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Website Development Agreements: A Guide to Planning & Drafting

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WEBSITE DEVELOPMENT[1] AGREEMENTS: A GUIDE TO PLANNING & DRAFTING

I. INTRODUCTION

A. General Introduction

The proliferation of "websites"[2] at corporate, governmental, and educational institutions has been the driving force behind the Internet's explosive growth rate over the past three years. Further, there is no sign that the immense popularity[3] of the World Wide Web (the "Web") is diminishing.[4] While the Internet initially was utilized in United States government defense projects,[5] and its early growth was fostered at colleges and universities, businesses have been the driving force behind the World

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1. Website development is a highly technical endeavor with its own lexicon of acronyms and jargon. For increased readability, the majority of the technical discussion has been left to the footnotes. The Note also includes citations to several valuable sources on the technical aspects of website development. The intention is to provide interested readers with more information on several topic areas. Whenever possible, this Note includes references to websites containing additional or similar information on the latest Internet trends.

2. Defining "website" in the rapidly changing Internet environment is a challenging task. Fortunately, Susan A. Dunn provides a succinct definition useful for the purposes of this Note:

> A web site is a collection of files stored on a file server that is accessible to users of the World Wide Web, a network of servers and information available on the Internet. This collection of files can include HTML (Hypertext Markup Language) descriptions of visible pages, scripts to generate HTML pages on the fly, supporting server-based software and data files and, most recently, downloadable programs to execute on the user's computer.

Susan A. Dunn, *Negotiating Web Site Agreements, in* 16TH ANNUAL INSTITUTE OF COMPUTER LAW: UNDERSTANDING THE BUSINESS AND LEGAL ASPECTS OF THE INTERNET 469 (PLI Pats., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-444, 1996).

3. Perhaps the most important reason why the World Wide Web continues to increase in popularity is due to its "user-friendly" attributes. One key advantage of the World Wide Web is that it shields Internet users from the complex technical underpinnings of networking and client-server technologies. Users can jump from server to server with simple clicks of the mouse. This process, known as "hyperlinking," allows data from around the world to be easily accessed by users with little technological acumen. For additional information about Internet networking technology, see ELIZABETH LANE & CRAIG SUMMERHILL, AN INTERNET PRIMER FOR INFORMATION PROFESSIONALS: A BASIC GUIDE TO INTERNET NETWORKING TECHNOLOGY (1992).

4. According to a survey by Network Wizards, the number of Internet "host" computers is increasing by 72% per year, while the number of hosts designated as World Wide Web hosts (for example, www.whitehouse.gov) exploded at an annualized rate of 1,165%. *See Electronic Word,* WIRED, Nov. 1996, at 42. The complete results of the Network Wizards survey are available online. *See* Network Wizards, *Internet Domain Survey* (visited Nov. 1, 1996) <http://nw.com/zone/WWW/top.html>.

5. *See* Alexander Gigante, *Blackhole in Cyberspace: The Legal Void in the Internet,* 15 J. MARSHALL J. COMPUTER & INFO. L. 413 (1997).

Wide Web's growth over the last two years.[6] Taking advantage of the Internet's platform neutrality[7] and global availability,[8] businesses already utilize the Internet as a marketing, customer support, and advertising tool. In the future, however, electronic commerce[9] will drive the growth of the Web and will be the primary incentive for "off-line" businesses to establish an online presence. Both website developers and business owners will require technically literate and "Net-savvy" counsel to negotiate and draft the website development agreements that will form the legal infrastructure of online commerce in the next century.[10]

B. Current State of Website Development Agreement Materials

The vast majority of the early Internet law material focused on only a few issues: First Amendment rights, child pornography, and the liability of online information providers. To date, minimal attention has been given to the unique transactional issues facing Internet law practitioners. Further, sources on website development agreements range from short checklists[11] to brief

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6. In fact, the registration of commercial domains (domain names ending with .com) rose over 139% in the first six months of 1996. *See InternetInfo's Stat Page* (visited Nov. 1, 1996) <http://www.webcom.com/walsh/stats.html>.

7. The Internet is platform neutral because it can be accessed by a wide variety of computer hardware platforms and operating systems. The Internet only requires a device that can communicate using TCP/IP (Transport Control Protocol/Internet Protocol), a connection to the Internet, and the required hardware and software to translate incoming data into a user-readable form. While most current Internet users access the Internet through their personal computer, Internet technology is currently being integrated into other consumer technologies, such as the television. See *WebTV Home Page* (visited Sept. 23, 1997) <http://www.webtv.com/ns/index.html>. Indeed, one study by International Data Corporation indicates that the number of devices connected to the World Wide Web will eclipse the number of personal computers by the year 2000. *See Study Says Internet Will be More Widespread Than PC,* INTERACTIVE MARKETING NEWS, Sept. 13, 1996.

8. Jon Udell, *Your Business Needs the Web,* BYTE, Aug. 1996, at 68.

9. One author defines electronic commerce as "a broad term to mean a number of technology and software tools to help facilitate communications and trading by electronic means." John C. Yates, *Electronic Commerce and Electronic Data Interchange,* 17TH ANNUAL INSTITUTE ON COMPUTER LAW: THE EVOLVING LAW OF THE INTERNET: COMMERCE, FREE SPEECH, SECURITY, OBSCURITY AND ENTERTAINMENT 235 (PLI Pat., Copyrights, Trademarks and Literary Prop. Course Handbook Series No. G-471, 1997).

10. This Note assumes a basic level of understanding of Internet concepts and terminology. For an excellent survey of relevant background information, see RICHARD RAYSMAN ET AL., MULTIMEDIA LAW: FORMS AND ANALYSIS §10.01 (1996); Henry H. Peritt, Jr., *What is the Internet? and Basic Technological Terms and Concepts, in* WHAT LAWYERS NEED TO KNOW ABOUT THE INTERNET: BASICS FOR THE BUSY PROFESSIONAL 11-34 (PLI Pats., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-443, 1996). Many additional resources are available online at the Villanova Center for Information Law and Policy, *CILP-Law Library and Conference Room* (visited Nov. 1, 1996) <http://www.cilp.org/vcilp/vcilplib.html>.

11. *See Checklist for Internet Web Site Development,* COMPUTER L. STRATEGIST, Apr. 1996, at 5; *Top 10 Legal Issues for Web Site Developers,* COMPUTER L. STRATEGIST, Nov. 1996, at 11.

articles in daily law journals that fail to provide any substantive discussion.[12] While sample contracts abound online,[13] a brief comparison of their contents indicates the complexity of the issues raised by Internet transactional law. While such issues abound, law firms practicing in the information technology field have been reluctant to release samples of website development agreements. Undoubtedly, many law firms want to prevent these documents from falling into the hands of competitors who are behind them on the Internet law curve. A firm of London solicitors, however, recently announced the "first standard contracts for the web publishing industry," and agreed to share their knowledge for only £2,500, which includes three hours of telephone consultation.[14] This Note hopes to fill the current void by providing a framework for drafters of website development agreements, and by analyzing the key technical and contractual issues that practitioners will face when dealing with clients eager to move online.

C. Scope of of Note

While there are many different website development models, this Note will focus on the issues that typical small and mid-sized businesses face when they hire a developer to design and "host" their website on the developer's server.[15] This model is the norm today, as the costs of running a

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12. These articles illustrate the wide range of issues that practitioners face when considering website development. The disparity between the substance of the articles, however, indicates that Internet transactional law is in its infancy. *See, e.g.,* Richard Raysman & Peter Brown, *Key Issues in Web Site Development Agreements,* N.Y.L.J., Oct. 8, 1996, at 3; Eric Schlachter, *Effectively Avoiding Pitfalls When Outsourcing a Website,* COMPUTER L. STRATEGIST, Nov. 1996, at 1; Paul Goodman & Andrew Zizmor, *What to Consider When A Web Site Contract Hits Your Desk: Aesthetics, Ownership and Portability Are Important Issues,* CORP. LEGAL TIMES, June 1996, at 30; Jonathan D. Hart & David J. Wittenstein, *Legal Issues in Establishing A Presence on the World Wide Web,* CORP. LEGAL TIMES, Sept. 1996, at 50.

13. *See* HTML Writer's Guild, *Sample Contract* (visited Nov. 1, 1996) <ftp://ftp.hwg.org/pub/archives/docs/legal/consult.txt>; E-Legal Website, *Sample Web Developers Contract* (visited Nov. 1, 1996) <http://www.e-legal.com/resources/forms/trans/contract.asc> (an Internet repository of contracts and agreements); King & Spalding, *Website Development Agreement* (visited Nov. 1, 1996) <http://www.kslaw.com/menu/agr.htm> (agreement dedicated to the public domain by a large international law firm).

14. *See Lawyers Help Sidestep A Copyright Minefield,* TIMES (London), Oct. 2, 1996. The law firm offering these standard contracts, Halberstam Elias, is also located online. *See Weblaw* (visited November 2, 1996) <http:// www.weblaw.co.uk/>.

15. For instance, many large corporations have established in-house websites to take advantage of the higher degree of control over content, and to prepare for future electronic commerce transaction processing. Alternatively, some companies hire developers to design a website and then arrange to host the website themselves. This strategy often provides significant savings over bundled packages, but also requires that the client have greater technical proficiency. There are many competitively priced web-hosting companies on the Internet, with prices for a full featured account running under $40 per month. *See, e.g., Pair Networks—World Class Web Hosting* (visited Nov. 2, 1996)

server in-house is both substantial and often not justified by the purely informative nature of most websites.[16] Thus, it is not uncommon for a website developer to host dozens of corporate websites on one server connected to the Internet, and indeed, it is usually completely transparent to Internet users.[17]

Typically, a developer will provide a wide range of services to the client. In addition to designing the site's "web pages" and graphics,[18] developers often register the client's "domain name,"[19] promote their client's website on the Internet,[20] provide extensive tracking data of the website's usage by the public,[21] and often write custom programs that offer enhanced interactivity to Internet users who visit the website.[22] A developer in the combined development and hosting scenario may also provide technical support, training, and documentation to the client.[23]

Part II of this Note examines the more technically oriented contract provisions of website development agreements. Part III addresses intellectual property issues, and discusses how copyrights, trademarks, and trade secrets relate to the website development process. Part IV addresses other liability issues in website development agreements. Part V concludes with a look at new World Wide Web and Internet technologies that may affect the legal concepts discussed in previous sections. Throughout, the Note will address standard contractual clauses that have unique applications in the website development scenario.

<http://www.pair.com/>. It is important to note that web-hosting services generally do not provide dial-up access to their accounts. A user must first establish an Internet account with an Internet Service Provider (ISP), and then utilize File Transfer Protocol (FTP) software to access their accounts. Typically, a user designs a website on a personal computer and then uploads the source files to an account on a web-hosting company's server, where the information is available to the entire Internet.

16. *See* Stan Falkenstein, *Why You Should Outsource The Creation of Your Website,* PA. CPA J., Dec. 1996, at 9-12. (discussing the pros and cons of in-house and outsourcing options); *see also* PETER BROWN & RICHARD RAYSMAN, COMPUTER LAW: DRAFTING AND NEGOTIATING §§ 10.01-10.10 (4th ed. 1997) (discussing outsourcing issues).

17. Practitioners should note that new and potentially complicated issues arise when two separate entities are responsible for the website design and hosting. In these cases, the practitioner must make sure that the two agreements are compatible. *See Key Issues in Negotiating Web Site Development Agreements,* MULTIMEDIA STRATEGIST, Oct. 1996, at 1 [hereinafter *Key Issues*].

