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ABSTRACT

This annual collection contains 18 papers about the use of Macintosh computers in libraries. Papers include: "The Macintosh as a Wayfinding Tool for Professional Conferences: The LITA '88 HyperCard Stack" (Ann F. Bevilacqua); "Enhancing Library Services with the Macintosh" (Naomi C. Broering); "Scanning Technologies in Libraries" (Steve Cisler); "The Macintosh at the University of Illinois at Chicago Library: Flexibility in a Dynamic Environment" (Kerry L. Cochrane); "How a School Librarian Looked at a Gnawing Problem (and Saw How the Mac and Hypercard Might Solve It)" (Stephen J. D'Elia); "The Macintoshed Media Catalog: Helping People Find What They Need in Spite of LC" (Virginia Gilmore and Layne Nordgren); "The Mac and Power Days at Milne" (Richard D. Johnson); "The USC College Library--A Macintoshed System" (Anne Lynch and Hazel Lord); "Macintosh in the Apple Library: An Update" (Rosanne Macek); "The Macs-imized High School Library Instructional Program" (Carole Martinez and Ruth Windmiller); "The Power To Be Our Best: The Macintosh at the Niles Public Library" (Duncan J. McKenzie); "Taking the Plunge...or, How to Launch a 'Mac-Attack' on a Public Library" (Vickie L. Novak); "The Public Macintosh: Solutions for the Rest of Us" (Jean Armour Polly); "Keyword Access to Specialized Collections in an Academic Library Using the Apple Macintosh" (Elena Romaniuk); "The King of Fonts: Sharing Fonts on a TOPS Network (or, 'Hey Where's University Roman?')" (Alan Rowoth); "Use of the Macintosh in the Reference Section" (Neal Schleifer); "The Macintoshed Lab at Case Western Reserve University Libraries" (Sharon K. Schmitt); and "M.A.C.--The Media Access Center at the J. Paul Leonard Library, San Francisco State University" (Mitch Turitz). Also included are an afterword, "MacProverbs" (Rick Fensterer); a directory of contributors and editors; an index of articles by type of library activity; a directory of hardware and software vendors; and a comprehensive index. (ALF)

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Macintoshed Libraries 2.0

Bill Vaccaro
Edward J. Valauskas
✍ editors ✍

Apple Library Users Group
Cupertino, California
1989

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Articles

The Macintosh as a Wayfinding Tool for Professional Conferences: The LITA '88 *HyperCard* Stack

Ann F. Bevilacqua

HyperCard *is a powerful program that facilitates the dissemination of diverse information in a variety of formats. In this case, a* HyperCard *stack, measuring some 1200K, is described that was created as an electronic guide to the 1988 Conference of the Library and Information Technology Association (LITA). The product of 150 hours of development, the stack was greeted with enthusiasm at the Conference by both sophisticated computer users and novices for its ability to present information on meetings, speakers, and local attractions easily and quickly, making the Macintosh stations one of the most popular gathering spots at the Conference.*

The Idea

In the Fall of 1987, I acquired my first Macintosh computer. As I wandered though the assorted manuals and on-screen help information, my fascination with (then newly-released) *HyperCard* began. I had some experience with programming on mainframes in library school, PL/1 and BASIC, but I couldn't figure out what *HyperCard* was all about (and still can't!!!). Undaunted, I explored this strange new software, until it became clear to me and the co-owner of the Mac, David Lewis, that this *HyperCard*-thing had lots of possibilities. We proceeded to create many simple "stacks."

At about the same time, the aforementioned Mr. Lewis was appointed to the LITA '88 Conference Program Planning Committee, and one of the stacks he developed was a guide to the conference program. The Chair of the Conference Program Committee, Paul Evan Peters, saw it and was enthusiastic. He brought the idea before the LITA Conference Steering Committee at ALA Midwinter. David and I created a preliminary demo stack for San Antonio, and we received a "go-ahead" from the committee to proceed

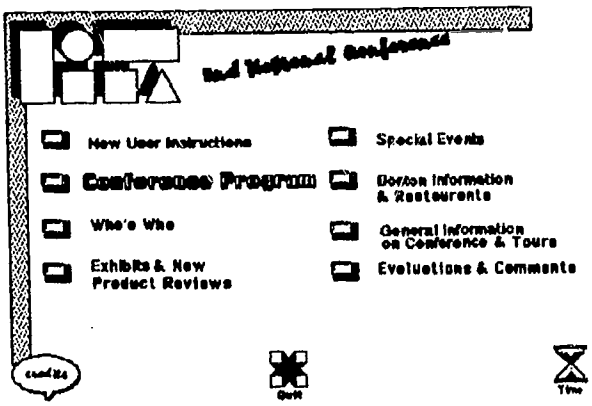


Figure 1: LITA '88 *main menu.*

with development plans after the summer ALA meeting in New Orleans.

Briefly, what we decided to do was to create a *HyperCard* version of the conference program booklet. From the *Main Menu* (Figure 1), you could explore any of eight options, such as the *Conference Program*. In addition to a day-by-day schedule of events of the conference (Figure 2), this visually oriented hypertext program would allow users to "click" on a "Free-Text Searching" button to locate the occurrence of a word. Since the conference sessions were all designated within topic tracks (i.e., Library Automation, Microcomputers, Telecommunications, etc.), the *LITA '88* stacks also allowed searching by these subjects (Figure 3). When looking at exhibitor information, a click on the star icon (Figure 4) would show detailed information on a New Product Review session or a click on a booth number (Figure 5) would reveal a map of the exhibit floor. Trying to find an inexpensive restaurant near your hotel? In the *Boston Information & Restaurant* stack, you could specify an area and a price range! We tried to make *LITA '88* visually interesting, informative and very user friendly. It was our first attempt at this on such a large scale, and I'd like to describe what went into the development of this project.

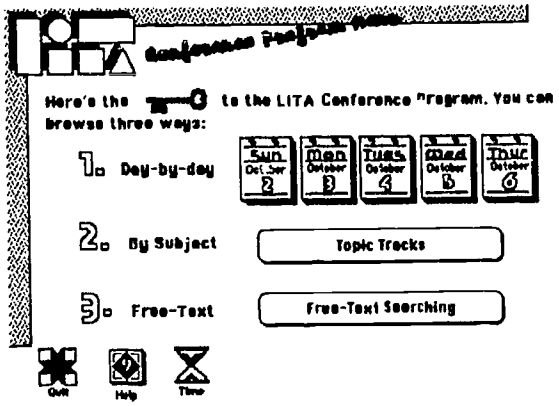


Figure 2: Conference Program menu.

The Creation

It wasn't until after the summer conference in New Orleans that we actually began to create *LITA '88*. I had recently completed a course on computer screen design given by New York University's Interactive Telecommunications Department which provided me with many new insights on stack creation. We decided to start the stack from scratch. I began by working on making the LITA logo as the central design icon of the stack. The animated opening sequence and all of the screens use the logo both as a design and as a "button" which when clicked returns you to the main menu of the stack. Though the design work continued up to the last minute, the bulk of it was completed by August 1; this included the choice of fonts, and the basic 'look-and-feel' for the screens.

The Work

All administrative work from the LITA Conference Program Planning Committee was done on the Macintosh which facilitated the input of data. (Other committees, however, were not able to provide us with compatible data) We received disks with program information (from both database and word processing applications) and input them into the stacks. This process proved to be the most time consuming part of the project since *HyperCard* makes you cut and paste the data screen by screen. We received a hardcopy list of exhibitors and had this typed directly into the *Exhibits & New Product Reviews* stack.

Once the information was in, considerable time was spent proofing and updating changes. (Alas,

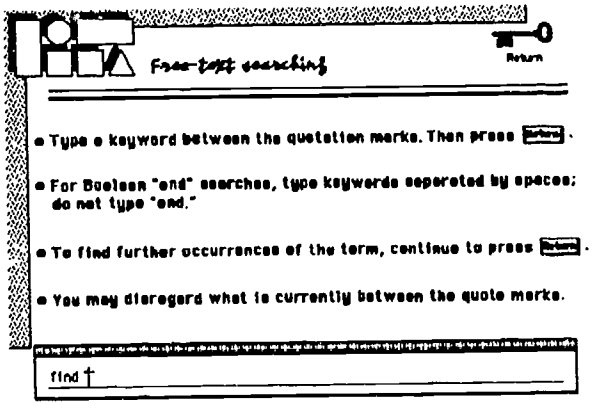


Figure 3: Free-text searching.

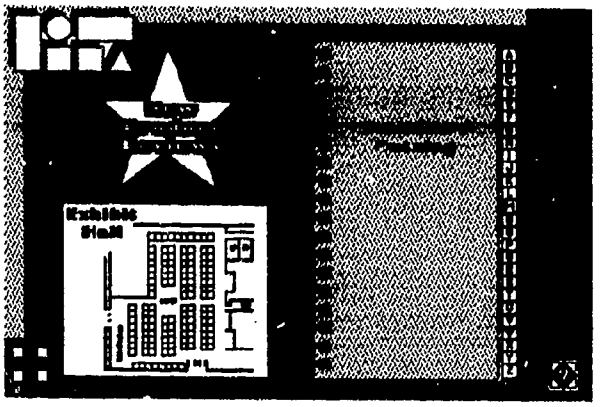


Figure 4: Exhibitor Information card.

HyperCard doesn't have a spell checker, so this was done the old-fashioned way!) Information changes had to be handled on a case-by-case basis; a new presenter had to be added into the *Conference Program* stack as well as the *Who's Who* stack. (*HyperCard* is many things, but it is not a relational database!) The galleys (in hardcopy) were available about two weeks before the conference, and we went through page by page and screen by screen to make the changes.

We also fine tuned the images, scanning in pictures of the Keynote speakers and adding some interesting special effects sounds and graphics (the infamous sharks) using public domain stackware called *Stack Starter*. In the last weeks before the conference, we also created the *Boston Information & Restaurants* stack, very popular among conference attendees, using an existing stack from the MacWorld Conference and adding additional restaurant listings from some standard guides.

Other last minute material included an instructional brochure listing all icons and their actions, a *New User Instructions* stack, and a *User Evaluation* stack for feedback. We also toyed with the idea of an electronic e-mail service, but the logistical problems of such a system outweighed the benefit (sorry!).

At the conference site

Arriving on Sunday morning, we began immediately making additional updates to stacks, correcting typos, and adding information on tours of area libraries and businesses. The rented machines (nine Macintosh SE's with 20Mb hard disks) arrived by noon, and the stacks, which weighed in at 1200K by this point were easy to install. The system was up and running on all machines by 2 pm, though changes continued to be made and some bugs fixed until Monday.

User reaction

The comments I received from users were very positive (see Appendix), and, as proof of this, it was rare to see a machine idle. In fact, the greatest criticism was that there were not enough machines; one person suggested, "Next time get a Mac for every registrant!!! " Not being portable, it was never meant to replace the printed conference program, but, if more machines were available at various sites, it's possible that this could become indispensable tool for conference goers.

For some, the Macintosh interface was a new experience. (I saw one man holding a mouse like a TV remote control!!!) Some had difficulty with mouse movements and there was confusion about the arrow keys on the keyboard and on the *HyperCard* screen. (I had kept the arrow keys active so I could manoeuvre through stacks easily—from now on, I will disable keyboard arrow keys to reduce this misunderstanding.) Of those who commented, most found "the system... very user friendly" and from someone who had never touched a Mac before — "This is much easier to use than an IBM!!!" Need I say more?

