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HARWELL

The Design, Development and Introduction of the Harwell Library Online Ordering and Cataloguing System – LIBCAT

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December 1983

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1. Abstract

The paper describes the transfer from a manual ordering system and an associated card catalogue produced by a Farrington tape typewriter to an online, STATUS based ordering and cataloguing system LIBCAT. The LIBCAT database is held on the Harwell IBM mainframe and hence is accessible to any mainframe user. Reasons for the change and choice of equipment; the design, structure, housekeeping and data input systems for LIBCAT and benefits from the system culminating in the release of LIBCAT for public access are described. The paper concludes with an appendix comprising examples of LIBCAT guides, data input panels and database articles.

2. Background

The Harwell Library catalogue covers books, pamphlets, theses and conference proceedings. It dates from 1946 and contains records for about 145,000 documents held both in the Main Library and in Divisional Libraries on the Harwell site. These documents are catalogued using a modified version of the Anglo-American Cataloguing Rules and subject classified by the Universal Decimal Classification (UDC) from which the shelf position is derived. The Library orders more than 3,000 documents a year from a number of suppliers, the largest of which is B.H. Blackwell, from whom about 50% of material is ordered.

3. Manual ordering and card catalogue system

(a) Manual orders system.

A manual orders system in the Catalogue Room had been in operation since 1946. From a publication order form signed by an authorised person a five part form order was typed: Two parts were sent to the supplier, two parts were filed by order number (one of these would be used as a hastener) and the fifth was filed by author. All hastening was done from the orders file, any hastener subsequent to the first one had to be written by hand. On receipt of an item, the order was crossed out in the order number file and the slip removed from the author file crossed through, date stamped and refiled in an items received but not yet in catalogue file.

(b) Card catalogue system

Between 1946 and 1961, cards for the catalogue were produced by typing individual cards and then by a dry mounting process. From 1961 onwards, partial automation was achieved using a Friden Flexowriter, which was succeeded by a Farrington tape typewriter. Essentially, there are two main sequences of cards; one by name (author, editor, etc.) and one by subject (UDC). However, it is important to note that one document may have as many as 11 cards in the catalogue filed under personal and corporate authors, conference title, place of conference, and various UDC numbers. On average, each record is filed under four different headings. Although the

card catalogue contains records for 145,000 documents, it is estimated that it contains more than 600,000 catalogue cards.

4. Reasons for changing the system

The main spur towards looking at a new cataloguing system was the unreliability of the Farrington machine which was used to produce the sets of catalogue cards. By 1981, it was obsolescent, breaking down with increasing frequency, being maintained by a lone agent, based some distance away, and operable by the one operator capable and willing to operate it. A more reliable system was needed on which to base the Harwell Library catalogue.

Rather than simply continuing to produce catalogue cards by a different method, the cataloguing system was reviewed. In this survey, certain defects of the existing cataloguing system were highlighted: the inability to search for a book by title, natural language subject or ISBN; the physical size and space needed for the catalogue which was growing at the rate of nine feet of cards per year; the difficulty of searching for corporate authors, with their numerous subdivisions, due to the number of cards filed at that filing point. The only subject approach was via the UDC which, with its obscure filing rules, is not user friendly; most Library users avoided it. There was no direct access to the catalogue from outside the Library building. From the staff's point of view, an increasing amount of time was occupied in the tedious tasks of underlining filing elements on cards and then filing them in ever lengthening

sequences; UDC filing was particularly time consuming and all filing was necessarily checked by professional staff. The clerical effort was not available to amend all catalogue cards relating to a document if, say, an additional copy was acquired. The main author entry only was amended which could mislead a user consulting an added entry card where the holdings had not been updated.

However, the card catalogue was updated within a week of a document being received; it was always accessible to readers when the Library was open - that included outside working hours. It could easily be searched by several users simultaneously and most importantly was in a form which is familiar to users and which encouraged browsing.

Any replacement system had to be able to perform at least as efficiently as the existing system and preferably should overcome all of its deficiencies without introducing any others. It had to be reliable and available immediately to users both in, and outside, the Library and answer enquiries at least as quickly as the card catalogue. Additional access points to the record should be available in terms of at least title words, natural language subjects and ISBNs. The system had to be easy to use from entering data through housekeeping and updating, to retrieval of material in response to an enquiry.

5. Reasons for choosing an online, STATUS based catalogue on the Harwell mainframe computer.

Essentially, there was a choice of four different media for the catalogue:-

- (a) A card catalogue with a new input system.
- (b) A hard copy computer printed catalogue.
- (c) A microfiche catalogue.
- (d) An online catalogue based on a computer package available at Harwell.

A card catalogue was rejected for the reasons given above; the computer printed and microfiche catalogues posed problems in the production of updates in addition to accessibility by additional terms and ease of use. The best alternative was an online catalogue based on a free text (FTX) retrieval system; with an FTX system all document records would be indexed by the system automatically which would eliminate card filing. Because of staff experience with an FTX system in the STATUS databases RECAP, a database of Authority Publications by UKAEA authors, and HAL, (Reference 1) a database of AERE loan records, it was decided that STATUS would be used as the FTX package. This package was available free to the Library. It was known to be capable of providing all the functions needed for a library catalogue, its reliability had steadily improved and it was

user friendly. It also had the capability of supporting multiple users and its security features allowed only selected users to change data, while the contents of particular chapters, or specific sections of catalogue records could be protected from the public user.

The final decision which then had to be made was whether to hold the catalogue on the Harwell mainframe computer, or an existing VAX computer in the computing division or to have a dedicated mini-computer in the Library. Holding the catalogue on the mainframe had the great advantage that any mainframe user would be able to have access to it, and, to a large extent, data would automatically be backed up. There was also an information and help service from the Computer Science & Systems Division (CSSD).

Because of the advantages highlighted above, and the fact that CSSD was becoming increasingly geared to giving and developing a service to its users, it was decided to hold the catalogue on the Harwell mainframe.

At the time the project was implemented, the Harwell computer was an IBM 3033, a large computer with a 12 megabyte memory. This was upgraded to an IBM 3081K, with a 32 megabyte memory in November 1982. It is accessed in foreground via terminals using TSO, the Time Sharing Option, or in background running jobs in batch. It was visualised that input data would be prepared in foreground, while batch jobs would be run to update the database overnight.

6. Implementation and Management of the project. Timescale.

The recommendations were set out in a written proposal (Reference 2) in October 1981, and with the approval of the Head of Scientific Administration Division and generally favourable comment from the STATUS team of CSSD, the Information Office and John Ashford Associates, implementation of the system was begun. One Scientific Officer (SO) was allocated to the project full-time while being based in the Cataloguing Section.

Progress was to be monitored by approximately monthly meetings attended by professional staff from the Catalogue Room, Reading Room and Report Room and usually by a representative from the STATUS team. It was decided that wiring and suitable computer equipment would be selected and requisitioned. While waiting for the wiring to be installed, which was understood to take about six months, a STATUS based catalogue would be designed and built, with systems for data-input and database updating and backup. Order records would be keyboarded and entered into the database in parallel with the manual system, their progress monitored and, finally, they would be upgraded to catalogue records. A period of about six months was decided upon for parallel running which meant that parallel running of the orders system should cease by January 1983. Parallel running of the cataloguing system was to cease by the end of April 1983 and at that stage plans for retrospective cataloguing should be made. These provisional target dates were, in fact, achieved.

7. Equipment, wiring and costs

The first action taken was for staff in the Library building to decide on the number of terminals which would be needed when the system was fully operational and the exact location of these terminals. The sections involved were the Library, Information Office, Market Intelligence, Harwell Records Office and Reprographics Section. These terminal locations were marked on an architect's drawing and wiring from the mainframe computer to the Library and for the terminals within the library building was requisitioned. The mains wiring needed was also requested. Advice was taken from CSSD on the type of modems, cluster controller and VDU terminals to buy, or rent, for connection to the mainframe. 3270 type terminals were needed, but printing from an individual terminal was a problem as IBM terminals only supported a matrix printer, not an attached printer for each VDU. A compromise was achieved by acquiring a matrix printer for the rented set of IBM 3278 terminals in the Catalogue Room, while the Reading Room bought Memorex 2078s, each with an attached printer. The Library was advised by CSSD to rent IBM equipment, with the option to purchase after three years and to purchase Memorex equipment which was to be put on a maintenance contract.

