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COMPUTERIZATION OF LEGAL MATERIALS

Memorandum by the Government of Canada

Introduction

The ability of the computer to store vast quantities of data and to search such data in a matter of seconds to retrieve specified information from it makes it an extremely attractive tool for the lawyer involved in drafting legislation, policy formulation or the day by day practice of law. Although experiments using the computer in the legal area date back to the late 50s, it is only within the last ten years that computers have come to be used by lawyers on a regular basis.

Considerable development has taken place in this area in the United States and Europe, but of the Commonwealth countries, Canada has probably gone the farthest in implementing operational systems. This paper will concentrate on the developments which have taken place in Canada, this being considered more useful for Commonwealth countries because of the similarity of legislation and legislative procedure and the common legal system. Also the Canadian material, particularly the statutes and regulations, may themselves be of interest to other Commonwealth countries.

Basic principles

Before looking more closely at computer applications in the legal area it is necessary to be familiar with certain basic principles and terminology associated with the computer. Firstly, the computer can only process information which is in "machine readable form". This simply means that information in normal printed form must be converted before it can be used by the computer. At present, conversion normally involves a typing or keying operation followed by the normal proofreading and correcting that is involved in a process of this kind. Thus, there is a cost which increases in proportion to the volume of material involved. Such costs may be offset, however, if there is other justification for converting the material. If, for example, it is to be printed and computerized typesetting is available, then the conversion to produce the computer data base for printing would replace the keying process that would be involved in traditional type-setting. The data base can also be used for information retrieval, which becomes a by-product of the printing process. Again, if the computer is used during the drafting of a document which has subsequently to be printed e.g. legislation, further keying for printing will not be necessary either, realizing greater savings. This will be discussed later.

A computer system can be looked at as consisting of three basic elements, the machine itself (referred to as the hardware), the instructions to the machine which directs it in performing any particular functions (referred to as the software or programme) and the data base which consists of the information stored in "machine readable form". Once a data base has been created and a particular use defined, a government may decide to place its data in one of its own computers if it already has, or is prepared to purchase or develop, the necessary computer software. Or it may go to a private company which has or is prepared to operate the appropriate software and so on. There are many factors involved in this decision, some of which will be illustrated later in this paper when the Canadian situation is examined.

In addition to the above an increasingly important element of a modern computer system is telecommunications. It is now quite common for the computer to be hundreds or even thousands of miles from the user but yet seem to be in the next office. This is made possible because of the quality of telecommunications now available. Until recently, in many countries high cost still limited use. However, within the last two years, we have seen the implementation in Canada, the U.S. and some European countries of a new data communications service which has substantially reduced such costs. At the present time the Canadian service which is called Datapac has interconnection agreements with the United States (including Hawaii) and the United Kingdom, and is negotiating agreements with a number of countries including Australia, New Zealand and the Caribbean Islands.

Remote computing of this kind is done on what is referred to as a terminal which usually consists of a T.V. screen to which a typewriter keyboard is attached. The user communicates by typing on the keyboard, the message and response being displayed on the T.V. screen.

Application in Canada

General

Computers are being used in the legal area in Canada by both the federal and provincial governments and in the private sector. Uses and planned uses include retrieval of information relating to statutory and regulatory material, case law material, legal opinions, land titles, personal property security interest, the provision of assistance in the drafting of legislation and regulations, the preparation of standard contracts, leases, wills and similar documents, as well as law firm accounting systems, and lawyers' time records systems, Other more specialized applications include litigation support systems, which assist lawyers involved in cases where vast quantities of documents are involved, and case management information systems for Crown prosecutors. In a related area computers are also finding their way into the court system for scheduling and keeping track of cases and other administrative applications.

This paper will limit its discussion to the use of computers in relation to statutes and regulatory

material, together with other information which may be of particular interest to government and to organizations such as law reform commissions which have a responsibility for developing or making proposals in regard to new legislation.

