# **Zotero: A Reference Manager for Everyone**

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ABSTRACT: A review of Zotero 3.0b2, an open-source, cross-platform, all-in-one reference manager, document archiver, citation manager, and collaboration tool is presented. This report will discuss features such as collecting references, annotating references, integration with Microsoft Word and Open Office, backing up and synchronizing references, and sharing references with students and collaborators. Some useful but less commonly known tips and tricks are also described.

KEYWORDS: Continuing Education, First-Year Undergraduate/General, Graduate Education/Research, High School/Introductory Chemistry, Second-Year Undergraduate, Upper-Division Undergraduate, Interdisciplinary/Multidisciplinary, Internet/ Web-Based Learning, Textbooks/Reference Books

Still holding on to your collection of paper journal articles? A new generation of reference managers may convince you to get rid of your paper copies altogether. Zotero 1-3 is an opensource, all-in-one reference manager, document archiver, citation manager, and collaboration tool. Zotero rivals and often surpasses the capabilities of commercial reference managers such as EndNote<sup>4</sup> and RefWorks.<sup>5</sup> Best of all, it is completely free.

Zotero is surprisingly easy to use—a single click captures the bibliographic information and PDF. Zotero's ease-of-use lies in its focus on the Web browser—you are already searching on the Internet anyway—via a Firefox add-on. Zotero Standalone<sup>6</sup> 3.0b2.1 is also available for Chrome and Safari.

Zotero supports major research Web sites such as ISI Web of Knowledge, Google Scholar, PubMed, many journal and newspaper Web sites, and university library catalogues. Simply clicking on an icon in the navigation bar saves all the bibliographic information (e.g., author, title, journal, issue, page numbers, etc.), PDF journal article, and Web page, creating an archive of all your references. Information can even be imported from Web sites such as Scopus and Reaxsys, which are not recognized by Zotero, in two clicks via a suitable bibliographic format (e.g., RIS, BibTeX). References can also be added by ISBN, PubMed Identifier (PMID), Digital Object Identifier (DOI), or entered manually. Zotero can even import your existing collection of PDF articles. In fact, any type of file can be indexed, including images and video files. Those switching from other reference management software can export their reference database to Zotero.

The lightweight Foxit Reader and PDF-Xchange Viewer can be used to add highlighting and annotations to PDF files. In addition, rich text notes can be added to document entries. References can be organized with tags or arranged into collections (i.e., folders). Both the PDFs and all the added information are fully searchable within Zotero.

In-text citations can easily be added to Microsoft Word, Open Office, LaTeX, and Google Docs. Thousands of citation styles are available from the Style Repository. New styles can be requested through the Zotero forums—my request was added to the Style Repository in less than a day. An easy-to-use, open-source style editor<sup>7</sup> is being developed by Mendeley.

Zotero.org provides 100 MB of free online storage (additional storage available for a reasonable fee) to backup and synchronize references and attachments, allowing your reference database to be accessed across several computers (e.g., work, home, and laptop). Data can also be synchronized to any cloud based service that supports the WebDav protocol, such as iCloud (5 GB free storage) and some home or office network attached storage systems (e.g., Synology NAS).

References can be shared with colleagues through public or private shared libraries. RSS newsfeeds can also be created for public group libraries. The ability to share references, annotations, and notes with colleagues makes for an effective collaborative tool. Other free reference managers worth considering include Mendeley<sup>8</sup> and Qiqqa.<sup>9</sup>

# ASSOCIATED CONTENT

#### Supporting Information

Comparison of Zotero, Mendeley, Qiqqa, RefWorks, and EndNote. This material is available via the Internet at http:// pubs.acs.org.

## AUTHOR INFORMATION

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