Xref ™

Cross-reference and Bibliography Processor

version 1.2

Description

The Xref Bibliography Processor™ is a tool to keep track of cross-references within a large document. If used with a word processor with mail merge capability (e.g. Microsoft Word), then the document can be automatically updated and numbered correctly. Also, a complete formatted bibliography section will be created.

Version 1.0 is meant to be used with Microsoft Word (or any other word processor that supports merging). I am assuming that you are familiar with the merging process. If not, please consult the manual of your word processor.

Basically, cross-references are marked in the following manner:

Figures	«fig#…»
Tables	«tbl#…»
Equations	«eqn#…»

Any other item within the double angle brackets are considered to be bibliography cross-references. The pound sign "#" is the chapter number that the reference appears in. The ellipses "…" represent anything else and must start with an alphabetic, non-numeric character (else it will be interpreted as part of the chapter number). For example, the following are legal references:

1. «fig5StreetSign» - a figure in Chapter 5
2. «eqn12root» - an equation in Chapter 12
3. «einstein15a» - a bibliography reference
4. «tbl2money85» - a table in Chapter 2

A bibliography reference cannot start with "fig", "tbl", or "eqn" as it will be interpreted as figures, tables, or equations.

The cross-references can appear in any style and the numbering will appear in that style. For example, a cross-reference can be in italics, superscript, surrounded by parenthesis, 9 point font, etc. The following is an example.

Figure «fig1mop» shows the methods used by Smith [«smith85a»].

That line will be replaced by

Figure 1.2 shows the methods used by Smith [4].

The numbering that will results from Xref™ will appear using the following convention. Bibliography references will be numbered in order of appearance, should be surrounded by square brackets. You put the square brackets in yourself. This will allows references to look like: [4, 5, 6, 8] rather then the usual [4], [5], [6], and [8]. When going over your document, you can then change [4, 5, 6, 8] into [4-6, 8] if you like. The other cross-references (i.e. table, figure, and equation) will be numbered as Chapter.number. That is, the 2nd figure in Chapter 5 will be numbered as 5.2.

The Database Function

Entry of bibliography information is done within the Xref™ stack. When you open Xref™, you will come to the Introduction card. There are 13 buttons on the left corresponding to the 13 types of bibliography references. Actually, there are 12 as InProceedings is the same as Conference. Just select a button and it will take you to the proper background. Fill in the card, or select New Card from the menu and then fill in that one. All of the information above the thick horizontal line is considered required. All information below is optional. There are already some cards filled out when you initially open Xref™ just as an example. Feel free to delete these entries (choose Delete Card) if you don't want them. An important note: Xref™ will not allow you to delete the last card of any entry type (background). At least 1 card of each background must remain (leave it blank if you want).

The buttons on the right side of each card should be somewhat familiar: a button to go to the Home stack, a button to sort the cards by key field, a button to scan through the cards, and a help button. The buttons on the bottom of the Introduction card are for processing a document and are explained later.

Note: there is another background card of what seems like a blank card. Please do not interfere, modify, fold, spindle, or mutilate this card. It is used during document processing and conforms to the correct data structure for generalized bibliographies. Please just **ignore** the card.

The model for the bibliography database was constructed from the BIBTEX system. There are several types that are explained below and are taken directly from the BIBTEX manual.

The following are the standard entry types, along with their required and optional fields. They are the ones adapted from the classification scheme of van Leunen similar to that used in the *Scribe* system. All standard bibliography styles use them. The meanings of the individual fields are explained in the next section. There is a HyperCard background for each of the types of references. Select the type you need and add a new card. Then fill in the information.

article	An article from a journal or magazine. Required fields: **author, title, journal, year**. Optional fields: **volume, number, pages, month, note**.
book	A book with an explicit publisher. Required fields: **author** or **editor, title, publisher, year**. Optional fields: **volume, series, address, edition, month, note**.

booklet	A work that is printed and bound, but without a named publisher or sponsoring institution. Required field: **title**. Optional fields: **author, howpublished, address, month, year, note**.
conference	The same as *inproceedings*, included for *Scribe* compatibility.
inbook	A part of a book, which may be a chapter and/or a range of pages. Required fields: **author** or **editor, title, chapter** and/or **pages, publisher, year**. Optional fields: **volume, series, address, edition, month, note**.
incollection	A part of a book having its own title. Required fields: **author, title, booktitle, publisher, year**. Optional fields: **editor, chapter, pages, address, month, note**.
inproceedings	An article in a conference proceedings. Required fields: **author, title, booktitle, year**. Optional fields: **editor, pages, organization, publisher, address, month, note**.
manual	Technical documentation. Required field: **title**. Optional fields: **author, organization, address, edition, month, year, note**.
misc	Use this type when nothing else fits. Required fields: none. Optional fields: **author, title, howpublished, month, year, note**.
proceedings	The proceedings of a conference. Required fields: **title, year**. Optional fields: **editor, publisher, organization, address, month, note**.
techreport	A report published by a school or other institution, usually numbered within a series. Required fields: **author, title, institution, year**. Optional fields: **type, number, address, month, note**.
thesis	A Ph.D. (or masters) thesis. Required fields: **author, title, school, year**. Optional fields: **address, month, note**.
unpublished	A document having an author and title, but not formally published. Required fields: **author, title, note**. Optional fields: **month, year**.

