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The Presidential Libraries System Study: The Carter Project's Experience

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Archivists and records managers traditionally have arranged manuscripts according to the principle of provenance, resisting attempts to cross-reference or subject catalog archival materials. They have argued that cross-referencing is doomed to failure due to the lack of commonly agreed upon subject descriptors (which librarians call authority files) and to the sheer size of the undertaking. Archives are traditionally understaffed, and the hours involved in cross-referencing by subject prohibit such undertakings. On the other hand, researchers and information managers have long expressed the desire for subject access to information which may be dispersed throughout separate manuscript collections in the same repository or contained in collections or record groups held by several repositories scattered throughout the world.

The debate between records managers (those who arrange by provenance) and information managers (those who arrange by subject) now has taken a new twist with the advent of automated systems capable of creating subject indexes to records arranged by provenance. It now appears to be possible to arrange by provenance but index by subject. Therefore, the greatest challenge to the profession today is the creation of viable automated systems by archivists for archivists. This article describes how the presidential library system tackled this problem from the viewpoint of one of its constituent parts, the Carter Presidential Materials Project. The procedures followed and the lessons learned in this study should aid other repositories as they face the question of how to automate.

*This article is an expression of the personal opinion of the author. It does not represent a consensus and is not an official position of the National Archives and Records Service.
The primary motive behind automating the presidential library system is the belief that in the future, resources for personnel will always be limited while production requirements will continually increase. More specifically, the White House Office of Records Management is developing advanced automated systems for records storage. Future presidential libraries will inherit information stored in these systems, and they must be prepared to receive and utilize it. There does not appear to be much hope, however, that these additional records will bring with them any increase in archival staff.

Facing these problems, the National Archives and Records Service in 1982 committed funds for a study of the functional information requirements of the presidential library system. The study developed general, functional requirements for the system, evaluated alternative ways of meeting the needs identified, and analyzed life-cycle costs of an automated system. This study was the first stage in adding automation to presidential libraries. The next stage involved the development of specific hardware and software requirements. The final stages of the project are now in progress -- the acquisition of equipment and the actual implementation of the system.

The first stage of the project, a feasibility study, began in March 1983 and was performed by an outside consultant, American Management Systems, Inc. The consultants were chosen in a competitive bidding process which took into account their experience in library automation and their experience in dealing with the archives' overseer, the General Services Administration. The Office of Presidential Libraries designated the Ford and Roosevelt libraries and the Carter project as the first to be visited by the consultants. These three repositories were chosen because they represented libraries in various stages of development. The Roosevelt library is a mature library whose holdings are largely processed; its reference and administrative work load is heavy, and it is housed in an older building. The Ford library is a fully operational repository with heavy processing requirements and is housed in a new building. The Carter project is a library in embryo, housed in a temporary facility. The consultants
planned to develop a functional statement for these libraries and then to visit the remaining libraries in the system, noting exceptions from any of the patterns already identified.

The consultants scheduled a visit to the Carter project in April 1983. Prior to their visit, they provided a document for the project staff entitled, "Some Suggestions For Interviewees." The staff realized that their preparation for and interaction with the consultants constituted the major contribution they could make to the project. Each staff member was provided a copy of the consultants' "Suggestions" and was briefed on what to expect by the in-house coordinator, a member of the project's permanent staff. Staff members were asked to describe their jobs briefly and explain what duties were the most difficult, tedious, repetitive, and/or counterproductive. Other questions referred to the use of informal sources of information which might lend themselves to automation, the use of forms and reports, and the lines and levels of communication within the office. The staff was asked to provide a copy of every form used frequently along with an explanation of its purpose. Finally, the consultants asked for any ideas, suggestions, or examples about how a computer system might help the staff in its work.

The Carter project staff responded to the last request with a seven-page document listing seventeen broad areas in which they thought automation would be helpful. The major area of concern for the staff was the capability of creating subject indexes to records arranged by provenance. They hoped that this capability could be imposed upon the traditional archival arrangement and description of manuscript collections. An archivist using some type of word processing program could produce traditional manuscript registers, while at the same time construct an index for on-line subject searches. Aware of the proposed Machine Readable Cataloging (MARC) format for archival and manuscripts control, they hoped that it would prove to be the vehicle for this application.

Other possible applications for computers were in the area of archival management. These included keeping track of solicitation and accessioning of donated historical materials, maintaining records of
collection use, tracking security classified documents, and mandatory declassification review requests, preservation files, and locator files. The staff also was able to identify several areas in which computer applications would be useful in the museum and book collections and in the oral history program. Administrative applications included budget and trust fund control, report generation, scheduling, security and building operations, word processing and electronic mail. They presented this wish list to the consultants during their initial visit to the project. The staff noted with pleasure that all of the items that had been mentioned were addressed by the consultants in their first report, "General Functional Requirements for the Presidential Libraries Information System," dated October 1983.

