



Computerisation in Government libraries

GLINT is increasingly concerned with computerisation in Irish Government libraries, reflecting the preoccupation of many librarians with this area at present. The following libraries have already computerised or are in the process of computerising their holdings:

Library	System
State Laboratory Dept of the Marine Dept of Education Geological Survey	} INMAGIC (See GLINT No. 3)
Meteorological Service	
Dept of Social Welfare	In-house In-house

The Committee of the Government Libraries Group feels that it is undesirable that the Government libraries should continue to develop systems independently of one another. To quote Lisa Shields in her article later in this issue:

'This is the age of co-operation and sharing of resources. Networking and cross-accessing of libraries are not well developed in Ireland.'

The Government libraries now have the opportunity to be in the forefront of such developments — to our great mutual benefit.

The Committee recently had a discussion with Eric Embleton of the Information Management Advisory Service (IMAS) of the Dept of Finance. Following this, the Committee is now looking for a library software package which would meet the needs of all including the largest library. To be suitable for the inter-departmental network it would have to be PC-based. If a suitable package or, if necessary, compatible packages could be found we would propose applying to the IT fund for funding.

We would obviously be anxious to hear all views, and would ask you to contact anyone on the Computerisation Subcommittee if you have any questions or comments.

Mary Doyle

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IN THIS ISSUE

Computerisation in the Met. Service Library	2-5
Recent article on Government libraries	5
Inmagic Users' Group	5
Librarians' crossword	6

European wild flowers 2. Cardoon: *Cynara horrida* (now *C. cardunculus*), from Sibthorp's *Flora Graeca*, 1806-40. This is one of a set of six delightful coloured postcards, all different, published by the University of Dublin / National Botanic Gardens Trust, and available at £1 a set at the National Botanic Gardens.

As well as a certain amount of glory, the lucky winner of Valerie Ingram's Librarians' crossword (see page 6) will receive two sets of these postcards as a prize.

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COMPUTERISATION IN THE IRISH METEOROLOGICAL SERVICE LIBRARY

An integrated system for cataloguing, retrieval and loans

By Lisa Shields, Librarian, Meteorological Service

In a previous article (*Glint* No. 2, May 1988) I outlined the background to our library computerisation project and explained why we opted for an in-house system rather than for a commercially produced package. In this issue I will give a brief description of our system as it is now. A fuller, more technical description of the system will appear in the forthcoming issue of *Aslib's* journal on library computerisation, *Program*.*

The Meteorological Service Library

The Meteorological Service Library is a relatively small specialised library: new books and reports come in at a rate of 600–700 a year, and about 100 current journals are received. However, its holdings are quite extensive. Over the course of 50 years it has built up a substantial specialised collection, largely by gift and exchange with meteorological services abroad. The Library exists primarily to serve the meteorological staff at the various stations and airports as well as at the Headquarters at Glasnevin (Dublin). Of some 300 staff, about 100 are active users of the Library.

Subject classification is by Universal Decimal Classification (UDC). UDC is used internationally in meteorological libraries, and has proved very convenient as a subject-retrieval tool in the automated system.

Computerisation

The programs for the computerised system have been written in Fortran 77 for use with a DEC 20–50 mainframe computer. The system comprises sets of programs for data-entry and correction, indexing, retrieval and display, sorting and loans, together with ancillary library programs.

The computerised catalogue and the library retrieval program BOOKS (Bibliographic On-line Optimised Keyword Search!) have been placed in a public directory, so that all staff who have access to a terminal linked to the mainframe at HQ can use it. They can conduct searches in their own fields of interest, and create retention files of material retrieved. This is particularly useful for staff on night duty, or who are stationed at a distance. Visitors from outside may use the terminal in the Library if they wish to conduct a search themselves.

The retrieval program BOOKS

BOOKS is straightforward, flexible and easy to use. Unskilled or inexperienced users can conduct complex searches without special training, and they need not know anything about the file structure of the library records. BOOKS allows searches on UDC numbers, general keywords and authors, which may be combined according to boolean logic — that is, by using the operators AND, OR, NOT to combine individual keywords in the retrieval command.

Retrieval

Keywords for retrieval may be UDC numbers (prefixed by U/), authors' names and initials (prefixed by A/) or general keywords from the remaining main fields of the bibliographic record (prefixed by K/).