The approximate costs of renting or buying the equipment were:

<u>Equipment</u>	<u>Purchase price</u>	<u>Maintenance/pm</u>	<u>Rental/pm</u>
	£	£	£
Racal Milgo modems (pair)	750	-	-
IBM 3274 T82 Controller (8 port)	-	-	150
IBM 3278 VDU + 4627 keyboard	-	-	60
Memorex 2078 model 2 VDU + 87 key keyboard	1200	9	-
IBM 3287 matrix printer 120cps	-	-	170

Initially, two IBM terminals were ordered for the Catalogue Room with a matrix printer and cluster controller and one Memorex Terminal each for the Report Room and the Reading Room, with additional printers.

At the end of 1981 the Library was advised that the wiring would take about six months to complete and that the equipment which had been

selected would take about three months to arrive. There was therefore a six month period before the LIBCAT system could be used within the Library. The first six months of 1982 were used to develop the structure of the online catalogue record, to build a database and to write a data input system, using terminals external to the Library building. During this period, only a limited amount of staff training could be done.

8. Design of the LIBCAT online catalogue record

Considerable time was spent by all sections of the Library in deciding the eventual layout of the online catalogue record. The Information Services were kept informed of all progress. Reference was made to the existing databases HAL and RECAP. HAL was not intended to be a public access database; its records were brief, highly structured and not immediately comprehensible to the casual user. It was, therefore, disregarded as a possible standard. The article in the RECAP database, which was to be publicly available, was linked strongly to INIS in format and content, which produced, from the Library's view, a somewhat cumbersome entry. Essentially, RECAP is a bibliographic database whereas LIBCAT was to contain simply structured monograph records. If the RECAP article structure was used for LIBCAT, then an unnecessarily complicated article would be created which would not appeal aesthetically and whose information content would be difficult for the user to assimilate. It was, therefore, decided that the LIBCAT article should have a different structure from that in existing Library and Information Office databases, while keeping them compatible where possible.

It was decided not to concord the UDC, which would not have been easy to search for in STATUS, because its auxiliaries /, ', = etc., would be special characters to STATUS and cause some confusion. Instead it was decided to capitalise on the natural language approach by adding subject descriptors to the catalogue record.

The aim was to produce a catalogue record which would be retrieved in response to searches with the minimum amount of thought and difficulty on the part of the user. The structure of the record displayed should reflect its use, and the information it contained, be easily assimilated by the user. The article was to contain the following named sections in the order given. The information content of these sections is indicated below.

AUTHOR	(To include at least two authors either personal or standardised corporate with a designation of their function, e.g. compiler, editor)
TITLE	(To include edition statement and number of volumes if multi-volume work)
CONF	(Conference name, standardised number, place and date)
IMPRINT	(Publisher, year of publication and number of pages)

SERIES	(Standardised series entry)
HOLDINGS	(Accession number and check letter and Reading Room shelfmark; Reading Room copy numbers and locations; divisional copy numbers and locations)
NOTES	(Previous editions, translations, etc.)
ISBN	(International standard book number(s) and International Standard Serial Numbers(s) ISSNs)
PRICE	(Price in pounds sterling)
ORDER	(Order number and date received)
SUBJECT	(Natural language subject descriptors)
UDC	(Universal Decimal Classification number)
CROSSREF	Alternative spellings or forms of name that may be used when searching for a document)

From the catalogue record the somewhat simpler structure for the order record was derived. This was:-

AUTHOR	(To include the first two personal and corporate authors)
TITLE	(To include conference and series information, edition statement and number of volumes)
IMPRINT	(Publisher and year of publication)
ON-ORDER	(Number of copies on order and their location)
NOTES	(Details of copies already held)
ISBN	(International Standard Book Number(s) and International Standard Serial Number(s) ISSN)
STATUS	(Type of order and date hastened)
SUPPLIER	(Supplier's name and address)

It was decided that the orders would be protected from the public user because certain items ordered for particular projects might be considered 'sensitive' and not subsequently catalogued.

9. Design and Structure of the LIBCAT Database

In parallel with the design of the online catalogue record, a test STATUS database was built. From this database catalogue records were displayed in various formats to help judge the most acceptable. This database could also be used for staff training and demonstrations. At the end of March 1982, requisitions were sent off for the equipment which it was hoped would arrive at approximately the time the wiring would be completed at the beginning of July.

A real data base was then constructed specifying protected chapters in which order records would be held according to supplier; the remaining unprotected chapters were to hold catalogue records. The common word list and the concordable characters were made the same as in RECAP. All named sections were specified concordable except PRICE and UDC and three date keyed fields were created for ordering, receipting and hastening purposes. There was also a keyed field for the year of publication to enable the user to search for items published before, during, or after, a particular year.

10. The JCL, Clists and PL1 program used to access, update and backup LIBCAT

With a real database job control language (JCL) had to be written to backup and restore the database, to update it and to add in orders and/or catalogue records from different user identifiers where necessary. JCL which utilised STATUS utilities and transfer programs

was also written to monitor the size and contents of the database and to compress the concordance. Command procedures (Clists) were, also made available to allow staff easy access to the database and to submit the nightly batch job to update the database. The orders input needed to be sorted by supplier prior to input to the database in order to put the orders in their correct chapter in the database, so that appropriate order forms could be printed. A small PL1 program was written to do this.

11. The STATUS Data Preparation Aid (SDPA) data input system

Using the STATUS Data Preparation Aid (SDPA), a data input system was written which would essentially prompt for the information needed in the online order record, pick up and expand information from keys and write this information with its necessary STATUS markers into a file. The use of keys to expand information led to the creation of tables of corporate authors, publishers and suppliers, so that, to take an example, WI could be keyboarded as a supplier and Welding Institute, Abington Hall, Abington, Cambridge, CB1 6AL, to be written into the order record to be used as a suppliers address on an order.

A similar but rather more complicated data input system was written using SDPA for the catalogue records. In connection with these input systems, new worksheets were designed to facilitate data input. By May 1982 a real database had been built and Blackwell's and miscellaneous orders were keyboarded and entered into LIBCAT. At

this time the computer system was being run in parallel with the manual system.

12. Implementation Problems

Progress reports on the status of an order, for example 'On order from abroad', were added to the online order and when an order for a document was satisfied the order was marked as received. When the catalogue record worksheet had been completed, the IBM ISPF (Interactive System Productivity Facility) editor was used to upgrade the order record to a catalogue record. Although this seemed the logical step to take, it gave rise to a number of problems. If a document, new to stock, was ordered then the bibliographic details of the document received were often rather different from those on the order record. Often the order record had to be almost completely reconstructed and very little of the original information was reused.

A significant additional factor was that the original order record had either many empty named sections (to facilitate subsequent editing) or also showed copies of the item held in the Library, making it difficult to give a clear distinction between the copy/copies on order and copy/copies actually held. From the user's point of view, it was clearer to give either an order or a catalogue record, and from the staff's point of view, it was more straightforward to create a catalogue record from scratch. It was, therefore, decided to mark the order as received and create a new catalogue record which would be added into the database. The

original order could then be destroyed.

Another implementation problem centred around the possible necessity of a hard copy back up for LIBCAT. Because of the concern about the reliability of the mainframe by which LIBCAT was accessed all catalogue records were put into LIBCAT in alphabetical order. That is to say, a filing element in the record was selected by a professional and the record filed. This procedure also necessitated online updating of LIBCAT which made it vulnerable to system breaks. Sort keys in articles had been considered, but to give a satisfactory order they would have to be humanly generated, not by machine, would create much extra work and would obscure the structure of the article. In its initial stages, LIBCAT could have been produced in hard copy form, in order of main author only. However, this 'filing' of catalogue records was so tedious and time consuming and very much a retrograde step, that after about five months, this method of input was abandoned. It had by then been shown that the reliability of the mainframe was such as to make a hard copy back up unnecessary. Catalogue records were then added into LIBCAT in random order during overnight batch jobs.

13. STATUS macros to update data in LIBCAT

Essentially, a macro is a sequence of STATUS commands which can be grouped together and executed in response to one single command. This facility makes it easy for the clerical staff to perform some comparatively complicated edits to STATUS articles. Macros were written to add progress reports to an order, e.g. 'NYP (Not Yet Published) <today's date>'. In this way the progress of the manual order was mirrored. Any type of report that was regularly received on an order was made into a macro and staff were also given the facility to add their own free text to an order using a macro. The second area where macros were used was in adding or changing the date an order was to be hastened or when a receipt was required by a Divisional Library when the item was marked as received and the correct price inserted. In all, over 50 macros were written for the system.

Links with the TSO operating system were much improved with the release of STATUS 80.4 in June 1983. This allowed simple editing and replacement of database macros. It also allowed staff to edit an article within the database using the ISPF editor. All changes to articles were made with a simple macro wherever possible, but in certain cases, staff were forced to edit articles in STATUS internal format, because of the layout of the article and the limitations of the STATUS editor. The link from STATUS to the ISPF screen editor made this procedure as easy as possible.

