

these issues, and they will be doing so for applications of a different scale, in which the cost/benefit analyses of the various approaches will depend upon different parameters.

Another problem that is not new is selecting the right index structures for huge text databases. But the problem is given a new twist in the CD ROM environment. The read-only nature of CD ROMs, their large capacities, and their slow access times are all factors that influence the selection of index structures. For example, a lookup that requires six disk accesses may be perfectly acceptable for a standard hard disk but painfully slow on a CD ROM.

Another interesting section of the book provides a programmer's view of graphics and audio. Many books talk about these subjects, but this one seems to strike just the right balance between brevity and thoroughness. The reader is assumed to be intelligent and generally sophisticated about computer technology and applications, but is not assumed to have a background in electronics or to know much about graphics or audio.

If you decide to develop applications for CD ROM, you will want to obtain and study the *High Sierra Group Proposal*, currently on its way to becoming an international standard. A chapter of the book contains a description of the proposed format and the issues behind it, written by two members of the High Sierra Group. The proposal defines a full (Level Three) implementation, which provides essentially all the needs of the various sponsoring organizations.

Two standard subsets are specified. Level One is for minimal systems, and Level Two is slightly augmented to provide for compatibility with CD-I. (CD-I is a controversial proposed standard hardware/software environment for consumer products to be delivered beginning in 1988. This book contains little mention of CD-I and no mention of the controversy surrounding it.)

Two related subjects are the protection and updating of the data in CD ROM products. Those of you who regularly read Richard Stern's MicroLaw columns will be familiar with many of the legal issues in the area of protection of intellectual property, but the discussion in this book focuses on the specific problems raised by the nature of CD ROMs. For example, the doctrine of first sale gives the purchaser of a work the right to display it publicly, while the copyright holder retains the right of performance. What these terms mean for a CD ROM

database, possibly containing music and images, is not clear. If you're going to develop CD ROM applications, you'll want to know a lot more about issues like these.

While updating of CD ROM databases has legal ramifications, the software issues are even more interesting. The logical format embodied in the *High Sierra Group Proposal* makes it possible for one CD ROM of a multiple CD ROM set to alter the interpretation of data on other CD ROMs of the set. This makes it possible for an updating CD ROM in effect to delete or modify data previously supplied. Thus, a database might be supplied on five CD ROMs, and periodic updating of only the fifth CD ROM could effectively update the entire set.

The book also contains practical advice for potential developers. While the one-minute business plan contained in Chapter 2 isn't worth much, there are practical, advice-filled chapters on disk origination and mastering, and there are two interesting and instructive case studies. And there's an appendix called "Resources," which contains classified listings of firms involved in the CD ROM field.

If you read *IEEE Micro* and you don't already have a pretty good grasp of the subjects in this book, then it's a "must read" for you.

The Art of Desktop Publishing, 2nd ed., Tony Bove, Cheryl Rhodes, and Wes Thomas (Bantam, Toronto & New York, 320 pp., \$19.95; \$24.95 in Canada)

This book is subtitled "Using Personal Computers to Publish It Yourself," and because that's exactly what the authors have done, you can get a good idea of the pros and cons of being your own publisher. The authors, by virtue of their experience with this and other publishing projects, can help to guide your steps along this path, and the book, as a sample product, can teach you lessons that the authors didn't make explicit.

The first question you should ask yourself when considering a publishing project is "What do I hope to accomplish?" If your answer is along the lines of getting your message out quickly and correctly, then personal publishing is worth considering. For example, the authors produced this second edition in two weeks. If, on the other hand, your answer has a heavy component of impressing the reader with the quality of the result, you'd better think seriously

about getting professional publishing help. In this respect, a publishing project is a lot like a hardware or software engineering project.

This book is written by three people who are far from amateurs in publishing, but the most generous grade I can give it as an example of publishing is B-, and an even lower grade could easily be justified. On the other hand, I enjoyed reading the book and found parts of it to be useful and informative. It has the flavor of a collection of trade-press articles and newsletter excerpts wedded to tutorial articles on page makeup programs (mostly Pagemaker).

This makes a convenient package for someone who doesn't follow the trade press, doesn't subscribe to a newsletter, and can't learn enough from the manuals accompanying the page makeup programs.

At this point I should say that Aldus Corporation shipped me Pagemaker for the IBM PC when it came out in February. I don't know if this was true in the past, but the manuals that accompanied that shipment don't seem to need to be supplemented by outside tutorials. They're full of tutorial information and production advice.

To pull all of the above pros and cons into a recommendation, I'd say that there are many people who will want or need to learn more about personal publishing and to purchase software and equipment. If you're one of these people and you feel a little bewildered by all you've heard about the "desktop publishing revolution," this book can help.

Next time

As noted earlier, last issue's prediction of future plans proved to be completely incorrect, largely because I simply didn't get far enough in reading Maurice Bach's *Design of the UNIX (TM) Operating System*. I hope to finish that book and to look at other interesting books and software for the August issue.

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