At the start of the program users are asked if they wish to be informed if the items retrieved are at present on loan at HQ or outside HQ, and are given a reminder about how to put in requests.

The command options are then displayed on the screen as follows:

ENTER: K/WORD (If exact request entry is
A/AUTHOR wanted append "/E" e.g.
U/UDC No. K/WATER/E,
 A/LAMBHH/E

OTHER OPTIONS:

L - Look up dictionary of UDC subject terms
I - Information about search (Or else enter ? or HELP)
R - Retrieve and display single specified record on screen
C - to change option on loan information
EX - EXIT)

>>

Thus the experienced user can immediately put in a request by a combination of keywords, author or UDC number, using AND, OR, NOT, and brackets where needed for the sake of clarity.

The user who wants further instruction can get it by typing I, and the commoner UDC numbers in use can be obtained by typing L to gain temporary access to the dictionary program.

Commands may be entered in upper or lower case. Punctuation is optional and stray spaces are ignored. Any keyword entered will retrieve that word and any words beginning with it. Thus, you can browse through the authors beginning with B by entering A/B. To restrict the retrieval to the exact keyword entered, /E is appended to the keyword. K/CAT/E will retrieve CAT but not CATASTROPHE, CATALOGUE etc. The truncated entry is generally preferable, especially for authors, and is therefore regarded as the norm.

Display

The UDC number for 'climate' is 551.58. Suppose the following selection of terms is entered for retrieval:

[U/551.58 OR K/CLIMA] AND [FRENCH OR ENGLISH]

the user will be told how many records there are containing each of the terms entered, and will also be told the number of items which match the entire request. In this case there are 823 matches with UDC 551.58, 884 matches with the keyword CLIMA, 142 matches with keyword FRENCH and 3650 matches with keyword ENGLISH. After the boolean logic has been applied, the final match comes out at 897.

At this stage the user is asked how the retrieved items should be displayed, and if the items already displayed should be relisted.

The display menu appears thus:

Total number of records : 897

Number of records already listed : 0 Remainder: 897

(To relist records already listed end with /R (D/R, S/R, F/R etc.)

D - Display on screen

S - Short display on screen

T - Titles only displayed on screen

F - File, random (sortable)

FF - Formatted file

SF - Short version formatted file

N - Next search

EX - Exit =>=>

ENTER OPTION FOR DISPLAY >>>>>>

If there are a large number of records retrieved, or an immediate display on the screen is not wanted, the user can ask for a file to look at or print out later. The user can ignore the offered listing and type N to get the first menu back again.

Here is an example of a full-format display on screen or file, including information about copies out on loan:

UDC 681.3 : 519.68 (021)

MONRO, D.M.

Fortran 77

London, Edward Arnold, 1982

vii + 360 pp, 27 cm

ISBN 0-7131-2794-5

computers : computer programming

LANG:English, MED:Book, LOC:Shelf 681.3 Mon,
ACQ:8506 LIB. NO: 21392, 21686, 21687, 21688,
21689, 22773, 22774

*** 4 of 7 copies on loan at HQ ***

*** 2 of 7 copies on loan outside HQ ***

----- Record 1087 -----

Speed

Retrieval is very fast, and the number of records retrieved makes little difference to the speed. This is partly because the actual catalogue files are not accessed until the point of display. For retrieval purposes indexes of keywords, authors and UDC numbers are consulted. Because it is so easy to enter a search request, and retrieval is nearly instantaneous, it has not been found necessary to introduce facilities for storing searches, or for 'pre-search strategies'.

The computer catalogue

The card indexes have been discontinued, and each accession is now represented by a single bibliographic record in the on-line computer catalogue. A backup is kept in the form of two print-outs of the whole catalogue — one sorted by organisation, author, title and date, and the other sorted by title and date.

At present the catalogue contains about 4,300 entries. The following types of material are catalogued: books, reports, pamphlets and selected reprints, microfilms and other non-book materials such as sound films, slidesets, photographs, audio and video cassettes. Observational data or individual articles from journals or conference proceedings are not normally catalogued.

Data-entry and correction

A standard form is filled in for each new acquisition. There is space for information under 22 headings (UDC number, authority, authors/editors, title etc.), which are stored as separate fields in each computerised library record. This means that the records can be sorted on any of these fields, or on a combination of them.

The catalogue file is a direct (random) access ASCII file. The total length of each record is set at 600 characters, but the individual fields are of variable length (up to a maximum of 450).

