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The Concept of a Data-Processing System for Scientific Documentation in Education

The amazing increase of information volume in general and of scientific information in particular, in the last centuries, requires the introduction of modern methods of data computing and stori ng in order to facilitate the informing of researchers and didactic staffs. The paper presents the possibility of using the computing technique for the scientific documentation within the libraries of the Academy of Economic Studies.

The information reaches generated by the contemporary technical-scientific revolution makes more and more difficult the access, in the traditional shape, to the scientific character information in all fields of activity.

The scientific documentation and informing has a greater importance within the institutes where the main activity is represented by the training process. The multiple possibilities of transmitting the scientific information, the large volume of scientific papers make ever more difficult a fast documentation.

Particularly, in higher education institutes, the activities related to scientific documentation and informing are related to universitary libraries which are generally complex and contain a large volume of titles.

Further, we shall present certain aspects and ideas related to automation of scientific documentation and informing process within the libraries of the Academy of Economic Studies in Bucharest.

The libraries of the Academy of Economic Studies contain over one million volumes and about one hundred thousands distinct titles.

As organization, the library contains four compartments, namely:

- completing, cataloguing sector
- readers relation sector
- collections preserving sector
- scientific documentation and informing office.

The organization of the first three sectors is classic and will be not the object of the following presentation. The scientific documentation and informing office aims at offering the possibility to didactic staffs, researchers and specialists in economic problems to be daily informed about the scientific news.

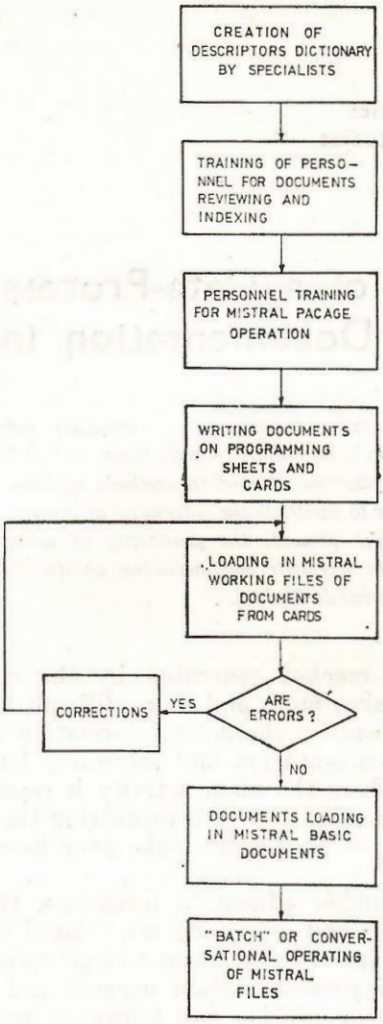


Fig. 1

The practical achievement of experiment supposes the operations shown in Fig. 2.

In order to implement this system it is necessary an interdisciplinary internal cooperation among the compartments of the Academy of Economic Studies, as libraries, departments, computing centre.

While automated management of this lecture room is improved, it can be generalized also for the components of the library within the Academy of Economic Studies.

In the project of general data-processing system for all activities within the Academy of Economic Studies, the automated management of library documentation fund plays an important role. This management is run on one of the electronic computers of the endowment. The automated administration of documentary fund supposes the solving of two problems; a technical problem related to computing system with respective software components and an organizational one related to the implications of documentary fund processing using the computer.

From compatibility reasons with other computing systems, the hardware is a FELIX computing system in order to generalize and improve the chosen solution. As software, one appeals to Mistral package, being the single program package from the endowment of FELIX system particularly oriented to documentary fund management, existing also an expericence of its operation. The operation of documentary fund is made both in "batch" mode and in conversational one. When we refer to conversational operation, we have in view the operation of documentary fund included in Mistral permanent files.

As it is known, Mistral program package uses as retrieval technique, inverted files, organized on descriptors indexing any document taken in permanent files.

These aspects related to used hardware and software will be mirrored in the mode of solving the second problem for the documentary fund management, namely the organization problem.

