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EndNote 5 for Windows

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EndNote 5, the newest version of this popular bibliographic management program was released early in 2001 for Windows and for Macintosh (not yet available for Mac OS X.) It is one of about a dozen such packages currently on the market. EndNote, originally designed by Niles and Associates (and ProCite and Reference Manager, other powerful bibliography-making programs), is now owned and distributed by Institute for Scientific Information's Research-Soft Division, part of Thomson Corporation. This edition requires Windows 95/98/ME/2000, Pentium or compatible, hard disk 25MB, 16MB RAM, a CD-ROM drive, and an Internet connection for searching remote databases. For this review, it was used on a Windows 98 system. Three prices are quoted on their Web pages: $329.95 with hardcopy manual, $239.95 downloaded, and $109.95 for students, upgrade from 4 for $99.95 or $89.95 downloaded. ISI offers technical support by telephone and searchable Web FAQs or e-mail and hosts a listserv for each of their products. One recurrent thread on the listserv is that bug fixes or other problem solutions should be easier to find/obtain from the EndNote technical folks. The listserv is a treasury of good information and answers, but archives of old messages are not kept—questions may be repeated by new subscribers (http://www.endnote.com/ENhome.htm). Postings from May 2000 on are now being archived at Adept Scientific (http://lists.adeptscience.co.uk/endnote/).

One nice tutorial for EndNote is available at the University of Notre Dame Library Web—written for their staff and students but useful for all new users (http://lib.nd.edu/eresources/endnote/#adv).

There are elaborate bibliographic software evaluation forms available to compare these programs.[1-5] Earlier versions of EndNote have been favorably reviewed.[6-12] To evaluate the software, the following must be addressed:

(1) hardware and disk space required, network capability, costs;

(2) transferability or interchangeability of the libraries among different platforms;

(3) the extensiveness of reference type templates and sizes of individual fields;

(4) how many end-result citation styles (journal formats) are available;

(5) importing and exporting capabilities;

(6) editing, sorting, and indexing capabilities and master lists for consistency;

(7) compatibility with word-processing programs;

(8) for chemists, engineers, and other scientists, availability of non-English characters;

(9) ease of use—intuitive, clearly presented templates, pull-down menus, contextual help.

EndNote's byline is "Bibliographies made easy!", but in reality EndNote now does much more than just create lists of references. The software can be used to connect to and search an online database and download or import the records into a library of citations and then be used with a word processing package to create the bibliography and footnotes. There is a companion package called Reference WebPoster (an additional cost of $149.50) that can post and be used to search databases uploaded to the Web, a way to share bibliographies with many users.

There are several ways to build a reference library:

(1) Use fill-in-the-blank templates of 23 types of references (and more can be created if desired.) The fields in each reference can be modified.

(2) Import text files of references created or downloaded elsewhere.

(3) Connect to an online Z39.50-compliant database to retrieve the references.

Z39.50 is a retrieval protocol supported by some databases on the Web. An up-to date list of compliant databases is provided on the ISI ResearchSoft web. Unfortunately, the list does not include STN International or DIALOG databases, but PubMed, ISI's Web of Science, SilverPlatter, OCLC FirstSearch, Ovid On-Line, and DIMDI databases are some of those that are compliant.

(4) Merge different libraries created on EndNote (Macintosh or Windows) or import converted libraries from Reference Manager, ProCite, Papyrus, Notebook, or other such packages. Conversion utilities are also downloadable.

Each library in EndNote can hold up to 32 000 references or 32MB of data. Each reference has its own identification number and can have up to 64 000 characters or about 16 pages each. Many libraries can be created on one computer. Individual and global editing of text or fields in references is a simple search and replace menu. If data entry and import is consistent, the resulting database is clean, and references are easily retrieved using the EndNote search capability. An authority file (term list) is created for author, journal, and keyword fields as citations are entered, but if references are imported, a decision must be made as to consistency of format. Imported citations are not always "clean", and some manual editing may be required. Autocompletion of entered words facilitates consistency if the word is already in the term list. Global editing and "cut, copy, and paste" commands can fix irregularities. Non-English characters are easily called up using the Character Map program: tables of different character types are available; spell checking, new in this version, is also easy to implement—but only on open records. A template can be created if you have several references to enter with much the same information, for

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example, several abstracts from the same conference. An Endnote library exported as a .txt tab-delimited file can be imported to Excel if a tabular listing is desired.

After connecting to a remote-database such as PubMed, the search entry screen (which is very similar to the screen for searching the EndNote library) allows you to do fairly simple searches. For detailed searching utilizing date limits, publication types, language, etc., many users recommend performing the search in the database provider software, downloading, and then importing the citations into EndNote. The EndNote "connect" search screen is far too limited for complicated database searches. More than one library can be created and open at the same time, but it is recommended that just one big library be built and keywords assigned to facilitate retrieval of the appropriate reference. This makes sense especially if colleagues are also using the library.