Entry and correction are through the same program. The prompts on the screen have the same format as the cataloguing form; this facilitates data-entry straight from the book if preferred.

Sorting the catalogue

A member of our research staff (Dr James Hamilton, who also provided the boolean subroutines used in the retrieval program) has written a general sort program for direct-access files. This is capable of handling a library catalogue of unlimited size.

It can sort on up to four fields at once, with a string-matching option in full boolean logic combinations on any field. It can also be used to sort other direct-access files, such as those generated by the retrieval program during a search.

Compiling the indexes

Indexing is perhaps the most difficult and most important part of the retrieval system. In our system, up to the present, a fresh set of indexes has been compiled periodically by running the indexes on the whole catalogue.

As the programs require a fair amount of computer time and running time, they were run overnight as a batch job, and only run as often as seemed useful. They were run on a sorted version of the master file, so that records retrieved were displayed automatically in sorted order (by authority, author, title and date).

One disadvantage of this method was that items acquired since the indexes were last run were not retrieved. Because of this, the data-entry program has been expanded to emend the existing indexes each time a record is added or emended.

This improvement has been tested, and is now being implemented. Now it will no longer be necessary to run the indexes from scratch (though the opportunity of doing so will be retained as a safety precaution).

Although the new indexing programs will run on the (unsorted) master catalogue, it has been found possible to display retrieved records in sorted order by the use of a concordance file. An advantage of the change is that only one version of the catalogue need be held, freeing a large amount of disk space.

All words in the fields indexed are regarded as keywords (apart from prepositions, articles etc.). The indexes consist of lists of unique keywords, with associated pointers giving the addresses in a much longer list of locations. At present the indexes take up about one fifth of the disk space occupied by the library catalogue itself.

The loans program

The loans program asks only for the user number of the borrower, the library number of the book or report (which is the unique accession number stamped on each item), and whether a loan or return is in question. A remark may be also added.

From this information the complete loan record is built up by the program, containing eight fields: status and type of loan; date and time of transaction; user's number; record number of book in catalogue; library number of book; name of user; title of book as given in catalogue; remarks added at time of entry.

Loan records are prefixed by a plus sign. When the item is returned the program converts the loan record to a return record by changing the plus sign to minus and automatically replacing the date and time of loan with the date and time of return.

The loan records have been integrated with the main retrieval system. When an item is retrieved, information about loans is given briefly in this form at time of display:

*** 4 of 7 copies on loan at HQ ***

*** 2 of 7 copies on loan outside HQ ***

Thus the user has the useful information that of seven copies one should be available for consultation in the library.

The loan file can be listed and sorted using a special program, and print-outs are kept in the library, sorted by title, with another set sorted by user and title. Users can be given a list of books held by them either in the title-only version, or in an expanded version with full bibliographic details. Lists of recent transactions can also be printed (to update the last full print-out).

There has been no provision made for automatic recall of loans, as in practice there is no fixed term for loans (recall being left to the discretion of the librarian).

Other applications and future developments

So far no attempt has been made to computerise those library activities adequately dealt with by existing manual systems (for example the ordering of and paying for books and periodicals, or the checking-in of newly received issues of journals. But one advantage of an in-house system is that associated programs can be written whenever the need arises.

An updated file is kept on all journal holdings, containing information on binding status, missing issues and location as well as bibliographic information. This is used as a basis for contributing to the

centralised union list of Irish periodicals (SHIRL). It contains information on runs of 200 current and non-current journals.

The data-entry program has been adapted so that each time an ISBN is entered it is also written to an ISBN file. This is read periodically into a specially formatted file and given to the Library Council in IBM format on tape to be added to the ISBN data bank.