Drafting of New Legislation

The basic process of drafting statutes and regulations normally involves a significant amount of typing, retyping, proofreading, re-proofreading, and cutting and pasting resulting at the end in a manuscript which is sent to the printer who proceeds through a further keying, proofreading, correcting and re-proofreading cycle before proofs are finally produced. Apart from the repetitous nature of these mechanical processes, there is almost invariably a fixed period of time within which the overall work including the creative development of the legislation must take place. Thus, the longer the mechanical processes the shorter the time there is left for the creative work.

About ten years ago the Department of Justice in Ottawa began working with the computer to apply its capabilities to the drafting process. The first objective was to reduce the amount of keying, proofreading and correcting that was involved, thereby reducing the amount of time required for mechanical processing. This would then provide more time for creative work, reduce some of the monotony normally involved and also reduce errors. The approach taken was to make use of what is called a computerized text editing system into which the draft legislation is typed by the drafter's secretary as it is being prepared. This system permits the secretary to store the new legislation in the computer through a terminal located in the office, to call the material back on a printer located in the office or close by, and to add to, delete or change any area of the material without affecting other areas. After all editorial work is completed an instruction can be issued by the secretary to the computer ordering the computer to type-set the material and request the government printer to prepare proofs.

The second objective in computerising was to be able to provide to the drafter other types of computer support once the bill is in machine readable form. Thus, for instance, the drafter working with a very large bill, may wish to search it to determine where particular expressions have been employed or to request the computer to prepare and print what is referred to as a key word in context (KWIC) index which will show where any word has been used in the draft and the context within which it has been used.

The drafter may also use the computer to retrieve information from existing legal material to assist in preparing the draft. Thus, the drafter may wish to determine where a particular expression has been used before in any federal statute, whether and if so how a particular word has been defined and so on. The same research may also be carried out on the statutes of other jurisdictions or a search of case reports carried out to determine whether any court has interpreted a particular word or phrase.

The system is still under development by Justice and improvements are still being made but its value has been demonstrated particularly in handling large pieces of Legislation.

Revision and Consolidation of Statutes and Regulations

The Statutes of Canada are revised every ten to fifteen years so as to include all changes that have taken place since the revision. The Revised Statutes thereby produced then become the authoritive statement of the law as of that time. In the past a significant amount of time has been required to incorporate the many changes which had taken place since the previous revision and the type-setting, proofreading and correction process involved in re-printing the statutes. In 1970 when the last revision took place a computer data base was developed from which the Revised Statutes of 1970 were printed using computerized photocomposition (a process whereby the type-setting is done by the computer using a photographic method). Since that time all new legislation has been prepared on the computer so that when passed by Parliament it could be used directly to update the computer data base of Revised Statutes. As a result, it will be possible to accomplish the next revision of the statutes in relatively short order since the time required for the consolidation and printing process will be greatly reduced.

It is also customary to consolidate the federal regulations at somewhat less frequent intervals, the most recent consolidation being published in 1979 and consisting of 18 volumes and totalling approximately 17 thousand pages. These were produced in the same way as the Revised Statutes 1970 by computerized photocomposition, the resulting data base being updated as new regulations are passed. As with the Statutes future consolidations will benefit from this process.

The Government also publishes from time to time what are referred to as office consolidations of statutes and regulations incorporating all amendments made up to the time of publication. While these have no legal sanction, they are widely used within Government and by the profession. As a result of the development of the two data bases referred to above, such consolidations can be produced much more quickly and easily with corresponding cost savings. However, this appears to have resulted in greater demands for such consolidations.

Printing of Court Reports

The Reports of the Supreme Court and the Federal Courts of Canada are both printed using a computer process thereby generating a computer data base of these materials. Although the Reports of the Federal Court (which was set up in 1971) have always been prepared by computer, and thus a complete data base exists, the Reports of the Supreme Court were not printed by a computer until 1975 and thus the bulk dating back over a hundred years, were not included. It was decided however, that a complete data base of at least the headnotes of these reports was desirable for information retrieval purposes and so the earlier

materials have all been added to the computer data base.

