

Cellule de Coordination Documentaire Nationale pour les Mathématiques

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Combined Mathematical Journals Catalogue and journal Table of content server

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I. Combined Mathematical Journals Catalogue (CFPM)

1) Aims and Purpose of CFPM

The aim of this document is to explain the history, the technical working and the future perspectives for the "catalogue fusionné de périodiques de mathématiques" (combined mathematical journals catalogue.)

Started in 1997, with "home made" programs, the application allows the user, in one query, to get, for a given journal, its bibliographical data, library holdings, and links to different services concerning it (table of contents servers, such as [sSs](#), [article@inist](#)) or directly to the contents on the editors site. It is very much appreciated by users and offers important service to the community.

2) Technical working

The CFPM is not a distributed application, like EULER or the present version of MOPAC. It is built in a centralised fashion on MathDoc Cell server out of files (exported copies or extracts of catalogues) sent every now and then by the participating libraries.

- MathDoc Cell made a journal database, by downloading, in agreement with the [ISSN centre](#), the bibliographical records concerning the journals contained in the mathematical libraries catalogues. New records are downloaded from the ISSN database every now and then (if necessary every time a library sends an update of its catalogue).
- Every library sends a file (or an URL to download) to MathDoc cell made up of an exported copy of their own catalogue. MathDoc does not impose any particular file format, provided the data be structured in some way. The only mandatory fields used are:
 - Title, ISSN, holdings information (the ISSN number is necessary for automatic processing)
 - If the catalogue has a specific "missing numbers" field, this is also useful.
- The files are read by a programme and data is put into a homogenous form for processing.
- The database can be queried via the web, by a cgi programme.

As the application was getting more and more complicated, we decided, in June 1999, to re-

conceive the database, using a proper relational database (MySQL) comprising different tables: (journals, libraries, holdings, URLs, etc.).

[Here is the database scheme](#)

The aim of this change is to facilitate updating, to simplify the application, and to enable integration of journals which are not in the ISSN database (old or rare journals, or on the contrary, new or purely electronic ones).

For the libraries, nothing changes. They must still give a copy of their holdings information to MathDoc Cell.

3) Problems and Solutions : problems - explanation

The following problems can sometimes appear when querying the CFPM database:

- **The journal is not in the database:**
 - *Sometimes, a journal is not yet in the database because its record has not yet been downloaded from ISSN.*
 - *Sometimes, a journal exists, and has a ISSN number, but it is not yet recorded in the ISSN database.*
- **A Journal is in the database, but a library which does have the journal does not show up.**
 - *The holdings information is loaded into the database via a programme, which reads the file the library transmitted to MathDoc, if the file contains an error (for instance the ISSN number is badly input), the holdings information for that journal will not be updated.*

The first problem's solution depends on MathDoc, New records can be easily down/uploaded to the database, even manually if necessary. The last problem is still incumbent to the libraries: they must check they transfer correct data.

4) New possibilities of the latest version of CFPM

Inclusion of journals with no ISSN number

The old version of CFPM used ISSN numbers as unique keys. CFPM has its own key, and therefore journals from different sources can be added.

In the case of an old journal, the corresponding record is down/uploaded from the CCN/PS (myriade) database, and the CCN unique number is used as a way of identifying it instead of the ISSN number.

In the case of a new, or purely electronic, journal, a temporary record is added to the database, which is replaced when the ISSN record becomes available.

Personalised services for libraries:

Libraries can now get their data back enhanced with information extracted from the CFPM database, sometimes, they like to put this information on their own websites without having to do unnecessary data input, for instance they can get:

- All records from library X with all possible associated URLs.
- List of journals with URLS consultable free of charge by mathematical libraries
- More complete bibliographical records about their journals (all possible fields filled)
- Etc ...

Conclusion

The CFPM is a service much appreciated by mathematicians and librarians. The MySQL database structure, and all the associated programs (usually written in perl) have proved so well adapted to needs, that a similar model is currently being elaborated to deal with the books catalogs also. But we must stress the fact that the system works well thanks to regular updates from libraries, without which there would be less awareness of new journals, and also incorrect holdings information.

II. Journal Table of Contents server (sSs)

Aims and purpose of sSs

Linked to the CFPM via its web cgi program, MathDoc Cell's journal table of contents server

(sSs) is also a very useful service for mathematicians. Tables of contents of 895 journals are made available for browsing and searching. The data covered is from 1993 -> today. Mathematicians can also subscribe to an alert service and receive in their mailbox tables of contents of their favourite journals as they appear.

How it works

Data are downloaded every week by ftp from SWETS (Europériodiques), thanks to a consortium agreement. The data are rewritten by some perl programs, and indexed for searching. For each journal, dynamic links to its CFPM record, and URLs as recorded in the CFPM database are generated along with the display of the contents.

sSs in the future

To improve the service given by sSs, we plan to re-conceive the data model, and make the service more integrated with the CFPM database. We need to be able to exploit these data to their full possibilities (output the contents of a journal for a whole year for instance). Experience from both [NUMDAM](#) and CFPM projects will be useful for this work, which should start in late 2001.

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