

## COMPUTER SOFTWARE REVIEWS

## EndNote X (and XI) for Windows

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EndNote,<sup>1</sup> now in its 11th version, is a bibliographic management program marketed by Thomson Scientific. The 10th version is referred to as EndNote X and the 11th as EndNote X1 (sic). The program was previously reviewed<sup>2</sup> for this journal in 2002. Much of the information in that review of version 5 is still relevant and will not be repeated here. I tested EndNote X.0.2 (i.e., version 10) with Word 2003 under Windows XP Professional Version 2002 Service Pack 2, but the prices and file/record size limits given in this review are for EndNote X1.

The first thing you need to do is to create your first database of literature references, or “library”. This can be done by entering the data manually; by importing a file of references downloaded from, say, SciFinder; by connecting to an online search service from EndNote and retrieving references from a Z39.50-compliant<sup>2</sup> database; or by importing a converted library from another bibliographic management system. It is also possible to store an image and a PDF file in addition to the usual bibliographic fields. Eight fields are tabulated in the “library window” display: image, PDF, author, year, title, journal, reference type (e.g., journal article), and URL.

There are 41 customizable reference types, from ancient texts, through maps, to Web pages, each with up to 52 fields for entering references and linking to PDF and image files. Up to 45 files per reference can be organized in the new “file attachment” feature in EndNote X1. The files are dragged and dropped onto a reference, and the program automatically links them and stores them with the library reference. Manual data entry offers many more options than the average user will ever need; one nice one is that EndNote looks for an author name, for example, in an existing library and types ahead if possible. There is no need to add periods and formatting. There is no limit on the size of a library. The order in which references are listed in the library can be changed by click-sorting, i.e., by clicking on the column headings, as you might in a Microsoft program, or sorting can be done by a more sophisticated feature, e.g., to sort, ascending or descending, on title, within year, within author.

A resizable preview window may also be displayed (or hidden) under the library window. By default this shows a standard bibliographic record for a reference selected and highlighted in the library window. Both windows can be customized. For example, in one of my customized output styles, I chose to display an abstract as well as the usual

bibliographic data in the preview window but not in the library window. Over 2800 bibliographic styles are available for use in the preview window and in the bibliography/reference list that appears in your word-processed manuscript. Obviously, one of the styles I chose to use was that for *J. Chem. Inf. Model.*, unfortunately named as the style “J Chemical Info Comp Sci”. This produced references almost perfect for a *J. Chem. Inf. Model.* manuscript. Tweaking the style to remove a comma after the list of authors and to italicize the volume number took only a matter of seconds. I also needed to add the word “accessed” to the template for giving the date for Web citations.

Connecting to an external online service, and doing a search, is another way to get a reference and insert it in a library. EndNote offers more than 1500 connections to online sources, but it cannot, alas, access STN. Many of these sources are available only to subscribers, but anyone can connect to PubMed, for example. Two windows open when you connect to an online service: one has the boxes for entering your search terms and the other stores a temporary library. When the search is complete, references are selected from the temporary library and copied to a new or existing library. If they are copied to an existing library, then they are held as a subset for editing before the permanent library is stored. I successfully downloaded data from the ACS Publications Web site. (An abstract is usually included, but it is not included if the paper is in the legacy archives.)

Unfortunately, all *J. Chem. Inf. Model.* and *J. Chem. Inf. Comput. Sci.* papers download with the journal stored as *J. Chem. Inf. Model.*, regardless of year. I have reported this problem to ACS Publications. (*J. Chem. Inf. Comput. Sci.* became *J. Chem. Inf. Model.* in 2005.) It is possible to use global editing in EndNote for fixing common typos or spelling mistakes, but the *J. Chem. Inf. Model.* problem would not be straightforward to fix. “Change text”, “change field”, and “move field” commands can be used to modify existing references in a library or to add a term to all or some of your references.

Data can also be entered from the results of an online search carried out outside EndNote. Again, when the imported data are added to an existing library, you have choices in handling duplicates, and the imported references are held as a subset which may be edited, before the enhanced library is saved permanently. The method I used most to make my main library was importing a text file made from

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a SciFinder search. CAS allows up to 500 SciFinder answers to be saved in a tagged (.txt) format.

Data saved from an online search must be saved in tagged format and imported using the filter appropriate to the database and the database provider. EndNote comes with over 600 such filters. Unfortunately, I had a problem importing my SciFinder data using the "SciFinder(CAS)" filter (the journal titles appeared in both abbreviated and full formats), but help was at hand from an expert at Adept Scientific,<sup>3</sup> who immediately supplied a better filter. Adept Scientific supports EndNote in the United Kingdom, supplies FAQs, help sheets, and manuals, and has archived and indexed the EndNote Interest Mailing List<sup>4</sup> since May 2000. The list, which is moderated, is maintained by Thomson ResearchSoft to provide EndNote users with a place to interact with other users, ask questions, make suggestions, and get advice on any EndNote related topic.

Once you have a library (or more than one) you can start to prepare a manuscript. EndNote includes built-in Word templates to guide you through the manuscript requirements of your preferred publisher, and a wizard assists you with the creation of a new manuscript. EndNote automatically formats the in-text citations, the bibliography, and a figure list. References for insertion are selected by browsing through a library, perhaps after sorting it, or by doing a search of the library.