The Time

It is difficult to assess how much time went into this effort as it was all done on nights and weekends, but our best estimate is that it took about 150 hours total. As this was our first large-scale *HyperCard* project, we were learning many aspects of this incredible software as we went along. If I were to do the same project today, it would take about half the time.

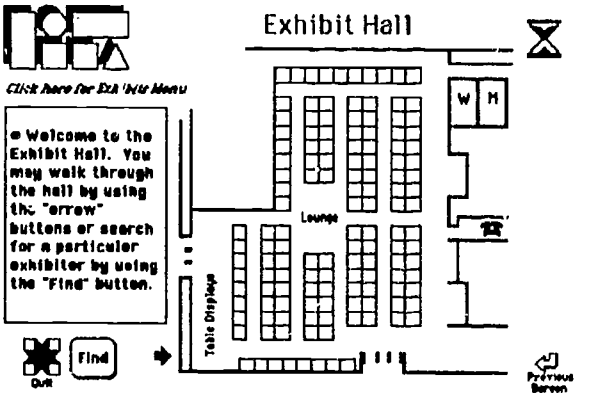


Figure 5: Exhibit Hall *stack.*

(Loading in information and proofing will probably continue to be long and tedious tasks.)

Conclusions

The user reaction was so overwhelmingly positive that we feel all of the time put into this project was well worth it, and we would do it again if it's possible. Let me end with another quote that says it all, "This is terrific—it should be at ALL library conferences!"

Appendix

Statistics from the *User Evaluation* Stack
Question #1 — 160 responses
40% had no experience with Macs
47.5% had some experience
12.5% had considerable experience

Question #2 — 158 responses
72% had no experience with *HyperCard*
21% had some experience
7% lots of experience with *HyperCard*

Question #3 — 148 responses
61% said this stack was more useful than printed program
39% said no

Enhancing Library Services with the Macintosh

Naomi C. Broering

With a group of 55 Macintoshes, the Dahlgren Memorial Library of Georgetown University (Washington, DC) has undertaken an ambitious project to facilitate access to medical information. There are four areas in which the Integrated Academic Information Management System *(IAIMS) has been concentrating — administration/management, education, clinical patient care, and research services. Future extensions of* IAIMS *include computerized versions of educational materials in human physiology, cardiology, and medical history.*

Introduction

The Dahlgren Memorial Library is the focal point of Macintosh activity at Georgetown University. The Dahlgren Library maintains over 55 Macs and plans to acquire 10 to 15 annually over the next four to five years. The Mac workstations are being used in a five year project to implement an *Integrated Academic Information Management System (IAIMS)* program at the Medical Center. The purpose of *IAIMS*, sponsored by the National Library of Medicine (NLM), is to improve the flow of biomedical information on the campus through use of information technology.

The Library spearheads the *IAIMS* project and it serves as the medical center's academic computing facility that concentrates on use of computers and communications systems to support education, research, patient care, and selected management functions. Because the library has assumed this unique responsibility its services and staff are different than a typical library. For example there are 11 programmers/systems analysts on the staff and 2 computer facilities. One, is a dedicated computer room with 9 minicomputers and 2 AT&T (ISN) local

area network systems, and the second is the Biomedical Information Resources Center (BIRC) with over 50 microcomputers of a mixed variety. There are three sections of the library involved in Information Technology:

- The Biomedical Information Resources Center (BIRC) with a Macintosh computer classroom, a computer laboratory and open workstations. The BIRC has 33 Macintoshes;
- The Computer Services Division which maintains the Georgetown University (TM) Library Information System (LIS). This system, which is used by over 25 medical libraries, operates on DEC minicomputers, but Macintoshes can access the system; and
- The *IAIMS* Office which is responsible for research and development, and technical solutions to system integration. The *IAIMS* office has a Macintosh for experimental work.

How the Mac is used

The Macintosh Computer plays an important role in the library's information programs. There are four main areas of activity: Administration/Management, Education, Clinical Patient Care and Research Services.

Administration and Library Management Services

The administrative office has three Macintosh II computers, a LaserWriter printer and two ImageWriter printers which are used for a variety of purposes, especially desktop publishing:

- **The Annual Report** is prepared by the divisions of the library and the administrative office coordinates and binds it into one document for distribution. It is written on *MacWrite* and tables and charts are prepared on *MacDraw*, *MacPaint* or *SuperPaint*;
- **Grant Proposals** are written and finalized on the Macintosh. Our success rate has increased substantially since we began using the Mac because the finish product is much more appealing to read than that of other word processing systems;
- **Newsletters and Press Releases** are developed using *Pagemaker* or *MacWrite* with *SuperPaint* for graphics and tables. Plans are to use a scanner and include pictures;
- **Executive Summaries for Administrators** are attractively prepared and easy to read using *MacWrite*. It is simple to develop concise outlines and to highlight topics of importance with the bolding technique;
- **Manuscripts, Presentations and Posters** are prepared on the Mac. Several scholarly papers and presentations are written during the year because the library is a nationally recognized leader in library automation. The bold style and flexible fonts of *MacWrite* make it easy to prepare papers for presentations using a 12 pt. type size. These papers are often converted to manuscripts for publication. Several poster sessions have been developed for ALA, MLA and other professional meetings using a bold, super-large print on the Mac;
- **Friends of the Library** records and letters are maintained by the administrative staff on the Macintosh. Files of all current Advisory Council and regular members are updated quarterly. In 1988, a Friends of the Library Brochure was written on the Mac and the disk was given to a printer for final printing. We economized on typesetting costs and proofreading time. The Christmas Cards and renewal notices sent to members were attractively developed on the Mac using the London font in Bold. As a result our cards were more personal and less costly;
- **The *IAIMS* Brochure** was one of the most attractive products developed in 1988 on the Macintosh. We prepared a draft mock- up which was submitted to the printer with the disk. By eliminating typesetting and proofreading we accelerated production. Within a week we received a blueline and the next week we had 1,000 printed brochures delivered on time for an *IAIMS* Executive Board Meeting;
- **Programs for Special Meetings** are developed on the Mac using desktop publishing techniques. Attractive color programs with logos are made to look professionally produced;

- **Financial Records** are maintained using Microsoft *Excel* software. The library has numerous budgets, contracts, grants and small donation funds that require monthly updates. Because the Library Information System is used by 25 other libraries, it is necessary to develop invoices and maintain accurate payment transaction records. *Excel* and the Mac are used by the budget officer for all business matters.

Education Services

The BIRC and the *IAIMS* Office are the primary sections of the library involved in educational support of the medical center's programs. All the non-print resources including computer software and audiovisuals are maintained by the BIRC:

- **The Computer Classroom** has 21 Macintosh Plus computers and Imagewriter printers networked to each other and also to the *IAIMS* network. Courses provided include Introduction to the Mac, *MacWrite*, *MacDraw*, and access to *IAIMS* databases. This year, Apple Computer sponsored two courses on *HyperCard* for Georgetown faculty (Introduction and Advanced *HyperCard*). Medical Students are taught how to prepare resumes for medical residencies;

Georgetown University's Biomedical Information Resources Center

- **Open Workstations in the BIRC** are used by faculty, students and staff for special educational programs. Medical Students are assigned a project requiring use of Nutricalc on the Mac. There are seven Macintoshes in this section;

- **PathMAC** is an interactive pathology program which incorporates lecture notes, a pathology glossary, and pathology slides (on a laser disk) to assist first year students. In addition, two years of clinicopathologic conferences (CPCs), conducted at the Cornell University Medical College, are available to students. Plans are to automate the Georgetown Pathology course using the PathMAC approach; and

- **Computer Assisted Instruction** - The BIRC maintains a collection of CAI programs for student use. All known programs available for the Mac are acquired. This collection is expected to expand as more faculty begin to author courseware.

Clinical Patient Care Services

The *IAIMS* project enabled the library to install workstations in various clinical settings of the hospital. Since the Macintosh was the system of choice, a project entitled the MAClinical Workstation evolved. It became an overnight success and has been incorporated in the clinical clerkship curriculum of the medical school:

- **MAClinical Workstations** and *HyperRite-Up*. There are currently 8 Mac workstations located in conference rooms of the University Hospital used by students and residents. Approximately 10 Macs have been given to faculty working on this project. *HyperRite-Up* is a *HyperCard* program written by a resident and the library's Mac programmer to automate the history and physical exam reports of patients seen by the medical students. It is the first known attempt to change these reports from handwritten, illegible reports to computer produced records that can be attached to the patients record for review by faculty and residents. The program uses the mouse click and paste capabilities of the Mac to transfer pre-stored information on diseases, medications, lab results and family trees quickly to the history and physical report. It minimizes the need to type long records;

- ***IAIMS* Database Searching** from the MAClinical workstations is facilitated through the *IAIMS* local area network (LAN). Students and faculty located at the hospital can conduct literature searches of the library's online

catalog, the miniMEDLINE System, and ALERTS/Current Contents to solve patient needs. In addition, directly from this clinical site they have access to all the other *IAIMS* information and diagnostic systems maintained on the library's computers such as the MicroMedex Drug Information System, Physicians Data Query (PDQ) from NCI's cancer treatment protocol database, and RECONSIDER, a diagnostic prompting system developed by the University of California at San Francisco;

- **Emergency Room Patient System** is a database system under development through the *IAIMS* program. Currently, there are three Macintosh computers; plans are to add three more next year when the system is ready for testing.

Research Services

In the *IAIMS* Phase III Implementation project, the library is working with medical scientists involved in DNA sequencing and molecular biology research. Two Macintosh workstations have been given to researchers to test the concept of integrating bench laboratory work with library information searching. The intent is to bring library and information databases directly to the laboratory and to integrate DNA sequencing and molecular biology computations into the source computer system. Plans are to add more computers in the future:

- **A Molecular Biology Workstation** has been implemented in the Biochemistry Department. From this station the researcher will be able to access protein sequence and Genbank databases maintained in the Library's/*IAIMS* computers, to conduct sequencing computations using the University of Wisconsin Genetics Computer Group (GCG) Sequence Analysis Software Package also maintained in the library, and to search the literature database systems available free through the library;

- **The AIDS Project** is a special HIV research effort in the Department of Microbiology which also processes numerous DNA sequences monthly. This project is located off-campus in Rockville, Maryland near the National Institutes of Health. In addition to providing the AIDS research team with a Macintosh station, the library is experimenting with a remote access telecommunications system to conduct the very delicate DNA sequencing routines which require great accuracy. Plans are to seek $100,000 for an automated DNA sequencer to attach to a Macintosh and convert lab work into a one step integrated process.

Future uses of the Macintosh

There are three important Library projects planned for future use of the Macintosh computers. They are part of the Library/*IAIMS* plan to repackage information and present it in a more complete manner to the user:

- **Electronic Textbook in Human Physiology** - The purpose of this project is to bring together lecture notes, lecture tapes, textual material, a glossary of physiology terms, graphics and slides into a composite knowledge base for the first year medical school course in Human Physiology. The project involves using animation, voice, sound and motion to provide students with a dynamic means of understanding the human system. A pilot project on cardiovascular physiology has already begun. The library will work with faculty to develop the knowledge base;

- **Electronic Portfolio of Medical History Illustrations** - This project is being planned by the Library to match important events in medical history with illustrations in the library's collection. It involves scanning pictures, sketches, medical drawings and slides into a digitized format and also including summaries of these significant events with authoritative sources and item location;

- **Teaching Programs in Cardiology** - Dr. W. Proctor Harvey is a nationally recognized cardiologist at Georgetown University who has developed an immense collection of teaching programs in Cardiology for the past 40 years. The extensive programs include many case studies using visuals, sounds, and motion. Plans are to organize the materials and press a compact or optical disk so faculty can develop teaching materials from this outstanding archival collection.