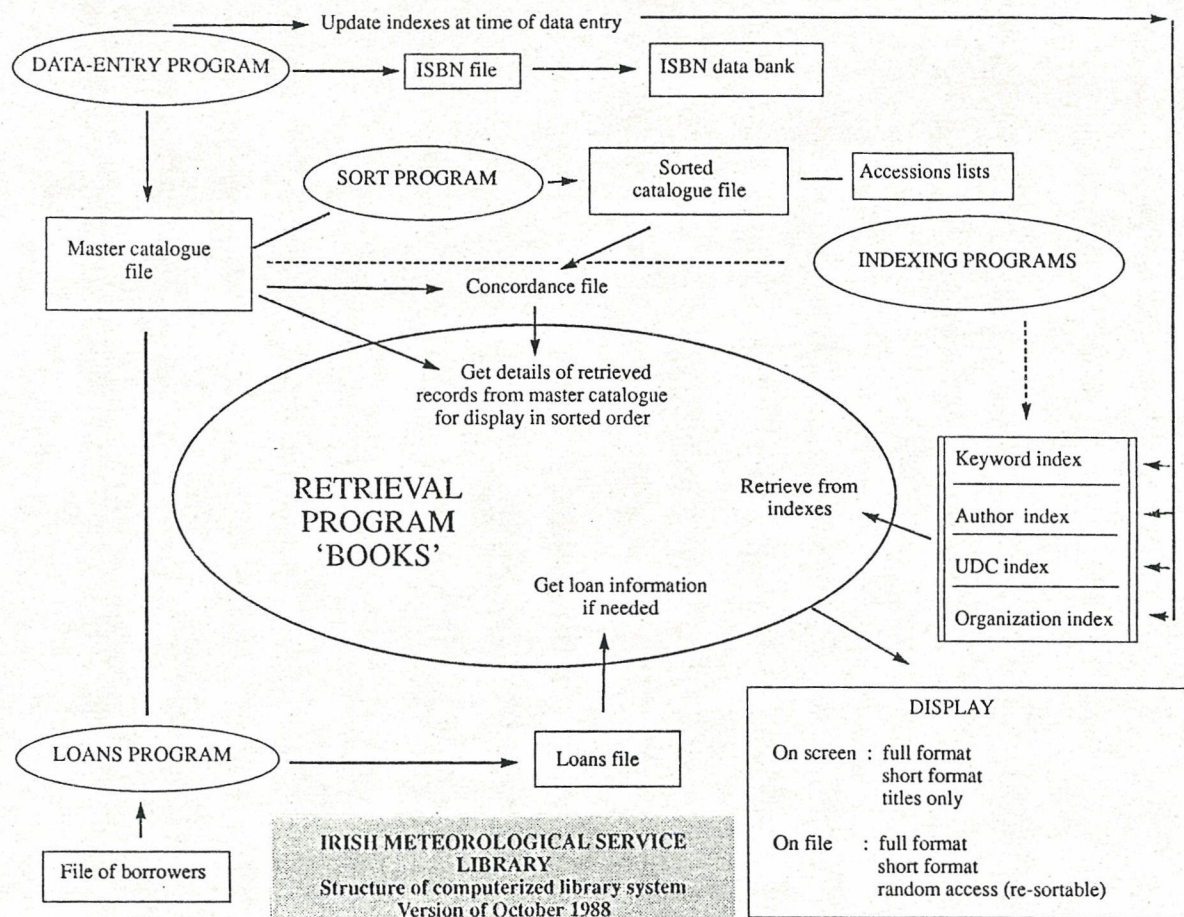
Periodic accessions lists are produced easily, by sorting the recent portion of the master file by accession date, re-sorting the relevant section and printing the final file on a good-quality printer for duplication and distribution. Interim accessions lists are printed on the line printer for limited distribution internally.

The programs described here have evolved over several years, and are now very satisfactory. They

should be able to cope with the library catalogue without significant change until it is about double its present size. However, the programs may have to be partially rewritten if there is a change from the DEC 20-50 to a new computer. This should not present a great problem as they are written entirely in FORTRAN.

This is the age of co-operation and sharing of resources. Networking and cross-accessing of libraries are not yet well developed in Ireland: it will be interesting to see how well we could fit into such a scheme when the opportunity arises.

*Lisa Shields, 'An in-house system for cataloguing, retrieval and loans in the Irish Meteorological Service Library', in *Program: automated library and information systems*, October 1988. I will be glad to supply reprints of this on request.