Make sure that all references that you intend to cite are included in the database and completed. This is important. Xref™ will halt in the middle of processing and notify you that an entry cannot be found. You must then enter (or correct) the bibliography entry, reset the fields, and start over. I hope to have better error handling in a future version.

How to process the document

In this version, you must first save the document as a text file. This makes the utility more universal as all word processors can save a copy of the file as **plain** text (please see the manual for your word processor if you don't know how to do this). It will still be the **formatted** file that gets updated using the merge utility of the word processor. The plain text file is only used for input and the merge utility will create a formatted bibliography section and update the formatted document. If the document is in several separate files, please append them together into one TEXT file.

Pressing the "Process Source File…" button will prompt the user for a TEXT file. This file must be a TEXT version of the document to be processed. Xref™ will then go into a fairly **long** process of pulling out all references and sorting them according to whether they are for figures, tables, equation, or just bibliography citations. Two files will be created from this process: a merge file to update and number the citations and also a file to be used in the second step of Xref™ processing. The first file is given the same name as the input TEXT file with the letters ".merge1" appended. Thus, if you TEXT file is called, "my thesis" then the output file will be called "my thesis.merge1". You can then immediately use this with the merge utility to update the original formatted document and form a new one with all citations properly numbered. In Microsoft Word, you do this by choosing prepending the line

«INCLUDE my thesis.merge1»

to the formatted document. Then select Print Merge… from the File menu. You will then be given an opportunity to create a new document. Do this. Your original formatted document can still be used as a starting place should you ever make changes to it. All you need to do now is to format a bibliography and append it to the new formatted document. Note that this new document will have extra carraige returns inserted before the actual start of the document. This is caused by the merge commands that are included in the INCLUDE line. These can just be selected and deleted.

The last process created 2 files. The second file that was not yet mentioned is given the name of the TEXT file with the letters ".biblio" appended. This is to be used as input to the second phase of Xref™ processing. Now select the "Process .biblio File" from the Introduction card of the Xref™ stack. You will be prompted for the name of the file. Select the .biblio file and sit back and wait a little more. What is happening now is that all of the bibliography information is being collected in that background that I told you about previously. It is creating a new card for each one sited. Don't worry about clean up as these cards will be deleted when done. This process only fails when it can't find a reference keyword that you cited. This can be done by mispelling the word in the Key Field or by just not having got around to entering the bibliography information for that reference. Correct the mistake and select the Reset Fields… button on the stack. Try again. As I said before, I will work on better error detection and recovery in future versions.

The Merging Process

Finally, the output of the last process will produce a file with a filename that you are prompted for. The default name is the name of the document followed by ".merge" - our example will use "my thesis.merge" for the filename. This is the file that will be used with the accompanying merge files to format the bibliography. Just open the BibSection file in Word and make sure that the name of the file in the DATA statement matches the one that you gave for this step. We will assume for this discussion that you just chose Xref.merge for your filename. Then the DATA statement will first mention the BibHeader file, followed by a comma, and then the name Xref.merge. Change the Xref.merge to the name of the output data file. Select Print Merge… from the File menu and select the button to create a new document. This will be your formatted bibliography section. Note that the file BibSection uses a Microsoft Word style that I call bibliography. Please change it to suite your needs if you like. The other files BibHeader and BibFormat need not be fiddled with (unless you're a glutton for punishment). Actually, by altering the BibFormat file, you can modify the format of each type of reference to suit your needs. Therefore, you can have a BibFormat file that conforms to many different styles (e.g. IEEE, ACM, etc.).

Closing

There are many improvements that can be made to Xref™. I orignally just created this stack for myself, but I received many requests for it recently. I hope that this documentation (however poor) can get you through the process. This stack is certainly not robust and I have not thought out every way to prevent a user from doing bad things. Please be careful and use common sense.

Xref can be a useful tool for papers, long or short. It does not make up for the complete lack of cross-referencing or citation utility in Microsoft Word. I wish this were not the case. Xref is useful in creating a new document with all your cross-references renumbered and will format a bibliography for you. You must still do some final work to the document to clean it up. This includes actually appending the bibliography section to your document, getting rid of the spurious returns at the begining, and making sure that all else is fine. Please don't expect more than this. Maybe future versions of Xref will, but I wish this capability were provided by the word processor itself. Maybe someday…

Feel free to pass on Xref™ to your friends. Xref™ may be distributed freely. Xref™ may not be distributed as part of any commercial exchange without my permission. The stack is completely unlocked and you can look through the scripts. I did not comment them as well as I could, but HyperTalk is very readable.

If you have any questions, ideas, suggestions, or just wanna' remark on Xref™, you can write me at one of the following

USENET: …!sdcrdcf!oberon!brand!barad
ARPA: barad@brand.usc.edu
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Changes from version 1.0 to 1.1
• some cosmetic changes
• fixes some problems in Reset Fields… button on Introduction card

Changes from version 1.1 to 1.2
• fixed importing of "almost" identically named keys