Conclusion

The *IAIMS* project has enabled the Medical Center Library to extend its services beyond the traditional role. The extensive capability of the Macintosh computers has made these new services possible. We believe the library of tomorrow will be involved in many similar activities as those described in this paper. Librarians will use computers such as the Macintosh to manage information differently and libraries such as the Dahlgren Memorial Library will be transformed into Academic Information Management Libraries.

Scanning Technologies in Libraries

Steve Cisler

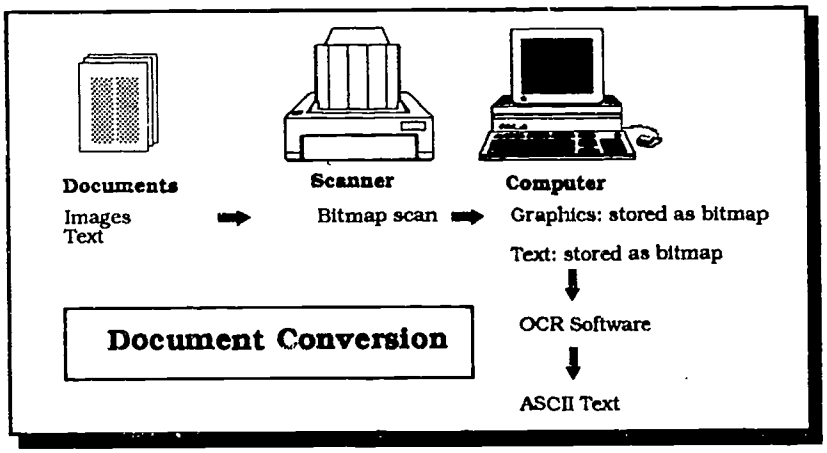
Experiments with OmniPage, *an Apple Scanner, and a Macintosh II demonstrate some of the current difficulties in using this technology as the basis of an electronic document delivery system. Given the confusing nature of copyright, there are mixed approaches in digitizing copyrighted materials; in this particular case, a site license was obtained in order to scan and distribute a newsletter. Scanning is generally successful with materials restricted to one format; varied titles, tables, and diagrams slow the process considerably. Manual error correction is time-consuming and errors increase when original materials have been produced at low resolution. Further experiments with scanners and fax modems should yield promising results for libraries in the near future.*

Technologies that process printed material efficiently have usually been embraced and accepted by the library community. Since 1985, desktop publishing and telefacsimile have become extremely popular. A third one is going to take hold in the same libraries, and it, too, will involve the processing of paper. It makes use of scanning equipment, page recognition (sometimes called OCR) hardware and software, and, as an adjunct, text retrieval software. As more and more information is moved electronically, there is a greater need to draw from the reservoirs of print material. There are a number of copyright and ethical issues that are raised and even exacerbated by the proliferation of this relatively low cost equipment now available for document conversion.

This chapter deals with my investigations into the strengths and limitations of a desktop scanning system using a Macintosh II with 4 megabytes of RAM and an Apple Scanner. Most of the trials were done with *OmniPage* software (Caere Corporation, 100 Cooper Ct., Los Gatos, CA 95030, (408) 395-7000) to convert print to ASCII files for distribution to

library users. There are other high-end OCR software packages from Xerox Imaging Systems and CTI, Inc (747 Third Avenue, 3rd Floor, New York NY 10017, (800) 252-1442). The Calera document conversion devices work in a similar fashion but at much higher speed because the hardware uses up to five 68020 microprocessors instead of the single one in the Macintosh II. What these packages have in common is their ability to recognize many different fonts, to differentiate between graphics and text, and to convert the text into a variety of file formats.

Before we discuss the technology, what are the needs of different libraries? In November 1989, the National Agricultural Library and the University of California at Los Angeles sponsored a conference on scanning technologies. Most of the libraries were large collections with a great deal of resources, both in terms of funding and the size of the collection to be converted. Library of Congress discussed the conversion of catalog cards, some handwritten; the National Archives had contracted for the conversion of Confederate War records; Syracuse University was involved in the scanning of an archive of adult literacy documents; and OCLC discussed error rates and speeds of different systems.



In general, all the libraries are trying to make information more accessible to their clientele. This presents a problem when the items are unique, delicate, and very valuable. Scanners and digitizers are being used on art collections, catalog cards, legal documents, old photographs in need of preservation and repair, unpublished papers, mug shots, government documents, mailing lists, business cards, tables of contents, and medical X-rays.

Conversion is labor-intensive; before you embark on a large scale conversion project, consider the amount of quality control you can afford, even if you have budgeted for the latest and greatest scanners, software, and large storage devices. The devices should be easy to use because this process will quickly become an assembly line production that won't seem as magical as it does at first.

In our library the items are not unique or delicate; we are interested in getting the information to the researcher or engineer in the quickest, most efficient way. Since we serve Apple employees in Singapore, Europe, Canada, Latin America, and the U.S., we are investigating the electronic delivery of scanned documents.

I mentioned the problems related to copyright. According to a 1986 Office of Technology Assessment report, "Intellectual Property in an Age of Electronics and Information", the vast majority of the public finds acceptable some forms of unauthorized copying of copyrighted material. The willingness on the part of the public to do this is not affected by awareness of the issue. Ezra Shapiro, who writes about computer graphics for *MacWeek*, found several consumer online services that did not care that copyrighted works of art had been scanned and posted in public sections for downloading. Some people say that optical scanning and copyright issues are not different from those associated with copy machines. However, the electronic documents can be duplicated, manipulated, and distributed even more easily than paper copies. Many publishers are wary about this new technology.

Your choices in document conversion are to seek the rights and permissions from the copyright owners (if you can track them down), to ignore the issue, or to scan only material that is free of copyright restrictions. Some groups scan first and ask questions later.

At the present I am involved in a very narrow and controlled experiment using these technologies. Last year I heard about a newsletter that was of great interest to me because I publish a newsletter on libraries and telecommunications. *Federal*

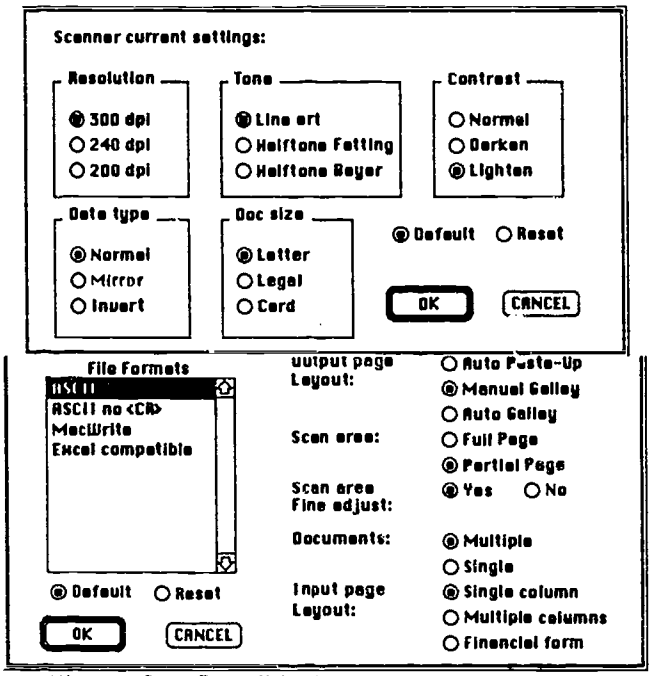


Figure 1: OmniPage *dialog boxes.*

Communications TechNews is published by Benn Kobb and deals with the latest legislative and technical developments from the FCC. I knew our library would subscribe, but how do you disseminate the information to a narrow group of readers around the Cupertino campus and overseas? We negotiated a price for a site license to distribute the newsletter any way we wished—by scanning and archiving it electronically or by copying and mailing the document.

In the future the library will be receiving the newsletter electronically; this will involve conversion from a MS-DOS disk to Mac format. Until I receive it in that format, I have various methods of scanning the document:

1. convert document to bit-mapped images;
2. convert document to ASCII;
3. convert document text to ASCII and the compound pages (containing both text and graphics) to bit-mapped images; and
4. break up the document into graphics and text; convert the graphics to bit-mapped images and the text to ASCII.

All scanners have been able to do (1) and many include software that can convert some typefaces to ASCII (2). The equipment needed to handle most proportional fonts and detailed artwork used to be very expensive and was used by large institutions and certain three-letter government agencies. Using a Mac II and *OmniPage* with the Apple Scanner, I scanned the 8 page newsletter and sent the ASCII text file to interested employees on *AppleLink*, our corporate electronic mail system.

The setup is rather easy for *OmniPage*. Here are dialog boxes (Figure 1) showing some of the settings that affect the way your document is converted. Try the default settings and then make adjustments. If your document is composed of many pages with the same format, conversion will be much faster than varied columns and tables on each page. The program allows the user to scan many pages in one file, but if the format changes from page to page, you will have to form many separate ASCII files and concatenate them later. This slowed down the scanning of a recent Office of Technology Assessment publication, *Informing the Nation*. Mixing columns

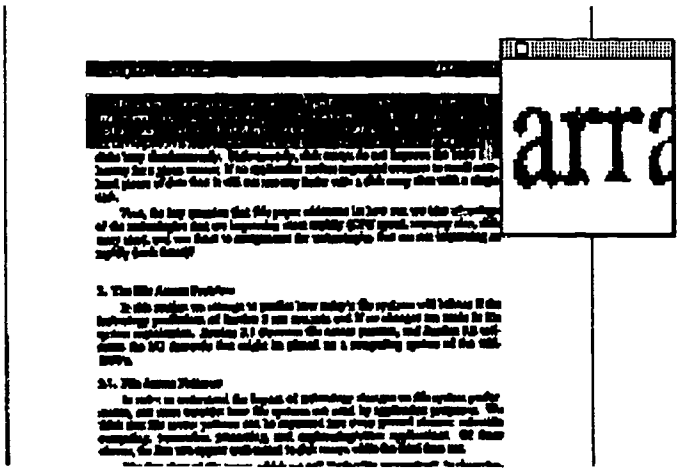


Figure 2: OmniPage *scanning a page.*

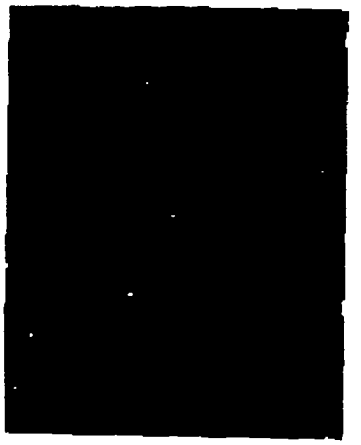


Figure 3: After the scan is complete.