14. The STATUS Report Generator to produce printed reports from LIBCAT

With new orders being entered into their database chapters each night which had as a keyed field the date they were keyboarded, it was then possible to select these orders and to pass them to the STATUS Report Generator from which order forms could be printed to be sent out to suppliers. A proforma and a Report Generator command file were written to allow order forms to be produced on the newly acquired laser printer in CSSD, utilizing its sideways printing facility. Our chief supplier, B.H. Blackwell, was consulted concerning the format and content of the forms. Forms were produced for all orders except HMSO which require orders on their own forms.

The next stage when order information needed to be produced on a form was when an order was hastened because it had not arrived. Once more, in consultation with B.H. Blackwell, a hastener form was designed and produced, using the STATUS Report Generator, which looked as different from the order form as possible.

Finally, when an order was received a receipt form was produced using the STATUS Report Generator which was sent out to the Divisional Library with the book itself. The form was then signed by the Divisional Library Liaison Officer and returned to the Library to constitute a legal receipt.

15. Supportive documentation for Library staff

As soon as the system settled down and any modifications to it were few and far between, printed guides were produced for Library staff. These were: 'LIBCAT - A guide to the orders', on how to deal with the orders, from entering them into the database to receipting them; 'The LIBCAT Cataloguing Guide', which set out the cataloguing rules with examples; and the 'LIBCAT Manager's Guide' which described the datasets used in running the system, the structure of the database macros and the job control language used in the nightly update of LIBCAT.

All guides were produced on the sideways laser printer using the Document Composition Facility available to IBM mainframe users. For examples see:-

LIBCAT. User Guide Appendix (5)

LIBCAT. Manager's Guide Appendix (6)

16. Staff Training

Computer systems in the form of COBLOS, a computer based loan system and PACORS, a periodicals accounting system, had been used in the Library since the late 1960's. Both these systems were operated offline the former using paper tape and the latter punched cards. With the introduction of HAL to replace COBLOS in late 1979 staff

gained experience in the use of VDU's to input data for HAL and of TSO when assessing the HAL database online. There was therefore an increasing use and awareness of computers in the Library which helped ease the transfer from a manual to an online cataloguing system. No resistance to the introduction of LIBCAT was met from staff, who were mostly in the 20-30 age group. In fact, the change to a more efficient and responsive method of catalogue production and use was welcomed. One staff member did experience adverse effects from using a VDU but these were transient. Most staff involved took courses in the use of 3270 type terminals and courses in using STATUS, which helped them to perform their tasks more efficiently.

Throughout the implementation of LIBCAT, staff were kept informed of progress by meetings, which were minuted and progressed, and from information conveyed informally by section heads. The Library professionals were first made familiar with the system and the Clerical Officers in the Cataloguing Section were then trained in how to search LIBCAT, to add progress reports to orders and to input data using SDPA. This training was done on an individual basis. Any difficulties or problems reported resulted wherever possible in modifications being made to the system to eliminate them.

Some problems in using the system efficiently arose from the data input system, SDPA, which could do comparatively little checking of input data and did not allow the user to return to correct an input field. The Library staff felt that a more sophisticated data input system was needed, which could validate number sequences, expand and format the holdings section of the article and allow the user to go

back and correct his mistakes before writing the article.

17. Data input system based on IBM ISPF panels

Because the SDPA input system was inadequate for the Library's needs, the STATUS team created a data input system for catalogue records based on ISPF panels rather than SDPA prompts (Reference 3). This new method of data input allowed data checking of individual data elements, for example = is permitted in a shelfmark, but not in an author's name. Any International Serial Numbers (ISBNs or ISSN) were checked modulo 11 and Harwell accession numbers modulo 23. In addition tables for series, where the information expanded from a key can be displayed, and tables for Library and Divisional Library holdings could be used. Dates were validated and valid non-blank input was mandatory in certain fields. A short help message is given if the user makes an error and a help tutorial can be linked to the system. With every data field the user has the ability to go back and correct data; a specific action is necessary before the article is finally written to a file, after which any subsequent corrections have to be done with the ISPF editor.

The panels system was more reactive and user friendly than bare prompts and the staff enjoyed using it. Efficiency and accuracy of keyboarding was greatly improved. Having got an input system for the Catalogue records based on panels, an input system for the orders was simple to write. Staff were then doing data input with panels for both systems.

18. Retrospective Cataloguing

By the middle of 1983, the LIBCAT system was running satisfactorily and had reached a stage of reasonable stability. There was also a sophisticated data input system using panels. The prospect of retrospective cataloguing, which was made possible on the cessation of parallel running was again considered. Its desirability was obvious, a one place multi-access system for both Library staff and readers. It was decided that there were three areas where retrospective cataloguing could be done. The first was where additional copies of documents already in the card catalogue were received on current orders. Retrospective cataloguing had, in fact, been done from this area since the system started. The second was from documents listed in the Recent Additions Lists working backwards from the June 1982 list and the third was of documents which were being returned from loan and which were felt to represent the more frequently used documents. On the cessation of parallel running, retrospective cataloguing was done from these areas when staff availability permitted. By the end of November 1983, there were more than 5,500 catalogue records in LIBCAT.

19. Provision of Public Access to LIBCAT

(a) A simple interface for users.

With the cessation of parallel running at the end of April 1983, it became vital to advertise and educate the user to access and interrogate LIBCAT; primarily because all new material would only be found in LIBCAT. When LIBCAT was released, the RECAP database was also available and there were also plans for the database BULLETIN (the on-line Information Bulletin) to be available to the Harwell public. In order to give users a simple interface between these databases, they were transferred to the same user identifier and each user was given a temporary macro file with macros which enabled him to select a database by simply typing its name. The user also needed a simple method of accessing these databases. A command procedure (Clist) named Infonet was written to enable him to do so and any database accessible by this method was known as an Infonet database. In conjunction with this the STATUS team in CSSD developed ISPF panels which allowed the user easy access to a database. There were, therefore, two methods of Infonet database access; both of which also allowed the user to do an offline print of items in the database. The panels system was to be used if possible, since this interface would be maintained and developed by the STATUS team, but those users with non-ISPF terminals also had a method of access.

(b) Documentation

Having established a method for accessing the Infonet databases, several documents were produced using DCF to guide the user in how to access and search them. The first was 'Becoming an Infonet User', which explained to the educated TSO user how to set up and allocate the necessary files. There followed 'Accessing the Harwell Library and Information Services Databases', which explained to the novice user how to access the Infonet Databases using either panels or the Infonet command. It also covered facilities which were common to all databases. Individual guides to the databases, LIBCAT, RECAP and BULLETIN were also produced. The Information Services developed an online request facility and a note 'Online document orders' provided an explanation of how to use it. This information was gathered together in an Infonet user pack.

(c) Making LIBCAT available to Library Liaison Officers (LLOs)

Prior to the introduction of LIBCAT, the LLO's were kept informed of developments towards the online catalogue by the annual LLO's meeting, by visits from the Librarian and, in general, through their contact with the Library. They formed the first group of people outside the Library who were to be given access to LIBCAT. Sixteen LLO's were contacted individually and given a demonstration on how to use LIBCAT and the other Infonet databases. They were all given a user pack. Where possible, feedback from them was incorporated into the system, which often enabled them to cease some of the manual

files which they kept. Finally, a note was circulated to all those who were involved with ordering and receipting books for the Library, inviting them to have a demonstration of the LIBCAT database. .

(d) Making LIBCAT available to TSO Users

After a simple interface for users had been produced, with accompanying documentation, the next step was to publicise the databases. By this time, a public terminal had been available in the Library for some nine months, so that those visiting the Library had seen the Library staff using it and were encouraged to have a demonstration from professional staff. Notices were placed above the terminals in the Library, and on the card catalogue itself, explaining to Library users that the card catalogue was obsolescent and was being replaced by an on-line STATUS based catalogue. Notification that LIBCAT was available was given out in the Harwell Bulletin for May 1983. This stimulated some TSO users into contacting the Library to be set up as an Infonet user. Awareness of the Infonet system was increased by the notification of the online BULLETIN database in the printed Information Bulletin. By October 1983, approximately 60 users outside the Library had been set up to use the Infonet databases.

(e) On-line Help and Information

As with most on-line systems, STATUS had a HELP file which gave the

user on-line HELP information for a particular STATUS command. It was thought desirable to concatenate a database help file to the STATUS help file so that the user could be given on-line help for various database specific commands, such as REQ which he could use to make an on-line request. This necessitated the writing of several macros, plus a small PL1 program (with the aid of the STATUS team) to allocate, read, write and de-allocate a help file associated with a specific data base. Its design allowed the simple addition or changing of the help information. It could also be used to give information to users, such as the addition of a new database to the Infonet system; or a new facility within the system.