Up to nine lines of search terms can be used when searching a library (three are initially displayed) with nine comparison operators ("contains", "less than or equals to", etc.) and AND, OR, and NOT connection operators. The results which match, or do not match, the search criteria can be displayed. There are "match case" and "match word" options. A subset of hits can itself be searched or references may be added to it. Query logic can be saved.

The program has a "cite while you write" feature which allows users to create bibliographies easily in Microsoft Word. The bibliography grows automatically as each citation is inserted in the manuscript text. If the manuscript is written in Word, then an EndNote toolbar can be displayed to drive the "cite while you write" features (and others), and the citations that are inserted are held as a "traveling library", linked to the Word document. When the manuscript is complete, the traveling library can be saved as a permanent one. (Libraries can also be merged.) Clicking on the "insert citation" button on the EndNote toolbar causes a citation to be inserted in the text and, by default, causes the new literature reference to be added to the bibliography at the end of the paper. Optionally, the bibliography can be formatted in a separate step.

In-text citations can be numbered, or they can be in "author year" format. My choice of *J. Chem. Inf. Model.* style meant that my references went in, correctly, as superscript numbers. There are all sorts of options for changing the display of an in-text author-year citation. The "format bibliography button" has options for changing the output style, changing the layout, and adding a title, e.g., "REFERENCES AND NOTES".

One of the joys of using EndNote for a numbered bibliography is the ease of reformatting. For example, if you have to add a new reference after the 27th reference, in a list of 92 references, the 93 new citations in the text and the 93 records in the bibliography are all automatically renum-

bered correctly. Great care has to be taken with the way deletions are carried out, but, if they are done properly, much time is saved in reformatting the text and the bibliography. EndNote uses field codes in Word, so deletions are not completely straightforward. Making deletions from a saved library can have an undesirable impact if that library was the traveling library for a finished manuscript. EndNote can also be used to track images including charts, figures and equations, with a caption, and keywords.

Version 11 was released after I started to review version 10, and new functionality is now on offer. EndNote X1 introduces custom groups to view and manage subsets of references; users can drag and drop references into subject folders. Each EndNote library can have up to 500 custom groups, and action-specific groups are created automatically for search results, file imports, and reference transfers from EndNote Web, a Web-based research and writing tool available only as an institutional subscription. Integration with EndNote Web provides a way for users to manage references when they are away from their desktop computers. They can collaborate with colleagues by sharing EndNote Web folders and can cite references from both EndNote and EndNote Web in a single paper, and transfer libraries. EndNote X1 uses the new Microsoft Word 2007 ribbon technology; in Word, frequently used commands are organized on an EndNote tab. In addition, users can now view all authors for a reference in the main list display. Custom reference types can be exported and imported between computers, so users can transfer their personal settings between computers.

EndNote is available for Windows (Windows 2000, service pack 3; XP, service pack 2; or Vista), for Mac OS X, and for Palm OS 4.x–5.4.x devices with 16MB of RAM or more, and serial/USB communication for HotSync operation. For the Windows version, a Pentium 450 MHz or faster processor is required, with 180MB hard disk space available, and 256 MB RAM. The Macintosh version requires Mac OS X (10.3.9–10.4.x) on a PowerPC or Intel Macintosh 450 MHz or higher, a hard disk with 180 MB available, and a minimum of 256 MB of available RAM. An Internet connection is required to search online databases. EndNote files are compatible across Windows and Mac OS X platforms, and the program is Unicode compliant. The "cite while you write" feature is compatible with Microsoft Word 2000, XP, 2003, and 2007 (though EndNote X1 is required for Vista). Users of other word processors that can save or export files in Rich Text Format (e.g., Ami-Pro, FrameMaker, OpenOffice, and StarOffice) can use a "format paper" feature to create the bibliography in a less automatic fashion.

A single-user license to EndNote X1 costs \$299.95; a 5-user workstation license, \$895.95. A five-user concurrent license can also be negotiated. EndNote Web is currently available only as an institutional subscription; academic sites with either an EndNote or a Web of Knowledge site license have access to EndNote Web free of charge.

Detailed as it is, this review gives only an overview of EndNote's functionality. It is certainly a powerful program but not a particularly intuitive one. There is a standard help function, but it is a good idea to get an overall feeling for the functionality and terminology first, from sources on the Web. I found Thomson's tutorials<sup>5</sup> in Windows Media Player format very useful. The University of Queensland<sup>6</sup> and the

University of Notre Dame<sup>7</sup> also offer a lot of useful information about EndNote.

Before you begin to appreciate the numerous advantages of this program, you need to put in a certain amount of effort to learn the features that you really require, and you need to customize the package. You then need to be disciplined about building a good library of the references you are likely to use more than once. Once you have done all that, you are going to find that writing a manuscript becomes so much easier. If more of our authors used EndNote properly to prepare their manuscripts, I would be spared a lot of effort, as an editor, in pointing out errors (and not just formatting errors). I have no experience with the other bibliographic products that compete with EndNote, but I do not think that I will need to investigate further: overall, I am very happy

with EndNote and would recommend it to other *J. Chem. Inf. Model.* readers and authors.

#### REFERENCES AND NOTES

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