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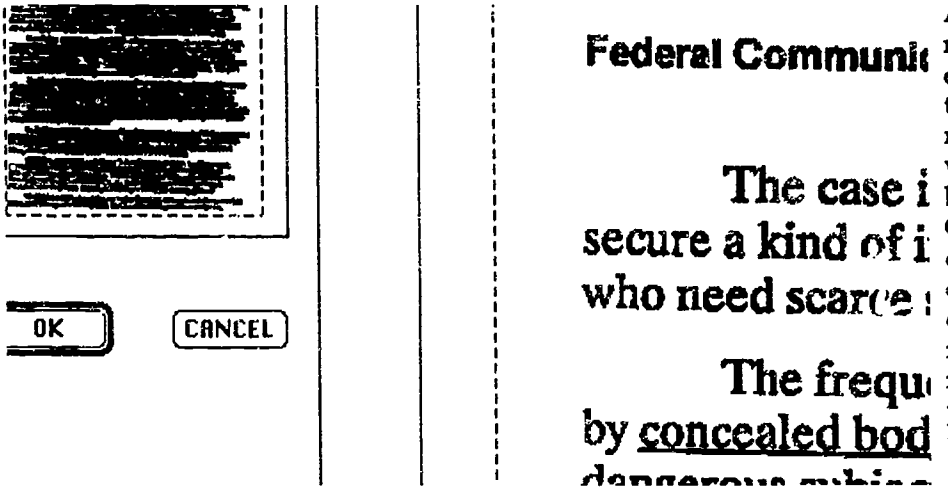

Figure 4: OmniPage *showing a 300 dpi image of a scanned page.*

with tables and diagram titles is extremely time consuming. This document is widely available in print form, but not electronic, and it proved to be a very difficult example. *Federal Communications TechNews* is much more uniform.

Pictured on page 13 (Figure 2) is an image of the one page as it is being scanned and after the scan is complete (Figure 3). If the page is more complex, *OmniPage* allows the user to choose which parts should be converted and to view a 300 dots per inch image of the whole page. Flaws and probable errors may show up here, but I do not use this option which is illustrated in Figure 4. The blank spot in Figure 5 is the area taken by illustrations. Once the conversion is complete, the ASCII is displayed. The text may also be saved in various word processing files. The rule of thumb seems to be: if your original text is clear, you will probably be able to make a very accurate (99.5%) conversion, no matter which system you use.

A second rule was mentioned at the N.A.L. conference on scanning technologies: if you have more than 4% errors, the whole document should be manually typed in. Cleanup and error correction are very time consuming. I have experimented with a great many examples of magazine print, desktop published papers, and tables of contents. Because the software is checking the image of the characters, it has to have enough information to detect patterns. The smaller the character, the less information available. Dot matrix characters are often misread as dots, not characters. On desktop published (laser printed) works, the resolution is nowhere near as great as most magazines or even

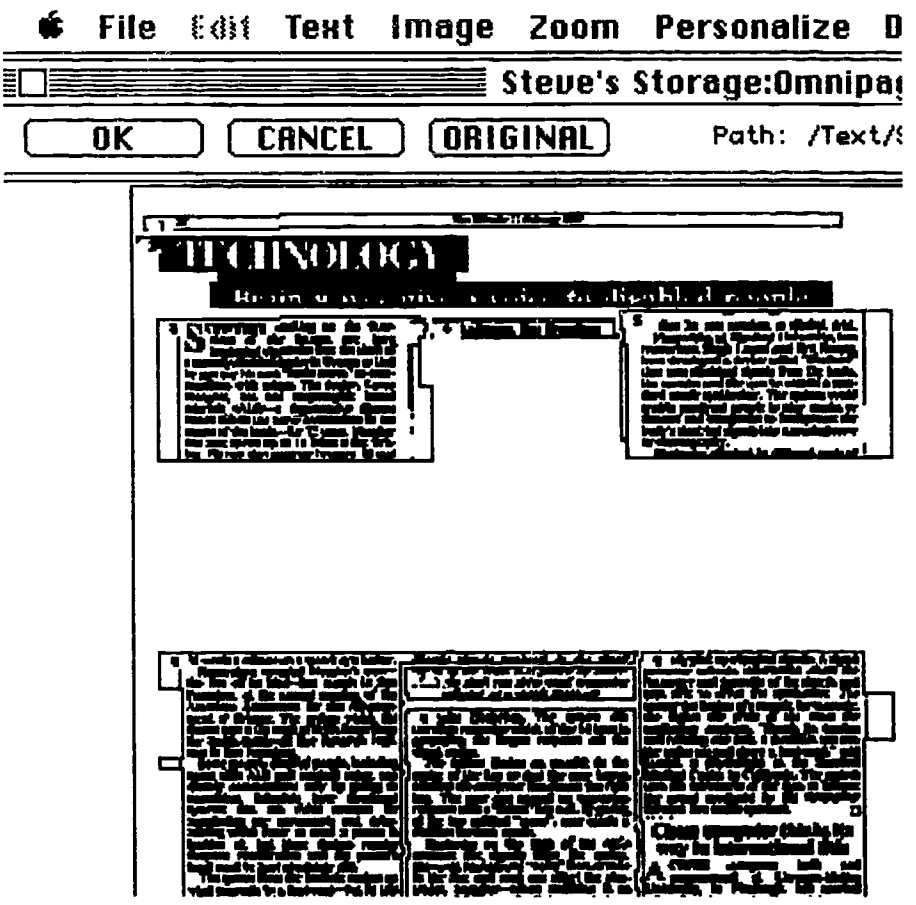

Figure 5: The blank spot in this OmniPage *scan is the space taken up by an illustration.*

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newspapers. Serif italics seems to cause problems, as do letters whose descenders cross an underline. A 'y' becomes a 'v' in many cases.

The problems of errors in scanned documents presents an interesting dilemma for librarians. We strive to provide only accurate information, but the cost of correcting many scanned documents makes the handling costs greater than just using a copy machine and mailing the copies. If you do not need to archive the information, document conversion may not be the most cost efficient way of moving the information.

Converting Kobb's newsletter, correcting some of the more blatant errors, and uploading the 27 Kbyte file took 45 minutes. Your mileage may vary. Other factors causing errors besides font size and shape are the quality and color of the paper and the layout on the page, especially for tables of contents. I found that the layout of the journal tables of contents varied so much that many of the resulting ASCII files had to be reformatted, even if the characters were accurately scanned.

A facsimile machine scans the document as an image, compresses it and transmits it to another machine, but the low resolution of CCITT group 3 fax is a compromise between speed and accuracy. It is fast, easy to operate, and accurate enough that many libraries cannot exist without it, but I have found the quality uneven in many cases. When the prices of CCITT group 4 fax equipment drops, we will have even faster and more accurate ways of transmitting even more detailed graphic images. Although converting a scanned document to ASCII and transmitting that information takes longer than fax, the resulting file can be manipulated in many more ways. It can be broadcast on an electronic bulletin board or Email service, or it can be archived in a full text database. Fax images are generally not stored, though they can be, nor can they be distributed as efficiently as electronic messages. One of the Apple Library of Tomorrow projects at University of Michigan is investigating the use of the AppleFax modem and *OmniPage* for document delivery. At press time there were some problems converting the fax file to an electronic format that could be handled by *OmniPage*. However, the marriage of scanners and fax modems promises some interesting new products and options for document delivery.

In summary, the Apple Library will continue the small scale investigations in scanning technologies and will monitor large projects that use integrated systems, not only for the conversion but also the distribution, storage, and retrieval of text and graphics.

The Macintosh at the University of Illinois at Chicago Library: Flexibility in a Dynamic Environment

Kerry L. Cochrane

Macintoshes are used in the Reference and Administrative departments of the Main Library as well as in the Science Library of the University of Illinois at Chicago for a variety of chores. HyperCard *is used to direct patrons through the Main Library as it is transformed in the course of a remodeling project.* MacProject *and* MacDraft *are used to track the progress of the remodeling.* MacWrite, *Microsoft* Word, Multiplan, *and* File *are used to manage the complexities of reference services and library administration. Links to off- and on-campus bibliographic resources are facilitated by the Macs, modems, and several telecommunications software packages.*

Institutional Environment

The University of Illinois at Chicago (UIC) is the largest public institution of higher learning in the Chicago area and an increasingly significant center for international education and research. UIC was formed in 1982 by the consolidation of two universities (formerly the University of Illinois at the Medical Center and the University of Illinois at Chicago Circle) into a single institution. There is a total enrollment of 25,000 students in undergraduate, graduate, and professional programs. The collections of the Main Library support teaching and research activities in the humanities, social sciences, and engineering. The University Library also includes the Architecture and Art Library, the Mathematics Library, the Science Library, and the Library of the Health Sciences in Chicago with its remote sites in Rockford, Peoria, and Urbana.

The UIC Main Library is presently undergoing extensive remodeling which will affect every floor of the building, from the location and configuration of service points to the placement of restrooms. The upheaval of renovation can tax the resilience of both

staff and patrons. For years the Reference Department has used Macintoshes as a way to maintain continuity: when staff members move on, they leave behind a legacy of Macintosh documents stored on public disks and classified in electronic folders. With *HyperCard*, the Reference Department will depend on a stack called "Guided Tour and Remodeling Information" to help us keep patrons informed on the course of remodeling.

Assistant Reference Librarian E. Paige Weston and I originally thought that *HyperCard* would be an ideal vehicle for communicating fast-paced remodeling changes to the public. As we began creating the stack, however, we realized that it would also be extremely helpful to build in a guided tour of the Main Library as it currently exists, putting future plans into the context of the present environment. Although our work on the stack was collaborative, Paige assumed primary responsibility for writing the scripts while I handled card layout. After introductory cards explaining buttons and the mouse, the user is presented with a card from which to choose either remodeling information or the tour (Figure 1).

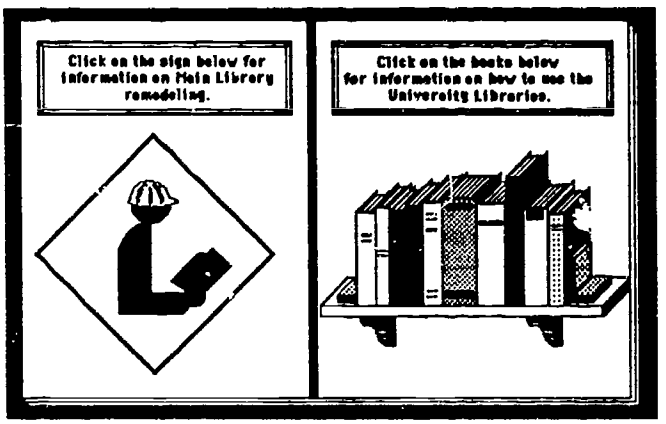


Figure 1: Card from Guided Tour and Remodeling Information *stack.*

For the *HyperCard* tour we worked with a Macintosh II equipped with a 40 Mb hard drive, 2 Mb RAM, and a floppy drive. This machine will be attached to a wheeled kiosk outside of the Reference area, with only the monitor and the mouse accessible to the public. When we close up for the night, we will be able to roll the kiosk into the main department office for safekeeping, and then roll it out again in the mornings.

Macintosh Background

For departmental work, the UIC Reference Department uses two Macintoshes: a Macintosh Plus, with an 800K external drive and an ImageWriter II, and a Macintosh 512K Enhanced with an 800K external drive, an ImageWriter, and a 1200 baud Hayes Smartmodem. Although some librarians prefer typewriters, most word processing in Reference is done on a Mac. For general word processing needs, we use *MacWrite* v. 4.6 or Microsoft *Word* v. 1.5. For documents which require graphics, such as user guides or signage, we frequently use *MacPaint*. A much-appreciated feature of the Macintosh is the fact that products of one application are so easily transportable into another. When I put the Computer Search Service manual into *MacWrite*, for example, I included "screen dumps" from actual online searches and graphics created on *MacPaint*. The Reference Department uses Microsoft *File* to manage several small databases. One department staff member has created a database with fields for the abbreviations in the *Biography and Genealogy Master Index*, the full titles of the sources indexed, and the call numbers for the sources held locally. The printed "report" has been laminated and spiral-bound for easy shelving next to *Index*. I maintain the price lists from BRS and DIALOG with *File*, listing database name, tag or number, hourly rate, charge per full citation online or offline, and telecommunications cost. *File* lets me sort this information either by name of the database or by its tag or number. It also calculates the actual per minute cost, deducts the Library telecommunications cost (which we absorb) and our advance rate discount, and then computes an "average" search cost for each database based on twenty minutes of online time and twenty online citations. We keep these lists with the Computer Search Service appointment book so that we can give patrons an estimate of what particular searches will cost.

