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ESSAY

FROM PUNCH CARDS TO SMART CARDS: A HISTORY OF TECHNOLOGY AT THE LEVIN COLLEGE OF LAW

Betty W. Taylor*

At the half-way point of the twentieth century, progress in technology signaled advances from the quill pen to the typewriter to the electronic typewriter. Copying documents required carbon paper, mimeograph or thermofax machines, the latter producing copies on yellow paper which faded after a few years and became illegible. The most commonly known computer at that time was the Eniac, built in 1945 by a team at the University of Pennsylvania.¹ "In 1950 less than 15 computers existed worldwide."²

Xerox Machine. In the early 1960s, Xerox machines were promoted as the new revolution in office management. Exact copies of a document could be made in a matter of seconds. The dissatisfaction with thermofax copies and their lack of permanence persuaded Dean Frank Maloney that the law school should investigate xerographic technology. On November 22, 1963, the first Xerox machine in Gainesville was installed in Bryan Hall at the law school. An engineer from the Xerox headquarters came to set up the equipment and demonstrate its use. It was a day of mixed emotions that will be remembered for a lifetime: excitement about the new machine and the wondrous improvement it would make in our work, and at the same time, learning by radio the details of President Kennedy's assassination. Dean Maloney's skepticism about acquiring the machine soon vanished after the student and faculty demand for making copies increased exponentially.

Long Distance Xerography. Continued contacts with Xerox representatives reported advances in technology that were leading to the development of long-distance Xerography — sending a page from one machine to another over a telephone wire! During the 1966 Homecoming exhibits at the law school, a demonstration of this technology was set-up

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1. Franz L. Alz, *Computers - History*, 7 *ENCYCLOPEDIA AMERICANA* 491 (int'l ed. 1977).

2. F.J. Murray, *Computers*, 7 *ENCYCLOPEDIA AMERICANA* 473 (int'l ed. 1977).

in a large classroom. At the entrance each guest inserted into a Xerox machine a sheet of paper with some personal identification written on it, went through the exhibit, and at the exit picked up a copy of the marked paper. As large as present-day drink machines, the Xerox machines were connected to the Dental School's long-distance telephone hook-up, born to and from the Xerox headquarters, in order to receive the directions to transmit and print the copy. For years afterward lawyers called the law school to find out what progress was being made in Long-Distance Xerography. Less than a decade later the law school leased a pseudo-fax machine but its performance was unreliable and printout unacceptable. Today's fax machines are the out-growth of this technology, illustrating the time-frame required to produce a technology of the size, cost, and use that consumers would be willing to purchase in quantities.

Punch Cards Index. During this period, the author was compiling an index to the predecessors of the *Florida Bar Journal* to improve access to their contents. With an invitation to visit the University's Computing Center, Taylor was intrigued with the mainframe computer and flashing red and green lights of tape drives. The manager invited her to design a project that would be enhanced by use of the computer. Explaining that she only worked with text, not numbers, he indicated that that kind of project would be new to the staff and volunteered to work with her. Thus, the index on slips of paper became an index on punched cards, and eventually a print-out that measured 14" x 11", and looked nothing like any known legal index. The librarians relied on the contents but not many faculty or students were impressed by its physical appearance, aligned in columns with abbreviated authors' names, titles, and date entries.

Foreign Languages Digitized. Professor Harold Levinson wrote an article about the work for the *Florida Bar Journal*³ with the outcome that Taylor was invited to give a ten minute talk at the first International Conference on Computers and the Law held in conjunction with the World Peace Through Law Conference in Geneva, Switzerland, in July 1967. Five hundred delegates, including two women, attended the Computers and Law Conference, and joined 2700 delegates in attendance at the World Peace Through Law Conference. At this time American librarians were working on automating library card catalogs but held the view that no foreign titles could be entered into computers for an on-line catalog because no computer could handle foreign language characters. This impossibility soon vanished as Taylor entered the exhibit hall and watched computers from

3. Leslie H. Levinson, *What's All This Talk About Computers?* 41 FLA. B.J. 80 (1967).

other countries print out excerpts of legal documents in their native languages. At that moment she became an advocate for automating the law and libraries, and subsequently presented speeches and published papers that, at first, were considered humorous or fanciful, but later accepted as the way of the future.⁴

Holland Hall Planning 1967. Planning for a new law school building, Holland Hall, in the middle 1960s, the architects inquired about computer technology and its impact on the law. As a result, telephone outlets were placed all around the building in classrooms and other spaces that might be appropriate for computers. A 2,000 square foot room was created as the "Computer Room," which would house the computer equipment and work space. Only a month after moving in during December 1968, the Computer Room became the Student Lounge, and now serves as the Tax Library.

