### Technical Considerations

There is a “catch-22” in determining the technical abilities of your development-firm candidates: you are hiring them in part for their technical expertise, but you need a decent grasp of the issues yourself to make sense of their answers. In this section we will lay out some of the primary technical issues involved in Web-site development. This information should allow you to get, and keep, the conversation rolling. You may still want to seek outside help. Consider bringing in a technical consultant, either from another in-house department or a hired third party, to assess a candidate firm’s proposal. Be sure to ask for references, and don’t hesitate to ask them about their specific experience with your firm’s technical considerations.

### Performance, Browsers, and Compatibility

Your Web pages should appear quickly in different browsers and should look the same regardless of the make and model of computer being used. Remember that you have less control over the consistency of look between monitors; the quality and settings of each monitor greatly affect the color and brightness. You won't need to learn about the underlying technical considerations for these, but it is important that you feel confident your Web-development firm can deliver on these goals. Be prepared to ask how firms achieve these performance and compatibility goals as well as how they measure their results. How do they test their site designs across different operating systems and browsers? As of this writing (March 2005), your site should perform well for the majority of popular computer and browser combinations shown below:

- Macintosh OS 9 and OS X
- Microsoft Windows 98, 2000, and XP
- Netscape 7.0
- AOL
- Internet Explorer 5 (Macintosh)
- Internet Explorer 5 and 6 (Windows)

### Web Concepts

The number of technologies and software tools available for Web-site development is constantly growing. The choices can be overwhelming even for developers. Be sure a firm explains things clearly and without unnecessary acronyms or jargon. That said, here are a few core technological concepts to help you better understand the issues and questions that may be raised.

### Client and Server/Host

When you open a Web browser to visit a Web site, a transfer of information is taking place behind the scenes between your computer (the "client") and the computer on which the Web site you are visiting is stored (the "server" or "host"). Each time you visit a new Web page, a request is made to the server/host computer to send everything necessary (text, images, etc.) so that the page can be viewed on your client computer.

### Static vs. Dynamic

A static Web site is one in which the information doesn't change. Each page, image, and piece of text has been coded by the Web developer and is stored on the server. It only changes when manually edited, normally by the Web developer. Changes are time consuming and thus happen less often. In

contrast, the content of a dynamic Web site changes regularly and typically includes a content-management system (see below), which allows Web-site updates to be made easily and by nontechnical people. Dynamic Web sites also make extensive use of "server-side scripting" (see below) which provides a more interactive experience for the visitor.

### Server-side Scripting

A server-side script is a piece of software that runs on the server and allows the Web site to respond to visitors in a customized way. For example, when you type a request into a search engine, the page you receive contains content that was generated in response to your specific search request. To do that, a server-side script matched your search request against an enormous database and generated a new Web page containing only links to Web sites that matched your search criteria. Other examples of server-side scripting include: collecting information entered on a form by visitors and storing it in a database, accessing a product catalog and ordering online, and signing up for an e-mail newsletter.

A server-side script is written in a programming language such as PHP (which can run on any host computer) or ASP (a language developed by Microsoft that works only on host computers running the Windows operating system). Scripting languages are more or less functionally the same. They become a consideration in terms of your hosting service (see below) and whether the language is understood by those called on to support your Web site.

### Content-Management System (CMS)

Content management describes a feature that allows nontechnical staff to make changes to your Web site without the need of a programmer or the original developer. A special administration section of your Web site (accessible only to authorized users with ID and password) can be accessed through any browser, offering a series of menus and pages with choices for editing, adding, and deleting content on your Web site. Adding a content-management system will increase the amount of technical design and programming your developer must do. This feature might increase your overall development cost by as much as 30 to 50 percent. This cost, though, can be offset by the savings of not hiring a Web expert for every change, and is strongly recommended for sites with frequently changing content.

### Image Processing

Your Web-development firm may or may not become involved in preparing electronic images for use on your Web site. Images can come from a large variety of sources (existing and new digital images, prints, negatives, slides, artwork, and illustrations) and may require skilled preparation to make them ready for use on your Web site.

You will need to discuss your imaging needs to determine whether you need additional support, such as a professional photographer or digital-imaging service bureau. Your development firm should, however, have expertise necessary to make your image files as small as possible, so they download quickly while maintaining high image quality.

### Databases (DB)

The inclusion of a database as part of your development firm's proposal will be determined by the Web site features you need. For some Web sites it will be a requirement: online stores must have a database containing everything they offer. For others it may be optional: a small arts organization could choose whether or not to include a simple content-management system along with its associated database. Your development firm should be able to explain clearly if and why your Web site requires a database.

For database technology, as with scripting languages, the choices are more-or-less functionally equivalent. The specific choice should be determined by your hosting service (see below) and ability of internal staff to support it in the future. The three most popular databases for Web site development are MySQL (a free, open-source database available for all systems), Oracle (a commercial database available for all systems) and Microsoft SQL Server (a commercial database available only for Windows).

### Hosting Service

Every Web site must reside on a computer that is connected to the Internet at all times. This computer is known as the server or host computer, and your hosting service is the company or internal department responsible for maintaining that server computer and its connection to the Internet. For a large organization this may be done by an internal IT department. Otherwise you (or your development firm on your behalf) will need to purchase a hosting plan that accommodates the technological requirements of your Web site. Web-hosting packages run the gamut in pricing, but you get what you pay for. Here are the main criteria that should drive your choice of a hosting service:

- Hard drive space: this is required to store your Web site and database
- Bandwidth speed of the computer and quota on amount of data transferred each month to support the volume of visitors you expect
- Choice of operating system (i.e. MS Windows or Linux)
- Availability of specific technologies used to build your Web site
- Reliability of host computers and their connection to the internet (e.g. 99.9 percent uptime guarantee, daily backups of databases)
- Quality of customer service
- Cost

### Search-Engine Ranking

Have you ever wondered, when you type a query into Google and get back a page of links, why some links are at the top of the list and others are buried at the bottom of page 15? Welcome to the world of search-engine ranking, a quasi-black-art whereby visible and invisible information in your Web site's pages helps to determine where you will be ranked with respect to specific search queries. Search-engine ranking is often presumed to be more important than it may be, depending on the type of site you are building. For example, a site like Buy.com has a considerable interest in coming out at the top of a search query for "best cheapest digital camera." But what if your organization is a community hospital? Are your visitors likely to be finding you through a general search-engine query, or will they be more likely to enter the name of your organization into a search engine to find your web address? Or will they be coming to your site because they already know you? Improving your search-engine ranking can add a significant cost to your project. There are now companies that specialize in improving the search-engine ranking of an existing Web site; this may or may not be valuable for you. Discuss search-engine ranking with your candidate firms to determine whether they can provide this service and whether they would advise doing so and why.

### Cost

The total cost of your project depends on many factors:

- Overall size of your Web site
- Amount of programming
- Sophistication of graphic design
- Image-processing requirements
- Number of dynamic features

- Inclusion of a content-management system
- Search-engine ranking requirements
- Other factors based on your development firm's offerings.

For a larger site, you should plan to solicit full proposals from at least two (preferably three) firms for competitive pricing. If cost is a strong driving factor in your choice of development firms, consider using the firm you like best and cutting down the Web site feature options to cut costs, rather than going with a cheap firm that is promising more features for less. Of course, you may find a firm that is both inexpensive and very good. Ultimately, researching past projects and speaking to former clients will give you more insight into what you can realistically get for your money.