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REVIEW OF: Kiersten Conner-Sax and Ed Krohl. *The Whole Internet-- The Next Generation: A Completely New Edition of the First and Best User's Guide to the Internet.* Sebastopol, CA: O'Reilly and Associates, 1999.

by Wilfred (Bill) Drew

Having been an email user since 1989 back in the BITNet days and on the Internet since 1991, I have seen lots of changes. One of the books I first read and reviewed was Ed Krohl's *The Whole Internet: User's Guide & Catalog* published in 1992. That book proved to be very valuable. It made the Internet accessible and understandable to those outside of the computer center.

Conner-Sax and Krohl continue the tradition into the "next generation" of the Internet. The authors state, "it's a book about making the Internet work for you and not the other way around."(p. 1) To accomplish this purpose, Conner-Sax and Krohl start in Chapter 1 with a history of the Internet and then move on to a very concise and understandable explanation of how the Internet works. They also look at issues such as domain names, lawsuits against America Online and Microsoft, and several other current topics of importance. Chapters 2 and 3 look at communicating over the Internet by using email and news groups.

These two chapters also have many excellent ideas on how to manage the information glut brought on by these tools. World Wide Web browsing or surfing is now one of the biggest activities pursued over the Internet. Chapter 4 looks at the best ways to approach this activity.

Keeping in line with the first book and its successors, this new book also goes beyond the basics of just using the tools. Chapters 5 - 8 discuss various activities people pursue over the net as well as issues related to those activities. Chapter 5 goes into great depth on privacy and security. Buying and selling is discussed in Chapter 6. Chapter 7 will be of great import to those who need to finance their shopping efforts. It discusses banking and personal finance. One activity enjoyed by many is online gaming. Chapter 8 discusses the history and culture on gaming on the internet. It also looks at Web-based games and Internet (non-Web) gaming.

Conner-Sax and Krohl have not just provided information for the casual internet user. Chapters 9 - 13 will prove to be valuable to those that will be serious or are already serious users of the Internet. Chapter 9 shows you how to create and publish web pages. Of special interest to the techies will be Chapter 10 where such technologies as streaming audio and video, interactive communications, and high quality audio are discussed. For those looking to improve their connection to the internet, Chapter 11 will be of great value. Chapter 12 should be read by all users of the Internet: It discusses how to search and suggests different techniques for different types of information. One task many users still have a problem with is downloading and installing software and other files. Chapter 13 shows how to do this using a Web browser or file transfer protocol (ftp).

One of the best features in the first book and its successors was the resource catalog called the "Best of the Web." Chapter 14 is not an exhaustive directory, but as stated by the authors, contains a "relatively small number of resources that cross a huge number of categories, trying to give you sense of the possibilities." This section is of particular value to the new internet user. Chapter 15 will also be very useful to the new user. It is written to support Chapters 6 and 7 by listing by broad categories internet addresses for places to buy and sell items, find financial information, and much more. The book ends with an examination of "The Previous Generation" of internet tools. This appendix is important because there is still some necessity to know how to use telnet and ftp.

Conner-Sax and Krohl have written an excellent book for all users of the Internet from novice to advanced. It contains an excellent index as well as many sidebars with more detailed information. It belongs on everyone's desk right next to their computer.

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REVIEW OF: Patrick Chan. The Java Developers Almanac 1999. Reading, MA: Addison-Wesley, 1999.

by Brad Eden

The Java Developers Almanac is designed to be a map of the Java class libraries. This second edition is meant to be a portable and compact reference source for almost all of the Java libraries (except for the `javax.swing.plaf.*` packages, which were too large to be included). The author indicates a number of other books to consult in his preface if any of the packages mentioned are new to the user and they are looking for additional help.

The book is divided into four parts. Part 1 covers each Java package available in alphabetical order. Each package is described in thirteen elements: a brief description of the package; a brief description of the class or interface; the class or interface name; the number of the page where more information can be found; the classes in the current package; a solid line signifying "extends"; interfaces that are implemented by the classes; a dashed line signifying "implements"; a gray background behind a class or interface that indicates whether or not it is part of the current package; the interfaces in the current package; interfaces that are extended by other interfaces; the version of Java in which the class or interface was introduced; and a symbolic representation of a class's modifier set. Before each part the author has compiled a legend to guide the user.

Part 2 covers the Java classes. Five hundred pages of class tables are provided, one for each class in all the covered packages. A class tree is also given to show the ancestry of each class and a list of every member in the class. Inherited members from superclasses are also included here. The author states that this resource is useful when the user is already working with a particular class and wants a quick reference to all of the members in the class.

