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REVIEW OF: Gail Junion-Metz. K-12 Resources on the Internet: an Instructional Guide (2nd edition, revised and expanded). Berkeley, CA: Library Solutions Press, 1997.

REVIEW OF: Gail Junion-Metz. K-12 Resources on the Internet PLUS: Instructor's Supplement (2nd edition). Berkeley, CA: Library Solutions Press, 1997.

by Brad Eden

The second edition of Junion-Metz's training materials concerning K-12 resources on the Internet is geared toward the teacher and/or librarian who does not have the money or time to attend workshops or read thick books in order to learn about the Internet. This book provides a computer diskette with over 350 bookmarks that link the reader immediately to high quality K-12 sites on the Internet, as well as a Web site (http://www.iage.com/bookmark.html (http://www.iage.com/bookmark.html)) for the user to access in order to keep informed of changes and additions to these links. (This URL is the current one, since the original one provided on the diskette has changed. No connection to the new site is provided at the old one, though--not a convenient arrangement for readers.) Hundreds of recommended Web sites and electronic discussion groups have been updated, most with annotated references.

A special section on acceptable use policies (AUPs) and blocking software has been expanded, and a new section called "Searching the Web" examines the various searching tools available over the Internet. The Instructor's Supplement, for people who train groups of K-12 professionals on using the Internet and want to use this book as their textbook, contains overhead slides corresponding to the chapters in the book (paper copy for transparencies and Windows and Macintosh disks for computer), as well as notes of advice to the instructor.

Library Solutions Press has provided some needed resources to librarians, namely Internet training workshops converted to book form. For the learner, these books are self-paced workshops-in-a-book. For the trainer, these books provide proven quality teaching material without excessive preparation time. This book fits into this product family.

Librarians for K-12, as a whole, often do not have the resources, money, or time to keep up-to-date on current technology, especially the Internet. Quality Internet resources take time to find and examine. This book allows K-12 librarians to provide their students and staff with an instant bookmark file of considerable Internet resources, as well as a reference introduction and guidebook through the Internet for themselves. I highly recommend this book, as well as the instructor's supplement, not only to K-12 professionals, but also to parents who provide Internet access to their children at home.

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REVIEW OF: Vasanthan S. Dasan and Luis R. Ordorica. Hands-On Intranets. Upper Saddle River: Prentice Hall, 1998.

by Steven Eisenberg

The Internet has exploded with more and more people using it every day. It's relatively easy to set up a Web site; indeed many ISPs (Internet Service Providers) include server space for a home page with their basic service. One attraction of putting up a Web site is the low cost relative to book or printed publishing costs. Perhaps more importantly though, is the ability of the Web site author to update information immediately. A book or manual can become outdated even before it is printed. This fact of life has not eluded businesses or corporations. Increasingly, internal Web sites, or intranets, are making an appearance in the world of business. Up-to-date information, internal documents, training material, and calendars can be distributed company-wide while saving on publishing costs. The authors note a surprising trend: "Companies are now spending more of their IT budgets on intranets than on the Internet in general, and this is expected to double by the year 2000." (p. xxi)

Given this, it is not surprising in any fairly complete bookstore to find many shelves of books on intranets, the how's and why's and instructions on constructing them. Many of these books claim that they will help the reader set up and maintain an intranet. Unfortunately, most will leave a would-be intranetter frustrated and disappointed. They are long on generalizations, but short on specific point-by-point help on setting one up. This book sets out to be a how-to manual that will lead the reader through the steps to set up an intranet, including DNS (Domain Name Service), email and Web services, and file and print sharing. Topics also include installing and managing client software, remote access, performance issues, security monitoring, and troubleshooting.

The authors' approach assumes that many servers will be using some variant of UNIX, while the client computers will be running Windows95 or NT for their operating system. Despite the authors' promise to explore each operating system in some detail, for UNIX they favor Sun's Solaris 2.X which is treated in some detail.