18. *See infra* notes 31-56 and accompanying text.

19. *See infra* notes 134-42 and accompanying text.

20. *See infra* notes 173-77 and accompanying text.

21. *See infra* note 157 and accompanying text.

22. *See infra* notes 57-62 and accompanying text.

23. As these elements are common in standard software licensing scenarios and other development projects, they are beyond the scope of this Note. For an excellent overview, see BROWN & RAYSMAN, *supra* note 16, §§ 2.06 [4]-[6], 9.01-9.10.

II. TECHNICAL CONSIDERATIONS

A. Generally

The rapidly evolving nature of the Internet and the endless supply of new technologies makes drafting a long-term relationship between a client and a developer difficult.[24] Matters are further complicated by the unique nature of "Net" culture, which plays a large role in defining the guidelines of effective website development.[25] Website design, however, lacks fixed standards to describe how content should be designed or even how a finished website should look to the Internet user.[26] Equally problematic is that websites are viewed from a variety of hardware platforms, operating systems, and World Wide Web browsers that operate under different technical specifications.[27] In short, a website, even when constructed by a large multimedia company with extensive experience in website design, may look and perform in drastically different ways. The results depend on the characteristics of the Internet client software, the webserver, and the network connection between them.[28]

Nevertheless, careful planning and drafting can produce a website development agreement that will accommodate technological change while fulfilling the client's current needs. While both clients and practitioners prefer to remain free from an overly technical drafting process, certain technical specifications are critical to the successful operation of the website

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24. For a brief checklist on how to choose a website developer, see Kathyrn E. Savarese, *Building Your Web Site: Six Tips on How to Choose a Web Site Provider*, LEGAL TECH., Nov. 1996, at 1.

25. Stating that the Internet has a unique culture is much simpler than defining its cultural attributes. The Internet has to be experienced over a period of time before its nuances and idiosyncrasies can be fully appreciated. For a look at the diversity of thought and expression on the Internet, see *Suck:Daily* (visited Mar. 7, 1997) <http://www.suck.com/>; Wired, *Excrement on Main Street: Arts and Crap Abound* (visited Mar. 7, 1997) <http://www.wired.com/news/culture/ story/2398.html>; ESPNet Home Page (visited Mar. 7, 1997) <http://www.espnet.sportszone.com/>; Cnet's Home Page (visited Mar. 7, 1997) <http://www.cnet.com/>.

26. Several groups, however, have attempted to bring order to the website development industry. *See Association of Internet Professionals (AIP)* (visited Mar. 24, 1998) <http://www.association.org/>; *The HTML Writer's Guild* (visited Mar. 7, 1997) <http://www.hwg.org/>.

27. *See* Mark A. Kellner, *Building a Web Site: Tools and Tips–Web Design Fundamentals*, COMMUNICATIONS WEEK, Mar. 18, 1996, at IA05 (noting that utilizing certain HTML features on a web page might make the pages unreadable to millions of Internet users); Mark Gibbs, *Web Sites, The Good, the Bad and the Complete Waste of Bandwidth*, NETWORK WORLD, Dec. 18, 1995, at 36 (describing the pros and cons of designing websites with only one browser or platform in mind).

28. *See supra* notes 26, 27. Despite these problems, many design guides, articles, and websites claim to contain the ingredients for the perfect website. A comparison of these sources reveals, however, that website designers often disagree on important website design concepts as much as they agree. Furthermore, what is considered great website design can shift in a relatively short period of time.

and should be included in the agreement. As long as technical considerations are properly categorized into the main client concern areas of aesthetics, portability, and performance, confusing jargon can be minimized and the parties may consider the more substantial legal issues presented by website development agreements.[29] From a drafting standpoint, most of the following technical specifications would be properly situated in an exhibit and incorporated by reference into the agreement.[30]

B. Site Design

Websites are comprised of a series of interrelated files. These "webpages" are broken down into text, graphic, and other multimedia components. The backbone of the Web's structure is the Hypertext Markup Language (HTML),[31] an evolving standard which provides a reference system for browsers to display webpage elements.[32] A practitioner can exercise a large degree of control over the final website product by dividing webpages into their components and relating them to existing standards and usage specifications.

1. The Hypertext Markup Language (HTML)

The main reason why websites do not appear uniformly to all users is that many web browsers, such as Netscape's Navigator or Microsoft's Internet Explorer, support different versions of HTML, the main component of web pages that instructs browsers on how to display webpages.[33] In addition, web

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29. *See* Goodman & Zizmor, *supra* note 12.

30. This strategy will permit the practitioner to modify and update the specifications as standards develop and avoids obfuscating the more legally significant contractual elements.

31. Looking at the HTML code of a webpage is a simple task in most modern browsers. Simply go to the Edit menu and select "View Source." The browser will either display the HTML code that results in the page or launch a text editor and display the code in its window.

32. The HTML standard is developed by the World Wide Web Consortium, an industry group whose website is located at *W3C–The World Wide Web Consortium* (visited March 7, 1997) <http://www.w3.org/>. Their website contains information on current content delivery standards and protocols, ranging from HTML to graphics formats. It also contains the latest standard, as well as any proposed standards. At the time of this writing, HTML 3.2 is the current standard, but the World Wide Web Consortium recently issued a recommendation for HTML 4.0. The new standard is backwards-compatible with HTML 3.2, and adds significant functionality to web content delivery, especially with tables, applets, and text flow control. Many of these features were already supported by the latest browsers, and their incorporation in the formal HTML 4.0 specification should enable website developers to attain a higher degree of uniformity in user experience as quirks, bugs, and other differences between browsers are eliminated. *See* World Wide Web Consortium, *Hypertext Markup Language* (visited Mar. 7, 1998) <http://www.w3.org/markup>.

33. The standards issues continue to plague web designers. *See* Ellis Booker, *A Split In Standards Leaves Webmasters With Splitting Headaches,* WEBWEEK (visited Mar. 7, 1997)

browser software companies have unilaterally added new HTML functions instead of waiting for the HTML specifications to develop.[34] While most web browsers adopt the most popular HTML functions, consistency among competing browsers is a difficult, if not impossible, task.[35]

When drafting a website development agreement, practitioners can deal with this lack of uniformity in a few different ways. For example, low-budget or purely informative sites may utilize the lowest common denominator approach.[36] In this scenario, the website designer agrees to develop pages using functions approved in an established HTML standard rather than functions supported by only one browser.[37] The lowest common denominator approach simplifies the drafting process at the expense of the stylistic features offered by many advanced browsers.[38]

A more costly approach would require a website designer to create two or three different versions of the site as a whole, with each successive version utilizing a more comprehensive list of HTML functions. One version will contain advanced HTML functions supported only by the latest browser versions and will most likely have a large number of graphics and multimedia files.[39] Another, less graphic-intensive version, will contain

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<http://www.webweek.com/current/software/headache.html>; Nate Zelnick, *Browsers Get Closer but Incompatibilities Remain,* WEBWEEK (visited Mar. 7, 1997) <http://www.webweek.com/current/ software/browsers.html>; Matt Carmichael, *Inquiring Minds: Which Browser Should You Target,* NETMARKETING (visited Mar. 7, 1997) <http://www.netb2b.com/cgi-bin/cgi_article/monthly/ 97/03/01/article.8>. Even within browser brands, some versions may take advantage of certain HTML functions, while others may not.

34. For example, many tags were originally supported only by Netscape browsers. Their quick adoption by website designers led to their integration in other browser software, and solidified their place in the HTML specifications. Not all added functions have fared as well. For instance, the blink function (signified by the <blink> tag) failed to catch on with website designers and users, most of whom see the tag as distracting and evidence of a poorly designed website.

35. It is important to note that many other factors affect the user's experience with a website, and should be properly taken into consideration by the web developer. For example, the most common monitor size at the time of writing is 15 inches, and thus web pages that have significant content organized in long pages may require extensive scrolling. Most web designers are aware of this limitation and keep the most significant content within the immediately viewable portion of the web page. Additionally, different web browsers use a variety of typestyles to display text, and thus regardless of the HTML standard, pages still appear differently on different machines. Despite press announcements about the possibility of having standardized typestyles included in every browser, an agreement amongst the major browser and operating system vendors has not been reached.

36. *See* Booker, *supra* note 33.

37. *See supra* note 32 and accompanying text.

38. It should also be noted that many of the most informative websites on the Internet are designed without custom HTML tags and complicated graphics, and remain some of the most popular websites on the Internet. For example, while the Oppedahl & Larson website contains a great deal of intellectual property information, it uses only basic HTML and minimal graphics to speed access to its web pages. *See* Oppedahl & Larson, *Welcome to the Patents.com Intellectual Property Law Web Server* (visited Feb. 9, 1998) <http://www.patents.com/>.

39. *See supra* note 32 and accompanying text.

HTML functions that conform to what the designer or client perceives as the most viable browser.[40] In addition, many website designers create text-only sites at the same time they develop the main graphic and function intensive site. This is especially important as many Internet users still utilize low speed modems and consequently, prefer downloading text only webpages, rather than enduring significant delays from graphic-intensive webpages.[41] Indeed, it is quite common to see websites that offer a text-only feature that can be accessed with a quick click of the mouse. Savvy website designers utilizing this "multisite" approach may also configure the webserver to automatically choose the correct version of the website for the Internet user to see, and thus, the choice of content and functions is automatically made for the user based on the version and brand of their browser.[42]

The final approach, and one that may become more prevalent if website developers are unable to develop workable standards, is to design the website without concern for backwards compatibility or cross-browser function support. Instead, the web designer can pick and choose among website design specifications, functions, and content based on past experience. While total designer freedom may often produce innovative and popular websites with cuttingedge design, it greatly complicates the practitioner's job of drafting an agreement that can accurately represent the intentions of the parties. For this reason, the drafter should specify the latest HTML standard and insist on rigorous testing and acceptance provisions to ensure that the client is delivered a website that meets identifiable standards.

2. Graphics Formats: GIF and JPEG

Graphics are integral components of effective website design. Although website graphics do not suffer from the standards conundrum that has plagued HTML, graphical consistency among browsers is hampered by the differences in color selection and the number of available colors on many personal computers.[43] Website design that fails to address these issues invariably results in an inconsistent user experience, and often creates

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40. At the time of this writing, Netscape's Navigator is the leading Web browser software package. However, Microsoft's Internet Explorer is quickly closing the gap with a one-year market share jump from 6.5% to more than 30%. *See* Zelnick, *supra* note 33.

41. *See* Gibbs, *supra* note 27.

42. *See* James C. Collins, *Beyond CGI: Using the API's, Alternatives for Adding Interactive Power to Your Website*, PC MAGAZINE ONLINE (visited Mar. 7, 1998) <http://www.pcmag.com/issues/1606/pcmg0051.htm>.

43. *See* Gibbs, *supra* note 27.

unintended results on computers with different graphical capacities.[44] In addition to aesthetics, graphics design also impacts website performance and the user experience in general. Unlike HTML files, which are text files that transmit quickly, website graphics are larger and require more download time. Graphics designed without regard to the speed limitations of modem technology often create problems for the site owner: instead of waiting for large graphics to load into their browser, a user leaves the current website to find others that offer quicker access.[45] Thus, in aesthetics and performance, website graphics are critical elements for the success of a website and thus warrant significant attention in the planning and drafting process. Like their HTML counterpart, technical specifications relating to graphic design are well-suited for a general specifications exhibit.