Information Retrieval

Present computer retrieval systems operating in the legal area work on the principle that information can be located in a data base through the selection by the user of words which are likely to occur in conjunction with the information being sought. The user by means of a computer terminal selects the words which he considers appropriate and the data base he wishes to search. He can choose individual words, combinations of words or phrases and include alternative words. Thus if a user wishes to locate all cases in the Dominion Law Reports over the last twenty-five years where the courts have been asked to vary a maintenance order because of a change in the circumstances of the husband, the user would select the D.L.R. data base and then select appropriate seach words such as MAINTENANCE— ORDER—CHANGE—CIRCUMSTANCES—HUSBAND and ask the computer to locate all cases the headnotes of which contain all these words and arrange them in order so as to provide the most recent case first.

In this case the computer would respond that five headnotes contained all of these words and display the most recent for the user to study. If the search had been made of the statutes instead of a case report base then the full text of each selection of the statutes containing all words would have been shown, At this stage of development the user's experience with the system, his knowledge of the subject area, and his ability to choose appropriate words are important factors in the quality of the result he will get.

Obviously, basic to a retrieval system and a major determining factor in its utility are the data bases which it contains or to which it has access. While the preparation and printing of the federal statutes, regulations, Supreme Court and Federal Court Reports are performed on a Government computer, information retrieval is done on a computer outside the Government which is accessible by anyone. This decision was made for a number of reasons the most important of which are the Government's wish to make its legal materials as accessible as possible and its need to have access to other legal materials, such as statutes of provinces, private report series, etc. which are available in the same system.

Thus the Department of Justice pays the cost of storing the federal legal materials within the retrieving system and a charge for retrieving information from the system. At present this gives the Department access to the statutes of two provinces which are stored in the same system (others will shortly be added) and several series of privately-published case reports. Searches are carried out, using computer terminals located in the Department of Justice, either by lawyers themselves or by a small central research unit. Users come from all branches of the Department.

A second aspect of the sharing of information rather than the development of separate information systems is the cost implications, since there are continuing significant costs in the storage of information within the computer and its updating. There is obviously a balance which has to be struck between the cost of using (including communicating with) one central computer and the cost of storing information in several different local ones.

An interesting feature of this particular retrieval service is that most of its data bases are not owned by the company which owns the computer and operates the retrieval service but are owned by its users. These users are responsible for ensuring that their own data base is kept up to date, a process which in many instances can only be done effectively by them. Thus, for instance while it is a major task for the Department of Justice to keep the whole data base of federal regulations up to date it would be virtually impossible for anyone else to do this. The concept of the organization with the best ability to update a data base being responsible for that data base is an important one and should be carefully considered by any country contemplating a system of this kind.

Educating the profession

Despite the developments in Canada that have been described, and the involvement of governments and government lawyers, there has been a resistance by the private practitioner to become involved with information retrieval. Certainly extensive use is made of computers for accounting, time-keeping and document drafting but here, of course, the benefits are more tangible. However, as a result of the efforts of the Canadian Law Information Council (CLIC) (a non-profit organization which has representatives and receives funding from the federal and provincial governments, the law societies and bar associations etc.) the majority of law schools in Canada now offer courses on computerized legal information retrieval. To encourage this CLIC has provided these schools with computer terminals and the funds to permit searches to be carried out. In its first year of operation approximately two thousand students took the course and it is expected that a larger number will take part in the current year. When a group of this size, familiar with the retrieval system and knowledgeable as to its capability, begins to practice law this will surely have a significant impact on the profession's response.