20. Benefits from the LIBCAT system

The transfer from a card catalogue to an on-line catalogue has given the Library a catalogue that is reliably based on modern and developing computer technology. It also utilises the STATUS package on the IBM mainframe, developed and marketed by AERE. From the user's point of view, the Library catalogue is accessible from any terminal linked to the IBM mainframe at any time when the mainframe is available. The user's access to the catalogue record for fast information retrieval is greatly improved. He can print off selected catalogue records and also extract them for his own database. Also he can write his own macros to select and manipulate information in the database and do his own on-line requests which saves him filling in a form, and the Library deciphering his writing and checking his borrower details.

Ergonomically, the efficiency of the system is greatly improved. Catalogue room staff no longer have to find and retrieve files within their section; Catalogue Section staff do not have to walk out to the Catalogue Hall so often and Reading Room staff no longer have to go to the Catalogue Section to check the progress of an order. TSO users outside the Library can consult LIBCAT without either visiting the Library or making a telephone call.

In addition to the above advantages, the Library staff are saved many boring and tedious tasks. Almost all their manual files are now dispensed with and there is no more manual filing of orders slips or hastening of orders or filing multiple copies of catalogue cards under their selected filing elements. The efficiency of the ordering and cataloguing system, particularly in the area of data input, is greatly increased, while quality in terms of printed output is improved. Since the cessation of parallel running one ancillary member of staff has been transferred without replacement.

Having a clientele, many of whom were more familiar with computers than card catalogues, meant that the Library's image was much improved when it could be seen taking advantage of new technology. It was enlightening to see that this year's new young apprentices, mostly school leavers, showed more interest during their tour of the Library than had ever been shown before. They actually returned to use LIBCAT for themselves on the Library terminals.

21. Future Developments

As long as LIBCAT contains only a relatively small percentage of items compared to the card catalogue, its effectiveness must be limited. The main priority must be retrospective cataloguing, and it is hoped that, combined with a 'weeding' programme and subject to staff availability, it should be completed by 1988. Access points within the Library are being steadily increased. At December 1983, the Cataloguing Section has four terminals, the Reading Room four and the Report Room one.

Most importantly the programme of user education and help must be continued, keeping users informed of new facilities in the LIBCAT system and introducing new users. The availability of LIBCAT on the Harwell mainframe has meant that TSO users, remote to the Harwell site, can access it and this includes other Authority libraries. There is also the option of extending LIBCAT to cover other types of document held by the Library, either within it, or as databases within the Infonet system. These document types could include either translations or periodicals.

The Information Services now have programmes which monitor the use of the Infonet databases and a weekly table is produced of those users who have accessed LIBCAT, with an indication of how much work has been done in each database. This is a helpful indication of new users, who may have been set up by a colleague, and to those set up to use LIBCAT, who are in fact making little or no use of it, and perhaps need some further encouragement and assistance.

In the future it is hoped that new facilities will be introduced to give users increased help with subject searching as the databases grow. As STATUS develops there will be the incorporation of new releases of STATUS, the next one being STATUS 83 in 1984. This should allow users to do more with STATUS more efficiently. More modern equipment and technology must also be considered for the system, particularly with the prospect of downloading information from certain online databases or at least gaining access to them from a terminal which can also be linked to the mainframe. There is also the prospect of the Library terminals being put on a local controller in CSSD on a fast line. It is hoped too that improved computer technology and reliability will allow greater links within the Infonet system, in particular with the LIBCAT catalogue database and with the HAL database of loans.

As the use of STATUS databases in general on the Harwell site grows, it is hoped that all TSO users will be given automatic access to all public STATUS databases on the mainframe computer by having STATUS as a Harwell Added Function within the ISPF panels.

23. Acknowledgements

I should like to acknowledge the useful discussions, help and ideas I have had from all sections of the Library, and the enthusiastic management of the project by Mr. C.W.J. Wilson, the Librarian. Miss S.M. Bishop and Mrs. A.E. Stevens from the Cataloguing Section, Mr. J.H.R. Marns and Miss W.V. Maskell from the Reading Room and Miss E. Thornton from the Report Room deserve particular mention. Thanks in general are due to the STATUS team for their guidance and advice, especially to Mr. C.P. Jeffery who wrote the panels for the input of catalogue records.

22. References

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Appendix

1. Data input panel for an order.
2. Order record in LIBCAT.
3. Order form to a supplier generated using the STATUS Report Generator.
4. A catalogue record in LIBCAT.
5. LIBCAT User Guide.
6. LIBCAT Manager's Guide.

Appendix 1

1. LIBCAT data input panel for an order (Panel 2 of 3).

- - - - - ORDERS PANEL 2 - - - - -

- - Imprint:- - - - -

Publisher key = = =>

Expand? = = => N ("Y" or "N")

Additional publisher:

Year of Publication = = =>

ISBN = = =>

ISBN = = =>

ISSN = = =>

- - On order: - - - - -

Number of copies on order = = =>

Locations = = =>

- - - - -

PRESS THE END KEY TO RETURN TO PANEL 1

PRESS ENTER TO PROCEED TO PANEL 3

Appendix 2

2. An order record in LIBCAT showing progress reports in the STATUS section.

AUTHOR

TITLE Proceedings of a seminar on hydrography in exclusive economic zones demarcation and surveys of its wealth potential.

IMPRINT Hugli River Survey Service #PUBYEAR 19

ON ORDER 1 Copy/Copies MATSU

ISBN

PRICE 70.00rs

ORDER A52412 #ORDDATE 19:04:82

STATUS Firm; OFA 05:05:82; #HASTDATE 06:10:83; ON ORDER FROM INDIA 06:10:82; EXPECTED FEB 1983; BHB chasing 21:03:83; Books from India take a long time BHB chasing 09:06:83; Christine writing about this publ 11:08:83; awaiting reply to letter 20:10:83

SUPPLIER B.H. Blackwell Ltd., Beaver House, Hythe Bridge Street, Oxford

Appendix 3.

```
*****
***** ORDER **** ORDER *** ORDER **** ORDER **** ORDER *****
*** ORDER **                                     ** ORDER **
*****
***** AERE LIBRARY ORDER      B61208          *****
***
*
* To:
*   B.H. Blackwell Ltd., Beaver House, Hythe Bridge Street,
*   Oxford
*
*   Order number:  B61208          Date of order:  04:08:83
*   Number of copies required:  1
*
* Document description:
*   AUTHOR:  Bayvel, L.P.
*           Jones, A.R.
*   TITLE:   Electromagnetic scattering and its applications
*   IMPRINT: Applied Science #PUBYEAR 1981
*   ISBN:    085334955X
*   PRICE:   £28.00
*   STATUS:  Firm order
*
* Please supply the above publication in accordance with the terms
* and conditions of the running contract no H3A/2302
*
*                               Signed: _____ Librarian
*
* Book Orders Section, Library B465, AERE Harwell, Oxon OX11 0RB
* Telephone: Abingdon (0235) 24141 ext: 2038
*
***
*****
*****
*** ORDER **                                     ** ORDER **
***** ORDER **** ORDER **** ORDER **** ORDER **** ORDER *****
*****
```

3. An order form to a supplier generated using the STATUS Report Generator.

Appendix 4

4. A catalogue record in LIBCAT showing its structure and layout.

AUTHOR International Commission on Radiological Protection, Sutton
(ICRP)

TITLE Biological effects of inhaled radionuclides. A report of a task
group of Committee 1 of the ICRP.

IMPRINT Pergamon P #PUBYEAR 1980 115 pp.

SERIES ICRP publication 31
Annals of the ICRP vol 4, no 1-2, 1980

ACCNO Ha 97252Z

HOLDINGS Library 465 Shelfmark 614.8:539.12 INT
Reading Room Copy 1,2,13
Other EMS Copy 3-12, 14
IAP Copy 15

ISBN 0080226345

PRICE £13.50

ORDER B52993 #RECDATE 27:10:82

SUBJECT radiation effect on man; lungs

UDC 614.8:539.12

5. LIBCAT User Guide

LIBCAT

The Harwell Library on-line Catalogue

User guide

Reference: LIBCAT-2
Date : July 1983

Library Bldg 465
AERE Harwell
Oxfordshire OX11 0RB

1. WHAT IS IN IT

LIBCAT is the Main Library on-line catalogue, based on STATUS. It contains records of books, pamphlets, etc. added to the Main Library and site libraries since May 1982. It continues the traditional Main Library card catalogue, (which has not been added to since April 1983) but with much greater facility for searching.

