

CACTIS: A COMPUTER-ASSISTED COMMUNITY TELEPHONE INFORMATION SERVICE
(CACTIS: SERVICE TELEPHONIQUE AUTOMATISE DE RENSEIGNEMENTS POPULAIRES)

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ABSTRACT

A preliminary assessment of the role of the computer in community information work, given at the 1975 CAIS/ACSI Conference, indicated that on-line question-answering presented many problems in this environment. It was hypothesized that a more appropriate function for the computer lay in printing up-to-date manual indexes, directories, and special listings. A system implementing these functions, the CACTIS system, has been developed for Information London, the local community information center, under a research grant from the federal Department of Communications. (Une étude préliminaire sur l'utilité de l'ordinateur dans les centres de renseignements populaires, présentée à la troisième conférence de l'ACSI/CAIS, soulignait les nombreuses difficultés associées à l'utilisation d'un système d'information en mode conversationnel, dans ce milieu. L'hypothèse fut alors proposée que l'utilisation la plus fonctionnelle de l'ordinateur, dans ce contexte, demeure la production d'index imprimés, de répertoires et de listes spéciales. CACTIS est le système, développé à l'Université de Western Ontario, que rend ces diverses fonctions effectives à Information London, un centre local de renseignements populaires.)

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Information London is a non-profit community service organization that provides free information, referral and assistance to the public concerning government, social, health, counselling and emergency services as well as recreation facilities and community organizations.

In order to provide these services, by telephone, to the community, Information London requires extensive and up-to-date information files which can be easily and quickly searched. As with most community information centers, Information London creates to a large extent, its own information bank. This is accomplished through personal contacts, from releases, brochures and other material received through the mail, as well as through careful perusal of local newspapers.

The file organization developed by the Information London staff over a period of five years is adequate to fulfill their purposes. The most heavily used information is kept on loose-leaf pages contained in subject binders. Each binder provides information about a specific area, such as senior citizen facilities, daycare facilities, community organizations. The subject areas have developed as a reflection of need and usage. In addition to these binders a general subject Kardex file and a detailed information file-folder file are maintained.

Although the organization of the information is adequate to meet the needs of Information London staff, the maintenance of the files is becoming more and more of a problem for the staff. The data bank requires constant updating because of the nature of the information with which it deals. The information which Information London handles such as, what functions are provided by local human service agencies both government and private, who are contact persons, what social, recreational, and educational activities are going on, is constantly changing.

In the current manual system the staff make updates to the data base by simply writing onto the old records or inserting new records where they can. This method has resulted in binders so cluttered with inserted records and changes that the effectiveness of searching for information when needed is significantly degraded.

In addition to their telephone assistance, Information London produces an annual publication of a community directory for sale to other community groups. This project involves a sizeable investment of staff time in updating entries and re-typing the entire directory. The cost of printing the directory has been mostly recovered by selling the directory.

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AUTOMATION - JUSTIFICATION

The nature of Information London's demands for information requires that the sources of information for use and/or dissemination be correct, up-to-date, and easily recoverable. Automation should provide more readable binders for easier recovery of information, more effective update capability, and thus allow for most effective use of the staff time.

In addition to update capability an automated system should produce special lists not otherwise available for internal use and distribution to the public with minimal time expenditure of the staff. These special lists may be subsets of binders, rearrangements of records by alternate classification schemes or geographical area, or as results of keyword searches. By treating the community directory as a binder it can be kept up-to-date on a continuous basis and used as a source of community information all year. Once a year, or more often, it can be produced as a special list and sent directly to be off-set printed from the computer output. This procedure will reduce dramatically the time and money expenses incurred in producing the directory.

The use of the computer to perform the updating function was suggested by an earlier study(1). This study indicated that on-line querying of a computer data base provided no advantage for the staff over accessing printed binders at Information London. Following this study it was recommended that a more useful system might include the following facilities:

1. to generate data in loose-leaf form to be used in subject binders
2. to allow regular updating of the data base by producing replacement pages for the binders
3. to allow for the production of special lists from the data base for both internal and external distribution
4. to provide camera-ready copy of sections of the data base for publication.

In the spring of 1975, the Federal Department of Communications awarded the University of Western Ontario a research grant of \$26,400 to implement these recommendations. The result of this grant has been the development of CACTIS System by the University and Information Systems and Services, a local consulting firm.

OBJECTIVES OF CACTIS SYSTEM

One objective of the CACTIS System for use in community information centres such as Information London, is to provide assistance to the staff

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by automating certain functions of their manual system for information control.

An additional objective of the system is to provide information handling capabilities beyond the scope of a manual system.

A final objective of this system is to incorporate the computer as a working tool of the information staff. To this end it must be operable by the staff with ease and confidence and within their time constraints.

DESIGN OF CACTIS SYSTEM

The CACTIS System is a mix of interactive and batch mode operations. Data input, updates and list requests are performed interactively on-line. Actual processing of these requests is done in batch mode to take advantage of less expensive computer time and free the staff for other work.

Access to the system for all inputs, and outputs is via terminal located in the Information London office. Data input, and requests for updates and lists are entered in a simple manner, on-line, and stored on disk. Interaction with the computer is limited to editing input, displaying input and syntax checking to eliminate likely errors. This procedure is not imposing for the user and response is rapid even when the computer is most heavily utilized.

When ready to process the requests, which may have been input in one or more input sessions, the user makes contact with the computer and issues a single command to initiate the processing of all requests stored on disk. The user is once again free to go home or attend to other work.