Paige, who is responsible for the Reference Department statistics, is glad to have Microsoft *Multiplan* to figure out particulars like the average number of questions posed at peak hours during Winter Quarter, as well as to figure the yearly totals and standard deviations. She finds *Multiplan* acceptable but not ideal for large projects since no single spreadsheet can be very large, and since it links two spreadsheets clumsily. We use *Multiplan*

exclusively on the Plus since the Plus' keyboard has a numeric keypad.

The Library Administrative Office uses a 128K Macintosh, a Macintosh SE, and a Macintosh Plus with 800K external drive. Each Mac has its own printer, and the Plus has a Practical Peripherals 2400 baud modem (for connecting to the University mainframe) along with a 1 Mb Ergotron print buffer. The Administrative Office uses *Multiplan* v. 1.10 to control parts of the Library budget, and *File* v. 1.04 to maintain Library mailing lists and personnel information. For example, *File* will print out mailing labels for the internal Library newletter which are in alphabetical order by department, and alphabetical order by name within each department.

Three librarians in the Administrative Office use the Mac SE to manage the entire Library remodeling project. *MacProject* maps out the phases of remodeling and projects deadlines. One librarian used *MacDraft* to create scaled floorplans of the whole Main Library, including fixed book ranges drawn to scale. These have been useful to Library departments in planning their book shifting. Floor plans are also being incorporated into the *HyperCard* tour to give patrons floor-by-floor overviews of renovation. Since *HyperCard* allows unlimited linking of cards, we are connecting the full floorplans to scaled-down plans to show users closeups of particular departments.

For word processing and online database searching the Science Library uses a 128K Macintosh with 400K external drive, 1200 baud Hayes Smartmodem, and an ImageWriter II. All telecommunicating Mac users in the University Library are making do with *MacTerminal*, though they would prefer something more sophisticated. The Reference Department and the Science Library use a local version of *Kermit* for uploading text files (such as SDIs received on DialMail, or the regular online prints from a database search) to the University mainframe.

How a School Librarian Looked at a Gnawing Problem (and Saw How The Mac and *HyperCard* Might Solve It)

Stephen J. D'Elia

How do you motivate students to learn library skills? With a customized HyperCard *stack called* Information Passport, *students at St. James School (Falls Church, VA) learn at their own speed, provide (through their use of the stack) a record of their progress, and draw public attention to the Library and its educational role. Additionally,* Information Passport *is flexible so that new skills can be incorporated into the stack in order to keep it timely and interesting.*

A computer enters your life like an unknown quantity, sitting around, puzzling you because you are not quite sure what it can do. So you poke it, touch it, and type on it; eventually some ideas appear and before you know it, you've created an application which improves your unorganized life and perhaps your library as well.

Let's look at some problems that are typical in a school library:

Problem no. 1: Motivating students to learn basic library skills. Students should receive instruction in this area, but are totally disinterested unless there is some short-term excuse to acquire these skills. Their need for learning how to use a library is dependent on their desire for information to recycle into a term or short theme paper. Otherwise, their low interest in library skills might rate a spot in the *Guinness Book of World Records*.

Problem no. 2: Motivating instructional staff to recognize the value of library skills. Issuing grades for library quizzes are not practical. A report card

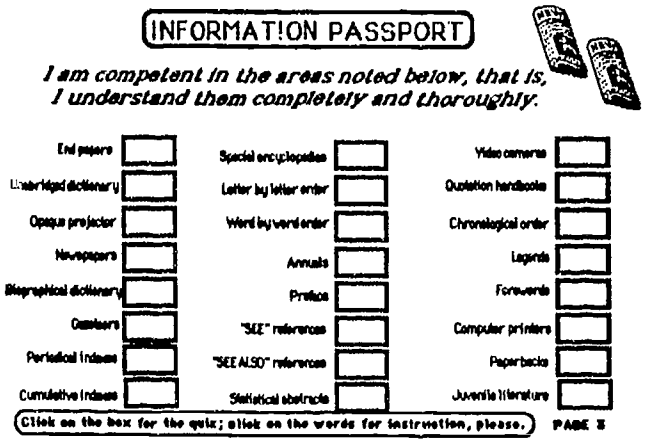


Figure 1: Information Passport *stack.*

does not have a spot for library skills. You need to convince a principal as well as teachers that library grades should be integrated with other grades.

Problem no. 3: Time. In a library in which classes are scheduled into the library, time is precious. In forty-five minutes, it is nearly impossible to schedule a quiz, provide some basic instruction, and still find time for more routine chores like book selection.

Problem no. 4: Retention of skills. When children only visit the library once a week, it is tough to expect them to retain knowledge for a quiz over seven days without some sort of frequent reinforcement.

Here's a solution to all of those problems. *Information Passport* is an application with which I am experimenting with students from grades five through eight. Just as a regular passport certifies a citizen's good standing in his country, with notes on his or her vital statistics, *Information Passport* can certify a student's knowledge of library, media, or information skills.

My first approach was to printout *Passport* and distribute a copy to each student. It is eight half pages in length, in a *HyperCard* format, using two sheets of letter-size paper, when copied on both sides. It might be possible to reduce the pages to passport size on a copier to make it pocket-size, but the print might be unreadable.

How does it work? Each fifth through eighth grade student has a passport and fills in the vital statistics on page one. Hence, on the first page, a student must enter the name of the school librarian, and the name and telephone number of his local public library. Pages two, seven and eight discuss reading habits and the requirements for starting a home library.

Classes on various media topics are offered each week, so that some of the topics will be in the *Passport*. Pages three to six are filled with ninety-six titles of media or information skills. When the student feels competent in one of the areas on the list, he informs the librarian, who, in turn, will prepare a short quiz on the topic. If the student is able to pass the quiz, the librarian initials the box next to the skill tested.

At present, the student works with a printed list of questions (or even an oral quiz). The next step will be to place the list of skills, instruction, and the quiz itself online, allowing the student to do it all via the Mac and *HyperCard*. It shouldn't be too terribly difficult to set it up on *HyperCard* (Figures 1 & 2).

Advantages of the Passport

1. The learning burden is shifted to the student. He chooses some aspect of the media and information arena and demonstrates competence in a given area. The student works at his own speed.

2. It gives parents, teachers, students, and the librarian some idea of the student's progress.

3. It focuses attention on a variety of library skills, and their importance; and

4. It provides the library with publicity.

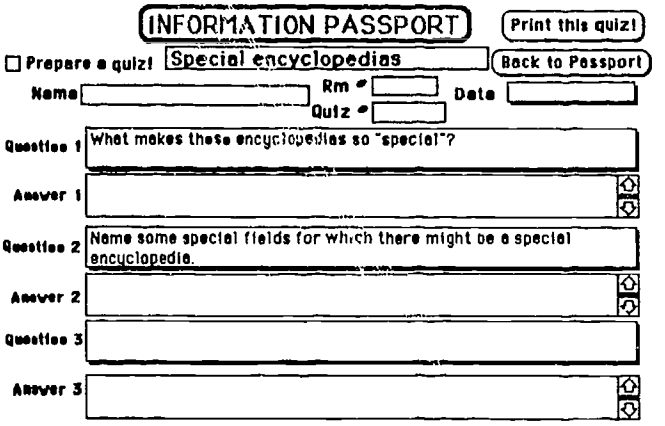


Figure 2: Quiz on Special Encyclopedias from Information Passport.

The Passport, online

If the student chooses to work online with the *Passport*, he finds a skill to work on in pages three to six. If instruction is needed, the student clicks on the words (as the footnote directs) and the transparent button carries him to the *Instruction* stack. There he can read in the scrolling text all the pertinent info on that topic. A button at the top right takes him back to the appropriate card in the *Passport* stack. He may now be ready to take a quiz on the chosen topic, so he presses the transparent button in the box next to the topic. In this case, it is "Unabridged Dictionary", and he moves to the *Quiz* stack. If need be, he can print the completed quiz by pressing the button at the top right. Summing up, there are three stacks: the passport stack, with eight *HyperCard* cards (half pages), which can be printed using your printer and a copier on two sheets of typing paper, back-to-back; the instruction stack, with one card for each of the skills in the *Passport*; and the *Quiz* stack, with one quiz card for each skill.

Is it a gimmick? The passport idea is a gimmick, but the ingenious trick is involving the student at his or her own pace in learning library skills. It may need to be renamed at some later time to make it more attractive to students' sense of fashion and fad. Next year I may call the program *The Michael Jackson Guide to Library Survival* or perhaps something even sillier.

Conclusion

A Mac in a library can be a possible solution to any task that you may be facing. It really is a matter of switching your train of thought to using a Mac to solve old routines or even thinking up jobs never tackled before. At St. James, we hope that some day we can purchase a hot catalog/circulation system for the Mac, which may bring our operation into the 21st century. But until then, we will be hitting the trenches each day with the Mac trying to find new and inventive solutions to our traditional problems of working with students and faculty.

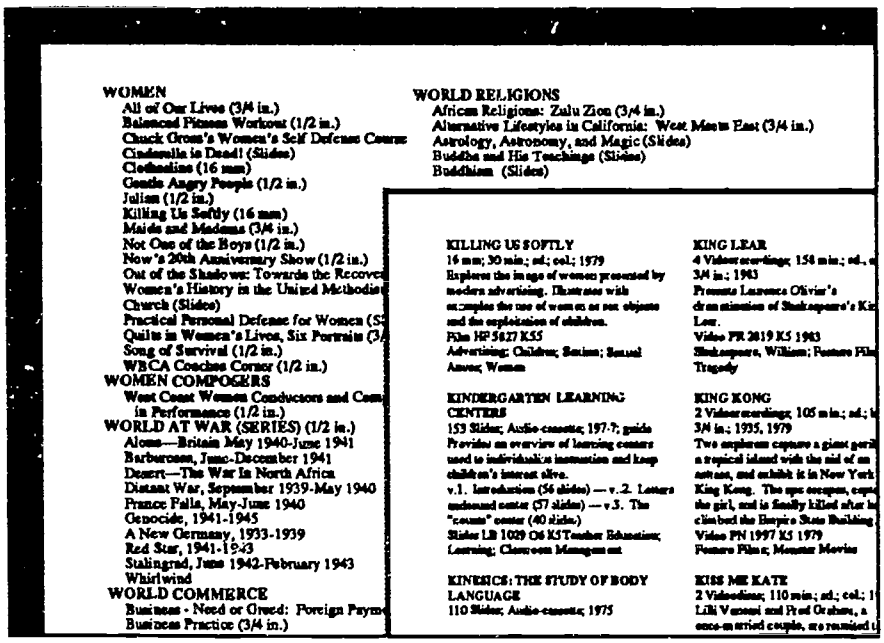
The Macintoshed Media Catalog: Helping People Find What They Need In Spite of LC

Virginia Gilmore and Layne E. Nordgren

Non-print materials in the Mortvedt Library of Pacific Lutheran University (Tacoma, WA) are organized and accessed with a Macintosh-based local area network. Book catalogs and specialized lists are generated for patrons in addition to slides, transparencies, and other classroom materials. HyperCard *is being used as a means to provide an interface to the collection, with the additional bonus of associative links not easily possible in printed catalogs.*

You're teaching a sociology class – perhaps something like "Women in Modern Society". You want to use films and videos to present some ideas of the way women are perceived and how they perceive themselves. You have reason to believe that your university library has a number of films that may be useful to you. Since you are a scholar and a researcher, your first stop in the library to find appropriate titles would probably be the card catalog. If yours is a high-tech electronic library you would use the CD-ROM or on-line catalog. What you find is a large number of subject listings beginning with word "women". Under each possible subject listing you will find many, many titles for materials by and about women - their lives, social condition, working conditions, child care, parenting, in the Bible, in literature, etc., etc., etc. Some may actually be films and videos, but each entry will have to be individually scrutinized to see if it is the film or video you want. Although you know that films are legitimate sources of information, you may abandon the whole idea of using them because the time spent finding an appropriate title may not be worth the effort.