2. HOW THE INFORMATION IN LIBCAT IS ORGANISED

LIBCAT is organised into articles and each article is a catalogue record. The articles are divided into Sections with names which appear at the left of the article. The most important of these are:

<u>Section Name</u>	<u>Explanation</u>
AUTHOR	eg Smith, Brown, IAEA, NII, ICRP
TITLE	Document title
CONF	Conference or meeting information, including name, place and date
IMPRINT	Publisher, year of publication and number of pages
SERIES	eg ACS symposium series no 26
ACCNO	Library document number
HOLDINGS	Main Library shelfmark with locations of all copies held in Reading Room and on site
NOTES	Any additional useful information, eg Translated from Japanese
ISBN	Publisher's book number
ORDER	Order number and received date
PRICE*	In £ sterling
SUBJECT	Additional descriptors to aid information retrieval
UDC*	The Library's classification number
CROSSREF	Alternative spellings eg sulphur for sulfur

Note that searches can be limited to a particular section (example in para 4(h)) except those sections marked with a * which cannot be searched.

3. HOW TO SEARCH LIBCAT

You can search on any term or combination of terms in a catalogue record, eg author, title words, conference details, subject, etc. To clear the screen of a previous display press CLEAR. If the screen is blank, except for the green line and characters at the bottom, press ALT to restore any previous presentation followed by CLEAR. One or both of the symbols > and _ (cursor) will usually be displayed when the terminal is ready to receive your instructions. If any other condition obtains, eg system failure symbols at the bottom seek advice from the staff.

You start a search by typing the following sequence:

q(one space)search word?

(ENTER)

(ENTER) = press the key marked ENTER

The system will now look for records containing your search word. While this is in progress X and the clock symbol will show at the bottom of the screen. The answer is a statement of the number of articles (catalogue records) found which contain your search word.

Example:

A simple search for a book by Parkins

Note: Upper and lower case characters are equivalent

Type:

q parkins?

(ENTER)

Question is satisfied by 1 article

Type:

d (to display the record)

(ENTER)

1.

AUTHOR	Parkins, R.N. (ed)
TITLE	Corrosion processes
IMPRINT	Academic P #PUBYEAR 1982 317 pp.
ACCNO	Ha 104309U
HOLDINGS	Library 465 Shelfmark 620.19 PAR
	Reading Room Copy 1
ISBN	0853341478
PRICE	£ 30.00

The HOLDINGS section shows one copy in Main Library at shelf place 620.19 PAR

When the screen is full of information but the search is not yet terminated, the symbols *** appear at the bottom left of the screen. Press ENTER to continue.

Every twenty lines or so, the system prompts you to answer positively Yes, No or Quit to the question MORE?

If you reply

y (for yes)	the display continues
n (for no)	the next 20 or so lines are displayed, starting with the next article
x (for quit)	the display terminates

4. HINTS, TIPS AND SEARCHING TECHNIQUES

- (a) If you are not sure if the word you are looking for is singular or plural, etc. then use the word stem and indicate the TRUNCATION with the asterisk * eg

q electroly*?

(ENTER)

This will retrieve catalogue records containing the words electrolytes, electrolyte, electrolysis, electrolytic, electrolytical, electrolytique, etc

- (b) You can COMBINE TERMS using the plus symbol + as the Boolean AND

q boresit+mechanics?

(ENTER)

- (c) You can search for SIMILAR or ALTERNATIVE SUBJECTS using the comma , as a Boolean OR

q poison*,toxic*?

(ENTER)

- (d) You can specify TERMS which are NOT WANTED using the minus sign - as a Boolean NOT

q steel*-structur*?

(ENTER)

- (e) If your search retrieves more articles than you require then you can REFINe your SEARCH by using a subquestion (SUBQ)

q nuclear reactor*? (ENTER)		q nuclear reactor*+siting? (ENTER)
subq siting? (ENTER)		

- (f) If you are searching for an AUTHOR'S NAME try to avoid using his initials because it slows the search time. Instead combine his name with a title or subject word or with a second author's name

q marshall+pressure?	(ENTER)
q spencert+marks?	(ENTER)

Use the same technique for common surnames

q smith+catalysis?	(ENTER)
--------------------	---------

- (g) If you are looking for an ORGANISATION'S NAME and it has a known abbreviation then try that first. It can save a lot of keyboarding

q iaea?	(ENTER)
rather than	
q international atomic energy agency?	(ENTER)

- (h) You can LIMIT your SEARCH TO specific parts (NAMED SECTIONS) of the catalogue record. (See para 6)

q hall@author?	(ENTER)
----------------	---------

This picks up every Hall in the AUTHOR section, but excludes Prentice Hall as a publisher in the IMPRINT section.

- (i) Do not use NON-ALPHANUMERIC CHARACTERS in your search question. Instead, replace them with spaces

q x ray*? (ENTER)	NOT	q x-ray*? (ENTER)
q o reilly? (ENTER)	NOT	q o-reilly? (ENTER)

6. How to display the results of your search

When you have completed your search the system will tell you eg
Question is satisfied by 10 articles

You may then type:

d all

(ENTER)

To display in full all the records you have retrieved

t all

(ENTER)

To display only authors and titles of all records retrieved

d (or t) 4 7

(ENTER)

To display the 4th and 7th of the records you have retrieved

Press ALT with P

To print the information displayed on the screen, on a Memorex
terminal with an attached printer ONLY

7. How to deal with flagged catalogue records

When you display a catalogue record you may find a message saying:

*** This article is condemned

or

*** Warning an update for this article is pending

at the beginning of the article.

If the article has a condemned flag then it will be destroyed when the
database is next updated.

If there is an update pending then to see the new version of the
article, display the original article and then type:

d amend

(ENTER)

The new version of the article will then be displayed. This will
replace the original version when the database is next updated.

PLEASE ASK LIBRARY STAFF IF YOU NEED HELP

6. LIBCAT Manager's Guide

The
LIBCAT
Manager's
Guide

By E M HAYNES

Date: June 1983

Library 465
AERE Harwell

CONTENTS

Section 1: Creation of input data

Section 2: Updating LIBCAT

Section 3: Changing data in LIBCAT

Section 4: Production of the Recent Additions

Section 5: System failures and what to do about them

THE LIBCAT MANAGER'S GUIDE

All LIBCAT functions are invoked via the 'U' option of spf. This displays the panel USRSELECT in the 'SYSUID.PANELS.DATA'.

Section 1:

Creation of Input Data Using the spf menus

(a) Creation of STATUS order records for entry into LIBCAT -----

Select the 'D' option of the menu

Enter orders data according to the instructions

This data is held in the data set SCASMB.ORDERS.DATA and should be edited using the spf editor

Selection of the 'D' option executes member ORDPAN in SCASMB.SPECIAL.CLIST

This displays panel ORDPROM in SCASMB.PANELS.DATA from which the disposition of SCASMB.ORDERS.DATA is set. It is set to OLD if you reply 'no' to 'Do you want to add to the orders file?', or MOD if you reply 'yes'. Member ORD in SCASMB.STMOD.LOAD is then called and panel ORD1 in SCASMB.PANELS.DATA displayed.

Order data is held in SCASMB.ORDERS.DATA

Skeleton file is SCASMB.SKELETON.DATA(ORDERS)

Messages files:

SCASMB.SPMESS.DATA(ORD00) for messages ORD001 - ORD009
SCASMB.SPMESS.DATA(ORD01) for messages ORD010 - ORD019
SCASMB.SPMESS.DATA(ORD90) for messages ORD901 - ORD909

Tables used are:

Corporate authors in SCASMB.TABLES.DATA(CORPS)
Publishers in SCASMB.TABLES.DATA(PUBS)
Suppliers in SCASMB.TABLES.DATA(SUPS)

Panels displayed are:

ORD1 in SCASMB.PANELS.DATA
ORD2 in SCASMB.PANELS.DATA
ORD3 in SCASMB.PANELS.DATA

(b) Creation of STATUS catalogue records for entry into LIBCAT

Select the 'C' option of the menu

Enter catalogue records data according to instructions

This data is held in the data set SYSUID.CATALOG.DATA
and should be edited using the spf editor

Selection of the 'C' option executes the member CATPAN in
SCASMB.SPECIAL.CLIST

This displays panel CATPRDM in SCASMB.PANELS.DATA from which the
disposition of SYSUID.CATALOG.DATA is set. It is set to OLD if you
reply 'no' to 'Do you wish to add to your catalogue records?' or MOD
if you reply 'yes'. Member LIB in SCASMB.STMOD.LOAD is then called
and panel LIB1 in SCASMB.PANELS.DATA displayed.