Part 3 is a set of quick-reference tables on miscellaneous topics. Topics covered include Java 1.0, Java 1.1, Java 1.2, Applet, Java language, Java Runtime, Java Native Interface (JNI), PersonalJava 1.0, and Virtual Machine. Part 4 is a cross-reference of all the Java classes and interfaces covered in the book. Classes from core and extension packages are included.

This book is a comprehensive and complete guide to the Java classes and interfaces. It is an excellent reference source for everything having to do with Java and will be of great assistance to all Java developers. The author requests assistance for future versions and/or corrections through email.

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REVIEW OF: Jason Hunter with William Crawford. Java Servlet Programming. Sebastopol, CA: O'Reilly and Associates, 1998.

by Ray Olszewski

More and more, the World Wide Web is moving to "dynamic HTML," or more simply put, Web pages that are generated on demand by computer programs instead of always offering the same content ("static HTML"). Familiar examples are the search engines available at many sites, sites that provide real-time stock quotes or weather reports, and on-line shopping systems.

Initially, the only mechanism for providing dynamic content was CGI (Common Gateway Interface) scripting, a method of passing instructions (via fields in forms) to programs that would execute on a server, then create an HTML reply. Standard CGI scripts, however, have problems--slow execution, possible security holes, inefficient interaction with the Web server, and others. So in recent years, many alternatives have emerged for standard CGI scripts, the two best known (on Unix-based servers) being FastCGI and `mod_perl`, both of which integrate CGI scripts more tightly into the Web server.

Java servlets are another, newer way to provide CGI functionality on a server while avoiding many of the problems of traditional CGI scripts. Like FastCGI and `mod_perl`, Java servlets are integrated closely into a Web server (either a server custom-designed to run servlets, such as Sun's Java Web Server or the W3 Consortium's Jigsaw, or with an add-on package, such as the Jserv module for Apache).

Hunter and Crawford's *Java Servlet Programming* is an excellent introduction to the "how" of creating and deploying Java servlets. Written in a clear and succinct style, the book covers all the major features of the servlet classes and explains how to use them to provide a wide range of the services typically provided by CGI and its alternatives. Intended for the programmer with experience in Java programming, but possibly little experience with dynamic HTML, the text explains the special features of the servlet components of Java (a set of extensions available in the *** supplement to the JDK (Java Development Kit)), all in the context of a series of lengthy, detailed examples of working servlets.

Among the areas they cover are session tracking, efficient customization and transfer of images, communication between servlets and applets (specialized Java programs that run in Web browsers), security and user authentication, database connectivity using the JDBC (Java Database Connectivity) API, communication and collaboration between servlets running on the same Web server, and internationalization of text through the use of Java's Unicode capabilities. (Unicode is a system of representing characters using 2 bytes instead of the usual 1, allowing for representation of 65,000 different characters instead of the 255 in ISO-extended ASCII.) A programmer familiar with Java and who has the needed software available will come away with a solid, practical understanding of the use of Java servlets.

The authors also address the "why" of using servlets, but here they are less convincing. After reciting the usual litany of complaints about traditional CGI scripts, the introductory material runs out the familiar canon about the superiority of Java--mainly its supposed platform independence and greater security features. Other alternatives to traditional CGI scripts--FastCGI, `mod_perl`, and a half dozen others--are mentioned, but not examined in any detail. This omission is an important limitation of the text, because all the alternatives are better than traditional CGI scripts. Anyone demanding high performance will be comparing servlets with, say, `mod_perl`, not with traditional CGI scripting--and in this comparison the book offers no useful advice. In particular, they say nothing about the weaknesses usually ascribed to Java--slow execution due to its quasi-interpreted nature (Java compilers generate bytecode that gets interpreted at runtime by a Java Virtual Machine, sort of a simulated computer run as software on a physical computer) and continued unreliability in portions of the API.

Occasionally, the generalized praise for Java conflicts with the authors' relentless practicality in the "how" sections of the book. Exceptions and limitations to the promised "platform independence" of Java abound in its actual implementations, and the authors are careful to identify such restrictions in their discussion of the

details of servlet programming. Another side effect of these limitations is the authors' decision to present all their example code in the context of the Sun Java Web Server, a program available only in Solaris and NT versions, and free only on a 30-day trial basis. Though they often say their examples "should" work with other Web servers, they qualify that with the techie's traditional "your mileage may vary" caveat. This is "platform independence"?