This version of EndNote introduces the "Cite-While-You-Write" add-in for writing a paper in Microsoft Word 97/2000/XP or WordPerfect 7−9 and citing references (pulled from the library) as you write. "Cite-While-You-Write" allows searching for the reference in the library without ever leaving the word processor, which is an advantage for most users. This new add-in does "Instant Formatting" of the bibliography, updating it as you insert citations. It eliminates the separate steps of formatting; although, if output format is changed, it is necessary to resort to formatting by command. Comments from users on the EndNote listserv have alerted the group to some problems using "Cite-While-You-Write", but it appears there are workarounds and fixes. If you have a slow computer, "Cite-While-You-Write" can be turned off, and a citation can be typed into the document as you go. (The citation and library reference must exactly match.) Older versions of Word or WordPerfect, rich text format, plain text or HTML can be used for writing and inserting citations in a document with the appropriate downloadable add-in files. Keyboard shortcuts can be used to call up the search screen and find the reference and "drag and drop" highlighted references will also work.

As you insert citations, a "Traveling Library" is created of those citations referenced in the document. This subset moves with the document as you change computers or send to colleagues; the whole EndNote library is not a necessity on each computer.

After the paper is finished and the citations within the paper correctly go with the references in the EndNote library and an output format has been chosen, the paper is ready for printing or journal submission. If a list of references sorted by subject or type of reference is desired separate from the paper, it can be done by modifying each reference (adding a field or using an unused stock field) and by modifying the output format to have this as a printable field. (If a stock output format is modified, be sure to give it another name.) The sorted list of references will display this added field for each entry. There are over 690 stock output styles provided by EndNote—the list seems endless! Any style can be easily changed if something different is desired. A citation can be made a live link to a .PDF file or a Web site—a plus for documents or CVs posted on the Web. The medical journal term list includes the complete National Library of Medicine approved abbreviations. An improvement for the author term list might be a corporate entity name available for the in-document citation but the complete listing of all authors in the library entry.

In summary, this newest version of EndNote has the added capability of Cite-While-You-Write which allows finding and adding citations without leaving the word processor and "instant" bibliography updating as they are added. Spell-Check with dictionaries in different languages or disciplines, tables of symbols, and a "Traveling Library" of citations that "travels" with the document are convenient new features. EndNote 5 also allows connections with remote databases and transfer of citations from within the program. It all adds up to a more versatile and powerful product that requires some effort to master. In 1959 Calvin Mooers[13] stated that "An information retrieval system will tend not to be used whenever it is more painful and troublesome for a customer to have information than for him not to have it". Despite a few "learning-curve" frustrations, this bibliography-maker is highly recommended. It is not at all too "painful and troublesome" and is a useful tool for managing a lot of references.

REFERENCES AND NOTES

(1) Kazlauskas, E. J. Information management software: Guidelines for decision-making. *Database* **1987**, *10*, 17−25.
(2) Sieverts, E. G.; Hofstede, M.; Haak, Ph. H.; Nieuwenhuysen, P.; Scheepsma, G. A. M.; Veeger, L.; Vis, G. C. Software for information storage and retrieval, tested, evaluated and compared: Part I. *Electron. Libr.* **1991**, *9*, 145−154.
(3) Wolff, T. E. Personal bibliographic databases: An industrial scientist's perspective. *Database* **1992**, *15*, 34−40.
(4) Research Information Systems. How to select bibliographic management software. Research Information Systems: Carlsbad, CA, 1995; 16 pp.
(5) Dell'Orso, F. *Bibliography formatting software: An evaluation template*, 5th ed.; 2000; http://www.burioni.it/forum/ors-bfs.htm (accessed Oct. 2001).
(6) Rabinovitz, R. Point of reference. *PC Magn.* **1993**, *12*, 269−279.
(7) Miller, M. C. Reference management software: A review of End-NotePlus, Reference Manager, and Pro-Cite. *M. D. Comput.* **1994**, *11*, 161−168.
(8) Cibbarelli, P. Cibbarelli's surveys: User ratings of bibliographic citation management software. *Comput. Libr.* **1995**, *15*, 25−40.
(9) Citroen, C. L. EndNotePlus and EndLink 2.0: Database manager, bibliography maker, and importer of search results, new versions. *J. Chem. Inf. Comput. Sci.* **1996**, *36*, 616−618.
(10) Stigleman, S. Bibliography programs do Windows. *Database* **1996**, *19*, 57−66.
(11) Tessler, F. EndNote 4.0. *MacWorld* **2000**, *17*, 60.
(12) Reiss, M.; Reiss, G.; Paucsch, N. C. Reference manager EndNote 4. Further development and new functions. *Radiologe* **2001**, *41*, 511−514.
(13) Mooers, C. N. Mooers' Law: Or, why some retrieval systems are used and others are not. *Zator Technol. Bull.* **1959**, *136*, 1−2.

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