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Book Review

Encyclopedia of Information Science and Technology
Idea Group Reference
Hershey, PA 2005 3807 pp., 5 vols.
ISBN: 1-59140-553-X (print) and 1-59140-794-X (online)
\$1125.00
Index, Bibliographic References following each entry
10.1108/07419050510601588

Libraries and librarians will be anxious to add this new five volume reference encyclopedia, available in print and as an online resource. From what I could tell it is the first of this kind of comprehensive tool that can provide both background and technical information on the science and applications of Information Technology (IT).

The Table of Contents includes 35 sections containing over 550 chapters alphabetically arranged by entry in five volumes as follows:

1. Business/IT alignment.
2. Data mining.
3. Database technologies.
4. Decision support systems.
5. Distance learning.
6. Electronic collaboration.
7. Electronic commerce.
8. Electronic government.
9. End-user computing.
10. ERP.
11. Geographic IS.
12. Global IT management.
13. Human site of IT.
14. Information modeling.
15. Intelligent IS.

16. IS research.
17. IS security.
18. IT education.
19. IT evaluation.
20. IT in developing countries.
21. IT in health care.
22. IT in libraries.
23. IT in small business.
24. IT in personnel management.
25. IT in project management.
26. Knowledge management.
27. Mobile technologies.
28. Multi-media.
29. Object-oriented technologies.
30. Software engineering.
31. Strategic IT.
32. Telecommunications and networking.
33. UML.
34. Virtual organizations.
35. Web applications.

Since this reviewer is a practicing bibliographer and reference librarian, the review suggests great utility for the general user and some specific applications for the librarian-user. This review will consider the user primarily as a systems librarian or a subject librarian responsible for computer and information science, although computing spans all subject areas today as well as being applied in all business sectors and our personal lives. With many libraries rethinking reference collection holdings, I still think that this set belongs in the custody of a reference collection because it can be a point of departure for readers who need early navigation on a topic. The entries range from a page to about an average 6-8 pp. and some are more extensive. Of course, the online version gives readers access to browse

and search, but this reviewer did not test nor review that format for the purpose of this review.

The encyclopedia reflects the changes over the last five decades when computers and automation entered every aspect of work and daily life. The great impact IT continues to have in shaping the human-computer interactions now actively studied is well chronicled in this set. The maturity of computers and the merging with telecommunications was each critical in recognizing what we consider core in information technology today.

The preface to the collection states "the science of understanding the nature of information processing and management combined with computer and telecommunication technologies to process, disseminate and manage information has become known as 'Information Science and Technology'." Bearing that in mind, it appears that the collection was compiled to demonstrate how ubiquitous IT is to almost every aspect of our work and personal lives. The advent of the personal computer plus the availability of so many different personal technology devices and appliances illustrate how connected we are in the world to each other and how dependent we are on knowing how to manage our relevant information and how this has all become a subspecialty in nearly every line of work. Wireless environments tend to dictate whether we spend time there and we tend to expect that more and more public spaces will be wireless, such as airports, malls, restaurants, hotels, hospitals, libraries, schools, etc.

The volumes draw from content and specialists, who have witnessed the evolution of the fields of computing history, database management, data mining, decision support systems, computer education, distance education, electronic commerce, electronic resource planning, expert systems, human computer interaction, knowledge management, mobile computing, multimedia, object oriented technologies, open source technologies, social responsibilities, software engineering, telecommunications, etc. Few contributors are the actual pioneers and designers of the emerging technologies, but I think they consistently frame a context with accurate and appropriate applications and background.

Owing to its organization, its value is not just as a reference tool but it can be used in instruction, as the chapters are significant, and each contains significant bibliographic references and stands on its own. There are a combined list of 11,500 citations to direct readers to earlier contributions and the core literature on each topic created by the more than 900 contributors in 50+ countries that authored the 550 entries. However, few of the bibliographic references are later than early 2003.

Each entry has a similar structure that outlines the content and includes a brief introduction to the relevance of the topic, a chronology or statement of the background, the main research and application thrust, an indication or speculation of future trends about the topic, a summary or conclusion, list of references, and definitions of key terms. There appears to be a significant amount of visual or graphic explanation to accompany the text. The most interesting and unique content is I believe found in the section marked, Future Trends.

For a librarian, the specific sections on End User Computing, IT Education, IT in Libraries, Knowledge Management, Mobile Technologies, and Virtual Organization may be of most interest. Surprisingly, the concept "Digital Library" is only indexed twice when it is so actively tied to the information infrastructure of many business environments. There are obviously many other entries that support a librarian's learning and professional interests, such as in those that cover GIS, or Personnel Management, Project Management. Many different tools are described, like XML, open source, etc. For specific library contexts, it may be advisable to consult, *The Encyclopedia of Library and Information Science* (edited by Miriam Drake, Dekker, 2003).