Since the inverted files are organized on descriptors, the key problem within the general framework of organizational aspect will be the creation of descriptors dictionary and documents indexing which will be the object of computer running using descriptors of this dictionary. In order to create descriptors dictionary, there are two solutions. The first solution is that of freely indexing the documents by personnel specially trained to this purpose, solution which will lead to a non-uniform characterization of documents, to an outsized descriptors dictionary, hardly to be used, but very flexible. The second solution is that of working out a controlled descriptors dictionary, created by specialists in several fields, assigned to a national and international standard in order to facilitate the exchange of information, limitted as volume, easily to be used and checked at several periods.

The adopted solution is that of a controlled dictionary. In order to achieve the automated management of documentary fund, we have to follow the steps in Fig. 1.

The problem of computer running the documentary fund must be coordinated at the level of completing-cataloguing sector, using to this end a trained personnel.

The current operation of documentary fund from Mistral basic files, in "batch" or conversational mode must be made under the coordination of scientific documentation and informing team, where there are terminals, operating instructions, up-date descriptors dictionary and personnel specially trained for operating according to a rigurously established operating discipline.

The first pilot experiment within the Academy of Economic Studies is made for a model lecture room containing about 10000 volumes and books representing the last publications in several fields of activity.

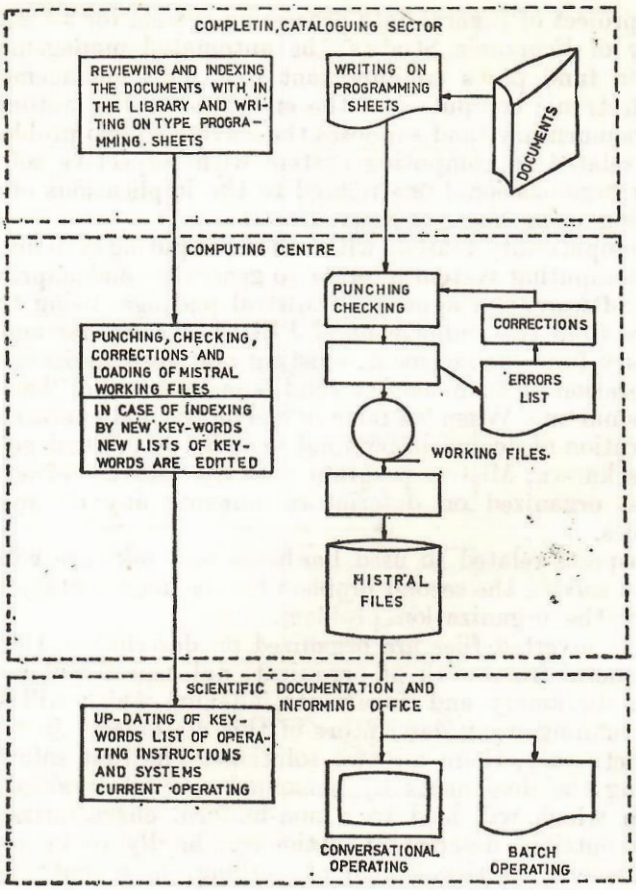


Fig. 2

UN SYSTEME INFORMATIQUE POUR LA DOCUMENTATION SCIENTIFIQUE

L'ampleur extraordinaire du volume des informations, en général, et de l'information scientifique, en particulier, qui s'est manifestée ces dernières décennies, rend nécassaire l'introduction des méthodes modernes de calcul et de stochage des données, afin de faciliter l'information des chercheurs et des enseignants.

L'auteur présente la possiblité d'utiliser la technique de calcul pour la documentation scientifique des bibliothéques de l'Académie d'études économiques.

КОНЦЕПЦИЯ ОБ ИНФОРМАТИЧЕСКОЙ СИСТЕМЕ ДЛЯ НАУЧНОЙ ДОКУМЕНТАЦИИ

Чрезвычайный рост объема информаций вообще и научных информаций в частности, в последные десятилетия, создает необходимость внедрения современных вычислительных методов, и методов для хранения данных, для облегчения работы научных исследователй и преподавателей. В работе указывается на возможность использования вычислительной техники для научной документации в библиотеках Академии экономических исследований

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