Data is held in SYSUID.CATALOG.DATA

Skeleton file in SCASMB.SKELETON.DATA(CATALOG)

Messages files:

SCASMB.SPMESS.DATA(LIB00) for messages LIB001 - LIB009
SCASMB.SPMESS.DATA(LIB01) for messages LIB010 - LIB019
SCASMB.SPMESS.DATA(LIB90) for messages LIB901 - LIB909

Tables used are:

Corporate authors in .. SCASMB.TABLES.DATA(CORPS)
Publishers in SCASMB.TABLES.DATA(PUBS)
Library 465 holdings in SCASMB.TABLES.DATA(LIB)
Divisional holdings in SCASMB.TABLES.DATA(DIVS)
Series in..... SCASMB.TABLES.DATA(SERIES)
Suppliers in SCASMB.TABLES.DATA(SUPS)

Panels displayed are:

LIB1 in SCASMB.PANELS.DATA
LIB2 in SCASMB.PANELS.DATA
LIB3 in SCASMB.PANELS.DATA
LIB4 in SCASMB.PANELS.DATA
LIB5 in SCASMB.PANELS.DATA

(c) Creation of Authority tables to be used in data entry

Authority files used in creating order data
for entry into LIBCAT:

Corporate authors held in .. SCASMB.LIBCAT.DATA(CORPS)
Publishers held in SCASMB.LIBCAT.DATA(PUBS)
Suppliers held in SCASMB.LIBCAT.DATA(SUPS)

Authority files used in creating catalogue data
for entry into LIBCAT:

Corporate authors held in SCASMB.LIBCAT.DATA(CORPS)
Publishers held in SCASMB.LIBCAT.DATA(PUBS)
Series held in SCASMB.LIBCAT.DATA(SERIES)
Library 465 locations held in SCASMB.LIBCAT.DATA(LIB)
Divisional locations held in SCASMB.LIBCAT.DATA(DIVS)

To update an authority file edit the appropriate data set in spf.
This data set must be copied into a table which the menu system
can use. Thus SCASMB.LIBCAT.DATA(CORPS) becomes the table
SCASMB.TABLES.DATA.(CORPS) which the menu system uses.
This can be done on SCASMB if nobody else is using a menu system.

Select spf U.T

Select by number the table you wish to recreate. When the table is
recreated the message 'action completed' will appear.

The menu system will then be able to use the updated version
of the table.

Section 2:

Updating LIBCAT

The overnight job to update LIBCAT is submitted by typing 'update' to a TSO ready only on SCASMB.

The command 'update' executes the clist SCASMB.SPECIAL.CLIST(UPDATE) which asks:

- (1) Do you want to add in the orders?
- (2) Do you want to add the SMB catalogue records?
- (3) Do you want to add the AES catalogue records?
- (4) Do you want to update LIBCAT?
- (5) Do you want to dump LIBCAT?

Job Table (JCL is SCASMB.LIBCAT.CNTL)

ORDERS?	SMB CAT RECS?	AES CAT RECS?	UPDATE?	DUMP?	JCL MEMBER NAME	JOBNAME
YES	NO	NO	-	-	ADDORDS	SMBT1ORD
YES	YES	NO	-	-	ADDSMB	SMBT1SMB
YES	NO	YES	-	-	ADDAES	SMBT1AES
YES	YES	YES	-	-	ADDALL	SMBT1ALL
NO	YES	NO	-	-	ADSMBCAT	SMBT1SBC
NO	NO	YES	-	-	ADAESCAT	SMBT1ASC
NO	YES	YES	-	-	ADALLCAT	SMBT1ALC
NO	NO	NO	YES	-	UPDATE	SMBT1UPD
NO	NO	NO	NO	YES	DUMPO01	SMBT1DM1

Finally the clist will ask:

Do you want any hasteners, orders or receipts?

If the reply is yes the job submitted is SCASMB.LIBCAT.CNTL(RPGHAST), and the jobname is SMBT1HST

A description of each of the jobs in the job table follows,
in alphabetical order by member name.

General notes:

All tapes used are SL (standard label) 6250 bpi
Tape numbers used are SCA001 - SCA005

The job card image includes a COND=(1,LT). This means that if a job-step completes with a condition code not equal to 0000 then the remaining steps will not be executed. (If a condition code is not 0000 then something in that job step is wrong).

To specifically submit a job in the job table type
in response to a TSO READY on SCASMB

Submit Libcat(membername)

eg
submit libcat (addords)

ADAESCAT

JCL: SCASMB.LIBCAT.CNTL(ADAESCAT)

JOB NAME: SMBT1ACS

JOB STEPS:

Dumps LIBCAT database to magtape SCA001

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA001

TS1: Scans magtape and lists the data sets on that tape

STATUS: Puts the AES catalogue records in SCAAES.CATALOG.DATA
on stream 32 on the amendment list to be added into
a specified chapter in LibCat

Updates LibCat and so clears amendment list

Prints out vocabulary changes

Dumps LibCat database to magtape SCA002

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA002

TS2: Scans magtape and lists the datasets on that tape

Releases the following jobs if they are in the job queue

FRQ: Release SMBT1FRQ

HST: Release SMBT1HST

SIZ: Release SMBT1SIZ

TXT: Release SMBT1TXT

ADALLCAT

JCL: SCASMB.LIBCAT.CNTL(ADALLCAT)

JOB NAME: SMBT1ALC

JOB STEPS:

Dumps LIBCAT database to magtape SCA001

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA001

TS1: Scans magtape and lists the data sets on that tape

STATUS: Puts the SMB catalogue records in SCASMB.CATALOG.DATA
on stream 32 on the amendment list to be added into
a specified chapter in LibCat
Puts the AES catalogue records in SCAAES.CATALOG.DATA
on stream 32 on the amendment list to be added into
a specified chapter in LibCat

Updates LibCat and so clears amendment list

Prints out vocabulary changes

Dumps LibCat database to magtape SCA002

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA002

TS2: Scans magtape and lists the datasets on that tape

Releases the following jobs if they are in the job queue

FRQ: Release SMBT1FRQ

HST: Release SMBT1HST

SIZ: Release SMBT1SIZ

TXT: Release SMBT1TXT

ADDAES

JCL: SCASMB.LIBCAT.CNTL(ADDAES)

JOB NAME: SMBT1AES

AS ADDORDS but in addition in JOB STEP:

STATUS: Puts the AES catalogue records in SCAAES.CATALOG.DATA
on stream 32 on the amendment list to be added into
a specified chapter in LibCat

ADDALL

JCL: SCASMB.LIBCAT.CNTL(ADDALL)

JOB NAME: SMBT1ALL

AS ADDORDS but in addition in JOB STEP:

STATUS: Puts the SMB catalogue records in SCASMB.CATALOG.DATA
and AES catalogue records in SCAAES.CATALOG.DATA on stream
32 on the amendment list to be added into a specified
chapter in LibCat

ADDORDS

JCL: SCASMB.LIBCAT.CNTL(ADDORDS)

JOB NAME: SMBT10RD

JOB STEPS:

Dumps LIBCAT database to magtape SCA001

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA001

TS1: Scans magtape and lists the data sets on that tape

Sorts the orders in SCASMB.ORDERS.DATA into 7 data sets according to order number prefix

ORDSORT: All F or S orders are put into the dataset
SCASMB.DEFERRED.DATA
All R orders are put into the dataset SCASMB.REPORT.DATA
All ABCD or J orders are put into the dataset
SCASMB.BHB.DATA
All M orders are put into the dataset SCASMB.MISC.DATA
All H orders are put into the dataset SCASMB.HMSO.DATA
All N orders are put into the dataset SCASMB.USGPO.DATA
All unidentifiable orders are put into the dataset
SCASMB.BAD.DATA

If all orders are identified then the message
*** ALL ORDERS IDENTIFIED ***
is printed.

If there are any unidentifiable orders then the message
*** ERROR UNIDENTIFIED ORDERS IN SCASMB.BAD.DATA
is printed

Cont...

STATUS: Puts orders on the amendment list to be added into the appropriate chapters of the LIBCAT database

Deferred orders and stock copies are added into chapter 6 from

SCASMB.DEFERRED.DATA on stream 26;

Report orders are added into chapter 7 from

SCASMB.REPORT.DATA on stream 27;

Blackwells orders are added into chapter 8 from

SCASMB.BHB.DATA on stream 28;

Miscellaneous orders are added into chapter 9 from

SCASMB.MISC.DATA on stream 29;

HMSO orders are added into chapter 10 from

SCASMB.HMSO.DATA on stream 30;

USGPO orders are added into chapter 11 from

SCASMB.USGPO.DATA on stream 31;

Updates LibCat and so clears the amendment list

Any vocabulary changes are printed out.