Understanding these limitations will help you decide if this book would be a valuable addition to your reference shelf. The book is not for the uninitiated. It is not for a Solaris or UNIX beginner. It is really quite Solaris-specific, so a reader using another UNIX variety needs some proficiency in translating the examples to the variation of UNIX that s/he is using. It is not difficult to do, but does require some attention. The authors' style is terse, and not always that easy to understand. It is also not for the Windows95 or NT novice. If you have never done any of the required operations, it is not at all apparent that the instructions in this book are all you would need. For example, on page 68, the instructions for using the Windows 95 Add Printer Wizard to add a shared network printer will probably not get a novice printing.

The book makes extensive use of curious footnotes--Web addresses. This can be effective, I suppose, but it frequently leads to a frustrating hunt. As an example, again on page 68, there is a footnote to visit ftp://ftp.cdrom.com/ (ftp://ftp.cdrom.com/) to find a Winsock-based TCP/IP client. Once there, it is not obvious where to go to find the item. It took a while for me to find what I needed.

A design feature to accommodate the graphics that accompanied the Windows explanations continually had me confused. Each chapter contains an overview, then Solaris-specific instructions, then Windows-specific instructions. Following the Solaris tutorial, there is frequently a nearly blank page, which suggests the chapter ends. On the next page, however, there is a full page graphic of a Windows95 dialog box which couldn't be accommodated on the preceding page. (Those blanks make great places for notes.)

Chapter twelve, "Setting Up Domain Name Services," offers a very clear explanation of the Internet Naming Services, and how addresses are resolved. It is one of the best explanations I have read. Likewise, the explanation of actually setting up the service is complete. The next chapter, "Setting Up E-mail Services," is more economical in its explanation.

Readers who follow what is happening in corporate computing are probably aware of the history. At the start, large mainframes resided in refrigerated rooms, and users had "dumb" terminals on their desks. All the applications and data resided on the big computer. It made it "easy" to administer but put a burden on the network. More powerful desktop computers made local operating systems and applications practical and cut down on network traffic. But this also made administration a bigger headache. Operating systems software had to be updated and patched, applications had to be kept current, licensing issues needed to be addressed, backups needed to be done, and user-installed software often led to problems with incompatibilities.

All this made the network administrator's job more difficult; it also made for increasing numbers of IT staff. It's no wonder that the so-called NetPC is getting so much interest. This book has a whole chapter devoted to this issue, aptly titled "Zero Administration Client." However, less than a page into the chapter it becomes an unabashed advertisement for Solstice AutoClient and the JavaStation. Is this wrong? Not necessarily, but it makes the book very Sun-specific.

So, how well does this book succeed? That depends on what you are looking for and how much you already know. Setting up a complete intranet can be done by following the steps in this book, but not if you've never done anything like this before, or have no experience in the UNIX and Windows environments. If you do, the book can help. If you are using Solaris, it is even better. If you are a neophyte, you may have to look elsewhere, or at least consult another book.

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REVIEW OF: Zbigniew Dziong. ATM Network Resource Management. New York: McGraw-Hill, 1997.

by Lisha Li

Several books have been written on Asynchronous Transfer Mode (ATM) networks during the past few years. Some of those books emphasize ATM architecture and others cover principles and protocols or a specific management solution. Zbigniew Dziong's ATM Network Resource Management focuses to a large extent on resource management algorithms which deal with the allocation of basic resources to layered traffic entities. This is a complex issue which involves a broad range of services, traffic characteristics, time

scales, and performance constraints all integrated in one system. This book provides helpful guidance for network managers seeking to optimize their resources in designing, implementing, and maintaining ATM networks.

The author states that the aim of his book is to: 1) "present a framework for resource management synthesis and analysis which is driven by traffic source characteristics and requirements rather than by network transport technology"; 2) "introduce an economic factor directly into the real-time resource control algorithms"; and 3)"show how mathematical theories can lead to very practical algorithms." (p. xi) The author approaches these goals in a systematic way. Consisting of ten chapters, the book is divided into the following broad categories: "Introduction to ATM Based Networks," "Resource Management and Traffic Control Issues," "Resource Allocation to Connections," "Adaptive Resource Allocation to Aggregate Traffic," "CAC & Routing Strategies," "Multi-point Connections," "Network Performance Models," "Optimal Operating Point - Fairness vs. Efficiency," "Virtual Networks as a Tool for Resource Management," and "Physical Resource Allocation to ATM Networks."