Media Services. When Dean Dick Julin arrived in January 1971, the law school possessed a slide projector and an opaque projector. Having been involved with video services at Michigan before coming to Florida, he promoted the value of media in teaching. Soon he convinced the University's administration that the law school's program would be greatly enhanced by acquiring video equipment. He was rewarded with a fund of \$25,000. A law student who had experience with a media program was hired to assist in creating and promoting the activity. Faculty teaching courses in trial practice immediately recognized the value of taping classes to critique students' performances. This use is still predominant today; however, faculty in other areas of the law engage the services of the department in many classroom activities. In 1984, Media Services was relocated in newly constructed space in Bruton-Geer Hall with the most up-to-date technology of its time. Recognizing its leading role on the cutting edge of media services, visitors came from around the country to observe the facility and to seek information. Funding since that time has limited the College's efforts to maintain its competitive status among law schools. Jim Flavin has managed the department since September 1984, succeeding Rick Donnelly.

Legal Databases. In the 1970s, several organizations and companies bravely entered the computer law world and developed law databases. The American Bar Association's Standing Committee on Law and Technology held the first national meeting in Atlanta, Georgia, from March 16th

4. George Grossman, Dan Henke, & Betty Taylor, *Law Library Consortium, Data Base Components and Standards Study Group Report*, 70 LAW LIBR. J. 74 (1977).

through March 18th, 1972.⁵ Mead, Data Central exhibited its database acquired from OBAR that eventually became LEXIS/NEXIS. The database was limited to a few years' cases and the skeptics were expressing their views opposing this new technology. Every misspelling was pointed out and the value of searching was questioned. Since the data was input in the Far East by typists unfamiliar with the English language, its accuracy was challenged. West Publishing Co. produced its database of case digests but that system did not appeal to lawyers, thus West moved into the full-text technology with WESTLAW.

WESTLAW. In 1976, after several years spent on persuading Dean Dick Julin, and urging West Publishing company officials to allow law school access because law students would be their best salespeople for WESTLAW, our law library became the first one in the country to be permitted access to the database during limited hours. Payment of that subscription was processed through the University of Florida's Finance and Accounting Department which was presented with a dilemma. Taylor was quizzed intently about paying for information that the library did not own and could lose entirely upon cancellation of the agreement or the company going out of business. This was the first instance that the University had to face this issue. Eventually, an approximate count of the number of volumes represented by the database was submitted and recorded on the invoice. A one-page letter detailing the terms of the subscription sufficed for the contract.

LEXIS. Access to WESTLAW having been completed, attention turned to LEXIS. That contract consisted of multiple pages. In accordance with University regulations, the formal contract was submitted to the University's General Counsel office for approval. Again, the issue arose over the lack of a tangible product. The attorneys debated the legal issues; then consulted with Florida State University attorneys as the F.S.U. law librarian also had submitted a contract for approval. Finally, the matter was settled by the State of Florida Attorney General's office in 1977. Thus, the U.F. College of Law was the first law school in the country to subscribe to both systems. The College's reputation as a pioneer in technology was recognized nationally. But locally, accepting legal information retrieval by way of computer technology was a hard sell.

5. Ejan Mackaay, *Reflections on the First National Conference on Automated Legal Research*, 3 RUTGERS J. COMP. L. 310 (1974).

SOLINET. In 1974, university libraries in the Southeast formed an organization, SOLINET, the Southeastern Online Library Network, and entered into a contract to retrieve and input library holdings into OCLC, the Ohio College Library Center, to create a database for the Southeast. The Levin College of Law Library was the first law library to enter data into SOLINET and was the largest law library to enter holdings in OCLC. In 1976, the law library was given a terminal, later upgraded to personal computers, to start inputting its English language holdings, a task which was completed several years later. Foreign language titles are now accessible. New titles are entered upon arrival. This resource is accessible to users throughout the world.

In 2003, an entirely new library management system will be installed in all Florida state university and community college libraries to improve access to the contents of this vast database of library holdings. The new system, known as Aleph, replaces Luis, the current library management system. The web site, WebLuis, eventually will change in name only but not content. Mae Clark, Assistant Director for Collections Services, supervises the department which is responsible for processing the records of the Legal Information Center's holdings into the system.

LEGAL INFORMATION CENTER. In 1980, Betty Taylor submitted a memorandum to Dean Julin and Director of Libraries, Dr. G.A. Harter to request a redesignation of the Library to "The College of Law Legal Information Center." "The advent of the electronic age with its dramatic effects on information handling, has effected a marked change in the role of the modern library. The new information resources made available by the innovations in audio, video and computer technology, have altered substantially the heretofore almost exclusive emphasis of libraries on the printed word found in bound books. . . . [R]edesignating the Law Library . . . will not only more correctly reflect the current role of the Law Library, but also will help to assure its successfully meeting the challenges of the 1980s."⁶ The University Vice President approved the request orally with instructions to correct entries in the telephone directory.

TRS 80 Model One. In 1978 the Taylors purchased one of the first Radio Shack TRS80 Model One computers sold in Gainesville at a cost of \$700. It had a memory of 4K and the end product of two double-spaced pages saved on 5¼" disk. The transition was frustrating for an experienced typist who was used to controlling a typewriter. More knowledge and skills were required to produce an identical report. With each upgrade there was

6. A copy of the memorandum is on file in the Legal Information Center Directors' office.

more to learn to be equally productive. Obviously, these early computers were not adequate for professional office work as yet, but they laid the foundation for the future.