So, who is this book for? If you are sufficiently experienced with Java to have decided that the technical merits of the language outweigh its shortcomings, and if you are or expect to be supporting a high-performance Web site, you will find the practical components of this book a first-rate introduction to using Java in a servlet environment. For such readers, I recommend this book highly, but if you are undecided about the merits of using Java in this or any other environment, this book is not the place to start.

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REVIEW OF: Nathan J. Muller. Desktop Encyclopedia of the Internet. Boston, MA: Artech House, 1999.

by Andrew Wohrley

The Desktop Encyclopedia of the Internet will be loved by geeks and appreciated by students who are looking for an explanation of Internet concepts and technologies. While its broad scope for a single volume unavoidably leaves some things out, particularly when the technology is on the cutting edge, on the whole the topics chosen are pertinent and covered comprehensively, perhaps too comprehensively for a one-volume book.

The entries are arranged in alphabetical order and each topic can have, but not all do, a conclusion and cross-references. Other topics that are covered selectively are introduction, advantages, and security. Tables and graphics are not over-used, and the information contained is useful. UNIX utilities contain lists of features with their purpose defined. For example, the section on Chat includes the /list, /join, and /kick commands. The table of contents organizes all the topics in alphabetical order, and at the end there is a glossary of Internet-specific acronyms.

A bit less comprehensiveness may better serve the readers. For example, the item on Push technology stretches over four pages, while items such as Linux or Apache are missing. Again, Signaling System 7, a phone company telephony system that would be invisible to most users, is given uncalled-for length. Similarly, the entry for the Local Loop that discusses the phone company technology, not the Internet, takes about seven pages. Although many connections to the Internet are made over phone lines, if there were a

line problem, the readers of this book would be more likely to talk to the phone company than to try to troubleshoot the problem on their own. More space should have been devoted to more relevant Internet technologies.

Occasionally the author also gets carried away by hype, such as the section on Network Computing. As a concept, this topic may be worth describing, but the author's treatment suggests network computing is more widely implemented than it is.

The topic of the Internet is sufficiently broad that several encyclopedias could be filled with descriptions of relevant technologies. The main problem with this book is that it is neither fish nor fowl. No expert would use this book to trouble shoot problems, yet the level of detail would leave most novices lost and confused.

And yet, the book shines in the details. If a skilled novice wanted to find out more about most of the aspects of networking, this book would be a good first choice before going to a subject-specific book for more meaty information. Although one would never be able to debug a network problem with just this book, it would still serve usefully as a source to consult to gain familiarity with the technology.

The description of the Internet provides details without getting bogged down in minutiae. The history of the Internet is also included, although without any mention of early pioneers like Vint Cerf and Jon Postel. There are even items devoted to obsolete technology such as Gopher and VERONICA. The details about Web Browsers are somewhat dated, but the book lays out their form and function in a clear way. The term "Webmaster" has a good general description of the duties and responsibilities of those positions. The section on Windows NT, however, refers to Windows NT 5.0 instead of Windows 2000. Between the publication deadline and Microsoft technology development, some errors are to be expected.

I found the best part of the book to be the discussion of XML. As a reference librarian, not a techie, I read the entry on XML with interest. The description was impressive, particularly in light of the fact that during the production of this book, XML was still a proposed standard in committee.

There are some improvements that should be made, from the trivial to the significant. I would like to see: a list of emoticons and their definitions; a list of the more casual acronyms (BTW, etc.) with their definitions; a list of the major ISPs with their addresses, contact numbers, and email; and finally, a list of Internet suffixes (i.e., .us, .uk, .com, .net, .fr, etc.). Any one of these additions would make a good start. Topics for a future encyclopedia could be ICANN, Linux, Apache, Jini, and Solaris (How could the author include NT and exclude Solaris?). No doubt other readers will add topics to this list.

Perhaps a second edition of this book will come out soon, a single volume with more topics containing shorter descriptions. The fundamental problem for a publication covering so mutable a topic as the Internet is currency. The half-life of the information is at best two or three years. If the publisher and author can move with Internet speed on subsequent editions, there is no reason that the Desktop Encyclopedia of the Internet cannot continue as a standard reference.

I recommend The Desktop Encyclopedia of the Internet for libraries at institutions that teach computer science. Public libraries may find a more general work more appropriate; special libraries that support computing departments would be better served with more topic-specific books.

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