Chapter one introduces the basic concepts and important features of ATM-based networks. Basic ATM concepts are clearly explained through examples and graphics. Control and management functions are explained by using a protocol reference model. The generic features of ATM layer service categories are also discussed.

Chapter two focuses on the main resource management issues and associated traffic control topics. Resource management and traffic control (RM & TC) issues can be divided into four classes. They are: Quality of Service (QoS) characteristics, fairness, efficiency, and survivability. A general framework is described which is based on two decomposition techniques. The decomposition is done by applying the concepts of virtual networks (VN) and layered traffic entities associated with different time scales.

Chapter three concentrates on issues of resource allocation to connections, which are important and yet difficult issues. General models are presented to illustrate how the equivalent bandwidth allocation can be applied to provide efficient and reliable Connection Admission Control (CACQoS) algorithms. Focus has been on the equivalent bandwidth allocation concept for systems where connections share link bandwidth and buffers.

In Chapter four, a unified framework is described which bridges the gap between the algorithms for real-time services and controllable data services. The central element of the framework is an estimation of the aggregate equivalent bandwidth required by all connections service by each of the switch output ports. One advantage of this framework is that the resource management and traffic control algorithm for real-time and controllable data services are based on the same database structure and signaling protocol. This feature can reduce algorithm complexity and cost and at the same time increase resource utilization by enabling coordination of both algorithms.

Chapter five deals extensively with CAC and routing problems. The process of CAC and routing can be interpreted as a selection of the best path from a set of alternative paths. A generic CAC and routing problem--maximization of the reward from carried connections--is formulated and a solution based on decomposition of a Markov Decision Processes (MDP) theory is presented. CAC and routing strategies are classified, and their main features are discussed. The implementation issues focus on functional and geographical decomposition of the CAC and routing algorithms.

Chapter six discusses main issues which are critical to CAC and routing of multipoint connections in broadband networks. First, heuristics for minimum cost tree design are analyzed and their features compared by means of numerical study. Second, several CAC and routing strategies are described based

on three different link cost metrics. Those strategies are studied from the viewpoint of network resource utilization and service access fairness.

Chapters seven and eight present network performance models and address the problem of fair-efficient resource allocation on the connection level. The basic concepts of two decomposition techniques and their important features are described. Particularly discussed is a performance model for CAC and routing based on the reward maximization principle and state-dependent link shadow prices. A game theoretic framework is presented which can be used to find an optimal operating point according to desired criteria and to efficiently and fairly utilize network resources in a multi-rate service environment.

Virtual networks (VN) as tools for resource management is the main theme of chapter nine. A generic virtual network definition which can be used in all potential applications is described. The three main categories of these applications include service-oriented VN, user-oriented VN, and management-oriented VN. The relationship between virtual networks and virtual paths is also addressed. An algorithm for VN design is discussed together with several options which use measurements in place of an analytical model for performance evaluation.

Chapter ten focuses on physical resource allocation to ATM networks, particularly the allocation of resources from the transport layer to the ATM layer. There are three functions involved while managing this allocation: resource allocation design, adaptation of resource allocation to traffic matrix changes, and protection against network component failures. The important features of different transport layer options are discussed. Network survivability issues are emphasized.

This book is well structured. Basic concepts, models, and classifications are illustrated with figures throughout the book. Tables are properly used for listing data and examples. Related issues are discussed and references are provided at the end of each chapter to help readers review an extensive literature. A seven-page index leads readers to a precise section of a topic, especially for those frequently used abbreviations. Appendices have topics alluded to in the text, such as Kalman filter theory, Markov decision theory, and game theory, for advanced reading. Explanations of Latin letters and Greek letters used in the book are also listed in an appendix.

The book is the result of the author's intensive research activities in research institutions and industrial centers. It merges network theory with real-world network scenarios. This book will be very useful to those audiences, such as network designers, engineers, students, researchers, and scientists, who are interested in resource management problems in multiservice broadband networks. It will be helpful for readers who are not quite familiar with this field to refer to an introductory work, such as Anthony Acampora's An Introduction to Broadband Networks (Plenum Press, 1994), which is the title Zbigniew Dziong mentions in his book.