Libraries are places to store books, periodicals and non-print materials in such a way as to make them easily accessible to a user. In academic libraries in the United States this arrangement is usually controlled by the Library of Congress classification system and subject headings. Many librarians have found working with LC to be difficult but the system of using main entry and limited subject headings works fairly well for printed materials. This system was originally designed for card catalogs and has been ported basically wholesale into the computerized systems.



WOMEN
All of Our Lives (3/4 in.)
Balanced Fitness Workout (1/2 in.)
Chuck Gross's Women's Self Defense Course
Cinderella is Dead! (Slides)
Clothesline (16 mm)
Gentle Angry People (1/2 in.)
Julian (1/2 in.)
Killing Us Softly (16 mm)
Maids and Madams (3/4 in.)
Not One of the Boys (1/2 in.)
Now's 20th Anniversary Show (1/2 in.)
Out of the Shadows: Towards the Recover
Women's History in the United Methodist
Church (Slides)
Practical Personal Defense for Women (S
Quilts in Women's Lives, Six Portraits (3/
Song of Survival (1/2 in.)
WBCA Coaches Corner (1/2 in.)
WOMEN COMPOSERS
West Coast Women Conductors and Com
in Performance (1/2 in.)
WORLD AT WAR (SERIES) (1/2 in.)
Alone—Britain May 1940-June 1941
Barbarossa, June-December 1941
Desert—The War in North Africa
Distant War, September 1939-May 1940
France Falls, May-June 1940
Genocide, 1941-1945
A New Germany, 1933-1939
Red Star, 1941-1943
Stalingrad, June 1942-February 1943
Whirlwind
WORLD COMMERCE
Business - Need or Greed: Foreign Paym
Business Practice (3/4 in.)

WORLD RELIGIONS
African Religions: Zulu Zion (3/4 in.)
Alternative Lifestyles in California: West Meets East (3/4 in.)
Astrology, Astronomy, and Magic (Slides)
Buddha and His Teachings (Slides)
Buddhism (Slides)

KILLING US SOFTLY
16 mm; 30 min.; sd.; col.; 1979
Explores the image of women presented by modern advertising. Illustrates with examples the use of women as sex objects and the exploitation of children.
Film HF 5827 K55
Advertising; Children; Sexism; Sexual Issues; Women

KINDERGARTEN LEARNING CENTERS
153 Slides; Audio-cassette; 197-?; guide
Provides an overview of learning centers used to individualize instruction and keep children's interest alive.
v.1. Introduction (56 slides) — v.2. Lesson sequenced center (57 slides) — v.3. The "cousin" center (40 slides)
Slides LB 1029 C6 K5 Teacher Education; Learning; Classroom Management

KINESICS: THE STUDY OF BODY LANGUAGE
110 Slides; Audio-cassette; 1975

KING LEAR
4 Videorecordings; 156 min.; sd.; c
3/4 in.; 1983
Presents Laurence Olivier's dramatization of Shakespeare's Kin
Lear.
Video PR 2819 K5 1983
Shakespeare, William; Feature Film
Tragedy

KING KONG
2 Videorecordings; 105 min.; sd.; b
3/4 in.; 1935, 1979
Two explorers capture a giant gori
a tropical island with the aid of an
outcast, and exhibit it in New York
King Kong. The ape escapes, capt
the girl, and is finally killed after h
climbed the Empire State Building
Video PN 1997 K5 1979
Feature Films; Monster Movies

KISS ME KATE
2 Videodiscs; 110 min.; sd.; col.; 1
Lilli Vanessi and Fred Graham, a
once-married couple, are reunited

Figure 1: Visual Media Catalog with Subject and Title Listings

Unfortunately, non-print materials do not fit comfortably into this scheme. Films and videos frequently have no recognized author, are interdisciplinary, and are approached by the user most often by subject. The contents are less easily described than for a book and, since films are used in many different ways, there is a need for many more subject access points. An annotation of the film is indispensable for making selections since films cannot be browsed from the shelf. Accessing recorded music is an even more difficult problem. Finding a particular selection of recorded music from a disc or cassette is nearly impossible using the system as it is now since recordings with multiple composers and selections are not traced in the author and uniform title fields.

AACR2 provides neither sufficient subject headings nor descriptions to deal with the interdisciplinary nature of visual and audio media. Although much of the necessary data is stored in bibliographic databases such as the Western Library Network (WLN), some of the important fields such as contents notes and instrumentation are not indexed and are thus unsearchable. Considering the large size of these fields relative to the small proportion of records used for media it is unlikely that they will be indexed in the near future. Scoping portions of the database by material format would be useful but is not easily accomplished on most systems. Consequently one must wade through the majority of print records. This situation is not likely to change since there are too many challenging problems concerning printed material in public access catalogs to spend time worrying about the relatively few non-print items and users.

This is essentially the problem we faced at Pacific Lutheran University's Robert A. L. Mortvedt Library in 1984 when Media Services became a separate department in the library. With a media collection at that time of over 5,000 titles, one of our first objectives was to improve patron access to the visual and audio media collections. We addressed the problem by developing a paper catalog. This may seem like taking a step back from electronic access technology, but until the problems associated with finding non-print formats are resolved, a good paper catalog provides the user with a workable alternative. It separates the relatively few non-print titles from the very large number of print titles, provides the opportunity of adding custom subject headings to make access easier, and arranges them in a format that can be easily searched by subject or title. Technology has not been abandoned because the only way catalogs such as this can be developed by a small university media department is by using computers - in our case the Macintosh.

Since 1984 we have used the Macintosh to produce a visual media (film, video, laserdisc, and slide) catalog

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(Figure 1). This catalog now contains 127 pages in the title section, giving physical descriptions, annotations, and subjects for more than 1600 titles, and 67 pages in the subject section. Recently we added a musical recordings (cassettes and compact discs) catalog which provides information on the more than 600 titles including the composer/ performer and title for every selection on the recording. These catalogs have greatly improved patron access to the media collections and we consider them the major reason for the increased use of the collections for classroom and individual use.

Initially we chose the Macintosh for Media Services to improve and streamline production of transparencies and slides by reducing turnaround time and improving quality. We soon discovered numerous other uses for the Mac including catalog production. Our first Macintosh came bundled with an ImageWriter printer and *MacWrite* and *MacPaint*. We quickly discovered the capabilities and limitations of *MacWrite* by using it to construct our first catalog. This involved manually inputting information from card catalog cards for all visual media holdings. Data included title, physical description, annotation, LC subject headings, and custom subject headings chosen to increase access points. We encountered many frustrations and "disk full" messages, but were thrilled and gratified by the ease of use and the final results - a paper catalog that was "user-friendly", looked reasonably professional, and could be up-dated relatively easily. The catalog was distributed to University departments and interested faculty and became by our standards a "best seller". By the end of the first semester we had exhausted our original supply and the use of library-owned visual media began to increase, resulting in a 45% decrease in the use of rented films. A comment we heard often was, "I wish I had known we owned this a long time ago, it fits perfectly with what I'm teaching in this class." Because the data is in a digital format we have been able to publish a fully updated catalog at the beginning of each school year for the past five years.

Our hardware now includes four Macintoshes, three hard disks, three ImageWriters, a LaserWriter Plus, a digital film printer, and a digitizer (Figure 2). Each Mac is connected via LocalTalk for access to the LaserWriter. All workstations have *TOPS* 2.1 software for sharing and transferring files on the network as well as for spooling laser printing. The network is invaluable for sharing clip art and other files. It allows local "experts" in word processing, graphics, database manipulation, and page layout to do their work on one machine and publish it on the network for someone else to put the pieces together. The network also includes a node to an IBM-PC in the Technical Services Department. This provides a link for downloading records from the WLN database.

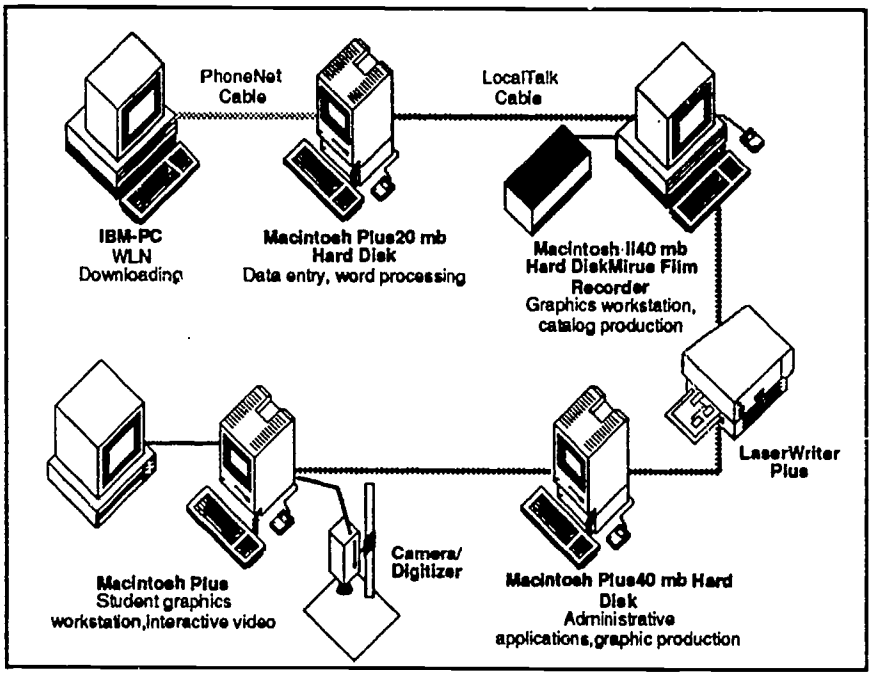

Figure 2: Macintosh hardware configuration at the Robert A.L. Mortvedt Library.

All visual and recorded items are cataloged on WLN in the Technical Services Department with full AACR2 cataloging, LC classification, and subject headings. This information is then available for searching on the database and for production of the CD-ROM discs for LaserCat. WLN gives us more information than we need for our catalog, for instance tagging, but *BridgeIt* software provides a means to extract specific fields that are needed. Technical Services downloads the data onto their IBM-PC including fields for title, physical description, annotation, subjects and call number. The file is published on the *TOPS* network as well as mounted and copied onto a Macintosh. By downloading the

data directly, we eliminate the costly, time-consuming editing associated with rekeying the data.