The two dominant graphical formats on the Web are the Joint Photographics Experts Group ("JPEG") format and the Graphics Interchange Format ("GIF"). Both formats are best suited to execute different graphic design tasks on a website.[46] Whenever possible, and especially when preexisting content is involved, the website development agreement should expressly provide for the graphics formats of the material placed on the website. Ideally, the client and developer will agree in advance on the graphical content.

In addition, the agreement should stipulate, preferably in the specifications exhibit, that all graphics designed will have a consistent cross-platform appearance.[47] Macintosh, PC, and Unix-based computers have different color systems, and designing on one without regard for the others can lead to disastrous results.[48] When a computer attempts to display a graphic that contains a color not present in the system, it is forced to

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44. For example, a color that appears to be yellow on a Power Macintosh computer may take on an unsightly greenish cast when viewed on an Intel-based clone.

45. *See* Gibbs, *supra* note 27.

46. Much of the following discussion is based on an excellent graphics book. *See* LYNDA WEINMAN, DESIGNING WEB GRAPHICS: HOW TO PREPARE IMAGES AND MEDIA FOR THE WEB (1997); *see also* Adobe Website, *GIF? JPEG? Which Should You Use?* (visited March 7, 1997) <http://www.adobe.com/studio/tipstechniques/GIFJPGchart/main.html>. While an in-depth discussion of graphical formats is beyond the scope of this Note, suffice it to say that JPEG's are used primarily in connection with photographic and continuous tone images, and GIF files are ideal for flat color graphics that contain large areas of solid color. Although JPEG files can contain up to 16.7 million colors (known as 24-bit color), many computers today only support up to 256 simultaneous colors (known as 8-bit color) which is also the limit of the GIF format

47. This stipulation would necessarily require specifying the color standard that would form the basis of the site. Currently, the most prevalent color scheme is 8-bit color, although many of the computers now being sold support 24-bit color out of the box. Alternatively, the parties can agree to create different versions of the site which can accommodate users with more color capability. *See* *supra* notes 36-42 and accompanying text.

48. *See* WEINMAN, *supra* note 46.

substitute for the missing color.[49] GIF graphics are particularly susceptible to wide cross-platform variations in color since they are limited by their format to 256 colors.[50] Since most trademarks and other corporate logos utilize the GIF format, an agreement must confine a website designer to the cross-platform limitations so that the intellectual property and goodwill of the client are not harmed.

In addition to aesthetic issues, graphic size is an important factor in the user experience because it greatly affects the performance of the client/server relationship.[51] Most users view the Web with low speed modems, and despite the promise of high-speed Internet connectivity available to consumers,[52] widespread deployment of these technologies is at least one year away. For this reason, a maximum file size must be included in the specifications for all GIF and JPEG graphics included on the page.[53] To allow for more design flexibility, the client and the developer can agree on a maximum size for each webpage on the site.[54] As discussed above, it is difficult to accurately gauge a typical user experience with a website because many other factors are involved.[55] Nevertheless, graphic size remains one of the most important

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49. *See id..*

50. The Windows and Macintosh color palettes contain only 216 common colors and a proficient website designer will limit GIF design to those colors. For a good example, see *Lynda's Homegurrl Page* (visited Mar. 24, 1998) <http://www.lynda.com/hex.html>.

51. Many other factors affect the speed at which a user interacts with a website. For example, a popular website may be so overloaded that requests for files go unanswered for long periods of time. For more on server performance, see *infra* notes 61-74 and accompanying text. Other factors, however, are largely out of the user's and the drafter's control. For instance, transient network conditions and "traffic congestion" may result in "bottlenecks" between the server and the user's computer. Internet traffic also fluctuates depending on the time of day and the day of the week.

52. For example, many companies are currently developing high-speed cable modem access to the Internet. In addition, many phone companies are experimenting with xDSL technology, which promises to bring high-bandwith connectivity through ordinary telephone lines.

53. The exact size of each graphic may vary greatly according to the preferences of the client and the developer. Keeping in mind the relatively slow links of modems used today, a limit of 20-30 kilobytes per graphic would give the designer a considerable amount of flexibility in designing the website. Of course, if the designer put ten 20 kilobyte graphics on each webpage, most current viewers would simply avoid the site or move to another webpage on the site. Thus, if the client wishes to utilize this approach, it may be advisable to also limit the number of graphic elements per webpage. While website designers may claim that the restraints are excessive, effective graphic design for the Web can produce small graphics that are both aesthetically pleasing and functional. Another solution would create multiple versions of the site with differing levels of graphic quality. This lets a user determine how long to wait for a graphic to download. *See supra* notes 36-42 and accompanying text.

54. This may be the more effective solution for clients who want to ensure a consistent user experience but do not want to constrain the developer's design. A maximum size of 100 kilobytes per page would give a designer the desired space. *See* WEINMAN, *supra* note 46. This limitation may not be feasible for all sites. If possible, the client should make the determination after testing out websites with differing graphic configurations from modems with different speeds.

55. For example, differences in the processor speed, operating system, modem speed, and amount of random access memory (RAM) on a user's computer may impact tremendously on the user

factors in download times. By specifying maximum sizes, a client can have significant control over access to the website from a variety of modem speeds.[56]

3. CGIs, Scripts, and Server Plug-ins

While website graphics and HTML files form the crux of the Internet user's experience with a website, Common Gateway Interfaces (CGI) and server "plug-ins"[57] are the small computer programs that create the user interactivity of the website. Whether they are used to process information collected from form entry fields on a webpage, or to provide for a "chat room,"[58] CGIs and plug-ins offer functionality that can greatly increase the value of the website both to the user and to the client. Like most software, however, CGIs and plug-ins often lack portability.[59] Thus, a client may be forced to choose a new web-hosting service based on its hardware and software configuration because some CGIs and plug-ins only operate on a particular platform or operating system. These problems are often exacerbated when programs are written specifically for the client and may be tied to the designer's specific hardware and software. While choosing one server platform will necessarily foreclose future portability, the client may require the designer to utilize scripts, CGIs, and plug-ins that are portable among one platform or operating system.[60] While the transition to a new

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experience.

56. Although much of the Internet is connected by high-speed lines through universities and government institutions, nonmodem access at the consumer level is in its infancy.

57. Plug-ins perform the same kind of services as scripts and CGIs but have the added advantage of integrating directly into the server software itself for increased speed and stability. These benefits, however, are countered by the general lack of portability of most plug-ins. Because they are designed for specific webservers, clients should know that moving plug-ins to a new website or web hosting provider is difficult.

58. Chat services are extremely popular on the Internet. Users can engage in real-time text based conversation on a broad variety of subjects. For one popular Internet chat service, see *WWWChat* (visited Sept. 25, 1997) <http://wwwchat.com/>.

59. Many CGIs and plug-ins, however, are designed to operate on a wide variety of systems and will usually operate with a server running a specific operating system. For example, most CGI's written for UNIX based webservers will operate on a wide variety of hardware and software configurations or can easily be modified to do so. In addition, a wide range of Macintosh webservers rely on a common plug-in architecture that allows a client to easily move pages and plug-ins from one web provider to another without significant cost or delay.

60. Website developers may balk at this request, as standard operating systems and server hardware often change in six-month cycles. It may be helpful to insert a provision requiring the developer to keep its server hardware and software up to date. As a web designer would be required to keep the system up to date under such a provision, it follows that all CGIs, scripts, and plug-ins would still operate. The importance of this provision directly correlates to the role of the CGI, script, or plug-in within the website. If the application merely provides a counter of page access on the bottom of each page, a noncritical feature, it will be easily replaced on any platform. However, if the software is

web-hosting service will invariably require modifications to the website materials, such a requirement can ensure that the site is quickly reestablished on a new server should the need arise.[61]

Like graphics files, CGIs, scripts, and plug-ins have the potential to affect the user experience with the website. While they are usually small programs that execute quickly, CGIs and scripts often suffer severe performance degradation when overloaded with requests from users. Plug-ins, due to the technical advantages inherent in their interaction with the server software, are less prone to slow down the user's interaction with the website. However, as discussed below, website designers often host many websites on the same server, which increases the number of concurrent users of a script or CGI. Thus, the website designer should warrant that the script or CGI is capable of handling the maximum load that the client anticipates. This is especially important for CGIs and scripts that perform important functions such as electronic commerce, because it is possible that users may not purchase certain goods or services when the transaction takes too long to complete.[62]

C. Site Hosting

1. Generally

Even expertly designed website graphics and HTML files are worthless if they are not readily accessible on the Internet. Most web designers host websites on servers with other websites, and the competition for scarce processor and bandwidth resources can be fierce.[63] In addition to the performance issues raised by website hosting, clients should also consider portability issues before engaging in a long-term hosting relationship. Future mobility may be significantly foreclosed if mission critical applications are developed without concern for cross-platform and cross-operating system compatibility. Despite the intense media coverage of webservers from

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a custom-designed electronic commerce transaction server, the client should be wary of future portability problems and address them in the agreement. In these cases, the client often pays a significant amount for software development, and should be advised to contract separately for such a program

61. Like graphics files, CGIs, scripts, and plug-ins are usually "called" directly from the HTML code itself. Thus, when moving from one server to another, it is often necessary to change the HTML code to indicate the location of the programs on the new server.

62. *See* Collins, *supra* note 42.

63. *See* Daniel P. Pern, *Building Web Sites that Can Take a Hit; Expert Tips on Keeping Your Site Free from Congestion*, NETWORK WORLD, Nov. 4, 1996, at 61 (discussing the challenges of keeping popular websites running at peak performance). Many web designers also offer dedicated server options which can help ensure access to your website.

Netscape Communications Corporation and Microsoft, the most widely deployed webservers continue to be free UNIX based offerings or those offered for Apple Macintosh computers.[64] Thus, it is important that the specifications exhibit expressly state the website's hardware, operating system, and webserver software. This can alert the client to future portability issues and commits the developer to follow the client's platform choices.[65] In addition, the client should insist that the website developer expressly warrant that the webserver and associated software will be kept up to date, and that the developer will apply all available upgrades and software patches in a timely manner.[66] Finally, whenever possible, the web hosting fee structure should be specified separately from the web design elements of the agreement. This separation exhibit will permit the client to locate cheaper, but functionally equivalent web hosting services.[67]

2. Performance Specifications

While identifying the hardware, operating system, and webserver software may help ensure that the website will perform adequately, the specifications exhibit should also contain additional safeguards to help guarantee an effective user experience with the website. In this light, the

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64. *See* Georgia Tech's Graphics, Visualization, and Usability Center's, *GUU's 8th WWW User Survey Results* (visited Feb. 8, 1998) <http://www.cc.gatech.edu/gvu/user_surveys/survey-1997-10/>. Apache webservers lead the field, with an estimated 30% of market share. Mac Webstar & Mac HTTP servers trail by 27%. Microsoft garnered approximately 21% of installed servers. For this data online in tabular form, see *GVU's 8th WWW User Survey, Which Server?* (visited March 7, 1997) <http://www.cc.gatech.edu/gvu/user_surveys/survey-1997-10/graphs/webmaster/Which_Server.html>. *See also* Jon Udell, *Server Management*, BYTE, Jan. 1996, at 107 (providing a general description of some of the available webservers on the market).

