

Management of personal bibliographic reference using a simple database program

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Although it has been hard to introduce new ideas for the design and use of bibliographic databases, improvements on the common designs have been required for particular applications. To build a personalized bibliographic data base has become easier since new products have been introduced in the market for this purpose (Garfield, 1987, 1988a,b).

The software CDS/ISIS mini-micro version, release 1.0 (Unesco, 1985) was purchased at a very low cost by the Department of Animal Health and Technology from the Faculty of Veterinary Medicine, Technical University of Lisbon and has been working under the operating system MS-DOS version 3.2 (Microsoft Corporation, USA). This software provides the ISIS language that is specially designed to build database management systems. Our bibliographic database is named CRESCI and covers the endocrinological manipulation and control of growth in animals, with emphasis on anabolic steroids, β -2-agonists and somatomedins.

Index files (indispensable for selective data retrieval) are generated using the facilities of the program to probe programmer selected fields in every record. The fields we have selected for the creation of inverted indexes are: title words; journal names; key words. The program for the indexation of records is stored in a specific file that has the file name extension .FST. The contents of such a working file from our program are:

```
3 4 MHU, (V3^*/V3 n/V3 s/)
4 4 MHU, (V4^*/V4 n/V4 s/)
8 2 MPU, (:<:V8:>:)#
```

This definition of the fields that will be indexed on each record and the design of the worksheets in order to allow the storage of vital information, but not surplus data, called for a particular attention in program design to fit our purposes. Since in a personalized database the most useful work is the retrospective search for records according to the operator's thematic interests, the fields containing title words and key words have paramount importance. In our program these two fields have been large enough to accommodate the amount of information that we have selected from written papers for the last 5 years. The indexing

of journal names is also useful, since we can save time when requesting reprints from one journal that is collected in one library. Our most common procedure has been the request of offprints from recent articles directly to the authors. The journal names field is large enough to accommodate the full name of any journal. This is in agreement with the current trend of stating the full names of periodicals to avoid any confusion arising from overlapping or non-standardized abbreviations.

The program for the print format of the display, either on the screen (except when working in the edit mode for data entry or modification) or on printer listings, is stored in a specific file with the file name extension .PFT. The contents of such a working file from our program are:

```
#, 'Record number 'MFN(3)/ MDL,
'Anonymous. "N1, "Author(s): "V1(10,10)+:; :%# ,
'Title: t.b', MDU, (V3^*(10,10)+:; : V3 n(10,10)+:;
: V3 s(10,10)+:; :)%# , MDL,
'Periodical: 'V4^*(0,12)+:; : V4 n(12,12)+:; : V4 s(12,12)+:;
: % # ,
'Year: ':(V2:). :
'Volume: 'V5:; :
'Number: ":(V6:), :
'Pages: 'V7+:; :
'REQUEST ART. "N9, "File:"V9+:; :#
```

These programs are able to handle references published in periodicals. Another program is in development to handle references to an individual chapter or paper of an edited book. Independent files were programmed to define worksheets that are picked up by a system of sliding menus which therefore allow the input of data (Figure 1). The system of worksheets spares memory space because even though every field has a predefined size only the number of characters introduced over the worksheet will be stored separately in the master file. A hard disk is recommended for the sake of speed, efficiency of mass memory use, and ease of utilization. A database can be imported from separate floppy disks by this system into a hard disk, and become a single unit.

A remarkable feature from this program is the possibility of defining specific files which include a relation of equivalent lexical terms that make any search more complete and simpler. The stopword file defines words that must be ignored by the indexing process in a particular field, discarding words like 'the', 'a', 'for', etc. present in titles.

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```

Author(s): Bohorov, O. %Buttery, P. J. %Correia, J. H. R. D. %Soar, J. B. -----
                                                Year: 1987
Title: The effect of the  $\beta$ -2-adrenergic agonist clenbuterol on
implantation with oestradiol plus trenbolone acetate on protein
metabolism in wether lambs-----
-----
Periodical: <The> British Journal <of> Nutrition-----
Volume: 57----- Number: ----- Pages: 99-107----- Quota: g3am--
Key words: >< $\beta$ -2-agonist><17 $\beta$ -estradiol><FSR><skeletal muscle><longissim
us dorsi><vastus lateralis><vastus intermedius><ruminant><trenbolone ace
tate><FSR><plasma><protein synthesis><protein breakdown>-----
-----
| J - Next page | B - Previous page | M - Modify | R - Restore screen |
| X - Exit      | D - Delete      | C - Cancel | T - End revise  |
|               | More ...       | MFN=      | 63              |

```

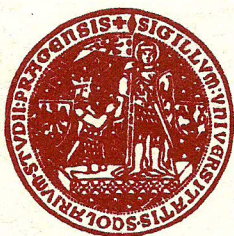
Fig. 1. Example of the first page for a data entry worksheet. Different types of highlights help to distinguish between distinct fields upon the screen. Fields shown actual length in characters.

The search facilities provided by the software are completely satisfactory, giving fast access to interesting records and allowing for the organization of complex search criteria with Boolean logics, truncation and exclusive automatic assignment of lexical equivalents. The result of an on-line search can be saved in a named file that is suitable for export and treatment by an ASCII word processor. This is useful when preparing a list of references for inclusion in a paper. The lexical terms integrating the search dictionary are deeper in its conception within CRESCI because they are organized by scientists specializing in the database subject.

References

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Circle No. 14 on Reader Enquiry Card



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Prague, July 30, 1990

Dear Sir,

I would greatly appreciate if you could send me the reprint of your paper published in: Computer Applications in the Biosciences, 6 (2) 1990 pp.126

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by
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referred in Current Contents/LS No.27/1990 as we are not quite sure that the publication containing your paper will be available for us in a reasonable time. I would like to use your text as a background material for our study on personal bibliography and its application in academic conditions in respect to publishing, planning scientific programs and evaluation of scientific activities at the level of departments, faculties and university.

Sincerely yours

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