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REVIEW OF: Bryan Pfaffenberger. The Elements of Hypertext Style. Boston, MA: AP Professional, 1997.

by Helen McCullough

There are probably as many theories about what constitutes good Web design as there are home pages on the Web. In The Elements of Hypertext Style, Bryan Pfaffenberger adds his new book to the discourse. What makes Mr. Pfaffenberger's book unique is that it's designed with the look and feel of an introductory textbook.

The introduction avoids weighty discourse and uses brief paragraphs to describe the purpose, intended audience, and main topics of the book. The twelve chapters of the book cover topics such as "The Fundamentals of Web Page Design" (chapter three), "Make Your Web Easy to Navigate" (chapter six), "Using Graphics Effectively" (chapter eight), and "Writing for the Web" (chapter ten). Following the textbook format, each chapter features many sections with short paragraphs and summaries. Coupled with a layout that includes the liberal use of graphics and white space, the book will likely appear unintimidating to novice Web authors.

One drawback to the book's design is that it uses screen shots of actual Web pages to illustrate design concepts. Given the changing nature of the Web, many of the examples have been radically redesigned, some have changed their addresses, and a few have disappeared. Although it is possible to use the small black and white images in the book to get an idea of how a page may have looked, it's a poor substitute for seeing the actual site.

Novice authors who use Web authoring packages as a means of avoiding learning HTML (Hypertext Markup Language) will find the book's scant treatment of HTML a bonus. In his introduction Pfaffenberger states: "In the long run...learning HTML isn't going to be necessary, any more than you still need to learn word processing codes in order to write a letter with a word processing program." (p. xv) More will be said later about this and other broad generalizations made in the book. To be fair in this instance, Pfaffenberger does say, "you'll still need to know some HTML to publish effectively on the Web." (p. xv) He uses sidebars with HTML tips and tricks and an "HTML Reference Guide" appendix to fill the gap.

What are the elements which constitute hypertext style? According to the book, they are "based on proven communication techniques that professional speakers and authors use, but they're adapted for the special characteristics of the Web." (p. xv) This is a problematic assumption. In one respect, good communication is good communication whether it's intended to be heard, read, or seen. On the other hand, the same techniques don't work across all forms of communication. A good print ad in a magazine is vastly different from a radio commercial.

It can be a mistake to try to mold a new form of communication, in this case the Web, into the likes of a glossy magazine layout. In many ways this is what the book attempts to do. Pfaffenberger's approach seems to be geared to ignore, or to work around, many basic Web features. This is most evident in chapter four, "Using Type Effectively." Pfaffenberger states that "Web publishing closely resembles desktop publishing now more than ever." (p. 106) Of course, one could argue that the excesses of desktop publishing are not a good thing, but the book doesn't address this issue.

Most of the examples in the book tend to adhere to the "more is more" desktop publishing philosophy. Readers are told to avoid Heading and List tags because they're "boring ... old hat, or even parodies of themselves." (p. 120) They are encouraged to use the not yet widely adopted >FONT FACE< tags for typographic control and led toward the theory that lots of type styles, graphics, pull quotes, columns, frames, and general clutter are the means to achieving effective Web design.

What makes for good Web design is, of course, a matter of speculation, and Pfaffenberger's opinion is as valid as the myriad others which abound. However, since his book is intended to be used by beginning Web authors with limited HTML and Web experience, Pfaffenberger's many sweeping generalizations undercut much of the current debate over Web design. In his discussion of frames he fails to acknowledge that many Web users and designers find them troublesome and disorienting. He advocates writing beyond current code standards to take advantage of the latest bells and whistles developed by Netscape and Microsoft. Web design amateurs writing beyond accepted code with limited knowledge of HTML and trying to emulate the flashy layouts of professional graphic artists and Web authors may not find their attempts successful.

This is regrettable because the book does offer some useful information and good advice. For example, chapter nine, "Understanding Liability Issues," offers an excellent introduction to copyright and the Web. Where the book fails is that it offers a very narrow view of what a Web page should be and how it should look. Unfortunately, living up to that view is beyond the abilities of the audience for whom the book is intended.

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