We began using Microsoft *Word* almost as soon as it became available because it was able to handle much larger files and formatting better than *MacWrite*. We now use *Word* 3.02 and Aldus *PageMaker* which are excellent complimentary tools for catalog production. Word is a fast and powerful word processor for entering, formatting, and editing data and is packaged with a dictionary to check spelling and typographical errors. Multiple windowing allows quick editing, checking, and cutting and pasting between files. *PageMaker* provides precise control over page layout but with the disadvantage of low word processing speed compared to Word. Using these two programs together we can efficiently create yearly catalogs, supplements, and specially customized topic catalogs. After editing and checking proofs, we laser print the master pages which are printed, collated, and stapled by the University printing service.

During the past year, we have produced catalogs of classical, jazz, and popular music owned by the library. They list every title and composer/performer on every disc or cassette. The process is similar to that for the visual media but we have used *Excel* for sorting data by fields. Information is downloaded from WLN via *Bridgelt* and *TOPS* into an *Excel* database containing fields for album title, selection title, composer/performer, producer number, and call number. Each selection on a recording is entered as a separate record. Titles in more than one language are given separate entries for each language and cross referenced to improve access. For instance, Vivaldi's Four Seasons, Op.8, Nos. 1-4 includes separate entries for "Le quattro stagioni" and "Cimento dell' armonia e dell' inventione". The file can then be sorted for both composer/performer listings and title listings. Each sort is saved as a text only file and imported to *Word* where it is formatted, corrected, and manually realphabetized to deal with indefinite articles. Each entry or record is then aligned and formatted for style. The file is imported to *PageMaker* for a proof which is checked against cassettes or compact discs for accuracy. Corrections are made in the *Word* file and then placed into *PageMaker* for final printing of master pages.

Using our Macintosh we are able to produce customized filmographies and discographies for specific topics when needed by a professor or department. The master *Word* file for the title section of the catalog is used for finding relevant titles. By utilizing multiple windows and cut and paste functions, we can quickly produce context-sensitive catalogs for individuals. Visual and music supplementary catalogs are produced in the middle of the year as new items are added to the collection.

When we first began planning for a paper catalog we were warned by many people that we would be sorry. "It's easy to make a catalog, but you'll be feeding and caring for it for the rest of your life." There have been times when we've been sure we produced a Frankenstein monster, but the benefits have outweighed the problems many times over. The use of visual media in the classroom has increased by over 600%. Although we have no accurate statistics to document the increased circulation of our media collection, our perception is that usage has increased dramatically. In addition, as faculty have become used to using visual media in the classroom, the collection has grown from 5,000 to over 7,000 titles and there is pressure to continue developing our collection.

The future of Macintosh in Media Services provides numerous additional opportunities for improving patron access to the media collections. While the printed catalogs are a step in the right direction, they still force patrons to conduct their search according to the underlying structure of the catalogs rather than according to the way they are likely to think about finding media materials. They must structure their searches by finding titles from the subject sections in batches and then looking alphabetically in the title section to examine descriptions. Keyword searching in the contents or descriptions is obviously not possible.

To address these limitations, we have developed *HyperCard* stacks with keyword searching capability for the full text of our visual and audio catalogs using a customized version of Steve Cisler's *Full Text Database*. This stack works very well for staff, allowing them to answer questions and find materials that can be searched only by keyword. Public access will require a simplified interface for patron searching as well as implementation of different ways of searching. We are developing a search screen which includes browsing by title, searching titles by keyword, searching full catalog text by keyword, and searching titles by subject. Associative links (hot buttons) will be provided among title and subject sections. If, for instance, a title is found under a

subject heading, clicking on the title will bring up the full description. Likewise, clicking on the subject headings will take the patron to the subject listings and other potential titles for examination. The audio portion will include searching by album title, selection title, and composer/performer. A composer timeline will put the information into the perspective of time and period. Background buttons within the stacks will provide navigational aids and links among stacks as well as the capability of generating "picking list" printouts of the titles and call numbers of materials to be retrieved from the collection. Other buttons will allow marking of various titles for printing filmographies and discographies.

These hypertext search methods are closer to the way people actually think about searching for media and will provide alternative methods and pathways for searching. Attention can then be directed towards selecting appropriate media rather than searching for media; emphasis can be placed on using the information in a context-sensitive manner rather than in simply finding the material. Our Macintoshes have given media users several alternatives to public access or card catalogs. They have made it possible for us to repackage and customize bibliographic information for media in a way that is more useful and effective for the patron. In this manner, non-print information can be turned into knowledge more easily and effectively.

The Mac and *Power Days* at Milne

Richard D. Johnson

An electrical power disruption at the Milne Library at the State University College at Oneonta (NY) forced personnel to scramble elsewhere on campus to continue their day-to-day chores. The Herculean efforts of the staff were recognized in several ways, using the Macintosh as a tool to create honors for personnel. This departure from the normal routine of the Library also meant that the administration needed a way to keep the staff posted of changes, which was provided through Macintosh-generated materials. In this case, the Macintosh provided a responsive means to deal with complicated administrative problems literally as the events warranted.

At the Milne Library in Oneonta, New York, the Macintosh computer is one member of a team. Another player is the multi-user Altos computer system, which does a fine job for many day-to-day operations (See *Macintoshed Libraries*, p. 8-9). But the Macintosh shines when it comes to the quick and easy preparation of publications and graphic documents. It makes you a "power user." A case in point:

In December 1988 the college announced that major electrical system work (and disruption) was scheduled for the Christmas recess. Portable generators would supply electricity for major campus buildings, including Milne Library. All right! We were still in business and could give limited service to students and faculty wishing to use the library during the holiday period. Unfortunately, the day before power was shut down, we learned that the generator for the library would keep only heating, ventilating, and a limited number of lights going. We could not open the library to the public.

How to get the word out? It was time for Mr. Mac to come to the rescue! We opened *MacDraw* to prepare signs for the library entrance (Figure 1). Two rectangles, with different line widths made a border for the sign. The text was input in Helvetica bold, and to embellish the page, the library logo was pasted in from the scrapbook. The completed document was printed on the LaserWriter Plus and extra copies run off on a photocopier. In less than ten minutes a simple yet attractive and informative sign was prepared.

Staff had to cope with limited lighting in the building as they tried to devise ingenious methods of working with no other power. No typewriters, no electric erasers, no computers, no Macs. Some took up the nomad life and migrated with their typewriters to other more power-full buildings. The library didn't even have power to heat water for tea or coffee or for the staff fridge to keep food cold. Certainly not a way to observe the Christmas recess.

We needed something to keep morale up. Perhaps a Power Lunch! Once again the Mac came to the rescue although this time it was the director's Mac and ImageWriter at home. An invitation to a Power Lunch was a perfect candidate for *SuperPaint* (Figure 2). The globe of the bulb is a circle with one side of the stem drawn in with the paintbrush, copied, duplicated, and flipped for the other side. The spraycan shaded the globe and simulated the threading. Hollywood typeface gives a light touch to the title. The streets on the small map are 1/8" width lines of an appropriate pattern. We were able to copy the announcement on the photocopy machine before the power went off and distribute them to staff members.

One day during the power outage, five staff members (the nomads) took typewriters to a neighboring campus building where there were functioning wall outlets and prepared order forms for a needed $30,000 worth of orders. We decided a citation would be a nice way to recognize their special accomplishment, probably because we had just received a new program from Springboard Software called *Top Honors*.

Top Honors is a specialized Macintosh graphics program to produce awards and certificates. The output must be printed on a LaserWriter. The program opens with a blank certificate form that you can complete in many different ways. You have a choice of 24 borders, 7 seals, and 10 EPS (encapsulated PostScript) graphics. (You can also add your own PostScript or bitmapped graphics.) You have two areas in which to insert a title and text body in several different formats as well as a date and signature block in the lower left corner. The seal is placed in the lower right corner, and you can, if you wish, add text that will wrap in a curve along the top and bottom of the seal.

To prepare certificates for more than one person, use the program's "name" feature. From the File menu, select the **Create Name List** command. In the dialog box that appears, enter the names of all the prospective recipients. On the certificate form, enter "*name*" where you wish the name to appear, and individual certificates will be printed for each person selected from the name list. In this way we prepared personalized certificates for each of the five staff members. Although we could create the basic form for the certificate on a home Mac (sans LaserWriter), we could not print it on the ImageWriter and had to await restoration of power at the library to check the document in its final form.

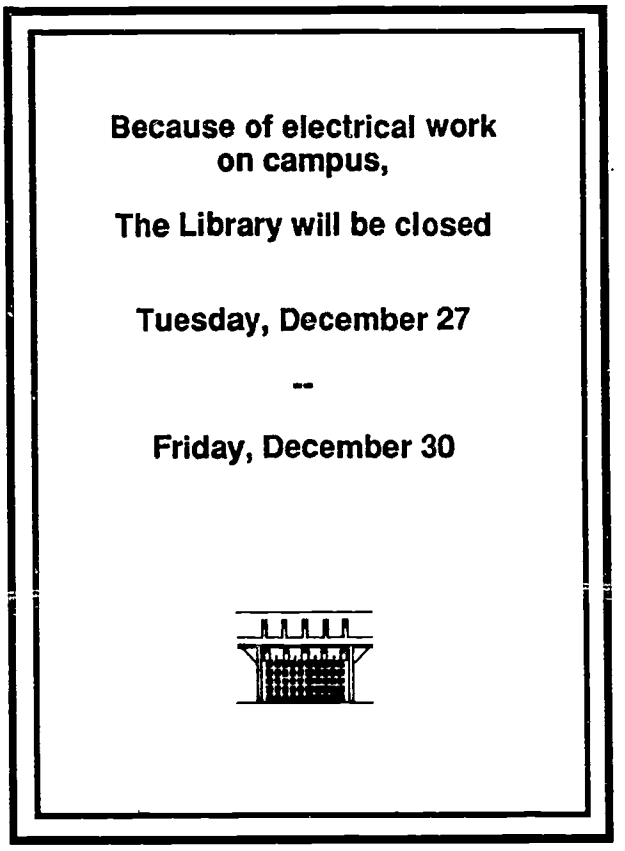

Figure 1. Library sign created in MacDraw.

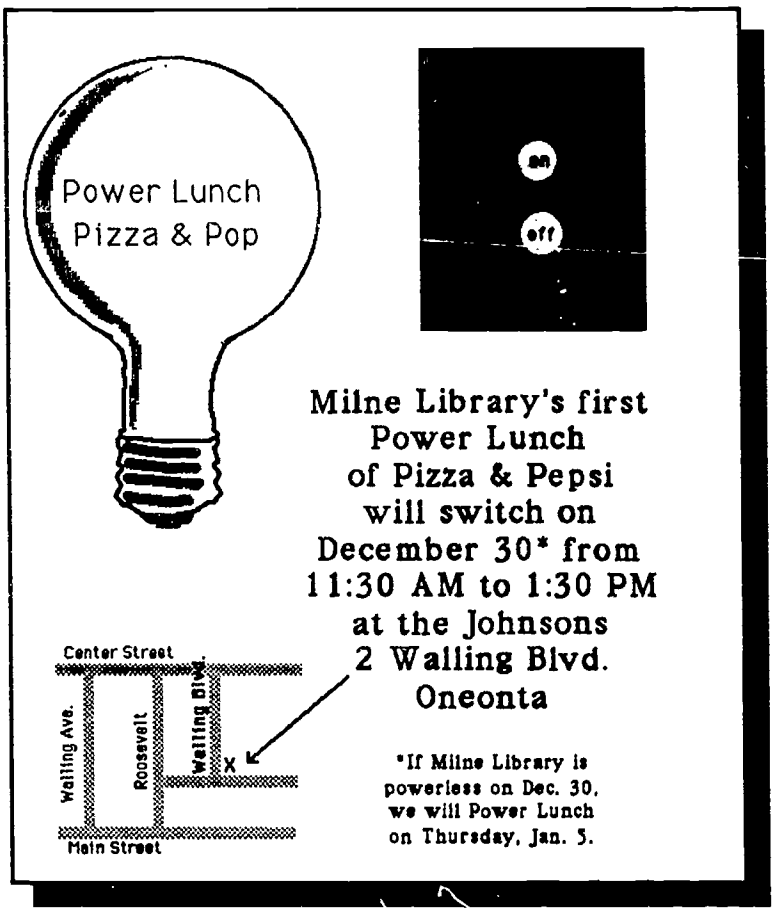

Figure 2. Power Lunch *announcement created in* SuperPaint.