65. Specifying the exact configuration will also prevent the web-hosting "bait and switch." In this scenario, the provider may promise to host the site on a high-quality PowerMacintosh running state of the art webserving software such as Starnine's WebStar. In reality, the client's website is relegated to an underpowered PC-clone running a free UNIX variant with significantly less performance. To find out what webserver brand and version a web hosting provider uses, point your browser to *Brad's Web Detective* and enter the host name or IP address of a web provider's server. *See Brad's MAC OS WWW Listings: What Server Is It?* (visited Feb. 8, 1998) <http://brad.brad.net/>.

66. This often has significant ramifications for trade secret and liability issues. *See infra* notes 153-60, 163-77 and accompanying text.

67. This separation should also be done for practical reasons, as the hosting service will usually continue long after the web design services have been completed. To give a practitioner a basis for comparison, Pair Networks, a popular website hosting provider, offers a full featured website hosting account with 25 megabytes of disk space, a 250 megabytes per day bandwidth allowance, extensive email capability, and virtually unlimited scripting and CGI access for less than $40 per month. This includes one domain name, which Pair can register for the client. *See Pair Networks—Account Services*, (visited Feb. 8, 1998) <http://www.pair.com/pair/account.html>. Note that 250 megabytes per day is a generous bandwidth allowance for most websites. Unless the client serves large files from the website, it is doubtful that they will exceed this allowance.

specifications exhibit should identify the speed of the connecting link between the webserver and the Internet as a whole.[68] While connection speeds vary and many high-speed options are available, the minimum acceptable connection for a webserver containing multiple websites is a "T1" line.[69] Although the connection specification indicates that there is a certain amount of bandwidth available to the webserver at any given time, this bandwidth is shared by all websites hosted on the server, and often by every other server at the developer's location.[70] Popular sites can easily consume a large portion of the link capacity and leave little for the remaining sites. Thus, the specifications exhibit should also include a dedicated portion of the available bandwidth to the client's website,[71] or alternatively, should include a maximum bandwidth allowance on a daily or monthly basis.[72] With an adequate link and ample bandwidth allocated to the client's website, the final step is to ensure that the webserver is powerful enough to fill that bandwidth by meeting user requests for website files in an expeditious manner.[73] By specifying a maximum server response time in the specifications exhibit, greater control can be achieved over a typical user experience.[74]

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68. *See* Goodman & Zizmor, *supra* note 12, at 30; Schlachter, *supra* note 12; *Key Issues, supra* note 17.

69. *See supra* sources cited in note 68. In fact, most web hosting providers maintain more than one T1 connection to different parts of the Internet backbone in case of a service outage. When this occurs, all of the website host provider's network traffic is automatically rerouted through the viable link. Maintaining multiple links is known as redundancy, and often is critically important to a client who depends on the website for electronic commerce transactions. If the client utilizes a dedicated server option with the web hosting service, less bandwidth than a full T1 may be required.

70. Other Internet protocols may also compete for scarce bandwidth. For example, many web host services allow email accounts and file servers to reside on the same computer as a primary webserver.

71. Thus, a T1 line that contains 1.54 megabits per second bandwidth can be subdivided to allow for a guaranteed bandwidth to a given website at any time. Many small sites can fulfill all user requests with as little as a 56 kilobytes per second link. If the client expects heavy site usage they may want to reserve a larger fraction of a T1 line. If this approach is used, the agreement should contain provisions for the cost of extra bandwidth when peak usage exceeds a client's bandwidth allotment.

72. This method is quickly becoming the industry standard for web hosting services. It is common practice for a service to charge a monthly fee for a fixed monthly bandwidth allowance. Thus, a web design and hosting service may permit 1 gigabyte of transferred data on a monthly basis, while others may limit transfers to 50 megabytes per day. *See supra* note 67 and accompanying text for a typical web hosting fee structure.

73. Webservers that host multiple websites can easily be bombarded with user requests for files. While a user may often decide not to wait for the server to respond, in some situations the server itself may "time-out" or refuse connections if there is no response during a set period of time or if the server cannot handle the load.

74. *See* Raysman & Brown, *supra* note 12; Schlachter, *supra* note 12. A practitioner should note that a maximum server response time is not necessarily the time it takes a user to download a page to a web browser. While the parties can agree to this criteria, many web developers may object to this clause because other factors external to the developer's network impact data retrieval. The client and developer should specify that this criteria is the amount of time it takes the webserver software itself to

3. Maintenance, Backups and Service Interruptions

Many factors can cause a website to lose its connection to the Internet, and a website development agreement should include an express warranty from the website designer that the website will be operational and accessible from the Internet for a specified period of time each day or month.[75] A warranty is the best way to achieve this result. For example, the developer could warrant that the website will operate continuously, except for scheduled maintenance on a daily or weekly basis.[76] Alternatively, the warranty agreement could provide for a percentage of "uptime" over a monthly period. Regardless of what service option is chosen by the client and developer, the warranty agreement should also contain express provisions addressing appropriate response times when problems do arise. While major multimedia companies may offer twenty-four hour support, some developers are not available during weekends or after business hours to fix website problems.[77]

Another common way to avoid service interruptions is to contractually provide for geographically and backbone distinct "mirror sites."[78] Typically, a developer will backup the entire site on a daily basis to another server on a different network connection. If unexpected circumstances arise, such as a natural disaster or loss of power, all network operations are quickly switched to the alternate site and the client's website continues to operate to Internet users.[79]

The maintenance of two geographically separate website locations is an expensive proposition for most small to medium sized businesses, and also outstrips the technological resources of many website developers. Many mediumsized website developers host their sites in one location and depend

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respond to the incoming client's request for a webpage. This data can often be recorded in the webserver log and analyzed by both the client and developer to ensure that the website performs according to the agreement's specifications. *See infra* note 157 and accompanying text.

75. *See* Raysman & Brown, *supra* note 12.

76. *See id.*

77. In addition, many smaller developers host their websites on third party servers and may not have effective control over the level of service available at any given time. While this often results in cost savings being passed onto the client, customers with electronic commerce websites cannot afford to be off-line for a significant period of time. Consequently, these clients should require their developer to host the site directly, rather than subcontract the work to a third party. To accomplish this, the agreement should require the developer to expressly warrant that all network services are located on premises.

78. *See* Schlachter, *supra* note 12.

79. Of course, if the webserver went down because of a security breach, the developer and client may not want to launch a backup that may be vulnerable to the security hole. *See infra* notes 154-55 and accompanying text.

on redundant Internet connections[80] and daily backups of website material to insure that any service interruption will be limited in nature.

Finally, the agreement should require the developer to send regular backups to the client. This will protect the client from any unforeseen event that destroys the entire web hosting network operations center. At the very least, the contract should require the website hosting provider to backup the website to an appropriate storage medium and relocate it to an off-site location on a scheduled basis.[81]

D. Acceptance Testing and Termination

1. Generally

Acceptance testing and termination provisions are critical aspects of any website development scenario, as it is difficult or even impossible to specify with precision the attributes of the product or service to be delivered. While website design is an extremely complex undertaking, a thorough acceptance testing provision permits clients and practitioners with minimal technical acumen to leverage their testing ability, and thus compensate for a lack of knowledge of website design. In addition, a comprehensive termination provision is critical because it allows the client to move its website in-house or to another web provider without delay.

2. Acceptance Testing

Effective website development acceptance testing provisions will closely parallel the strict clauses used in complex software development agreements, where the client can derive significant control by deciding what qualifies as a conforming product and what must be cured.[82] In addition to using standard client-oriented acceptance provisions, a practitioner may want to supplement these provisions with specific clauses that directly relate to unique aspects of website development. For example, the website client may want to have an extended testing period of the website to accurately gauge the website's

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80. In this scenario, the website developer's internal network is connected to the Internet through more than one high speed line. Thus, if one network connection experiences trouble, the website administrator can route all packets through the alternate connection. As an added precaution, most website developers who lease redundant lines spread them over different providers to lessen the chance of network failure severing Internet connectivity.

81. The website client may want to have current copies of all webserver files and programs, especially if the client plans to move the website in-house or to a new web hosting provider.

82. An extended discussion of acceptance provisions is outside the scope of this Note. Interested readers should see BROWN & RAYSMAN, *supra* note 16, § 2.09[1]-[5].

performance in real day-to-day operation. The website client should then test the website from a variety of different software and hardware platforms, as well as from different speed Internet connections.[83] This testing will enable the client to discover if the developer's servers are too busy to accommodate the client's website.

The website client and the developer may also want to divide the website development process into stages so the client can monitor and guide the developer's work. For example, the website developer can create a limited number of pages to give the website client an idea of how the entire website will look and perform.[84] On the other hand, in situations where websites are going to depend heavily on custom programming, the client may want to see the transactional elements working on sample pages before the entire website is built.[85] As in the standard software development scenario, the client may want to consider tightly integrating the acceptance provisions with the agreement's payment schedule.[86]

3. Termination

After the website design process has been completed, the relationship between the client and the developer is limited to the hosting of the client's website on the developer's server.[87] To ensure maximum flexibility for the client, the hosting portion of the agreement should create a monthly website hosting relationship. However, the client should also be able to immediately terminate the agreement under certain circumstances. Early termination often occurs when the website developer is no longer able to provide the level of network services promised in the agreement, which often happens when the developer simultaneously hosts many popular websites on the same server or local network.[88] Other circumstances that may necessitate immediate termination include a breach of network security,[89] misuse of the client's website by the developer,[90] or a breach of the agreement's confidentiality

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83. *See* BROWN & RAYSMAN, *supra* note 16, § 2.09[1]-[5].

84. The website developer may insist on this provision without encouragement from the client as it is easy to copy Internet material. If the developer built the entire website and put it online, an unscrupulous client could download the website's HTML and graphics to another provider's computer.

85. Practitioners may also want to consider putting large custom programming projects into separate agreements.

86. *See* BROWN & RAYSMAN, *supra* note 16, § 2.09[5].

87. Of course, the website client and the developer may want to provide updates and maintenance to the website in the agreement. Alternatively, the website developer can provide the website client with tools to remotely update the content without the developer's assistance.

88. *See supra* notes 68-74 and accompanying text.

89. *See infra* notes 153-60 and accompanying text.

90. For example, if the developer improperly utilizes the client's domain name for its own

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provisions.[91]

When a client fails to receive the promised services, the client's primary goal is to relocate its website to a new provider without losing significant on-line time.[92] Consequently, the website client will need copies of all website files and software it licensed from the website developer.[93] The best way to accomplish this is to have the website developer periodically send the website client the files,[94] or to permit the website client to copy them directly from the Internet.[95] In cases of custom-designed software, the website developer should make sure that all licenses to use the software extend to future use on another web hosting provider's server.[96]

If the website client has registered a domain name,[97] or if the developer has registered it for the client, the domain name must be transferred to the new web hosting provider.[98] While a website owner can accomplish this task through the Internet,[99] the website developer's cooperation is often needed to expedite the process. In each scenario, the website developer should have the affirmative obligation to assist the client, and should be required by the agreement to eliminate any domain name information relating to the client's website once the transfer is completed.[100] If the website client does not have a domain name, the web developer should be obligated to maintain a webpage on the developer's server notifying Internet users that the client's website has moved.[101]

III. INTELLECTUAL PROPERTY ISSUES

A. *Generally*

Like all multimedia projects, website development involves a wide variety of intellectual property issues. The Internet's global availability,

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benefit. *See infra* note 140 and accompanying text.

    91. *See infra* notes 156-60 and accompanying text.