Interestingly, the organization is a bit strange. Like most encyclopedias, the topics are arranged alphabetically, but in this resource, it includes all articles including "a" and "the" instead of starting with the first main word, being a noun, verb or adjective.

The list of contributing authors is by first name, rather than by surname and/or institutional/organizational or national listing. The most valuable part of the table of contents is the "Contents by Subject." Indexing of key terms consumes 27 pages in each volume and is considered comprehensive and takes one to the exact page of reference. Vocabulary is qualitative, descriptive, technical and sufficiently colloquial. Acronyms are consistently defined and explained. The term mobile is used more than wireless but both are highly indexed. An entry about IT in Ireland is under the title, "Leapfrogging an IT Sector." Another awkward title is "History and Future Development of Group Support Systems," instead of beginning with "Group Support Systems ..." At least the index is found in each volume.

The content of the encyclopedia is universally of a high caliber of clarity and can easily be used by a variety of readers spanning from the technically challenged to the more sophisticated student, scientist, engineer or practitioner. There is no other current reference resource in print that covers this material at this level without forcing the user to conduct a more comprehensive literature search in several databases or consult several textbooks. What makes this resource of great utility is that it is current, global and bridges the science of IT with the business or commercial side and this is indeed useful.

Any collection of this magnitude will have some shortcomings and a sense of things that should have been included and were for some reason omitted. The topic of ethics I believe is not adequately covered nor is the concept of entrepreneurship. Both terms are in the index but somewhat buried in articles where they were not the primary focus. Some of the most valuable entries that spanned wide interest were covered in the sections on electronic collaboration, information science research, IT in developing countries, mobile technologies, and virtual organizations. One can see the blend of social, business, technical and international emphases coming together

The resource is available online with ongoing updates available to all subscribers. "Complimentary online access to this encyclopedia for the life of the edition will be provided to any library with the purchase of the print copy." This collection belongs in every academic library because of the scope, range and reference utility. It is easy to use,

and a user easily develops a familiarity with the organizational structure, even if it initially appears a tad clumsy.

Compiled and edited by Mehdi Khosrow-Pour, currently the Executive Director of the Information Resources Management, he is well known among the IT community and the author or editor of more than 20 books on IT management themes and is the current editor of four journals that explore contemporary issues in IT and eCommerce. He is major player in the current landscape of IT publishing.

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New Books

Conway, Flo and Siegelman, Jim, *Dark Hero of the Information Age: In Search of Norbert Wiener*, Basic Books, New York, NY, 2004. ISBN: 07382003688.

Geroimenko, V. (Ed.), *Visualizing Information Using SVG and X3D XML-Based Technologies for the XML-based Web*, Springer, London, 2005. ISBN: 1852337907.

Gershenfeld, Neil, *FAB: The Coming Revolution on Your Desktop from Computers to Personal Fabrication*, Basic Books, New York, NY, 2005. ISBN: 0465027458.

Harris, Frances J., *I Found it on the Internet: Coming of Age Online*, ALA, Chicago, IL, 2005. ISBN: 083890898.

Oblinger, Diana G. and Oblinger, James, L. (Eds), *Educating the Net Generation*, EDUCAUSE, Boulder, CO, 2005, available as an eBook at: www.educause.edu/educatingthenetgen

Price, Monroe E. and Verhulst, Stefaan G., *Self-Regulation and the Internet*, Kluwer Law International, The Hague, 2004. ISBN: 9041123067.

Singh, Paramjeet, *Fundamentals of Information Technology*, Sublime Publications, Jaipur, 2004. ISBN: 8181920260.

Solove, Daniel J., *The Digital Person: Technology and Privacy in the Information Age*, New York University Press, New York, NY, 2004. ISBN: 0813798462.

Sushkova, Ludmila and Gerhauser, Heinz (Eds), *Information and Communication Technologies: Changes and Challenges: Scientific Symposium*, Fraunhofer IRB-Verlag, Stuttgart, 2003. ISBN: 31816763693.

van Weert, T.J. (Ed.), *Education and the Knowledge Society: Information Technology Supporting Human Development. International Federation for Information Processing (IFIP)*, Vol. 161, Springer, Dordrecht, 2005. ISBN: 1402077556.

Wilson, A. Paula, *100 Ready-to-Use Pathfinders for the Web: A Guidebook and CD-ROM*, Neal-Schuman, New York, NY, 2005. ISBN: 1555704905.

Yu, Holly (Ed.), *Content and Workflow Management for Library Web Sites: Case Studies*, Information Science Publishers, Hershey, PA, 2005. ISBN: 1591405343.