While the wish list was an important starting point in discussions, the staff interviews and resulting informal conversations were the most productive elements in the relationship with the consultants, whose backgrounds were in computer science and library science. Their library science background proved to be an excellent basis for understanding an archival repository's needs and functions. The experience of the staff with computers and library systems also proved helpful in this exercise. The consultants spent several days interviewing each staff member individually, following the lines of questions posed by their earlier "Suggestions." Their ability to dissect and understand presidential libraries was demonstrated in their first report, in which they described presidential libraries' information handling operations using 167 pages of flow charts. The Carter project staff found no major objections or exceptions to this report's conclusions.

Having accomplished their first task, the consultants moved to the next stage of the study, evaluating alternative ways of meeting the needs identified and analyzing life-cycle costs of an automated system. These conclusions were presented in a report entitled, "Analysis of Architectural Alternatives for the Presidential Libraries Information System," dated December 1983. The consultants found that the functional requirements of presidential libraries fall into two major groups: management applications and archival applications.
Management applications for an archives, such as administration, word processing, and financial or statistical reporting, are not significantly different from any ordinary office setting. These can be met using commercially available microcomputers and off-the-shelf software, thereby saving significant amounts of money in programming and development costs. Under the system designed by the consultants, the libraries will establish and control their own files and will have communication capabilities with the Office of Presidential Libraries in Washington, D.C. The alternative architectures which were considered included standalone work stations, local area networks based on microcomputers, clustered work stations using a minicomputer, and a minicomputer network. The final decision in favor of a local area network was predicated on the communications needs of the Carter project both within the unit and with the central office in Washington.

Archival applications, such as manuscript and audiovisual processing and reference, indexing, and other special tasks, require large and complex databases and the ability to manipulate them quickly and accurately. Large database applications are characterized by the need for a computer capability larger and more powerful than any microcomputer now available. The consultants are now studying several possible alternatives: (1) use of a single computer facility with communication lines to each library for data input and output (under this system, each library would have full access to and control of its own files, with linkage by telephone to the main storage and processing unit somewhere within the presidential libraries system; (2) affiliation with an established network such as the Research Libraries Information Network (RLIN); (3) purchase of turnkey archival systems as they are developed or (4) the custom development of in-house or timeshare systems.

During 1984, the consultants proceeded with the assessment of the costs and features of alternative systems for management applications, selecting possible hardware and software alternatives for the best system. Final configuration plans for the management applications in each library were produced, and the procurement of hardware and software began. The Carter project's management
functions should be fully automated by the end of the calendar year.

Large database applications are still under study. The consultants are now planning how the system should be developed and operated. The next steps include securing access to a large computer facility, preparing of system designs, and the implementing of pilot systems before full-scale operations can begin. The MARC format for Archival and Manuscripts Control is being given careful consideration in order to maintain compatibility with other systems and networks.

A number of lessons can be learned from the Carter project experience which may apply to other institutions which undertake planning and implementation of automated systems. The initial stages of an automation study should be a thoroughgoing examination of existing systems and procedures. The Carter project found this to be helpful in itself because it provided an opportunity to understand the mechanics of how work gets done within the archival repository—both the formally established way things were supposed to be accomplished and the informal methods that had developed. The opportunity to examine and understand these work patterns not only is an educational experience which is valuable in itself but also is a suitable occasion for refining these patterns to make the work flow more efficient and productive—even without the computer.

The initial survey also had the unexpected benefit of clearly defining staff attitudes towards the computer and its possible applications. These opinions varied from those who looked upon the be-all and end-all solution to every problem from getting the windows in the offices cleaned to taking out the trash, to those whose ancestors (intellectual if not actual) most certainly aided the Luddites in tearing up the railroad tracks from London to Derby. These two attitudes need to be dealt with differently, of course, but they cannot be overlooked if computerization is expected to be successful. Once attitudes were defined through the nonthreatening initial survey, appropriate training and reasoning could be brought to bear to prepare both groups for the eventual computerization of the archives.

Another lesson to be learned from the Carter
project experience is the difficulty involved in maintaining interest and high morale on the part of the staff during the long and involved analysis and procurement process. Those who were initially highly enthusiastic about computerization and the Neo-Luddites alike should become excited over the prospect of bringing in computers—particularly if they find that the computer will do that aspect of the job they least enjoy. The time from initial discussion to final procurement may tend to dull the shining expectation and to tarnish the high hopes of many staff members. It seems that absence not only makes the heart grow fonder, but the mind grow more cynical, and it becomes more and more difficult to maintain interest the longer the time from initial discussions to full implementation stretches.

Perhaps the final lesson to be learned from the Carter project experience is that, despite all the time and trouble the process of acquiring a computerized system takes, it is, after all, worth it. This article was written on a word processing system that cut fully half the time out of the rewrite and editing phase, allowed the checking of spelling to be handled by a machine, and produced the requisite number of drafts and final original copies at the touch of a button. Those reporting aspects of the job that are computerized already have saved several hundred hours of time over the past year—hours that can be profitably converted to archival processing and other productive ends. And, if the system works, the final goals of both information managers and records managers will be met. The Carter project will produce an archival repository, full of materials processed by provenance but accessible by subject.