    92. *See* Schlachter, *supra* note 12.

    93. *See infra* notes 110-33 and accompanying text.

    94. *See* Schlachter, *supra* note 12.

    95. The latter option can be implemented by providing File Transfer Protocol (FTP) access to the client's materials on the developer's server.

    96. *See infra* notes 110-33 and accompanying text.

    97. *See infra* notes 135-42 and accompanying text.

    98. *See id.*

    99. *See id.*

    100. A client should also be aware that it may take time for the new information to propagate through the domain name system because many servers store temporary data to expedite the use of the domain name system.

    101. *See* Schlachter, *supra* note 12.

however, raises the stakes considerably. While a copyright holder may disregard a minor use of its intellectual property in off-line publications, the same copyright holder might rigorously enforce its rights against use on a website with a larger potential audience. Between the developer and the client, traditional intellectual property concerns of ownership will dominate the planning and drafting stages of website development agreements. Furthermore, in many situations, this relationship will require the disclosure of significant amounts of confidential and proprietary information. Finally, the operation of the website itself may create a voluminous amount of valuable data on a daily basis.

1. Preexisting Intellectual Property

The client and the developer will bring a significant amount of preexisting intellectual property into the website development project. In order to eliminate confusion and prevent problems that may develop after the contractual relationship terminates, the parties should specifically indicate the ownership of all of the graphics, text, custom programming scripts and programs, and all other intellectual property utilized by the developer during the course of website development and while hosting the website.[102] By separating these elements from any intellectual property that may be created during the website development relationship, the parties can best assess their immediate licensing needs and plan for postagreement activity.

2. Due Diligence and Third Party Intellectual Property

The Internet's unique culture facilitates the rapid transfer of ideas, concepts, and code through a system of "freeware," "shareware," and outright copying that often blurs traditional conceptions of intellectual property rights.[103] A developer who sees an effect on a web page can quickly view its code, copy it to a computer "clipboard," and paste it into another website with little effort.[104] What seems to be the best way to further HTML and CGI development may generate an intellectual property dispute that can

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102. *See* Hal Barza et al., *Rights to Web Sites Can Be Difficult to Sort Out*, NAT'L L. J., Feb 12, 1996, at C15; William A. Tanenbaum, *Intellectual Property Due Diligence For Online Services, Internet Web Site Development and International Copyright Conflict of Laws Analysis, in* PLI'S SECOND ANNUAL INSTITUTE FOR INTELLECTUAL PROPERTY LAW 29 (PLI Pat., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-454, 1996).

103. *See* Byron F. Marchant, *On-Line On the Internet: First Amendment and Intellectual Property Uncertainties in the On-Line World*, 39 HOW. L.J. 477, 487 (1996).

104. *See* Mary Morgan, *Angling for Ownership: Who Owns a Web Site*, ROCHESTER BUS. J., Apr. 12, 1996, at 17.

threaten a website's legal right to operate.[105] Both the client and the developer are obligated to conduct a due diligence assessment of intellectual property rights that are utilized in the web development project. After determining their rights, each party must obtain the necessary licenses, assignments, or contractual rights to use third party intellectual property in the website development project.[106] These rights are often scattered across a wide range of licensing entities, especially when the material involves music and video.[107] In many cases, the true owner of the intellectual property rights are often unknown. Ownership is often unknown for small programs, "applets," or scripts that offer important functionality to the website, but do not include any indication of their source.[108] Thus, the website developer should expressly warrant the originality and noninfringement of all custom code used in the development and operation of the website. In addition, the client should insist that the agreement's indemnification provision cover these elements. Further, the agreement should require the developer to replace any infringing material with a noninfringing program with the same functionality in a timely manner and at the developer's expense.

The development and operation of the website usually requires a wide range of third party software, the majority of which is licensed directly by the developer. Normally, the software is licensed either from independent programmers or large software companies that develop webservers and associated software. The client and developer should specifically list all third party software used in conjunction with the website, as the client may want to consider licensing certain software directly for future use.[109] This consideration is especially important when the software is a critical part of a

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105. *See* Tanenbaum, *supra* note 102, at 11; *see also* Morgan, *supra* note 104.

106. Tanenbaum, *supra* note 102, at 16-32; *see also How To Secure Usage Rights on Your Web Site*, INTERACTIVE MARKETING NEWS, Aug. 23, 1996.

107. *See* Paul F. Norris & Mark J. Bolender, *Potential Pitfalls in Multimedia Product Development: Clearing the Necessary Content Rights* (visited Mar. 9, 1998) <http://www.batnet.com/ oikoumene/nobomediarights.html>. Peter Brown, *Strategies for Securing Rights in Multimedia and Internet Products, in* 16TH ANNUAL INSTITUTE OF COMPUTER LAW: UNDERSTANDING THE BUSINESS AND LEGAL ASPECTS OF THE INTERNET 151-199 (PLI Pats., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-438, 1996).

108. For example, certain programs offer a graphic counter on a page, process form entries and mail results to an email address, and provide Java and Javascript applets that stream text across a webpage. While it is doubtful that an infringement action would ever arise based on these simple technologies, a client should not assume that all of these programs are in the public domain. As these programs become more sophisticated and useful in electronic commerce scenarios, the potential for rigorous intellectual property enforcement increases. In addition, programmers may and will include smart logic in these programs to disable themselves and/or contact their owners if infringing activity is detected.

109. This strategy may also save the website client significant expense when the webserver is moved in-house or to another provider.

client's electronic commerce plans. If the client moves their website in-house or to another web-hosting provider, they will have the rights to the underlying software and will be able to continue website operations in the new location without first having to obtain rights to critical third party software.

B. Copyright–Ownership of the Website Content

In addition to the wide variety of preexisting and third party intellectual property utilized in a website, website development necessarily results in the creation of new intellectual property which must be expressly provided for in the agreement. Failing to plan for this intellectual property in advance can lead to disastrous results, as the United States Copyright Act vests ownership, without an agreement to the contrary, in the author of the work.[110] Without appropriate copyright permissions, the website owner owns only a copy of the website graphics, HTML, and programs, but cannot reproduce them, prepare derivative works, or use them in any manner inconsistent with the other exclusive rights afforded to the website developer under the Copyright Act.[111] The developer and the client often have divergent interests in the wide variety of intellectual property created through the website development process. Fortunately, a number of contractual options exist to ensure that the client can utilize the created content in any manner necessary. By using a combination of these approaches, the website owner can avoid future struggles over implied licenses and joint ownership, which may not provide the rights needed to operate the website.[112]

1. Contractual Options: Work Made for Hire

The Copyright Act, through its "work made for hire" provision, provides an efficient mechanism to avoid the problems of vesting ownership of the newly created website components in the website developer. When a work fulfills the statutory criterion for a work made for hire, initial ownership can vest directly in the website owner if it is prepared by an employee[113] or specially ordered and commissioned by the website owner in a written

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110. *See* Copyright Act of 1976, 17 U.S.C. §§ 101-1101 (1994).

111. *See* Morgan, *supra* note 104; *see also* 17 U.S.C. § 106 (exclusive rights in copyrighted material).

112. *See* Barza et al., *supra* note 102.

113. Because this Note assumes that the website developer is an independent contractor rather than an employee, the work made for hire issues relating to employee works will not be discussed.

instrument signed by both parties.[114] The Copyright Act's work made for hire provision extends to a limited range of works, but the Act expressly includes audiovisual works and collective works. It is likely that both of these works may cover a large amount of website content.[115]

In the website development agreement, the client and the developer can utilize a work made for hire provision to establish ownership of the HTML and graphic content created by the developer. The site owner has strong interests in maintaining all of the ownership rights in this content, especially when the site owner anticipates moving the website in-house or to another less expensive web hosting service in the future. By establishing ownership, the client can ensure that the website developer will not be able to reuse the graphical and HTML layout to build new websites.[116] For several reasons, website developers are likely to agree to the vesting of the rights in the HTML and graphics with the site owner. First, experienced website developers create custom sites based on the color scheme and design of preexisting intellectual property content, and thus HTML and graphics from one project usually will not fit aesthetically into another. Second, website developers have stronger interests in the reusable code that controls the transactional processing of the website.

Utilizing the work made for hire provision under the Copyright Act has substantial advantages, including vesting ownership in the commissioning party and allowing for an extended copyright term. However, some disadvantages exist that may make the option less attractive to the client.[117] For instance, in the area of classifying works as falling into the enumerated work made for hire categories, sparse interpretive precedent exists from which a practitioner can obtain guidance.[118] Classification guidelines are especially important because the scope of protection may vary significantly based on a works classification.[119] In addition, some states consider a commissioning party an employer and an independent contractor an

114. *See* 17 U.S.C. § 101; *see also* Barza et al., *supra* note 102. *See generally* Jose I. Rojas, *The Internet and Content Control: Liability of Creators, Distributors and End-Users, in* 17TH ANNUAL INSTITUTE ON COMPUTER LAW: THE EVOLVING LAW OF THE INTERNET-COMMERCE, SPEECH, SECURITY, OBSCENITY, AND ENTERTAINMENT 205 (PLI's Pats., Copyrights, Trademarks, and Literacy Prop. Handbook Series No. G-471, 1997).

115. *See* 17 U.S.C. § 101; Barza et al., *supra* note 102.

116. *See* Tanenbaum, *supra* note 102, at 28; Dunn, *supra* note 2, at 473.

117. *See* Barza et al., *supra* note 102; *see also* 17 U.S.C. § 303 (describing duration of copyright).

118. *See id. See generally* Robert S. Schlossberg & Armand J. Zottola, *Avoiding Intellectual Property Liability, in* PROTECTING YOUR INTELLECTUAL PROPERTY: HOW TO VALUE, MAXIMIZE AND ENHANCE YOUR ASSETS 363 (PLI Pats., Copyrights, Trademarks, and Literacy Prop. Practice Course Handbook Series No. 468, 1997); 17 U.S.C. § 101 (defining enumerated work made for hire categories).

119. *See id.*

employee, regardless of the work made for hire provisions of the agreement.[120] In these states, the "employer" must pay the "employee" a range of benefits that could add significantly to the cost of the website development project.[121]

2. Contractual Options: Assignment

To avoid some of the problems inherent in a work made for hire agreement, the website developer can assign all rights in the HTML and graphics to the website client.[122] In an assignment, the initial ownership of the intellectual property rights vests with the website developer, and then are transferred in a written instrument to the website owner. An assignment can be used independently or in conjunction with a work made for hire provision by operating as a 'catchall' to ensure that the all of the necessary rights are transferred to the website owner. In addition, assignments can transfer intellectual property rights in items that do not fall under the enumerated subject matter categories of the work made for hire doctrine.[123]

A practitioner may wish to forego the uncertainties and practical difficulties of the work made for hire provision in favor of an assignment of all of the intellectual property created in the website development process. Website developers, however, have strong interests in maintaining intellectual property rights in the custom software created through the website development process. For example, a client may need a custom-designed "shopping cart" program to handle electronic commerce activity on the website. While a developer may have little interest in the HTML and graphics content, most will want to keep control over all programs that have the potential for future use with other website clients.[124]

3. Contractual Options: Licensing

A common solution to this problem is to allow the rights in the custom software to vest initially in the website developer, who can then grant a

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120. *See id.*
121. *See id.*
122. *See* Dunn, *supra* note 2, at 475-483. *See generally* C. Ian Kyer & Christopher E. Erickson, *Legal Issues Relating to the Commissioned Development of Multimedia Products, in* MULTIMEDIA 1997: PROTECTING YOUR CLIENT'S LEGAL AND BUSINESS INTERESTS 601 (PLI Pats., Copyrights, and Literary Prop. Course Handbook Series No. G-467, 1997).
123. *See* 17 U.S.C. § 101 (1994).
124. *See* Dunn, *supra* note 2, at 473; Tanenbaum, *supra* note 102, at 28-29; Barza et al., *supra* note 102.

nonexclusive license in the software to the website client.[125] The website client should be diligent, however, in obtaining the rights required for the use of the programs.[126] This diligence is especially important in cases where the website client moves the website in-house, or when the agreement ends and the client relocates the website to a new web hosting provider. As in the case with preexisting intellectual property, the website developer should warrant that the licensed software is original, noninfringing, and free from defects. The developer should also indemnify the client against claims arising from use of the software, and replace it if it is found to infringe on third party rights.

