

PRODUCT REVIEW / ANALYSE DE PRODUITS

Zotero

Product: Zotero

URL: <http://www.zotero.org/>

Audience: Students, researchers, librarians

Purpose: Reference management

Price: Free (up to 100 MB of storage), more storage available for a fee

Introduction

Zotero is a free, open-source reference manager that was developed in 2006 by the Center for History and New Media at George Mason University. It lives in the web browser, simplifying the research process by making it easier to save and manage references.

Zotero has previously been described in several product reviews [1, 2] and articles that compare Zotero with other reference management tools [3, 4]. A helpful resource for anyone wishing to learn how to use or teach Zotero is “Zotero: A guide for librarians, researchers and educators” by Jason Puckett, a self-proclaimed Zotero evangelist [5].

How it works

To begin using Zotero, it is necessary to download Zotero either as a plug-in for Firefox or as a standalone program which will “talk” to your browser using a Zotero connector. Zotero searches constantly for metadata while the user browses the web. When Zotero detects available metadata on a webpage, an icon appears in the address bar. If a single item is available, an icon corresponding to the type of item will appear. Items could include books, journal articles, newspaper articles, sound recordings, webpages, or any other digital object. If multiple items are available, a folder icon will appear, and when clicked, will enable the user to select some or all of the items on the page.

When the user clicks on an icon in the address bar, the item(s) are saved to the user’s library with no login or additional clicks necessary. Zotero automatically saves a copy of the webpage from which an item is saved. Furthermore, the user can modify his or her Zotero settings so that if PDFs or other files are associated with an item, these will automatically be saved and attached to the item.

Once a user has created a Zotero web account, he or she can access their library online from any computer. A Zotero library can be organized into “collections” and “sub-collections”. One can create citations and bibliographies in a word processor in a variety of citation styles using the Zotero toolbar. References in Zotero can even be

dragged into another program (e.g., e-mail, Word, Google Docs) in a style selected in Zotero preferences. Zotero’s Group Libraries allow for reference sharing within a group of collaborators (Figure 1).

Access

The Zotero software can be downloaded for free from www.zotero.org. Once a user has installed Zotero on their computer and has saved references, they are able to access those references on that computer anytime, even without an internet connection.