A Commonwealth Legal Data Bank

General

Given the developments in technology and communications which have already been described, and the generally accepted benefits which can be achieved by learning from the mistakes or successes of others, it is not unrealistic to consider the possibility of developing a centralized bank of commonwealth legal materials or alternatively a network of computers interconnected in such a way that information could readily be exchanged. The factors which have to be considered in choosing any particular option have already been discussed under the heading of Information Retrieval but the basic equation involves communications costs for remote access on the one hand, and storage and operations costs for a local or

in-house computer on the other. The result could be in some cases the use of in-house equipment, in others the use of remote terminals connected to someone else's computer. This in itself does not present a problem provided that adequate planning takes place. Thus a country may decide to store its information in a computer system such as the one used by the Canadian Government, and either carry out searches itself using remote terminals (provided the communications cost can be justified) or alternatively request the host country to perform searches for it and provide the results by mail in printout form.

One thing that is highly desirable is that where a network of computers is involved employing more than one retrieval system the user should not have to learn a whole new set of procedures each time he wishes to have access to a data base which happens to be stored in a different computer. This problem can be resolved within current technology provided it is planned for at the outset.

Law Reform Materials

Over the past decade there has been a very significant increase in the amount of research taking place in the area of law reform together with a proliferation of commissions whose task is to investigate and make recommendations in this area. At the same time there has been a staggering increase in the amount of information being produced and published on the subject. However, if the results of such labours are to be used in the most efficient and effective way, it is essential that they be readily available not only to people in the jurisdiction in which they are produced but also to anyone who has an interest in the subject.

Clearly, it is most unfortunate to say the least if research which is being carried out by, for example, one Commonwealth country is repeated over and over again by agencies in other Commonwealth countries simply because they are unaware that the work is being done. Even if the final conclusions of the research are not applicable for cultural or other reasons, working papers and the reasons for such conclusions would certainly be invaluable.

At the present time there is no central reservoir of information on which a country can draw to determine what is being done or has recently been completed anywhere in the Commonwealth. Clearly, in the long-term this material could form part of the kind of integrated information network described above but in the short-term other solutions might be possible.

A relatively simple and inexpensive solution might be for each Commonwealth country to prepare at regular intervals a short description of law reform activities recently completed, currently under way or planned for the future. This could be stored in a computer which was already being used for legal information retrieval. It could be accessed directly by a country by means of a computer terminal in that country or by writing or telephoning to a government or agency which had access to the computer to request that a particular search be carried out and results telephoned or mailed. The information could be updated at regular interval on the basis of instructions received from each of the organizations involved.

When a user discovered that another jurisdiction had written a report or carried out a study on a subject which was of interest to him he could then write to that jurisdiction and request that the appropriate material be forwarded to him. Alternatively, all such materials could be supplied from a central source although the administration of this would be more difficult.

Elements to be Determined for Law Reform Bank

Before it is possible to embark upon a project of this kind it would be necessary to address the following issues:

1. What type of information should be included in the bank? Should it be all materials whether published or not—full text or abstracts—etc.? If abstract who would prepare them?

2. Who would be responsible for the conversion of the data into machine-readable form both in terms of the cost and the work?

3. How frequently would the bank be updated and who would pay the cost of such updating?

4. Who would pay the storage cost of such information (which would of course increase in proportion to the volume of material stored)?

5. Would the host government or agency be prepared to find resources necessary to ensure that the whole operation moved forward satisfactorily, possibly underwrite certain computer software costs which might be involved, and provide the necessary resources to support the ongoing retrieval process?

6. How would the cost of searches including such things as personnel costs of the host government be met?

7. How rapidly would responses to search requests have to provided?

Finally, it should be understood that the type of information that can be supplied will relate directly to the quality of the information which is included in the system. The adage "garbage in garbage out" is particularly applicable here.

Conclusion

There is no doubt whatsoever that the computer will play an increasing role in every aspect of our lives. In an area such as the law, where so much dependance is placed upon the written word and records of what has taken place in the past, the impact of the computer is certain to be profound. Law ministers may therefore wish to consider whether Commonwealth countries should work together to plan a system that could provide optimum benefits to all in the enhancement of our legal systems through the use of computer technology.