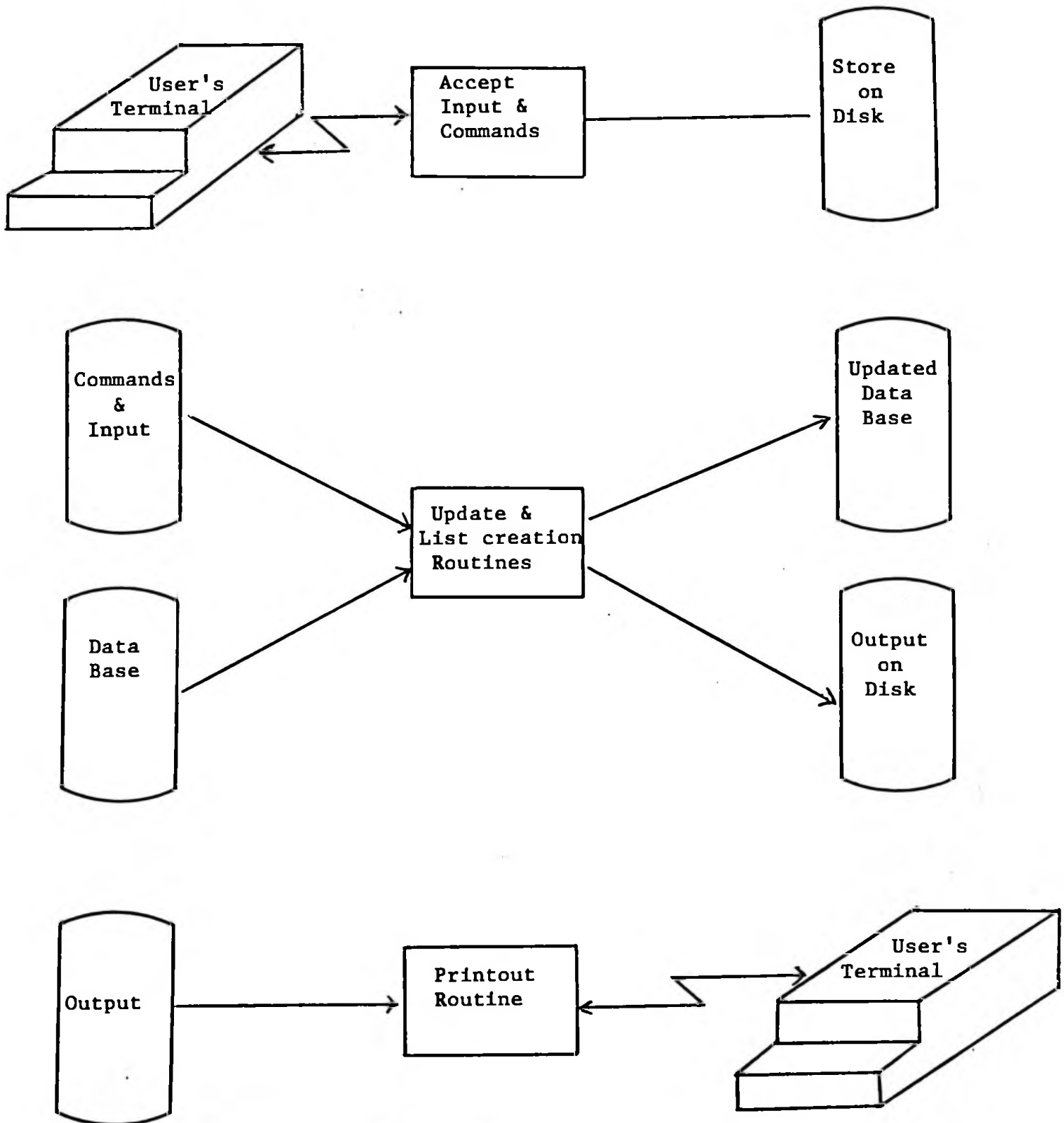
The processing in batch mode of these requests is deferred until it can utilize less expensive computer time. This deferment also ensures the availability of the private disk drive which holds the data base.

When processing is completed, the results are stored on the common disk for access by the user.

When the user is ready for the output, generally the next morning, he again makes contact with the computer from the Information London office terminal. He then issues a single statement which produces the output via the user's terminal in the format requested. The output procedure has a restart capability to allow for the production of extra copies of certain lists even though not originally requested.

The output from updates can then be entered directly into the subject binders, retaining the old pages for a history file. Special list outputs can be transformed into ditto masters for reproduction for distribution both inside and outside of the office.

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EVALUATION

A preliminary evaluation of the CACTIS system will take place during February and March of this year and, if funds are made available, a more extensive evaluation will be continued over the following twelve months. The evaluation has several purposes:

- (1) To gather statistics on the use of the various system commands, and on the number of updated pages and special listings produced.
- (2) To compare time spent in updating the data bank before and after implementation of CACTIS.
- (3) To determine new services made feasible by CACTIS, for example, printing of other directories.
- (4) Through interviews with Information London personnel, to determine the acceptability of the system to a nonspecialist user group. In particular, an attempt will be made to evaluate and, possibly modify, the user-system interface and the formatting of computer output.

A natural extension to CACTIS would be a network linking community information centers in the southwestern Ontario region. Funds have been requested for a network feasibility study, and it is hoped to proceed with the project during the summer of 1976.

PROPOSITIONS

1. In a community information center and similar nontechnical environments, the optimal role of a computer is the provision of up-to-date printed indexes, not online retrieval.
2. In established information centers, greater user acceptability is achieved by using the computer to make existing procedures more efficient, rather than to introduce a totally new system.

REFERENCES

- (1) CARROLL, John and Jean TAGUE 1975 Community Information Centers and the Computer. Proceedings of the Third Open Conference on Information Science in Canada, Quebec City: 1-7.