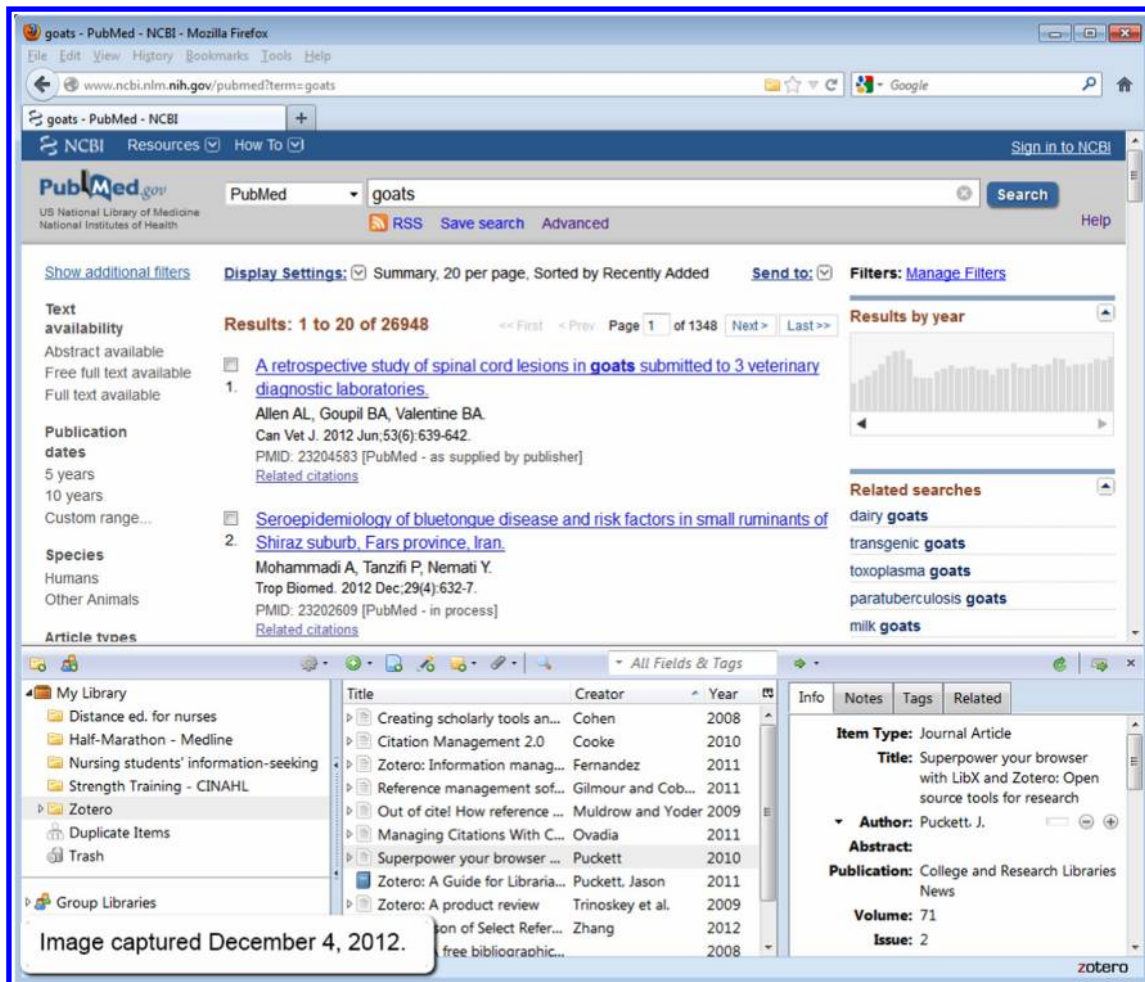
The program also makes it easy to access references from any other computer with internet access. The user creates a Zotero account at www.zotero.org and enters the account information into the “Preferences” section of the Zotero software. This allows the user’s personal library to automatically synchronize or “sync” with the Zotero server, so when the user is away from the computer with their Zotero library, they are still able to access their references online at www.zotero.org. Furthermore, Zotero will sync from multiple computers – that is, if three computers all linked to the same Zotero account, when adding new references to a Zotero library on one of the three computers, the references will also appear in the Zotero library on the other two computers and in My Library online.

Compatibility

Zotero is compatible with Windows, Linux, and Mac OS. While it was originally designed for Firefox, Zotero Standalone enables researchers to use Zotero within Google Chrome or Safari via connectors for these browsers. A connector is an extension in the browser that allows it to send reference information to Zotero. There is no connector for Internet Explorer, though a compatible bookmarklet (a script saved to “Bookmarks” or “Favorites” in the browser) is in the alpha development stage. When clicked, the Zotero bookmarklet will detect metadata on the webpage and allow the user to save items to Zotero. The word processor plug-ins available for Zotero are compatible with Microsoft Word and LibreOffice/OpenOffice/NeoOffice. Mobile apps for Zotero are available for iOS and Android.

Whether or not Zotero will be compatible with a website or database depends on the existence of a Zotero translator to detect and retrieve data from that source. There are currently over 300 translators available for many library catalogues, databases, and websites, and a list of translators is available at www.zotero.org/translators. However, some sources for which a translator is available may have limitations. For example, a translator exists between Zotero and Scopus, but Zotero will not detect metadata

Fig. 1. Example of Zotero user interface. A PubMed search in Firefox, with Zotero for FireFox open in the browser. In Zotero, the pane on the left lists collections within the user's Zotero library, the centre pane lists the items in a collection, and the pane on the right shows details related to an individual item. The yellow folder icon in the address bar in Firefox indicates that Zotero has detected multiple items on the webpage. The Zotero icon at the bottom of the browser allows the user to open Zotero in Firefox when needed.



on the search results page in Scopus. As a result, the user is required to view and save articles one at a time in Scopus. Alternatively, the user could use the traditional “export” function in Scopus, save the references in RIS format, and then import them into their Zotero library.

