

The PICA Catalogue System

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THE PICA CATALOGUE SYSTEM

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Introduction

In 1969 a cooperation was formed by the Royal Library and a number of University Libraries which was sponsored by the Dutch Government.

The goal of the cooperation was to study the possibilities of an automated, on-line catalogue system and the application of other computerized library procedures in academic libraries. The first project was called PICA.

During a relatively long period of research, an advanced format was developed for the storage of bibliographic information; the PICA format.

When in 1975 the research period was concluded it was decided to start the development of a computerized catalogue system on mini-computer hardware using a step-by-step approach.

The PICA project

One of the first steps to be taken was the development of a limited cataloguing function with the following objectives:

- Increase the cataloguing efficiency by using machine readable title descriptions from national bibliographies
- Obtain machine readable "own" title descriptions
- Construction of a Computerized Central Catalogue for the participating libraries by adding book numbers to the descriptions.

The computer system

First the necessary computer hardware was selected. A configuration consisting of two PDP 11/70 computers (fig. 1), both connected to a large disc storage memory with a capacity of at this moment 1,2 million titles was selected. The computer system is partially duplicated because of reliability reasons; if one central processor fails the database as well as the communication processors which manage the terminal network are switched to the other central processor. This way a virtually continuous service to the participating libraries is secured.

A rather important hardware facility is the terminal station used. This station consists of a HP display terminal with an optional character or matrix printer.

The display has a 256 InterMarc compatible character set and can operate with a speed of 4800 bps while more than one terminal may be connected to the same telephone line, thus greatly reducing line rental costs.

