Bibliographic Project's Developer Page

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Project Overview

The role of the Bibliographic Project is to support the OpenOffice.org Writer (wordprocessing) application by building the ability to -

- store, add, edit and search bibliographic reference information,
- provide the means of citing bibliographic references;
- generate bibliographic tables, using the commonly utilised style standards.

OpenOffice currently provides a simple Dbase database to stores bibliographic records, also Writer documents also store bibliographic data within the save file. Unfortunately OpenOffice does not provide bibliographic import or export filters, and these are urgently required to improve the usability of the bibliographic facility. (Although there is an experimental 'Document to BibTeX' export filter, an import filter is still required.)

We are also planning a major redesign of the bibliographic facilities, utilising the latest standards and technologies. A skilled application designer is urgently needed for this task. As an example of the type of facilities we would like to provide the academic wordprocessing application Nota Bena is a good example. For an overview of the Bibliographic project's major components and a context diagram see components.html. A start has been made to the Specification for this work (see the Projects Specifications folder on the Documents and Files page). Also see a attempt at an analysis of Bibliographic components and their relationships.

The best place to start for finding out about development in OpenOffice is the OpenOffice.org For Developers Page. An important resource is the Developer's guide which is part of the SDK (software development kit) or available online on at
http://api.openoffice.org/DevelopersGuide/DevelopersGuide.html

The OO API is based on UNO (Universal Network Objects) and we currently provide several language bindings for UNO which allows to use the API from Java, C++, OpenOffice Basic, Python and OLE. Perl is partially done. Other languages are possible for the future but not supported yet.

There is an overview of the OpenOffice Bibliographic components. There is Information about the current OpenOffice Bibliographic implementation.

Developer Projects

Below is a list of projects which could be implemented by developers from the community. Most of these projects are relatively self-contained, and do not require too much knowledge about OOo's code infrastructure.

Note that this list doesn't claim to be a complete repository of what will be done in the near/medium future. There may be items on the list which will never be realized, and there definitely are items which are not on the list, but will be implemented.

If you are interested in anything from the list, please speak at dev@bibliographic.openoffice.org. We'll gladly help you to get started on this.

There are two types of projects described here - short term palliative projects, to provide immediate benefits - the longer term projects which envisage a major redesign and building of the bibliographic facilities. Theses include replacing the simple BibTeX style datamodel the adoption of MODS, 'Metadata Object Description Schema' as the basis of the internal bibliographic representation and storage. Building a MODS compliant Bibliographic database. Providing for connectivity with other bibliographic databases. Also greatly improving the GUI interface for the bibliographic functions.

These use of the MODS model, MODS compliant database and XML and XSLT stylesheets to perform the required bibliographic style formatting are all cutting edge technologies, with all the excitement and problems associated with the early adoption of such technology. We will truly be on the 'bleeding edge'.

Here is as list of possible projects. Thoses with links have more detail below. **Also see the functional requirements and specification documents on the Bibliographic Project's Documents page for more details.**

Short term Projects

(to get some rapid improvement whilst we work on the Longer Term Redevelopment Projects)

- BibTeX Export filter - An experimental import filter has been built.
- RIS, Medline and Endnote Import / Export filters
- A macro to copy the bibliographic records from a document to the bibliographic database.
- Create Document templates with standard bibliographic table styles defined.
- Improve the OpenOffice Help documentation, write FAQ, Write Hints and TIPS etc.
- Adapt the application JBibtexmanager to work directly with OpenOffice bibliographic data (see details at bottom of this page)
- Write a OpenOffice Basic script to provide interworking with the Biblioscape Bibliographic Application.
- Write a OpenOffice Basic script to reformat the bibliographic citation reference strings (short name) in the database to different formats eg (Wilson 2003), Wilson (2003), (dnwilson, 2003) etc. to be based on style manual(s) advice.

Bibliographic Facility Redevelopment Project (only a few details so far)

(A fundamental redesign and rebuild of the Bibliographic facilities.)

- Build a internet reference search facility using the Z39.50 protocol. (A test version of PyOOBib is available but more work is need to get it to production status. Also instructions are available.)
- Designing a MODS compliant bibliographic database
- Designing a MODS compliant internal XML data representation of the bibliographic data.

- Designing the new bibliographic GUI interface Panels -
  - ○ Maintain Bibliographic Database - New, Select, Copy, Merge, Modify, Backup/Restore, Import / Export.
  - ○ Add, edit, search, sort, filter Bibliographic Database entries.
  - ○ Internet Z39.50 database / catalog search. Select records for copy to database.
  - ○ Add Citation reference into Writer Document.
  - ○ Edit Citation reference in Writer Document.
  - ○ Document Styles, define, select, modify, import, export.
  - ○ Bibliographic Tables, generate, define, modify.
- Working out the best way apply XSLT stylesheets to the MODS compliant data, for bibliographic formatting.
- Working out how to build a user interface to customise the XSLT stylesheets. (The Bookcase project is an example)
- Produce new Help documentation, 'Hints and Tops', FAQs etc.
- ... plus much more to be worked out.

Import / Export of bibliographic data

The Bibliographic project urgently needs import and export filters for the bibliographic data. The those required are, (in priority order) BibTeX, RIS, Medline and Endnote.

Bibtex Import filter

This filter reads standard BibTeX .bib files and stores the data in the bibliographic database.

Daniel Carrera has built an experimental Import filter. It still needs to integrated into the Openoffice menus, and further enhancements could be made. See
http://www.math.umd.edu/~dcarrera/openoffice/misc/bibtex/filter.html

Bibtex Export filter

We still need a bibliographic database export filter.