Usability

As Zotero is built into the browser, saving references to a Zotero library is simple. The process is especially seamless in Firefox, where one can save an item in a single click, and then open Zotero in a pane within Firefox, in a new tab, or in a Firefox App Tab. The process for Chrome and Safari users is similar, but it requires users to open Zotero as a separate application.

The Zotero interface is frequently compared with iTunes, as the two share a similar layout. Zotero contains three panes: one that lists the user's collections, one that lists the individual items within a collection, and a pane that provides details of individual items. The interface is likely to be more intuitive than other commonly used reference

managers, especially for students and researchers who have not used a reference manager before.

The Zotero toolbar for word processors is also fairly intuitive. It allows users to insert citations, and create a bibliography in a citation style of their choice. The “Zotero Refresh” button will update those citations and bibliographies when the user makes changes. For instance, if the user notices an error in a citation (perhaps the author's first and last name were reversed) in Word, they can modify this information in the corresponding item in Zotero. When they click “Zotero Refresh” in their word processor, the citation and corresponding information in the document will be updated accordingly.

A major concern with reference managers is how easy they are to teach to others and how easy they are to learn. Because the process of downloading citations to Zotero is quite simple and consistent between different databases and websites, this part of the process should be quite straightforward to teach. The main downfall of Zotero is that it requires users to download software on their own computer. If users receive instruction on Zotero in a setting

where they are required to have their own laptops this is not a problem. However, if users learn about Zotero in a computer lab with Zotero already installed then they walk away from the session without Zotero being set up on their own computer and possibly never use it again.

Strengths and weaknesses

The process of saving citations to a Zotero library is simple and efficient for all databases where a translator exists and works well. In cases where no translator exists, usually a workaround is available. However, as noted in Fernandez [2], a workaround solution is usually significantly more complex than what users expect from Zotero. When a workaround is necessary, the ease with which Zotero saves references is lost, which takes away from the main advantage it has over other reference management tools. Zotero is able to look up and save a reference from an ISBN, PMID, or DOI.

Like Mendeley, Zotero is able to extract metadata from a PDF document and allows for the addition of annotations to items in the library. However, unlike Mendeley, Zotero does not allow the user to annotate PDFs directly. Users are able to annotate webpages, however, with note-taking in Zotero described as superior to note-taking in EndNote [1].

Zotero allows for fairly basic duplicate detection. It uses the title, DOI, and ISBN fields to detect duplicates, and displays them in a collection entitled “Duplicate Items”. These fields can cause Zotero to identify pairs of items that in actuality are not duplicates, and Zotero plans to upgrade this process in future. Duplicates can be found in the Duplicate Items collection where the user can merge duplicates into one item or select which item they would like to designate as the “master” item.

Zotero is downloaded with only a few standard citation styles. However, over 2800 additional styles can be found in the Zotero Style Repository at <http://www.zotero.org/styles>, allowing users to download and install styles with a small amount of effort.

There is no live support available for Zotero. Rather, Zotero users can refer to the Zotero support information which is available at <https://www.zotero.org/support/>, or they can ask a question on the Zotero forums at <http://forums.zotero.org/categories/>.

Cost

There is no cost to download Zotero and create an account. Users receive 100 MB of storage at no cost, with

additional storage plans for 1 GB, 5 GB, 10 GB, or 25 GB available for a fee. Because Zotero is available for free, without an institutional license, users need not be concerned about taking their Zotero library with them when they leave the institution. As 100 MB of storage can fill up quite quickly, especially for researchers who are heavy users of their reference manager, anyone with a library that exceeds 100 MB will find that Zotero isn't really free.

Summary

Zotero is a convenient and intuitive reference management program that lives in your web browser. It has connectors for many websites, databases, and library catalogues, making it easy to save references with a single click. This process works the vast majority of the time, and when it does, it is an excellent example of how a reference management program should work. Like many reference management tools, Zotero has features that allow researchers to easily organize their references, format citations and bibliographies, and share references with collaborators. Zotero offers a low cost (or no cost) solution for students and researchers and would be especially valuable for researchers who are new to reference management tools.

References

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