PICA Computer System

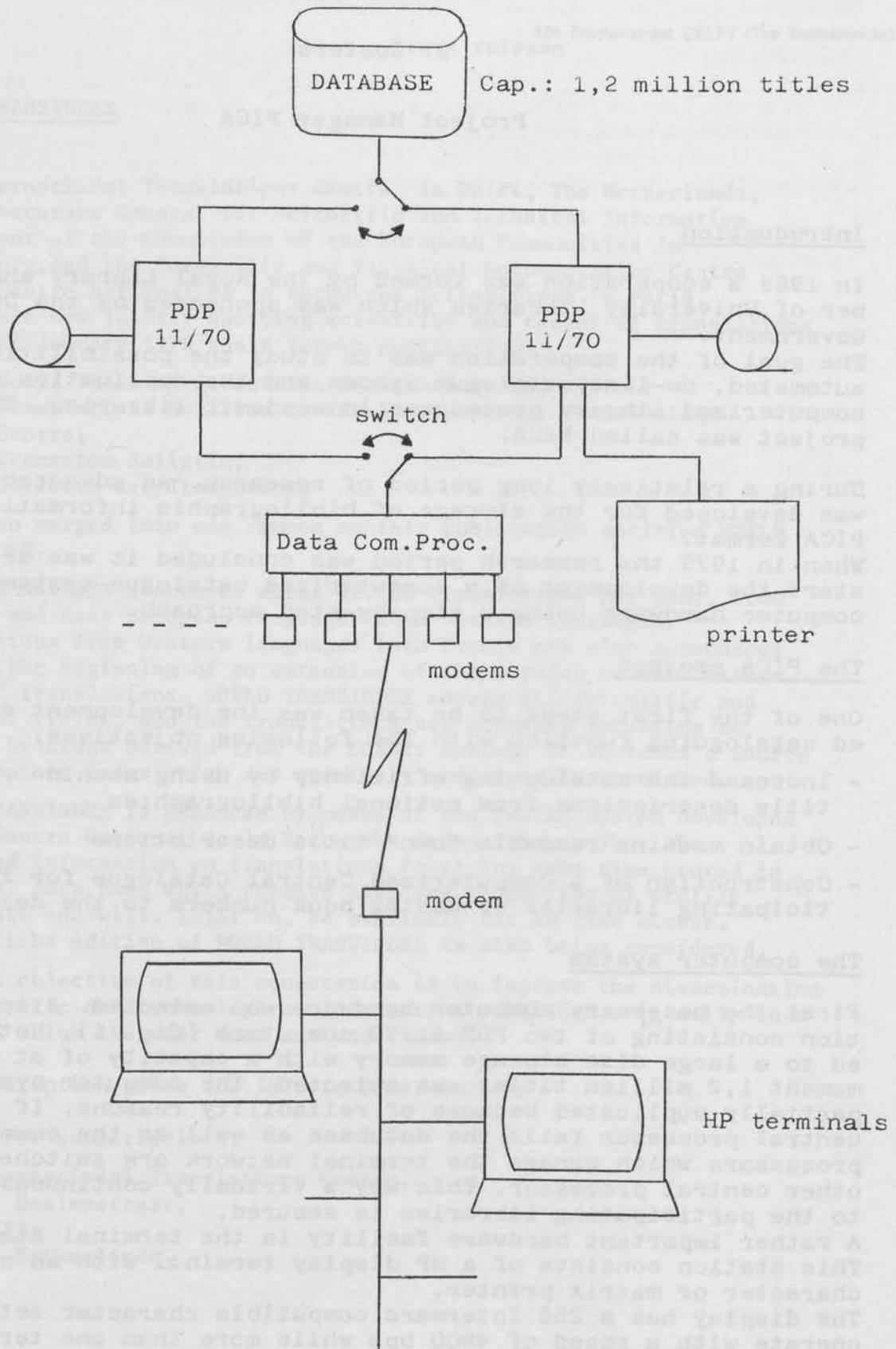


Fig. 1.

PICA functions

The services of the PICA system to the libraries consist of a number of on-line and off-line functions.

The on-line functions comprise the following:

- Search with a given key for a title in the Database
- Display the bibliographic description in a selected format
- Change selected parts of a title description or add bibliographic information to the database
- Add a book number for each copy
- Put a title in the card-productionfile in an, own, selected lay-out for card output in accordance with existing card catalogues
- Add a new title description to the database.

The off-line functions are especially concentrated on the production of flexible output and on the expansion of the database with title descriptions. On request output can be produced on the basis of user specified selection-, sorting- and lay-out-criteria. This output cannot only be produced on paper but also on microfiche and magnetic tape while on request it is also possible to have Digiset output.

At this moment the PICA database includes about 700,000 to 800,000 title descriptions, most of which are obtained from OCLC magnetic tapes.

In addition BNB and Library of Congress tapes are being processed and new information is stored in the PICA database. With a further expansion of the database with tapes of other National Bibliographies it is foreseen that the hit percentage for finding titles during the cataloguing process will go up till over 90%.

A new function, catalogue conversion, which has not yet been implemented but which will be available this fall is a combined on-line/off-line function for retrospective input of title descriptions. In this function it will be possible to capture abbreviated title descriptions on cassette tape and store them via an on-line connection into a retrofile in the PICA system.

Each night an off-line function will match the input in the retrofile with the PICA database and add relevant information to the retrofile.

This information which consist mainly of found titles can be inspected on-line and after authorization by the producing library be included in the PICA database.

In this way it is possible to include a large amount of retro titles into the PICA database in a relatively short period of time.

Future PICA functions

In addition to the functions which have been realized or are being realized a number of other functions are planned.

These are:

- On-line thesaurus facilities
- Inter library loan facilities
- Statistics

- Interfacing with local library systems
- Acquisition administration
- Extended searching facilities.

Also the development of a standard local library system is foreseen which can be interfaced to the central PICA catalogue system and which will be used by a number of libraries participating in this project.

The local system will mainly comprise the following functions and will be developed on compatible computer hardware:

- Interface with the central PICA systems
- Acquisition administration
- Serials administration
- Binding administration
- Storage administration
- Circulation control
- Statistics.

One of the reasons why an Acquisition Administration function is foreseen in both central and local systems is that this will make it possible to give local systems a relatively fast start. At first an acquisition administration can be used via the central system and later on after installation of a local system it is possible to switch to the local compatible acquisition administration function.

An important aspect is that local systems can extract bibliographic information on the own book holdings from the central database for further processing. The central database however will remain the master database and the local database the slave.