JOB STEPS:

Dumps LibCat to magtape SCA002

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA002

TS2: Scans magtape and lists the datasets on that tape

Releases the following jobs if they are in the job queue

FRQ: Release SMBT1FRQ

HST: Release SMBT1HST

SIZ: Release SMBT1SIZ

TXT: Release SMBT1TXT

ADDSMB

JCL: SCASMB.LIBCAT.CNTL(ADDSMB)

JOB NAME: SMBT1SMB

As ADDORDS but in addition in JOB STEP:

STATUS: SMB catalogue records in SCASMB.CATALOG.DATA
on stream 32 are added into a specified chapter
in LibCat

JCL: SCASMB.LIBCAT.CNTL(ADSMBCAT)

JOB NAME: SMBT1SBC

JOB STEPS:

Dumps LibCat to magtape SCA001

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA001

TS1: Scans magtape and lists the datasets on that tape

STATUS: Puts the SMB catalogue records on SCASMB.CATALOG.DATA
on stream 32 on the amendment list to be added into
a specified chapter in LibCat

Updates LibCat and so clears amendment list

Prints out vocabulary changes

Dumps LibCat database to magtape SCA002

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA002

TS2: Scans magtape and lists the datasets on that tape

Releases the following jobs if they are in the job queue

FRQ: Release SMBT1FRQ

HST: Release SMBT1HST

SIZ: Release SMBT1SIZ

TXT: Release SMBT1TXT

DUMP001
DUMP002
DUMP003

JCL: SCASMB.LIBCAT.CNTL(DUMP001)

JOB NAME: SMBT1DM1

JOB STEPS:

Dumps LibCat to magtape SCA001

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA001

TS1: Scans magtape and lists the datasets on that tape

JCL: SCASMB.LIBCAT.CNTL(DUMP002)

JOB NAME: SMBT1DM2

As SMBT1DM1 but

Dumps Libcat database to magtape SCA002

JCL: SCASMB.LIBCAT.CNTL(DUMP002)

JOB NAME: SMBT1DM3

As SMBT1DM1 but

Dumps Libcat database to magtape SCA003

RPGHAST

JCL: SCASMB.LIBCAT.CNTL(RPGHAST)

JOB NAME: SMT1HST

JOB STEPS:

Produce hasteners

STATUSH: Within STATUS select LibCat
Retrieve orders to be hastened
Put hastener data into transfer file
SCASMB.TRANSFER.DATA using macro RPGHAST

RPGHAST: Using the proforma SCASMB.LIBCAT.DATA(HASTPROF)
the regpen command file SCASMB.LIBCAT.DATA(HASTCMDS)
and the transfer file SCASMB.TRANSFER.DATA
creates a temporary file &&HAST of hastener data

Produce Blackwells orders

STATUSB: Within STATUS select LibCat, chapter 8
Retrieve Blackwells orders to be printed
Put necessary Blackwells orders data into
transfer file SCASMB.TRANSBHB.DATA using
the macro RPGORDS

RPGORDS: Using the proforma SCASMB.LIBCAT.DATA(BORDPROF)
the regpen command file SCASMB.LIBCAT.DATA(ORDCMDS)
and the transfer file SCASMB.TRANSBHB.DATA
creates a temporary file &&BORD of Blackwells
order data

Produce Report orders and Miscellaneous orders

STATUSM: Within STATUS Select LibCat, chapters 7 and 9
Retrieve Report and Miscellaneous orders
to be printed
Put necessary Report and Miscellaneous orders
into transfer file SCASMB.TRANSMSC.DATA
using the macro RPGORDS

RPGMORDS: Using the proforma SCASMB.LIBCAT.DATA(MORDPROF)
the regpen command file SCASMB.TRANSMSC.DATA
creates a temporary file &&MORD of Report order data
and Miscellaneous order data

Cont ...

Produce receipts

STATUSR: Within the STATUS select LibCat chapters 7 - 11
ie orders chapters
Retrieve orders which need a receipt printed.
Put data for receipts into transfer file
SCASMB.TRANSRCD.DATA using the macro RPGRECDs

RECDs: Using the proforma SCASMB.LIBCAT.DATA(RECDPROF)
the regpen command file SCASMB.LIBCAT.DATA(RECDCMDS)
and the transfer file SCASMB.TRANSRCD.DATA
creates a temporary file &&RECD of receipt data

Print hasteners, Blackwells orders, Report orders,Miscellaneous orders and receipts on sideways laser printer

HAST: Print hasteners
BORD: Print Blackwells orders
MORD: Print Reports orders and Miscellaneous orders
RECD: Print Receipts

UPDATE

JCL: SCASMB.LIBCAT.CNTL(UPDATE)

JOB NAME: SMBT1UPD

JOB STEPS:

Dumps LibCat database to magtape SCA001

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA001

TS1: Scans magtape and lists the datasets on that tape

STATUS: Updates LibCat and so clears amendment list

Prints out vocabulary changes

JOB STEPS:

Dumps LibCat database to magtape SCA002

DUMP: Dumps LibCat text and concordance files

CWD: Dumps LibCat common word file

MAC2: Dumps LibCat macro file

MAC1: Dumps private macro file

Tapescan of magtape SCA002

TS2: Scans magtape and lists the datasets on that tape

Releases the following jobs if they are in the job queue

FRQ: Release SMBT1FRQ

HST: Release SMBT1HST

SIZ: Release SMBT1SIZ

TXT: Release SMBT1TXT

Section 3:

Changing data in LibCat

Editing articles in LibCat

(a) Using the STATUS editor

(b) Using the spf screen editor

Adding notes to an order or a catalogue record

Adding an applied maths shelfmark to a catalogue record

Adding or changing the price of an order or catalogue record

Changing the STATUS section of an order

Hastening orders

Dealing with orders received and on-approval orders kept

Moving deferred orders to the deferred orders chapter

Moving unobtainable orders to the unobtainable documents chapter

Dealing with orders received and on approval orders kept

Destroying articles

Removing amendments

Editing articles in LibCat

Data in LibCat can only be changed using the UIDs authorised

(a) Changing records in LibCat using the STATUS editor

If the change to the record is a simple character string change then

`edit,rep/<old string>/<new string>/;c`

NB Upper and lower case are significant ; is the field mark, c is check

If the old string is found you will get the messages

```
E>
E>
Checked
EDIT, ACCEPT or REJECT:-
>>
```

Type a and the article will go onto the amendment list

If the old string is not found then you will get the message

```
E>
ERROR - STRING NOT FOUND
Checked
EDIT, ACCEPT or REJECT:-
>>
```

Type r and the edit will be rejected. You can then try again.

Editing articles in LibCat

(b) Editing a record using the spf screen editor

Make the article you want to edit your current article

Use the macro EDART

edart

puts the article into EDIT.DATA

Takes you into the spf edit file EDIT.DATA which will contain the article

<Do all the necessary edits in spf>

<Get out of spf using pf15>

Returns you to STATUS

Puts the edited article in the amendment list

Gives the message 'Above article now on the amendment list'.

Adding a note to an order or catalogue record

Make the article which is to have a note added to it your current article

In LibCat use the macro NOTEADD

noteadd

Prompts for additional text for the notes section:-

calls

editok

Gives the message 'Article edited and put on amendment list'

Shortened form noteadd <text>

eg

noteadd lend to CWJ Wilson 465

Adding an applied maths shelfmark to a catalogue record shelfmark

(the shelfmark is put in the cross reference section)

Make the article which is to have a shelfmark added to it your current article

In LibCat use the macro AMSM

amsm

Prompts for the applied maths shelfmark

<If there is no cross reference section the macro NEWAMSM is called>

calls editok

editok

Gives the message 'Article edited and put on amendment list'

Shortened form: amsm <shelfmark>

eg

amsm 1.1.2

Adding or changing the price of an order or a catalogue record

Make the article whose price you want to add or change your current article

The price must be in £ sterling

In LibCat use the macro PRICE

price

Prompts for the price

<If there is no price section the macro NEWPRICE is called>

calls editok

editok

Gives the message 'Article edited and put on amendment list'

Shortened form: price <new price>

eg

price 67.95

Changing the Status section of an order

Make the article whose status you want to change your current article

(a) To add specific text to the status section of an order

Use one of the following macros:

To add 'NEIP <today's date>' to the status section of an article
use macro NEIP

To add 'NRP <today's date>' to the status section of an article
use macro NRP

To add 'NYP <today's date>' to the status section of an article
use macro NYP

To add 'DFA <today's date>' to the status section of an article
use macro DFA

To add 'DPC <today's date>' to the status section of an article
use macro DPC

To add 'DSP <today's date>' to the status section of an article
use macro DSP

To add 'Proforma invoice recd <today's date>' to the status section of
an order and the price to the price section
use macro PROFORMA followed by the price eg. proforma 7.90