4. Moral Rights and the Credit Clause

As websites are often designed by international "virtual companies" made up of teams of designers from different countries, practitioners should be aware of the existence of moral rights that may attach to the website content.[127] In the United States, moral rights are more limited than in other countries, but still give designers of visual art significant rights, including the ability to claim authorship of a work, restrict the use of his or her name on the work, and even prevent any intentional modification of the work that would be prejudicial to the author's honor or reputation.[128] United States copyright law defines visual art much more narrowly than other countries. Thus, moral rights may not play a significant role in a typical website development scenario.[129] Nevertheless, practitioners should include an express waiver of the developer's moral rights in the works to prevent future problems,[130] especially when dealing with foreign website developers.

Regardless of the intellectual property and moral rights provisions in the agreement, the online credit clause presents one of the most important contractual provisions for a website developer.[131] These credits usually take

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125. *See generally* David Bender, *Software Development, Licensing, and Protection: Strategies for Evolving Technologies*, J. PROPRIETARY RTS., Jan. 1997, at 9.

126. *See* Barza et al., *supra* note 102. For example, the client may wish to modify the software after the relationship with the developer has ended.

127. *See* Marchant, *supra* note 103, at 487-490. Practitioners should also be aware of jurisdictional and venue issues common to all international contracting scenarios.

128. *See* 17 U.S.C. § 106A.

129. For example, in defining visual art, the Copyright Act expressly excludes "other audiovisual work" and "electronic publication" from the coverage of § 106A, as well as any advertising, promotional, or work made for hire. *See* 17 U.S.C. § 106A.

130. *See* 17 U.S.C. § 106A(e) (governing waiver provisions in the United States). Further, it is important to note that a website development agreement would have to expressly identify all of the works and their uses for the waiver to be effective.

131. *See* Raysman & Brown, *supra* note 12; *Key Issues, supra* note 17.

the form of a small logo and a few lines of text that link to the developer's website, and they provide a way for developers to build their reputations and gain new clients. The most common forms in use today are the footer credit and the acknowledgments page.[132] In the footer credit, a developer would be allowed to put her company information and logo on the bottom of every page built for the client, and in the acknowledgments page credit the developer is limited to a single page on the client's website. A website client can use the credit clause as an effective bargaining tool in the negotiation of the website development agreement.[133]

C. Trademarks—Domain Names and Other Issues

In the website development scenario trademark issues generally arise in two main areas: (1) the registration, maintenance, and use of the domain name, and (2) the utilization of the trademarks in the text and graphics that make up the pages of the website.[134] On the Internet, domain names often reflect established trademarks,[135] which guide Internet users to the website of a company that they recognize from traditional marketing methods.[136] If the client is technically capable of registering their own domain name, the practitioner should encourage them to do so at their earliest opportunity.[137]

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132. For a sample clause utilizing the "acknowledgments page" approach, see *Giving Credit for Web Site Development,* MULTIMEDIA STRATEGIST, Mar. 1996, at 2.

133. This tool is especially effective if the client's website has the potential to draw significant Internet traffic.

134. For an excellent survey of the legal and technical issues raised by trademark usage and the Internet, see Ronald Abramson, *Trademarks and the Internet, in* ADVANCED SEMINAR ON TRADEMARK LAW 1996, at 299-400 (PLI Pats., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-438, 1996).

135. Domain name is the common term used to describe second-level domains under one of the limited number of top-level domains available. For example, most companies register their domain name with InterNIC, the Internet domain name registration authority, under the commercial domain (.com). Educational organizations utilize the top-level domain (.edu), and non-profit organizations usually use the free domain (.org). Clients should check for use of their trademarks by using the "Whois" service available at InterNIC's website. *See* InterNIC Website, *Template Tool Suite: Web Based Whois Search* (visited Mar. 13, 1998) <http://rs.internic.net/cgi-bin/itts/whois>.

136. Certain web browsers, such as Netscape's Navigator, only require that a user type in a company name, and the browser supplies the URL formatting. For example, a user could just type "ford" in the text entry box of their browser, hit return, and the browser would attempt to connect to <http://www.ford.com/>.

137. Domain names are constantly being registered by domain name speculators who hope to extract large cash payments from companies in exchange for the domain name. Readers interested in learning more about domain name piracy and trademark law should visit the Oppedahl & Larson Patent Law Web Server, which has a comprehensive set of links on the subject. *See NSI Flawed Domain Name Policy Information Page* (visited Feb. 8, 1998) <http://www.patents.com/nsi.sht>. Clients who have discovered that their domain name has been pirated often avoid litigation for many reasons, including the fear of being embarrassed for lacking the foresight to register their domain

Given the current debate over domain names, the website development agreement should expressly state that a domain name, whether registered by the client or the developer, is the sole property of the client. Further, the agreement should state that the developer's use of the domain name is expressly limited to the development project and the hosting of the website on the developer's servers.[138]

1. Client Registration of Domain Name

The website development client should register a domain name directly with InterNIC through the online domain name registration system.[139] The only information that the client needs from the developer are the Internet Protocol ("IP") numbers of the developer's domain name servers and the contact information for the developer's domain name administrator. The client should be listed as the administrative and billing contact. By personally registering the company's name, the client can avoid future disputes with the developer over ownership of the domain name and deal with InterNIC directly for billing purposes.[140]

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name. While the client may have a legal right to the domain name under trademark law, the current domain name dispute resolution policy at InterNIC has changed many times in the last two years, and clients should be forewarned that litigation in this area can be a time consuming and costly proposition. InterNIC keeps its most recent Domain Name dispute resolution policy on its website. *See* InterNIC Website, *Domain Name Dispute Policy Effective September 9, 1996* (visited Feb. 5, 1998) <http://rs.internic.net/domain-info/internic-domain-6.html>. Practitioners should note, however, that the policy may not apply to a client's domain if it was registered during an earlier period. InterNIC's policies have been the focus of intense debate on the Internet and in the courts as well. In short, clients with domain names should conduct a trademark search and register a trademark for their domain name. Further, clients with trademarks should register a corresponding domain name at their earliest opportunity.

138. Most website development companies configure their servers so that any incoming request from the Internet directed to http://clientsdomain.com/ or http://www.clientsdomain.com/ reaches the web server. The "www" subdomain is utilized merely as a convenience for web users and normally is not required to access a company website. The client may also want to restrict the developer from using any other sub-domain in connection with the domain name other than the traditional www subdomain. While this is not usually a significant issue in web development projects, the client would not want the developer to capitalize on its registration of a prime domain name. For example, if the client had the foresight to register "cars.com," the client would not want the web developer to set up its own web project using http://thebest.cars.com/ as its domain name. In some larger projects, however, the client may need to contractually authorize its own usage of third-level or sub-domains. This could be the case if the client's site generates significant traffic and has exists on more than one webserver (http://www.cars.com/ and http://www2.cars.com/), or if the client decides to serve files from a server by using the File Transfer Protocol (ftp), which would usually result in the Internet standard address of <ftp://ftp.cars.com/>.

139. InterNIC's domain name registration system has been streamlined for easier use. *See* InternNIC Website, *Template Tool Suite* (visited November 1, 1996) <http://rs.internic.net/cgi-bin/itts/domain>.

140. InterNIC recently instituted a $100 fee per domain name, which covers a two-year period. In

2. Developer Assisted Registration of Domain Name

If the client lacks the technical capability to register the domain name, the website development agreement should state the terms by which the developer will register the domain name. In addition to stating that the developer has no interest in the domain name, the agreement should list the client as both the administrative and billing contact. If the client does not utilize electronic mail, the developer should ensure that InterNIC's invoices are sent to the client by regular mail.[141] If possible, the developer should confirm that the domain name has been registered properly once the domain is in operation.[142]

3. Use of Client's Trademarked Materials

A trademark owner should maintain strict control over the use of their trademarks to protect the goodwill of the client's business. The website client should provide the developer with approved uses of any trademarks used on the site, and supervise their use through the acceptance procedures outlined above. Further, the website developer should use a distinctive typeface, quotations, the registered trademark symbol, or other means of distinguishing the mark from other text on the webpages. The website client should also make sure that any trademarked graphics on the site appear consistently on all platforms and browsers.[143]

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subsequent years the fee will be $50 per year. These amounts represent the charges for maintaining the domain name with InterNIC and do not cover additional costs that a developer may charge for setting up the domain name on their domain name servers. Typical charges for that service are between $10 and $25 and should constitute a one-time fee. In earlier years, unscrupulous domain name pirates have charged many large companies enormous fees for domain name registration. As awareness of InterNIC's billing practices became more widespread, the typical rates have decreased considerably. In addition, InterNIC instituted a "one domain per organization" rule that attempts to curtail domain name hoarding by speculators and legitimate business organizations. Many people avoid this requirement by registering new domain names under fictitious names or by utilizing the name of a subsidiary company or department.

141.   This provision is an extremely important to the agreement as InterNIC frees up a reserved domain name after a certain period of time if payment has not been received. By paying directly to InterNIC, the client can keep accurate records of its obligations and insure that its domain is not returned to the general pool of unreserved domain names.

142.   To check on the status of a domain name, a client can type the URL into their browser, for example, replacing "ford" with the client's domain: <http://rs.internic.net/cgi-bin/whois?ford-dom>. InterNIC's server will respond with the domain name record corresponding to the client's domain, and further, will list all of the contact information that has been registered.

143.   See supra notes 43-56 and accompanying text.

4. Incorporation of Third Party Trademarks

While a standard provision prohibiting a website developer from using third party trademarks on the client's website is an important ingredient in a website development agreement,[144] World Wide Web technology itself presents some unique twists on traditional trademark law.[145] A recent example is the pending lawsuit against TotalNEWS, a website that conveniently offers access to a wide variety of online publications through the use of their website.[146] TotalNEWS, however, does not simply provide links to these other information sources. Instead, the data is pulled into a "frame"[147] in the user's browser, and remains surrounded by parts of the TotalNEWS site.[148]

While this information gathering technology is commonly used on the Internet, many major information providers, including CNN and Reuters, filed suit against TotalNEWS claiming, among other intellectual property violations, trademark infringement and dilution.[149] Because website development often includes linking to and potentially framing third party material available on the World Wide Web, practitioners should specifically prohibit developers from framing third party materials.[150] In addition, many groups on the Internet believe that permission is needed for even a simple link to a third party's website.[151] Although antithetical to the concept of the World Wide Web, site owners may want to include linked websites in their due diligence preparations.[152]

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144. Many websites utilize trademarked and copyrighted graphics and text without permission, and often do so without any concern for quality control. While this may not be a major issue for websites that have minimal traffic, significant harm to the goodwill of a company can occur on popular websites.

