

THE SITE DEVELOPMENT PROCESS

By now you are familiar with (X)HTML and CSS, but markup and visual design are only pieces of the whole web design process. In this chapter and the following, we'll broaden the scope to consider the big picture of how sites get built and published to the Web.

Web sites come in all shapes and sizes—from a single page résumé to mega-sites conducting business for worldwide corporations and everything in between. Regardless of the scale, the process for developing a site involves the same basic steps:

1. Conceptualize and research.
2. Create and organize content.
3. Develop the “look and feel.”
4. Produce a working prototype.
5. Test it.
6. Launch the site.
7. Maintain.

Of course, depending on the nature and scale of the site, these steps will vary in sequence, proportion, and number of people required, but in essence, they are the aspects of a typical journey in the creation of a site. This chapter examines each step of the web design process.

1. Conceptualize and Research

Every web site begins with an idea. It's the result of *someone* wanting to get *something* online, be it for personal or commercial ends. This early phase is exciting. You start with the core idea (“photo album for my family,” “shopping site for skateboarding gear,” “online banking,” etc.) then brainstorm on how it's going to manifest itself as a web site. This is a time for lists and sketches, whiteboards and notebooks. What's going to make it exciting? What's going to be on the first page?

IN THIS CHAPTER

The standard steps in the web design process:

- Conceptualization and research
- Content organization and creation
- Art direction
- Prototype building
- Testing
- Site launch
- Maintenance

Some Questions Before You Begin

This is just a small sampling of the questions you should ask yourself or your clients during the research phase of design.

Strategy

- Why are you creating this web site? What do you expect to accomplish?
- What are you offering your audience?
- What do you want users to do on your web site? After they've left?
- What brings your visitors back?

General Site Description

- What kind of site is it? (Purely promotional? Info-gathering? A publication? A point of sale?)
- What features will it have?
- What are your most important messages?
- Who are your competitors? What are they doing right? What could be improved upon?

Target Audience

- Who is your primary audience?
- How Internet-savvy are they? How technically savvy?
- Can you make assumptions about an average user's connection speed? Platform? Monitor size? Browser use?
- How often do you expect them to visit your site? How long will they stay during an average visit?

Content

- Who is responsible for generating original content?
- How will content be submitted (process and format)?
- How often will the information be updated (daily, weekly, monthly)?

Resources

- What resources have you dedicated to the site (budget, staff, time)?
- Does the site require a full content management system?
- Can maintenance be handled by the client's staff?
- Do you have a server for your site?
- Have you registered a domain name for your site?

Graphic Look and Feel

- Are you envisioning a certain look and feel for the site?
- Do you have existing standards, such as logos and colors, that must be incorporated?
- Is the site part of a larger site or group of sites with design standards that need to be matched?
- What are some other web sites you like? What do you like about them? What sites do you not like?

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Don't bother launching an HTML editor until you have your ideas and strategy together. This involves asking your client (or yourself) a number of questions regarding resources, goals, and, most importantly, audience. The [Some Questions Before You Begin](#) sidebar provides just a sampling of the sorts of questions you might ask before you start a project.

Many large web development and design firms spend more time on researching and identifying clients' needs than on any other stage of production. For large sites, this step may include case studies, interviews, and extensive market research. There are even firms dedicated to developing web strategies for emerging and established companies.

You may not need to put that sort of effort (or money) into a web site's preparation, but it is still wise to be clear about your expectations and resources early on in the process, particularly when attempting to work within a budget.

2. Create and Organize Content

The most important part of a web site is its content. Despite the buzz about technologies and tools, content is still king on the Internet. There's got to be something of value, whether it's something to read, something to do, or something to buy that attracts visitors and keeps them coming back. Even if you are working as a freelancer, it is wise to be sensitive to the need for good content.

Content creation

When creating a site for a client, you need to immediately establish who will be responsible for generating the content that goes on the site. Some clients arrive full of ideas but empty-handed, assuming that you will create the site and all of the content in it. Ideally, the client is responsible for generating its own content and will allocate the appropriate resources to do so. Solid copy writing is an important, yet often overlooked component of a successful site.

Information design

Once you've got content—or at least a very clear idea of what content you will have—the next step is to organize the content so it will be easily and intuitively accessible to your audience. For large sites, the information design may be handled by a specialist in information architecture. It might also be decided by a team made up of designers and the client. Even personal sites require attention to the division and organization of information.

Again, this is a time for lists and sketchbooks. Get everything that you want in the site out there on the table. Organize it by importance, timeliness, category, and so on. Decide what goes on the home page and what gets divided into sections. Think about how your users would expect to find information on your site and design with their needs and assumptions in mind.