Personal Computers. In 1982, soon after the first IBM personal computers came off the production line, a representative from the IBM Legal Department offered the law school a grant of five personal computers for trial and experimentation in exchange for information about their use for improving the practice of law. Professor Jerry Bennett enthusiastically accepted the challenge and worked with the University Computing Department's software experts in writing several programs. Three computers were placed in the Faculty Lounge which attracted attention and curiosity. Several faculty acknowledged that they soon learned from their children how to use the computers.

Law School Policy. This grant sparked interest among the faculty for personal computers. A faculty committee was directed to set law school policy for guidance on purchases, as there was growing interest among students, secretaries, and faculty, each group expressing the conviction that theirs should be the highest priority. Ultimately, it was decided to purchase computers for the secretaries first as they carried the heaviest typing load, and as funds became available, interested faculty would receive computers. As new computers were purchased, hand-me-downs were redistributed to members of the law school community. More faculty were approved for computers and a student lab was created. In the meantime the WESTLAW and LEXIS companies provided increasing numbers of computers in labs for student training and other uses when the computers were available. Today, the law school supports 353 personal computers.

Computing Services. At first Pamela Williams, Assistant Director for Public Services, was in charge of the computer equipment and training. As activity increased, she employed a student assistant to assist her. Soon it became evident that a full-time person with a computer background was necessary for managing Computing Services. In 1987, Mark Bergeron was hired as manager. Today there are six full-time employees in Computing Services, four on full-time permanent lines, two on temporary full-time lines, and part-time students.

DIALOG on WESTLAW. In 1989, Rosalie Sanderson, Assistant Director for Computer Assisted Research Services was one of two librarians selected by WESTLAW nationally to test academic use of Dialog, a compilation of non-law databases, on WESTLAW. She successfully promoted Dialog with our on-line users at the law school and

recommended that WESTLAW finalize the arrangement permanently. Subsequently, she authored a manual illustrating the use of Dialog, published by West Publishing Company in 1993. Her lectures to classes on the use of on-line resources relating to specific subject areas were praised by faculty and students. They were particularly valuable to students writing seminar papers, articles for journals, and students in trial practice, particularly those developing biographical data on expert witnesses.

Web Site. The first law school web site was created by Pamela Williams for the Legal Information Center in 1995. She designed the site and prepared all the materials for uploading. Content included general descriptions for the use of the library and the functions of the different departments within the library. A short time after the web site became operational, Justice Benjamin Overton arranged for the University of Florida College of Law to receive on-line copies of the Florida Supreme Court decisions upon the day of issue, with the intent of making them available to lawyers in Florida within hours of their release. The Legal Information Center has been performing this service for seven years. At a later date, the responsibility for the web site was transferred to the Communications Office expanding it to the law school site with control over the content, including the Legal Information Center. This site is located at www.law.ufl.edu.

On-line Databases. The Legal Information Center provides access to a vast amount of on-line data, both through its own subscriptions, exceeding \$200,000 in cost, and via the Smathers Libraries' approximately 450 databases, cataloged in WebLuis. Selected titles are identified on the LIC's web site with clickable links to the databases. These are in addition to the WESTLAW and LEXIS/NEXIS databases which encompass a vast amount of legal information needed for research. Public Services librarians instruct and assist library patrons in using these databases efficiently. Librarians also present lectures to classes on conducting law library research in print and non-print resources.

Progress in Technology. While technology at the Levin College of Law is not competitive with the more technologically oriented law schools, state-of-the-art technology will be incorporated in newly constructed and renovated facilities to be completed in several years. The law school complex, including the classrooms and library, will be designed with the most up-to-date technology available.

Over the last five years many changes have occurred: the network has been stabilized, computer hardware upgraded annually, improved email capabilities with the installation of the Groupwise email client, and the

school has upgraded two classrooms and a seminar room with the latest technology. The IBM Token-Ring network topology has been replaced by Ethernet, and concurrently installation of a fiber-optic and copper-wire infrastructure and upgrades to support 1Gbps was completed. Wireless access is available in all classrooms, the library, the concourse, and the grounds surrounding the two buildings. Word was added as an alternative choice of software to Word Perfect. Specialized software is in use in Admissions, Career Services, Civil Clinics, Legal Information Center, and in departments which create publications and other unique documents. Three computer labs are located in the Legal Information Center with a total of 56 computers and 18 connections for laptops. Two pay-for-print laser printers are located in two labs. At the present time the law school does not require that everyone have a laptop, only that students have access to a computer. But that may change in the future when the new facilities are occupied.

New Facilities 2002-2004. Planning for completion of new facilities in two years, architects are keenly aware of the requirement to design up-to-date technologies throughout the facilities, including classrooms, library, offices, and every study area inside and outside of the buildings. Podiums in every classroom will have controls for all conceivable teaching media at the touch of a screen. Technicians will monitor the classrooms from a control room to ensure that equipment is working properly and professors' special requests for taping a class or showing a video, etc. are carried out. Wireless as well as wired access will be available throughout.

Digital Photography Cards. A webcam will be set up for viewing on the Internet the progress of the building construction. Photographers using digital cameras with smart cards will photograph important events to document progress and to preserve the present for future generations.