145. *See* Alan Cohen, *A Tangled Web of Trademark Trouble*, AM. LAW., Oct. 1996, at 41.

146. The full text of the complaint is located on-line at Law Journal Extra's website, *Washington Post J. Total News*, (visited Mar. 8, 1998) <http://www.ljx.com/internet/complain.html>.

147. For an online demonstration of frames technology, see *Netscape Communications, Inc. Frame Example* (visited Mar. 8, 1998) <http://www.december.com/html/demo/frameset.html>.

148. Frames are not officially supported in any of the currently existing HTML specifications, but are a widely deployed feature on Internet websites.

149. Similar claims have arisen in the copyright area. *See* Mark Eckenwiler, *Copyright on the Web Enhanced*, LEGAL TIMES, Aug. 19, 1996, at S29. (discussing the Dilbert Hack Page).

150. If the developer was limited to using one of the established HTML specifications available at the time of this writing there would not be any framing issue. *See supra* note 148.

151. For example, the Interactive Services Subcommittee of the American Bar Association's Committee on the Law of Commerce in Cyberspace recently completed a model webpage linking agreement as a reference for lawyers. It is available on their website at *Web-Linking Agreements: Contracting Strategies and Model Provisions* (visited Feb. 8, 1998) <http://www.abanet.org/buslaw/cyber/weblink.html>.

152. *See* Tanenbaum, *supra* note 102, at 29. In practice, most website owners are more than happy to give permission for site links, and many will even offer to provide reciprocal links on their website.

D. Trade Secrets, Security and Confidentiality

1. Generally

Servers connected to the Internet are accessible from virtually anywhere in the world. Consequently, they are particularly susceptible to infiltration, sabotage, and other breaches of security that can take a webserver off-line, modify its contents, or make private and confidential material publicly accessible.[153] In addition to breaches of security, the normal operation of a website involves the transmission and disclosure of a wide range of confidential, proprietary, and trade secret information.

2. Security Issues

Security issues usually arise through the inadvertent disclosure of proprietary or confidential information, or as result of the intrusions of "hackers" intent on infiltrating a client's website.[154] While inadvertent disclosures can be prevented by meticulous website planning and administration, preventing "hacker" attacks often proves to be more difficult. Most webservers on the market today have been found to contain serious security holes in their programming code.[155] If the website developer uses

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153. *See* Victoria A. Cundiff, *Keeping the Information Highwaymen from Your IP*, THE INTELL. PROP. STRATEGIST, May 1995, *in* 16TH ANNUAL INSTITUTE ON COMPUTER LAW: UNDERSTANDING THE BUSINESS AND LEGAL ASPECTS OF THE INTERNET, SAN FRANCISCO 1996, at 89 (PLI Pats. Copyrights, Trademarks, and Literacy Prop. Course Handbook Series No. G-444, 1996). A common misconception is that 'hackers' only attack sites when there is a potential for material gain. As many recent examples demonstrate, many hackers seek to exhibit their technical prowess by mocking a corporation or governmental entity by merely modifying the pages of its website. *See* Sean Silverthorne, *Hackers Break Into NASA Website* (visited Mar. 7, 1997) <http://www.zdnet.com/news/0303/05mnasa.html> (discussing a recent attack where hackers issud a manifesto on NASA's website about their future plans to attack corporate America). The Department of Justice and the Central Intelligence Agency have previously fallen victim to hacker attacks.

154. *See* Richard D. Marks, *Security, Privacy, and Free Expression in the New World of Broadband Networks*, 32 HOUS. L. REV. 501, 508 (1995). (discussing Internet fraud and abuse, and relevant statutory issues).

155. Even Starnine's WebStar, an industry-leading webserver, was recently compromised through the exploitation of security holes in third-party add-on products. To see more information on the contest that exposed this security hole, visit the Crack a Mac Server, *Crack A Mac–The Next Generation* (visited Apr. 5, 1998) <http://www.hacke.infinit.se>. To make matters worse, many of the security holes in commercial server products require little skill to exploit, and free UNIX based webservers have been historically plagued by security breaches. *See* Nick Wingfield, *Microsoft Server Not Secure* (visited Feb. 8, 1998) <http://www.news.com/News/Item/0,4,8131,00.html> (describing a security hole in Microsoft's Internet Information Server 3.0 that could potentially show a user secret database passwords if the user simply typed a period after a file name in a URL). Even new technologies such as Sun Microsystem's Java and Microsoft's ActiveX are prone to security breaches. Microsoft even put up web pages detailing the multitude of security problems relating to its products.

webservers prone to security breaches, the developer should warrant that it will install all appropriate security-related patches for the webserver and associated software within twenty-four hours of their public release. Alternatively, the website development agreement can require the developer to automatically take the server off-line upon discovery of a security flaw or security breach. A practitioner may want to integrate the latter approach into the agreement's notice and termination provisions, as the client may wish to move the server content and software to a more secure webserver in the event of a security breach.

3. Trade Secrets and Confidentiality

The normal operation of a webserver creates valuable information that can be analyzed by a website client or the website developer.[156] By creating log files of accesses to the client's website, a webserver generates a tremendous amount of information on a daily basis, and this information can be useful for marketing, planning, and business strategy.[157] In addition, the client's space on the server often contains other information, data, and programs that can constitute trade secrets. Custom-designed software, for example, is often located in the client's directory in both source code and executable form, and can be downloaded from anywhere if not properly protected. Finally, many websites contain interactive technologies that

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See Microsoft Website, *Internet Security Page* (visited Feb. 8, 1998) <http://www.microsoft.com/security/>.

156. Trade secrets are governed primarily by state law, and most states either follow the *Restatement* or the Uniform Trade Secrets Act. For example, Missouri's Uniform Trade Secret Act defines trade secrets as

> information, including but not limited to, technical or non-technical data, a formula, pattern, compilation, program, device, method, technique, or process, that: (a) Derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use; and (b) Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

The Missouri Uniform Trade Secrets Act, MO. REV. STAT. § 417.453(4) (1997); *see also Trade Secrets: The Trade Secret Home Page* (visited Feb. 8, 1998) <http://www.execpc.com/~mhallign/>. For a more general discussion of trade secrets and their relation to computer software, *see* Victoria A. Cundiff, *Protecting Computer Software As A Trade Secret, in* 16TH ANNUAL INSTITUTE ON COMPUTER LAW SAN FRANCISCO 1996, at 9-85 (PLI Pats., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-444, 1996).

157. A typical webserver can store an enormous amount of data in its log file, including: the date and time of the access, the URL (Uniform Resource Locator) that was called, the host name or IP address of the user's computer that is requesting the file, the method used to access the file, the result of the request, how much data was sent, and where a visiting user originated. This data can be analyzed in numerous ways and provide valuable marketing data. *See* Lisa C. Green, *Terms You Need to Know: Web Site Analyis,* MULTIMEDIA STRATEGIST, Mar. 1996, at 3.

encourage users to provide personalized information in exchange for a free service.[158]

Normally, a client must use "reasonable efforts" to protect its data to receive statutory trade secret protection. In this light, the website client must be personally diligent in protecting all of the trade secrets present on the website. For example, the client should monitor the website frequently to make sure that trade secrets are not publicly accessible. Other protective measures include the regular changing of access passwords, the destruction of old or unneeded trade secret data, and a rigorous analysis of log files to discern if attempts are being made to break into the web server. Finally, the client should search for references to its site on the major Internet search engines to ensure that trade secret data has not been erroneously catalogued by a "web spider" or "web crawler."[159]

The development, testing, and operation of a website necessitates the disclosure of confidential and proprietary information to the principals and staff of the website development company. Website developers, for example, often know of impending product releases and other important corporate announcements because they are responsible for disseminating that information through the website itself. In some cases, this information may not meet all of the trade secret criteria but nevertheless may have value for strategic reasons. In these cases, a practitioner should require the website developer to sign a comprehensive confidentiality and nondisclosure agreement contemporaneously with the website development. In addition, the practitioner should review the confidentiality and nondisclosure agreement to be certain that it has been updated to cover all aspects of the website development process.[160]

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158. For example, many websites also offer email newsletters. On these sites, users enter their names, addresses, phone numbers, and email addresses into a form which is then saved to a text file in the website client's directory.

159. There have been a number of instances where sites contained a mixture of public and private data that was supposedly protected by password authentication. Nevertheless, software programs that search the Internet to catalog sites often cataloged this private information and displayed it upon request to the public as a whole. *See* Schlachter, *supra* note 12. Most, if not all, web crawling or search-based software follows the Robot Exclusion Standard, which means that website owners can include a file in their directory to ensure that private data is not searched and catalogued. *See The Web Robots Pages* (visited Mar. 7, 1997) <http://info.webcrawler.com/mak/projects/robots/robots.htm>.

160. *See generally* Paul S. Hoffman, *Disclosure and Nondisclosure Agreements in the Development of New Media Products, in* 16TH ANNUAL INSTITUTE ON COMPUTER LAW: UNDERSTANDING THE BUSINESS AND LEGAL ASPECTS OF THE INTERNET 345-350 (PLI Pats., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-430, 1996).

4. *Noncompete and Nonsolicitation*

Although they may not be appropriate in all website development scenarios, a practitioner may face noncompete and nonsolicitation issues when the website development project is large, or when the client plans to move the website in-house in the future. A client might consider utilizing a noncompete clause in the website development agreement when the project itself is highly specialized and could be immediately applicable to the client's competitors.[161] This consideration is especially important with custom programming features that are wholly owned by the developer and easily adaptable to new websites. In addition, a developer can easily reuse much of the online advertising, promotion, and website linking information prepared for a previous client. Although it may be impossible to obtain a broad noncompete covenant from the developer, the practitioner may be able to negotiate adequate language for a specific industry sector or submarket.

When involved in a large website development project, a client may be able to obtain noncompetition leverage by promising not to solicit the developer's employees. During the website development process, a developer's employee may be solicited by the client to move "in-house" and take over the company's website operations as a full-time employee. Consequently, counsel for a website development company may wish to draft a nonsolicitation clause in the website development agreement.[162]

IV. LIABILITY ISSUES

A. *Generally*

The operation of a website raises a wide range of liability issues between the website developer, the website owner, and third parties. This potential for liability, however, is not limited to intellectual property infringement and breaches of warranties, but extends to the Internet user who is a consumer of the goods, services, or information provided through the website.

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161. This situation would be subject to the intellectual property concerns noted above. *See supra* notes 110-26 and accompanying text.

162. The website development company can also protect itself through restrictive covenants in its employee agreements. One court has already upheld such a clause. *See Noncompetition Clause Enforceable Against Web Page Salesman, District Court Rules,* COMPUTER LAW., June 1996, at 25 (citing Neveux v. Webcraft Tech., Inc., 921 F. Supp. 1568 (E.D. Mich. 1998)).

B. Site Usage Liability

Most websites include a wide variety of technologies that interact directly with a user's computer.[163] While many of these interactive technologies contain security holes that can be exploited intentionally, their innocent use may even result in the modification, or deletion of files on an Internet user's computer.[164] Furthermore, bugs and defects in the programs may cause a user's computer to crash while other applications are running.[165] While these defects may be covered by the website developer's warranty that the software produced is free from bugs and defects, the website client may want to be indemnified against potential losses suffered by users of the website due to defects and bugs in the website developer's code.