The result of the information design phase may be a diagram (often called a [site map](#)) that reveals the overall “shape” of the site. Pages in diagrams are usually represented by rectangles; arrows indicate links between pages or sections of the site. The site map gives designers a sense of the scale of the site and how sections are related, and aids in the navigation design.

[Figure 20-1](#) is a diagram of a small self-promotional site. It is tiny compared to the diagrams for sprawling corporate or e-commerce sites, but it demonstrates how pages and the connections between pages are represented. I once saw a site diagram for a high-profile commercial site that, despite using postage stamp-sized boxes to represent pages, filled the length and height of the hallway.

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DESIGN TIP

Viva la Pen and Paper!

There's still no beating pen and paper when it comes to firing up and documenting the creative process. Before you delve into the (X)HTML and GIFs, there's no better way to hash out your ideas quickly than in your handy notepad, on a napkin or whiteboard, or whatever surface is available. It's about creativity.

Make lists. Draw diagrams. Figure out that home page. Do it fast and loose, or include every minute detail and copy it faithfully online. It all comes down to your personal style.

The effectiveness of a site’s organization can make or break it. Don’t underestimate the importance of this step.

ONLINE RESOURCE

You may be interested in reading my article, “Building Usable Web Sites,” that discusses information and interface design in more detail. It is available for download in PDF format from www.learningwebdesign.com.

TOOL TIP

A popular tool for creating diagrams and flow charts on Mac OS X is OmniGraffle, available at www.omnigroup.com/applications/omnigraffle.

For Windows users, there’s Visio, part of Microsoft Office (office.microsoft.com).

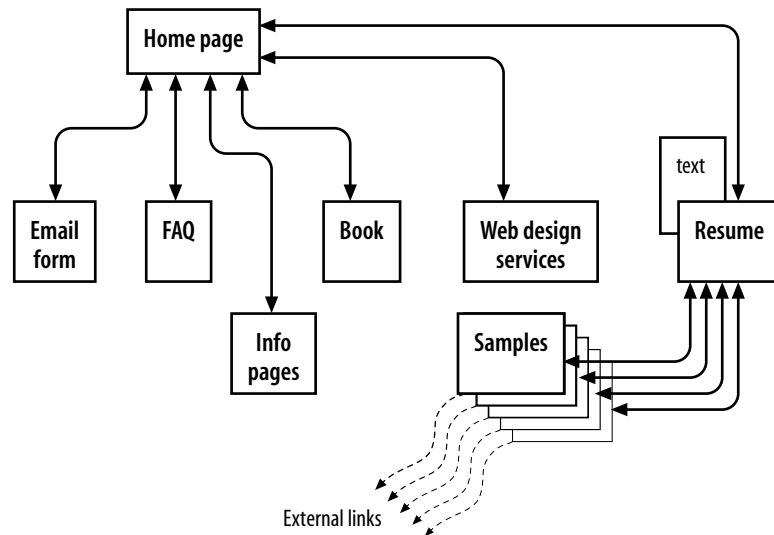


Figure 20-1. A simple site diagram.

3. Develop the “Look and Feel”

The **look and feel** of a site refers to its graphic design and overall visual appearance, including its color scheme, typography, and image style (for example, photographic versus illustrative). You may also hear the visual design of a site referred to as the **theme** or **skin**. As in the print world, this phase of design is often referred to as **art direction**.

Sketch it

This is another chance to get out pads of paper and markers. Or perhaps you prefer to work out ideas right in Photoshop. Either way, it’s your chance to be creative and try things. The result is one or more sketches (sometimes called a **look and feel study**) that show off your proposed visual style for the site.

A sketch is usually just a flat graphic file in the approximate dimensions of the browser window. When it is necessary to show interactivity (such as a “rollover” button effect), some designers use a layer in Photoshop that can be switched on and off to simulate the effect.

In some cases, it may be necessary to create a prototype home page in HTML to show off interactive and animated features, particularly if you have a client with no imagination (but a big budget to cover development costs). Keep in mind that the art direction phase is for exploring how the site will look, so flat graphic sketches are usually adequate.

The art direction process

In most professional web development jobs, the client receives two or three sketches showing its home page in various visual styles. In some cases, a second- or third-level design might be included if it is important to show how the design plays out through several levels. [Figure 20-2](#) shows a set of look-and-feel studies I created for a women's site several years ago.

Ideally, the graphic designer is given a list of what must appear on the page, including required images, navigational elements, and a manuscript for the text. There may also be a wireframe diagram of the functionality as worked out by an interface designer. That is the best case scenario; don't be surprised if you are asked to make stuff up on occasion.

After reviewing the sketches, the client picks one sketch, often with a list of changes, requiring another round of design until the final design is agreed upon. In my experience, clients usually see elements they like in each style and ask for some sort of hybrid. Some clients request more and more sketches. See the sidebar, [Get It in Writing](#), for tips on keeping the process under control.