Henrik Just has developed a writer2Latex filter which can also export the bibliographic data in BibTeX format. http://www.hj-gym.dk/~hj/writer2latex/ Using this as an example should make it easier for a developer to produce a BibTeX export filter from the Bibliographic database. There is also a a sample program on the python language bridge that reads the bibliographic database and outputs in text it can be found at http://udk.openoffice.org/python/python-bridge.html. Also there is utility bib2xml, using this utility might be easier to work with XML than the bibtex format for importing.

RIS, Medline and Endnote Import / Export filters Using Chris Putnam's bibutils package

Using Chris Putnam's bibutils package at http://www.scripps.edu/~cdputnam/software/bibutils.html it should not be difficult to build BibTeX, RIS, Medline and Endnote import and export filters. Chris uses a 'XML like' intermediate file format. The developer would only need to build an OpenOffice database to / from this intermediate format - and bibutils will do the rest.

Import / Export filters to / from the Bibliographic database			
required skills	**recommended skills**	**estimated effort**	**difficulty**
• C++ or Java or python • UNO	• familiarity with the high-level database access UNO-API (SDB) • familiarity with either the StarBasic Dialog-API (for a Java solution), or with VCL, OOo's visual toolkit.	3 weeks	medium

A macro to copy the bibliographic records from a document to the bibliographic database.

Currently there is no facility to copy the bibliographic records inserted into a document to the bibliographic database. This requirement could be satisfied with a simple macro that performs this function. When the BibTeX import filter filter is built, this function could be achieved by exporting the bibliographic records from the document using Henrik's BibTeX export filter and importing the data with the new BibTeX filter mentioned above.

Enhancements could include -

- handling duplicate records.

- Building A GUI interface to allow record display and selection.

- Adding datasource selection to allow bibliographic data transfer between different bibliographic databases connected to OpenOffice.

A macro to copy the bibliographic records from a document to the bibliographic database.			
required skills	**recommended skills**	**estimated effort**	**difficulty**
• C++ or Java or python • UNO	• familiarity with the high-level database access UNO-API (SDB) • familiarity with either the StarBasic Dialog-API (for a Java solution), or with VCL, OOo's visual toolkit.	3 weeks	simple to medium

Write a OpenOffice Basic script to provide interworking with the Biblioscape Application.

The Biblioscape Bibliographic application interacts with MS Word in a similar manner as Endnote. There is a commercial version of the product and a basic free version of the Application. (description). Biblioscape interacts with MS Word using a Visual Basic program that utilises the DDE interface. Biblioscape has published this script at http://www.biblioscape.com/integr_word.htm . To enable OpenOffice to interact in the same way, requires the conversion of this script to OpenOffice basic. The Author of the script has offered to mentor any developer who would like to attempt this project, but note that his skills are more in MS Visual Basic than OpenOffice Basic, contact Andrew Brown <alloneword@dial.pipex.com>. Note that this 'solution' will only be of use for MS Windows users (unless Biblioscape and DDE work on Linux under WINE (my tests would indicate it does not -DNW)).

Write a OpenOffice Basic script to provide interworking with the Biblioscape Application			
required skills	**recommended skills**	**estimated effort**	**difficulty**
● OpenOffice Basic and an understanding of MS Visual Basic		1 weeks	simple to medium

Build a internet reference search facility based on PyOObib

This project has started and a version of PyOObib is available for testing. This working example was writen in Python, but for various reasons would be improved by being developed in C++ or Java. It needs also improvement in design and query handling. If you would like to work on this project please contact Rob Sanderson, the developer of PyOObib, he would be please to assist you in understanding his model, however he does not have OOo internals experience.

Build a internet reference search facility based on the PyOObib model			
required skills	**recommended skills**	**estimated effort**	**difficulty**
C++ or Java - UNO	- familiarity with the high-level database access UNO-API (SDB) - familiarity with either the StarBasic Dialog-API (for a Java solution), or with VCL, OOo's visual toolkit.	6-12 weeks	medium complex

Sample code

- Sample python code that reads and outputs some of the fields of the records in the bibliographic database. biblioacess.py
- Sample OpenOffice Basic program to write records to the bibliographic database bibwrite.html
- Henrik Just's LaTeX and BibTeX export filter http://www.hj-gym.dk/~hj/writer2latex/
- Applications which interact with Openoffice- Bibus (WxPython) and B3 (Java).
- A Perl module OpenOffice::OODoc provides a simple way to acess document elements in the (closed i.e. not interactive with OOo) document save file. An example which retrieves bibliographic details is provided.

A Java Bibligraphic Manager example

JBibtexManager (JBM) is a Java Graphical User Interface (GUI) for managing citations in BibTex format. It Requires Java 1.4. Features - add new entry via a gui or paste (or type in) a bibtex formated string; - sort entries based on year, journal, key, type (by clicking on the column heading); - print displayed table; - search for text in authors or title column; - keyboard shortcuts for all the entries in the menu; - emacs type keyboard shortcuts for editing entries. It has import for INSPEC, ISI, Medline XML, OVID, RIS, SciFinder, and export as HTML, and plain text..
http://csb.stanford.edu/nbatada/JBibtexManager/

General Bibliographic Data Information

A comprehensive study of bibliographic data requirements is 'Functional Requirements for Bibliographic Records' by the International Federation of Library Associations and Institutions in PDF format. And a related report 'FRBR and Fundamental Cataloguing Rules'.

Bibliographic Software

Bibliographic software and standards - list and descriptions