To add 'Retd BHB <today's date>' to the status section of an article
use macro RETBHB

To add 'Recd and sent to CWJ Wilson on appro <today's date>' to the
status section of an article use macro WILSONOA
use macro WILSONOA

These macros all call EDITOK

editok

Gives the message 'Article edited and put on amendment list'

(b) To add non-standard free text to the status section of an order

In Libcat use the macro STATUS

status

Prompts for additional text for the status section

Calls EDITOK

editok

Gives the message 'Article edited and put on amendment list'
shortened form: status <text>

eg

status Vol 1 only recd 09:08:82

Setting dates for orders, hasteners and receipts

Before any hastening is done the date for the hasteners must be set using the macro HASTDATE

hastdate

Prompts for the hastening date

Puts the hastening date in the macro TODAY

Hastening orders

In LibCat make the order to be hastened your current article

Use the macro HASTEN

hasten

calls hasten1

<If the status section has not already been changed HASTEN2 is called>

hasten1 (or hasten2)

replaces the hastening date with 'today'

calls EDITOK

editok

Gives the message 'Article edited and put on the amendment list'

Dealing with orders received and on approval orders kept

Make the order received or on-approval order kept your current article

All prices must be in £ sterling

Orders received

To replace '#HASTDATE ...' by '#RECDATE <today's date>' use the macro RECD followed by the price

eg.

recd 45.70

To replace '#HASTDATE ...' by '#RECDATE <today's date> NOT CATALOGUED' use the macro RECDNOTC followed by the price

eg.

recdnote 107.00

On approval orders kept

To replace '#HASTDATE ...' by '#RECDATE <today's date> kept for <div>' use the macro KEPT followed by the price. The macro will then prompt for the division or individual keeping the document.

eg.

shortened form: kept 90.00

Moving deferred orders to the Deferred orders chapter

(Chapter 6)

Make the order to be deferred your current article

In LibCat use the macro DEFER

defer

puts this order into the file EDIT.DATA

flags the original order for destruction

Gives the message 'above article now in edit file'

calls DEFER1

defer1

Moves you into the spf edit file EDIT.DATA which will contain the order

<Do all the necessary edits in spf>

<Come out of spf using pf15>

Returns you to STATUS

Puts the order in the amendment list to be filed in the
Deferred orders chapter

Gives the message

'Above order now moved to deferred orders chapter'

Moving unobtainable orders to the Unobtainable documents chapter
(Chapter 5)

Make the order to be cancelled your current article

In LibCat use the macro CANCEL

cancel

puts this order into the file EDIT.DATA
flags the original order for destruction
Gives message 'above article in edit file'
calls CANCEL1

cancel1

Moves you into the spf edit file EDIT.DATA which will contain the order

<Do all the necessary edits in spf>
<Come out of spf using pf15>

Returns you to STATUS
Puts the order in the amendment list to be filed in the
Unobtainable documents chapter
Gives the message
 'Above order now in unobtainable documents chapter'

Destroying articles in LibCat

Make the article you wish to destroy your current article

Display it to make sure

Type `destroy`

You will be given the title of the article and asked to confirm that you want it destroyed

If you want to destroy it type `y`

If you don't want to destroy it type `n`

Shortened form: `destroy; y`

Removing amendments from the amendment list

When an amendment is displayed it will have a number which is used to identify it

If you wish to remove the amendment whose number is `n` then type `remove n`

The amendment will then be removed from the amendment list and the flag removed from the article which it was to amend

Section 4:

Production of the Recent Additions from LibCat

Production of the Recent Additions from Libcat

Every Thursday the Recent Additions to LibCat have to be copied out of the database into a dataset for the Information Office to add to the Bulletin database. The Recent Additions section of the next printed Information Bulletin will contain these catalogue records.

On a Thursday you will be reminded to do the Recent Additions when you logon to TSD on SCASMB and SCAAES.

The dataset which contains the Recent Additions will have a name of the form SCASMB.RA<date>.DATA where <date> is the date of the Friday following the Thursday when the job to produce the Recent Additions list is submitted. <Date> takes the form of a two figure day followed by the first three letters of the month. eg. 06APR; 29MAY etc.

Before you submit the job to produce the Recent Additions you must first edit the JCL 'SCASMB.LIBCAT.CNTL(LIBRA)' in SPF.

- (a) Change the name of the first dataset to contain the date of last weeks Recent Additions dataset; this dataset will be deleted by the job
- (b) Change the dates to cover the next period of the Recent Additions Normally the first date will be a Saturday and the second date the following Saturday. All catalogue records with a received date lying between those Saturdays and not marked NTBL will be selected to be put into the Recent Additions dataset.
- (c) Change the name of the last dataset to contain the date of the next Recent Additions dataset. The Recent additions will be put into this dataset.

To submit the job

With the cursor in the command input position type 'submit' and press the enter key. You will get a message to say that the job has been submitted. Exit from the dataset using the PF15 key. The job will be released by the overnight batch job which updates LibCat

Section 5:

System failures and what to do about them

Possible errors and the action to take

If the system crashes when you are asking a question or doing some sort of display then no action is necessary. There is only a potential catastrophe when an article in LibCat is being changed, as it is during an edit or being put into or taken out of LibCat which happens during an update.

System failures during an edit, destroy or remove.

These may occur when;

- (a) An article is specifically being edited using the 'edit' command within STATUS
- (b) An article is being destroyed using the 'destroy' command
- (c) An article is being removed from the amendment list using the 'remove' command
- (d) An article is being edited using one of the following macros:

amsm	ofa
cancel	opc
defer	osp
edart	price
hasten	proforma
kept	recd
neip	recdnotc
noteadd	retbhb
nrp	status
nyp	wilsonoa

Action

Submit LibCat(size) nohold
in response to a TSO READY from SCASMB
This will remove any 'article being edited' flags in article(s) being edited when the system failure occurred. All other edits remain on the amendment list.

Failure during a dump step of the overnight job

Failures may be caused by system breaks or dirty tapes
The Tape Librarian (ext 2495) deals with dirty tape problems and
relabels tapes.

Failure during dump to magtape SCA001

(First dump of LibCat in update job)

<u>Cause of failure</u>	<u>Action</u>
-----	-----

System break:	Re-run job
---------------	------------

Dirty tape:	Have tape re-labelled; re-run job
-------------	-----------------------------------

***** Make sure that the LibCat database files are free
when the job is running by typing 'freeall' in response
to a TSD READY on SCASMB

Failure during dump to magtape SCA002

(Second dump of LibCat in update job)

<u>Cause of failure</u>	<u>Action</u>
-----	-----

System break:	Submit 'LibCat(dump002) in response to a TSD READY on SCASMB
---------------	---

Dirty Tape:	Have the tape re-labelled, then carry on as in system break above
-------------	--

***** Make sure that the LibCat database files are
free when the job is running by typing 'freeall' in
response to a TSD READY on SCASMB

Failure during the STATUS step of any overnight job which adds in
either orders or catalogue records or which updates Libcat

Action:

The only thing to do is to restore LibCat from the latest dump taken.

In response to a TSD READY

either:

submit libcat(rest001) to restore from tape SCA001

or:

submit libcat(rest002) to restore from tape SCA002

This job SMBT1RS1 or SMBT1RS2 will restore LibCat. Any changes since this last dump will have to be re-done. Any orders or catalogue records that should have been added into LibCat will have to be added in by the next overnight job.

REST001
REST002

JCL: SCASMB.LIBCAT.CNTL(REST001)

JOB NAME: SMBT1RS1

JOB STEPS:

Restores LibCat from magtape SCA001

REST1: Restores LibCat text and concordance files

REST2: Restores LibCat common word file

REST3: Restores LibCat macro file

REST4: Restores private macro file

JCL: SCASMB.LIBCAT.CNTL(REST002)

JOB NAME: SMBT1RS2

As SMBT1RS1 but

Restores LibCat database from magtape SCA002

STATUS UTILITIES

STFREQ

JCL: SCASMB.LIBCAT.CNTL(STFREQ)

JOB NAME: SMBT1FRQ

On SCASMB in response to a TSD READY type 'submit libcat(stfreq)'

JOB STEP:

FRQ: Prints out the vocabulary of LibCat with the frequency of occurrence of each word

STSIZE

JCL: SCASMB.LIBCAT.CNTL(STSIZE)

JOB NAME: SMBT1SIZ

On SCASMB in response to a TSD READY type 'submit libcat(stsize)'

JOB STEP:

SIZE: Prints total number of blocks and average waste space per block for each block type in the text and concordance files. If necessary cleans up text file after a system failure during an edit. Prints the number of empty blocks in the text and concordance files.