4. Produce a Working Prototype

Once the design is approved and the content is ready to go, the site enters the production phase. For small sites, the production may be done by one person (see the sidebar, [Solo Production Process](#)). It is more common in commercial web design to have a team of people working on specialized tasks.

The art department uses its graphics tools to create all the graphics needed for the site. The production department marks up the content with (X)HTML and formats the text with style sheets. They may create final pages or simply templates that get filled out with content on the fly. Programmers write the scripts and server-side applications necessary to make the site function as intended. There may also be multimedia elements such as videos or Flash movies. In short, all of the parts of the site must be built.

At some point, all the pieces are brought together into a working site. This is not necessarily a distinct step; it is more likely to be an ongoing process. As in software design, the first prototype is often called the “alpha” release. It might be made available only to people within the web team for review and revisions before it is released to the client. After changes, the second release is called the “beta.” The client should certainly be involved by this phase, if not sooner. At this point, there is still plenty to do before the site is ready to go live

BUSINESS TIP

Get It in Writing

Design comes down to a matter of taste, and clients don't always know what they want. When writing your contract for the job, it is a good idea to specify the number of initial sketches and the number of revisions that will be included for the project price. That way, you have the opportunity to ask for extra compensation should the art direction phase get out of control.



Figure 20-2. As part of the art direction phase, I created three sketches for this women's site, demonstrating how the same material might look in three different visual styles.

Solo Production Process

It is perfectly possible to create an entire web site by yourself; in fact, that is one of the cool things about the Web. If you are flying solo, as I do, your production process might go something like this:

1. Sketch out the structure of the home page and second-level pages. You might do this as a simple sketch on paper or you might develop the page structure and its look in Photoshop.
2. Create the (X)HTML documents and images. If you are using a style sheet, you should start it as well. Same goes for scripts.
3. Put the pieces together and look at the page in the browser. If you are using a WYSIWYG web authoring tool, you should still open it in a browser since the layout view is not always accurate. There are some styles and behaviors that can be tested only in the browser.
4. Make changes as necessary to the (X)HTML documents, images, styles, and scripts.
5. Save your changes and reload in the browser (or several browsers).
6. Repeat steps 4 and 5 until the pages are finished.
7. Upload it to the server and test it again.

on the Web. There are also sites out there, often web applications and services, that make their beta versions open to the public or a limited subscriber base in order to gather valuable feedback.

5. Test It

All web sites need to be tested before they are ready for the public. Professional web developers build time and resources into the production schedule for rigorous testing, but even personal pages need to be taken for a spin around the block before the official launch. Whether formally or informally, sites should be tested for basic functionality, performance in different browsing environments, and how easy they are to use.

The site may be tested locally (on your own hard drive) prior to uploading to its final home on the web server. It is also useful to set up a hidden testing site on the server so that the kinks can be worked out in its natural environment before making it live.

Basic quality check

At minimum, all sites should be tested to make sure they work. In the web design biz, checking a site for basic functionality is one part of what is often called the **QA** (short for **quality assurance**) phase of production.

The following questions address some of the minimal requirements before publishing a site to the Web.

Is all the content there? Make sure that none of your content is missing, whether as the result of a markup glitch or miscommunication.

Are there typos or grammar errors? The importance of proofreading a site is often overlooked, but errors in copy can seriously damage the perceived credibility of your site. Make sure all copy is read carefully, preferably by more than one person.

Do all the links work? It's very easy to leave links un-linked during the production process. It is also possible that some files may have been moved around but the links were not updated. Before you go live, have someone click every link on every page to make sure there are no dead ends.

Are all the images showing? Confirm that all the graphic files are in the proper directory and that the correct pathname is used in the `img` elements to avoid missing image icons.

Are all the scripts and applications functioning properly? Run the pages through a few typical user scenarios (filling out forms, buying a product, or whatever interaction make sense for your site) to be sure that everything is working as it should.

Browsing environment testing

As discussed in [Chapter 3, The Nature of Web Design](#), your site will be viewed on a wide range of browsing environments that will impact the way it looks and functions. Another part of quality assurance is to test your pages under as many conditions as possible.

Professional developers typically maintain computers running different operating systems and numerous browser versions for testing purposes. If you are a solo or hobbyist web designer, you will benefit from just looking at your site on a friend's computer that has a different operating system and browser than you used when you created your site.

A robust site will fare well when tested according to the following criteria.

How does the page look in different browsers? On another platform? Browsers are notoriously uneven in their support of Cascading Style Sheets, so if you use CSS for page layout, it is critical that you view your pages in as many graphical browsers as possible. I often use a service called Browsercam (browsercam.com) that allows me to view my page in many browser versions without needing to run them on my own machines.