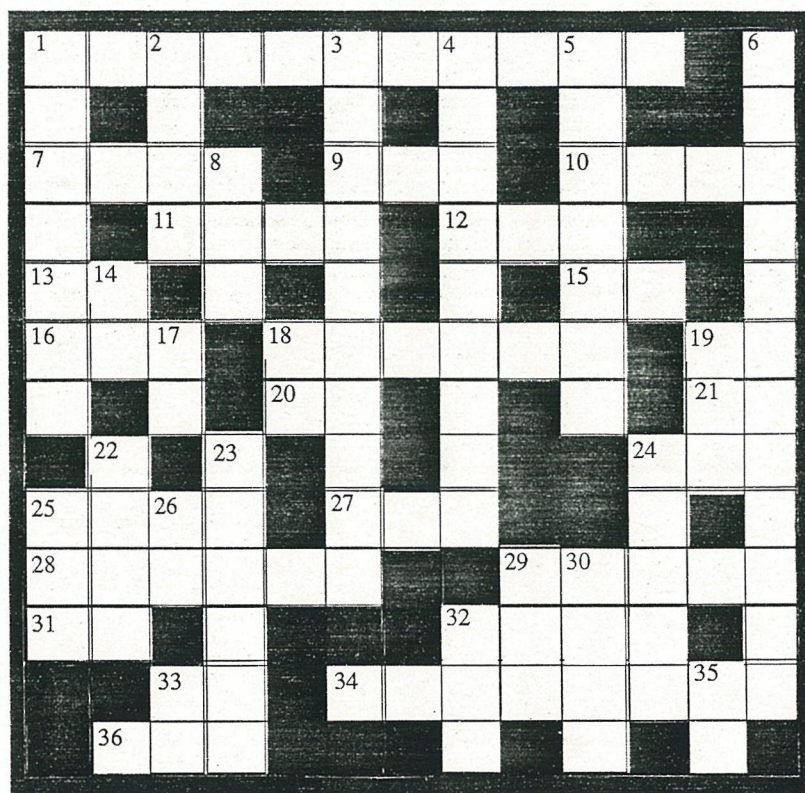
INMAGIC Users' Group

A meeting (for members only) will be held on 28 November 1988 at the Dept of Education at 8 p.m.

Subject: Housekeeping and journal circulation applications of INMAGIC

Recent article on our Government libraries

Readers should make sure not to miss the recent article on our Government libraries by Oliver Marshall and Mary Doyle, which appeared in the June 1988 issue of *Seirbhís Phoiblí* (Vol. 9 No. 2, pp 41-45).



LIBRARIANS' CROSSWORD

Compiled by Valerie Ingram

DOWN

- 1 Parcel for a modern library. (7)
2. Type of book you might wish to have. (4)
3. The meaning is in it. (10)
4. An essential tool. (9)
5. Where we spend our days. (7)
6. Listing of books on a particular subject. (12)
8. Short loan period. (3)
- 14 Abbreviation for the library for all the citizens. (2)
17. What we all like to do after a hard day's work. (2)
18. Use an agent or go direct to the publishing --. (2)
19. When you want an answer, it may be wise to send one of these. (3)
22. Some libraries have one for special purchases. (4)
23. A bad way to get money, a good way to get books. (6)
24. Librarians do not want users to do this with books. (5)
25. An organisation which has influenced all Government Departments. (3)
26. With regard to. (2)
29. On a VDU you can --- your work as you go along. (3)
30. Librarians receiving requests often wish their users had better ---- writing. (4)
32. Automated? Eight of them make a byte. (3)
33. Another grade found in some Government libraries. (2)
34. Don't file under this foreign masculine article! (2)

ACROSS

1. They keep coming. (11)
7. Can tell if the book is in stock. (4)
9. Unwelcome in the budget. (3)
10. Necessary in the microfiche reader. (4)
11. Ranganathan, the librarian, came from the ----. (4)
12. Often dust-laden in libraries. (3)
13. Don't file under this article! (2)
15. You can hear and see it. (2)
16. Our logo. (3)
18. Something to choose when binding. (6)
19. Provides publications faster than its name would suggest. (2)
20. Catalogues can be --line. (2)
21. Abbreviated legal Office. (2)
24. Librarianship is often mistakenly considered to be only '---' domain. (3)
25. A common prefix on publications since 1973. (4)
27. The thief will --- the day he stole that book. (3)
28. A powerful Department. (6)
29. The library guillotine is clever. (5)
31. -- ROM. (2)
32. Loss of staff can be hard to ----. (4)
33. Grade in some Government libraries. (2)
34. Quality of members of the Group and some data bases. (8)
36. Acts. (3)

The sender of the first correct solution opened will receive two packets of the botanical postcards described on page one. Send in your entries right away to Valerie Ingram, The Library, Dept of Agriculture and Food, Kildare Street, Dublin 2.