In addition, computer viruses pose risks for website liability, as many websites let users download files and applications that may contain destructive code.[166] If a website owner does not control the downloaded content, and thus does not screen the files for viruses, the owner may want to require the website developer to warrant that all files are screened and disinfected with the latest antivirus tools.[167] A website owner might also include a conspicuous website usage agreement on the site itself if interactive technologies pose a risk to users' computers.[168]

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163. *See* Collins, *supra* note 42. In many cases, small programs travel down the network connection to the client's browser to perform their functionality. Two of the leading technologies include Sun Microsystem's Java and Microsoft's ActiveX. *See* Sun Microsystem Website, *Java Computing* (visited Feb. 9, 1998) <http://www.sun.com/java>; *COM Technologies* (visited Feb. 9, 1998) <http://www.microsoft.com/activex/>.

164. *See* Sun Microsystem's Home Page, *Frequently Asked Questions—Applet Security* (visited Feb. 9, 1998) <http://java.sun.com/sfaq/index.html>.

165. A recent bug in Microsoft's Internet Explorer 3.0 allowed a website to launch applications on a user's hard drive. *See* Kate Farnady, *Bug Or Feature? Redmond Slow to Respond* (visited Feb. 10, 1998) <http://www.wired.com/news/technology/story/2371.html>; *see also Microfile* <http://online.guardian.co.uk/computing/archive/857581007-micro.html> (detailing how the same bug could delete all files from a user's hard drive).

166. For an excellent primer on computer viruses, see Symantec Website, *Computer Viruses—An Executive Brief* (visited Feb. 11, 1998) <http://www.symantec.com/avcenter/reference/corpst.html>.

167. A practitioner may also want to recommend that the website owner check with its insurance company to see if its existing coverage covers the website's operation. *See* Douglas E. Phillips, *Covering Internet Liabilities: Safety In A Tangled Web*, LEGAL TIMES, Jan. 13, 1997, at S36 (discussing typical insurance policies and coverage required for website operation).

168. These agreements may also be used to control the use of content on the website. This area of Internet law has generated a significant amount of comment in periodicals. *See* John B. Kennedy & Shoshana R. Davids, *Web-Site Agreements Do Not Wrap up IP Rights.* NAT'L L.J. Oct. 23, 1995, at C1; *Online Publishers Should Always Seek Access Agreements When Going Online,* NEW MEDIA WEEK, June, 10, 1996; *Legal Issues No. 6: Web Site Agreements, Remember to Include Website Usage Conditions, How to Limit Exposure by Informing Site Visitors of the Terms and Conditions Governing Site Use,* INTERACTIVE MARKETING NEWS, July 19, 1996, *available in* 1996 WL 7820019; Jeanne E. Longmuir & Daniel J. McMullen, *Online Content Providers Search for Protections,* NAT'L L.J., May

C. *Defamation*

Website liability, however, is not limited to the downstream activity from the website owner to the user. Users themselves, in the normal course of visiting the website, can expose the website owner to liability simply by using the website's interactive features. For example, many popular websites allow users to submit text entries into guestbooks or offer interactive text-based discussions over the Web, both of which may expose the website owner to liability for defamation and libel claims.[169]

Despite the concerns over website interactivity, recent case law may provide helpful guidance for website owners.[170] Many of the leading cases indicate that the characterization of a website as a publisher, distributor, or common carrier may impact the website's potential liability.[171] Website owners who exercise a greater degree of control over content transmitted through their website are more likely to be held liable than their less attentive counterparts.[172] Consequently, website clients may want to limit their editing of user added content or consider limiting the website's interactivity.

D. *Advertising and Promotion*

Legal issues regarding the advertising and promotion of websites will continue to grow as government agencies and consumer groups become more vigilant in their monitoring of corporate Internet activity.[173] Courts are

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20, 1996, at C32. These licenses, however, are related to their "shrinkwrap" counterparts in the software industry, and thus may not be enforceable in some jurisdictions. In addition, the legal protections offered by a website usage agreement must be balanced against their aesthetic impact on the website itself. If users are hindered in their physical access to the website by layers of legal jargon, they may choose to forego visiting the website entirely. Internet users are already concerned with speed of access to websites and forcing users to go through a number of steps before getting to the desired content may hurt website traffic. *See GVU Sixth WWW User Survey: Problems Using the Web Graphs* (visited Apr. 5, 1998) <http://www.cc.gatech.edu/gvu/user_surveys/survey-10-1996/graphs/use/Problems_Using_The_Web.html> (citing that 76.55% of Web users are concerned with access speeds).

169. *See* Karen S. Frank, *Potential Liability on The Internet, in* CABLE TELEVISION L. 1996, at 417 (PLI Pats., Copyrights, Trademarks, and Literary Prop. Course Handbook Series No. G-437, 1996) (discussing defamation issues); Richard P. Hermann, *Who Is Liable for On-Line Libel?*, 8 ST. THOMAS L. REV. 423 (1996). The situation may be further compounded as it may be impossible for the website owner to discover the true name or identity of the user who posted a message to the website. Most Internet users utilize nicknames or pseudonyms when posting messages on websites, and some even appropriate the names of friends, enemies, or politicians for their Internet activities. Furthermore, the Internet's global nature makes tracking users extremely difficult.

170. *See* Frank, *supra* note 169.

171. *See id.*

172. *See* Marchant, *supra* note 103, at 494-95.

173. Thomas C. Morrison & Robert W. Lehrburger, *FTC Targets Deceptive Cyberspace*

facing new jurisdictional questions based on the use of a website as an international advertising tool.[174] Clients should also be informed that their use of certain on-line marketing tactics may anger Internet users, and alert regulators and lawmakers who are quickly catching up with Internet technology.[175] Consequently, practitioners should ensure that the website developer is contractually prohibited from utilizing any marketing tactic other than those specifically approved by the client.[176] Finally, website owners should consider the wide range of consumer protection laws that may apply to website activity, especially in the areas of personal information collection and access to the website by minors.[177]

VI. CONCLUSION

While this Note addresses some of the major elements of a website development agreement, practitioners should assess the current state of Internet technology when applying its suggestions. As in other high-tech industries, the technology underlying website development changes rapidly, and advances in technology can alter the focus of website development transactions.

In the future, one factor that may impact the design provisions of the agreement is the proliferation of high-speed Internet access devices. Modems are the predominant Internet access devices used by consumers today, and their relatively slow transfer rates create the need for contractual provisions limiting graphic and page sizes on the website.[178] With new high-speed

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Advertising, NAT'L L.J., Aug. 12, 1996, at B7; Douglas J. Wood, *"Intermercials" May Run Afoul of Advertising Laws,* NAT'L L.J., Oct. 28, 1996, at C26; *see also The OnlineFraud Newsletter and Discussion List* (visited March 8, 1997) <http://www.silverquick.com/fraudnews.htm>.

174. *See* Lori Irish Bauman, *Personal Jurisdiction and Internet Advertising,* THE COMPUTER LAW., Feb. 1997, at 1; Parry Aftab, *Doing Business on the Internet: A Pandora's Box?,* N.J.L.J., Jan. 27, 1997, at S-1.

175. One popular tactic is for a new Internet company to send out millions of unsolicited emails to Internet users announcing their new product or service. Many Internet users refer to such email as "spam." The vast majority of Internet users despise unsolicited email, and utilizing this marketing method can seriously damage a client's off-line goodwill. The client may also suffer business damage. Many angry Internet users who receive spam retaliate against the sender by responding with thousands of derogatory email messages, a process known as "flaming" or "mail bombing." Consequently, the client's website may be forced off-line until the attack subsides.

176. For a sample publicity and promotion clause, see *Web Site Publicity and Promotion,* MULTIMEDIA & WEB STRATEGIST, Nov. 1996, at 2 (resolving the issue of publicity and promotion by making all developer action conditioned on the client's prior written consent).

177. *See* Dee Prigden, *How Will Consumers Be Protected on the Information Superhighway?,* 32 LAND & WATER L. REV. 237 (1997).

178. *See supra* notes 51-56 and accompanying text.

access devices, such as cable modems and xDSL technology,[179] users can download webpages without delay. As these technologies improve, the emphasis on webpage and graphic size should decrease in the website development agreement. In addition, a practitioner should also take care to adapt the website performance provisions of the agreement to new networking technologies.[180]

Practitioners should also be aware of the potential for large paradigm shifts on the Internet. While the vast majority of websites today are developed using the HTML and graphics standards discussed in this Note, there are several alternative technologies that may supplant or compete with current website development norms. For example, some companies are developing Internet technologies that provide dynamic interactive applications that can be delivered independent of the World Wide Web.[181] Indeed, websites are becoming increasingly interactive through the use of Sun Microsystem's Java and Microsoft's ActiveX technologies. Although it is unlikely that these new technolgies will be utilized on the majority of websites over the next two years, it is possible that they will gain significant market share and become a factor in future website development agreements.

Internet law practitioners should also be vigilant in monitoring the impact of Internet technology on the intellectual property and liability provisions of the website development agreement. Unlike software and multimedia development agreements, which contain stock provisions covering nearly every imaginable situation, advances in Internet technology can create novel issues that must be addressed in the website development agreement.[182] With the abundance of Internet law resources available online,[183] practitioners can

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179. *See* Erin Callaway, *ADSL Clears Line for Bandwidth*, PCWEEK, October 13, 1997, at 126 (discussing new high-speed technologies).

180. *See supra* notes 51-56, 68-74 and accompanying text.

181. *See* Marimba Website, *The Castanet Solution* (visited Feb. 11, 1998) <http://www.marimba.com/datasheets/castanet-ds.html>.

182. New website technology also leads to novel legal issues, as the recent "meta-tag" debate illustrates. HTML allows website developers to specify keywords for each page of the website within the code of the webpages themselves. These keywords, embedded in meta-tags, are used by search engines when indexing the pages. When an Internet user enters desired keywords into a search engine, web pages with those keywords embedded in their meta-tags are more likely to surface. What happens when a website developer inserts another company's trademarks in its meta-tags? In a pending case addressing this issue, the court issued a preliminary injunction against a website developer who utilized another company's trademarks in its meta-tags. *See* Playboy Enterprises, Inc. v. Calvin Designer Label 44 U.S.P.Q.2d 1156 (1997).

183. Mailing lists are an indispensable tool for practitioners, and often serve as fora for valuable discussions on a wide range of Internet law issues. Two popular and highly informative lists relevant to the subject matter of this Note are Cyberia-l (Law & Policy of Computer Communications) and Net-Lawyers. To subscribe to Cyberia-l, send an email with *subscribe cyberia-l Your Name* in the message body to listerv@listserv.aol.com. To subscribe to Net-Lawyers, send an email with *subscribe net-*

keep abreast of current trends in Internet development, and take them into account when planning and drafting the website development agreements of the future.

Geoffrey George Gussis

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lawyers Your Name in the message body to listserv@peach.ease.lsoft.com. Practitioners may also want to check out legal "megasites" that have information on a wide variety of resources. Many websites organize legal information into pages of links for easy use. For a particularly comprehensive site, see *FindLaw Website* (visited Feb. 10, 1998) <http://www.findlaw.com/>. Finally, pracitioners increase the effectiveness of their online searches by utilizing search engines that focus solely on legal topics. *See LawCrawler* (visited Feb. 10, 1998) <http://www.lawcrawler.com/>.