How does the site work in different browsers? On another platform? Similarly, there are browser differences in script support, so run your functionality tests under more than browser/platform configuration. (Unfortunately, Browsercam won't test functionality.)

What happens to the pages when the browser window is resized very large? Very small? What happens if the text is zoomed very large or very small? Can your site withstand a certain amount window and text resizing? Does content fall off the screen? Does the page fall apart?

Is the site usable on a text-only browser? What will users see if they access your page with a mobile phone or PDA? If you've written your (X)HTML documents well, they should be accessible on all manner of browsing devices. Still, it's worthwhile to look at your site under minimal conditions to see if you can make any tweaks to improve the experience.

Is the site usable with the graphics turned off? Some users with slower connections may surf the Web with graphics turned off in the browser to speed up the content display. Some browsers display the alternative text for each image element, but others don't. Have you accommodated those users?

What happens if the user is not able to view the multimedia elements? It would be nice if every user was guaranteed to have the plug-ins required to view media such as Flash movies or Windows Media, but unfortunately, that is not the case. Do you provide help getting the plug-ins they need? Are there alternative versions of your content for those unable to view the media?

What is it like to look at your site on a dial-up modem connection? There is still a significant portion of users accessing the Web over slow connections. Is there anything you can do to make your pages load more quickly?

User testing

Another type of testing that is important to perform is user testing. This process involves sitting people down with your site and seeing how easily they can find information and complete tasks. Ideally, user testing is conducted as early in the development process as possible so the site design can be adjusted before the serious production begins. It is not uncommon to do additional usability testing at regular intervals throughout the production process and even after the site has launched, so that the site can be tweaked to better serve the needs of its visitors.

FURTHER READING

User testing is a rich and complex topic well beyond the scope of this chapter. For more insight, I recommend the book *Observing the User Experience* by Mike Kuniavsky (Morgan Kaufmann Publishers, 2003).

There are companies that you can hire to run controlled tests for you, but the price is usually steep, making it an option only for commercial web sites with serious budgets. However, it is possible to run informal user testing on your family members, friends, coworkers, and anyone you can get to sit in front of the computer and answer a few questions.

There are two general kinds of user testing: general observed behavior and task-oriented testing. In the first, you sit the testing subject down with the site and let them explore it on their own. They provide feedback as they go along, noting what they like, don't like, what's clear, what's confusing.

In task-oriented testing, users are given a series of tasks of varying difficulty to perform on the site, such as "Find out if there are any upcoming workshops on glassblowing," or, "Find out who is offering the best price on camcorders." An observer takes notes on how efficiently the task is completed, as well as the links the user followed in the course of completing the task.

Some questions you might want to answer through user testing are:

- Can users tell at a glance what the site is about?
- Are there any obstacles in the way of accomplishing goals? Can they quickly find critical information or make a purchase?
- Do the test subjects seem to enjoy using the site?
- Is there a particular task or site feature that seems to be tripping up multiple users?

6. Launch the Site

Once you have all the kinks worked out of the site, it's time to upload it to the final server and make it available to the world.

It's a good idea to do one final round of testing to make sure everything was transferred successfully and the pages function properly under the configuration of the final server. This may seem like extra work, but if the reputation of your business (or your client's business) is riding on the success of the web site, attention to detail is essential.

With the working site online, it's time to take yourself or your team out for a good dinner or a round of drinks (well, that's what I would do).

7. Maintain the Site

A web site is never truly “done;” in fact, the ability to make updates and keep content current is one of the advantages of the web medium. It is important to have a strategy for what will happen with the site after its initial launch.

Although maintenance is an ongoing process that happens after the site is initially created, decisions regarding maintenance should be made early in the development process. For instance, you should be clear up front about who will be responsible for site upkeep. If you are a freelancer, this should be included in the contract you sign when you begin the job. You should also decide what parts of the site will be updated, and how frequently. The refresh rate will affect the way you organize information and design the site.

You should also consider the lifespan of the site. If it is a site promoting a specific event, what happens to the site when the event is over? Even sites that are designed to be around a while will usually require a redesign after a few years to keep up with changes in content and current publishing practices.

The Development Process in Review

Hopefully, this chapter gives you a feel for all of the work that goes into a typical site. Regardless of the role you play in the process, it is important to be familiar with the other steps along the way. As I mentioned earlier, the steps may not occur in exactly the same order listed here. You should also be prepared for any given step to entail a great deal of work, particularly for larger commercial sites.

Test Yourself

How familiar are you with these basic terms in the web design process? Answers can be found in [Appendix A](#).

1. What is a site diagram for? At what point in the process would you make one?
2. What is a “look and feel” study?
3. Name three things that should be done or decided before the first HTML document is created.
4. What is a beta release? Who is likely to look at it?
5. Name four things for which *every* web site should be tested.