In the end it is foreseen that an information-network will be realized in which central and local systems will communicate either on-line via direct telephone connections or off-line via magnetic tape (fig. 2).

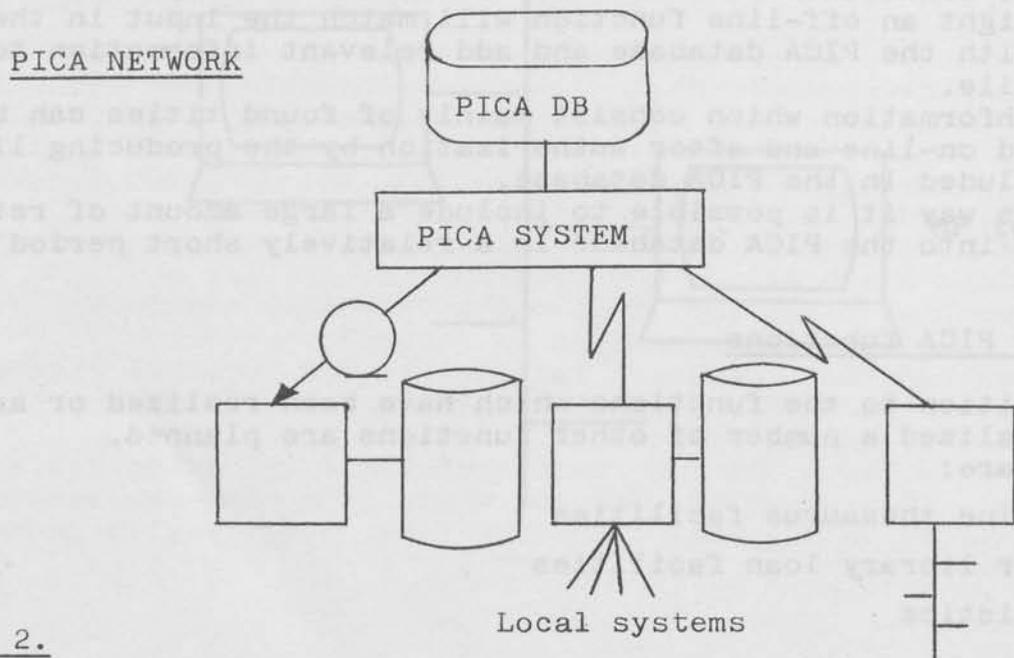


Fig. 2.

DISCUSSION

Dr. A.H. Helal: Librarians have now been using computers for some twenty years, and are by now aware of many of the advantages of computers and the products that can be obtained. I would like to ask you what new aspects are being presented by PICA.

Costers: I agree that people have been talking about totally integrated systems for many years. I think it is important to actually realise some practical achievements even if these are rather simple and limited.

Prof. A.J. Evans: Ten years ago it was a gleam in the eye. Now we are beginning to see working systems.

Costers: I have tried to describe PICA as it now functions rather than the new developments.

Mr. F. Boeckx: In Dutch university libraries there is a great variety of other languages than Dutch. So the PICA-system has to subscribe to many machine - readable bibliographic files to give real advantages to the individual libraries.

Costers: That is true. There will have to be about 2 million bibliographic descriptions in the data-base to give real advantages. In relation to this the cost of storage will get less and less.

Mr. L. Gärdvall: How are you going to extend the present 3 or 6 character search key when you are extending the support for interlibrary lending.

Costers: We are now studying different algorithms for an extended search key, but have not yet decided on a solution. The result of our studies will be published. Present search key statistics look like those of LIBRIS II.

Dr. P.J.C.A. Pinxter: I am a little worried as to the development of a search key containing for instance the first, third, fourth and seventh character of a surname. This would be too complicated for a simple user who wants to search the catalogue.

Costers: The user himself does not have to remember which character he has to choose. He just keys in the beginning of the surname. The computer then selects, itself, the character needed for the search procedure.

Dr. V Wehefritz: I did not understand why the sorting of the characters need be changed from library to library.

Costers: It is related to the catalogue filing rules which may differ from library to library.

Mrs. E. Törnudd: Which technological university libraries contribute with input of cataloguing information into PICA.

Costers: None.