Power was restored before December 30. The Power Lunch was held and certificates presented to the five staffers who worked to "spend to the end."

Yet another case study of the Macintosh at work—and at play.

The USC College Library — A Macintoshed System

Anne Lynch and Hazel Lord

Project Jefferson *at the University of Southern California (Los Angeles, CA) is a program to foster the development of research and critical thinking skills in freshmen. Using* HyperCard, *students work with electronic notebooks to collect and analyze information from several databases, then incorporate this data into their own papers. Instructors report that papers are more thoughtful and that arguments are better supported with researched evidence. Other tools are being developed including customized databases generated with software such as* Pro-Cite.

Two major projects, both using *HyperCard*, have launched the USC College Library into the Macintosh Age. The first, *Project Jefferson*, was developed in 1987 with the support of Apple Computer, Inc., which donated 30 Macintosh SE's to provide public access for the use of *Project Jefferson* software in both the Freshman Writing Lab and the College Library. Once this equipment was in the door, the College Library's Mac's were quickly put to a variety of additional uses, including database management, desktop publishing, and most importantly, the development of front-end searching capabilities for *USCinfo*, a database providing free end-user searching of magazine indexes.

Project Jefferson, a cooperative effort between the University Library, the Freshman Writing Program, and the School of Industrial & Systems Engineering is an attempt to encourage the development of research and critical thinking skills among freshmen. *Project Jefferson* takes advantage of Apple's *HyperCard* programming to provide students with interactive access to information supporting specially formulated writing assignments. The assignments presently in

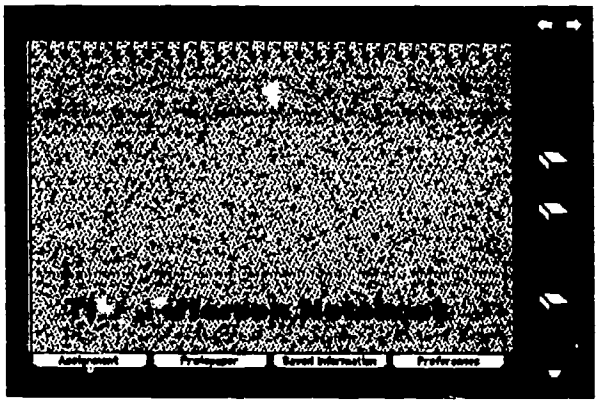

Figure 1: The Project Jefferson *notebook.*

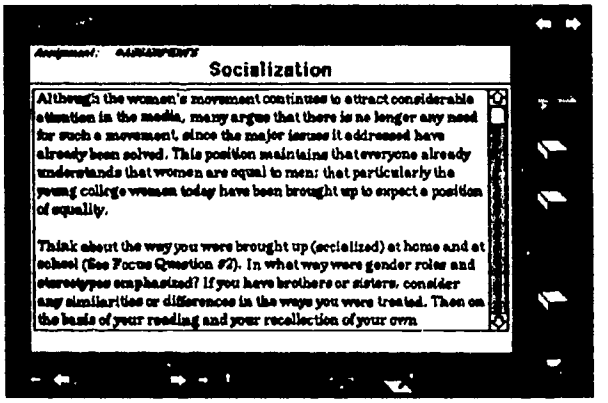

Figure 2: **Assignment** tab.

use ask students to use background information and citations to support a position on one of several constitutional issues, such as racial discrimination.

Building on the familiar concept of a student notebook (Figure 1), dividers are provided for each task to be performed. Within their ***Jefferson notebooks'*** students can click on: an ***assignment*** tab to see focus questions and the assignments (Figure 2); a ***protopaper*** tab to outline and organize the paper; and a ***saved information*** tab to view and rearrange any background information and citations they have retrieved. A ***preference*** tab is being developed to allow patrons to choose between an M.L.A. or A.P.A. format when printing out citations.

On the right side of the desktop, next to the notebook, are icons denoting additional sources of information pertinent to the assignment. The ***encyclopedia*** and the ***citation*** database are both created specifically for the assignment. The customized encyclopedia provides background information on people, institutions, concepts, and terminology (Figure 3). Each entry is linked to multiple broader, narrower and/or related terms, leading to additional background information (Figure 4), so every student pursues a different path based on individual interests. By clicking on *"Remember this term"* students can identify and quickly return to any term which has been explored. The list of "remembered terms" is carried forward into the citation database where terms may be used to initiate a search.

In the ***citations*** database students browse descriptors to select and combine terms for searching the database (Figure 5). *Project Jefferson* includes its own database presently containing 196 citations relating to reverse discrimination, affirmative action, or search and seizure, which were carefully selected for a freshman audience. A ***camera*** is available to copy encyclopedic information and citations into the ***Saved Information*** tab within the student's Notebook. A ***notepad*** facilitates the jotting down of ideas within any function.

Students receive a hands-on introduction to the project during class sessions in the FWP Mac Lab.

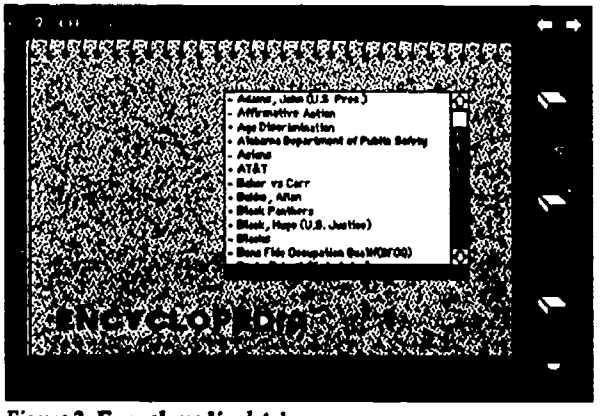

Figure 3: Encyclopedia database.

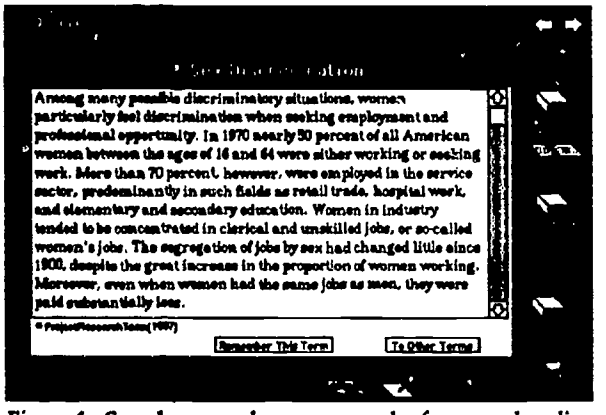

Figure 4: Sample screen shows an example of an encyclopedic entry

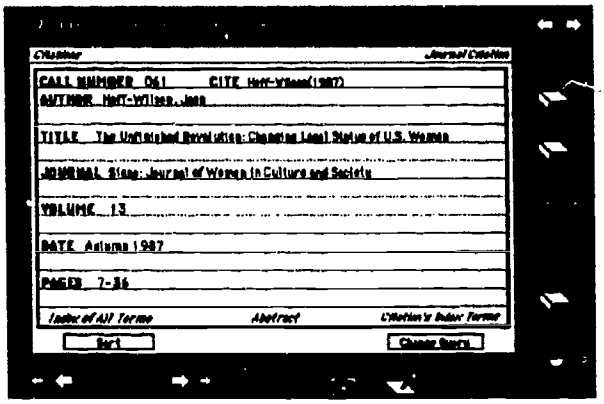

Figure 5: Sample screen from the citations database.

Initial student response to *Project Jefferson* has generally been positive, with many observing that it requires more thought than the traditional essay critiques. The instructors feel that the papers submitted are better supported and reflect the extra effort the assignments demand. From the librarians' standpoint, the experience students receive in collecting background information, identifying more general, specific or related search terms, and the use of boolean "and" searching positively reinforces good research techniques.

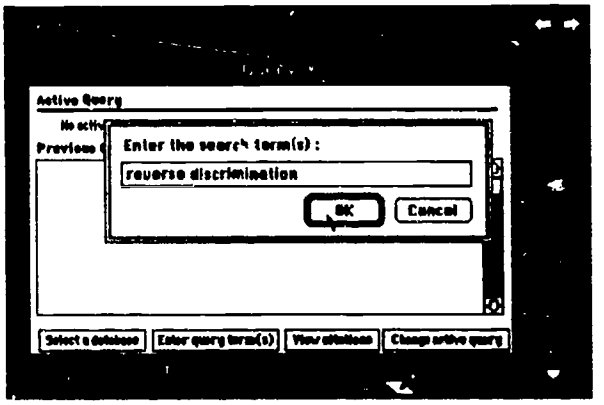

Figure 6: USCinfo *stack's search procedure.*

The second major Macintosh project, known as *USCinfo*, provides patrons with online access to selected magazine and newspaper indexing services. USC has purchased the following five databases from the Information Access Company: *Magazine Index, Trade and Industry Index, Management Contents, Computer Database,* and the *National Newspaper Index.* These have been loaded onto the library's IBM 3081 and are accessed using Macs located in the USC College Library and at several library satellite locations. They provide references to articles in over 1,000 periodicals and newspapers published in the United States and Canada and currently contain over two million citations covering the period from 1981 to date, updated monthly.

A *HyperCard* interface has been developed to enable students to log-on to the system and to assist them in searching for and downloading citations. Students click on the *USCinfo* icon and are automatically logged on to the mainframe where they can choose the database they wish to search. At any time during the search session, they can change databases by clicking on the ***Change Database*** icon. Using the BRS Search System, they can use free text searching, typing in the desired subject terms and using Boolean logical operators. The system also allows the use of truncation and adjacency operators.

Screen layout and dialog boxes are designed to lead the patron easily through the search procedure (Figure 6). All searches in a given session are stored and listed onscreen, together with information on how many citations were retrieved by each search. Patrons may return to a previous search by clicking on the ***Change Active Query*** icon (Figure 7). They may combine and modify previous searches in order to retrieve the most relevant citations for their needs.

Screen designs have made it easy for patrons to understand the various elements of each citation, and they can scroll through the entire file by clicking on arrows at the bottom of the screen. Beside such standard bibliographic information as author, title, name, date, and page of journal etc., each citation includes a list of the descriptors used to index that particular article. These descriptors can be used to modify subsequent search strategy. In addition, by clicking on buttons at the bottom of the screen, patrons can

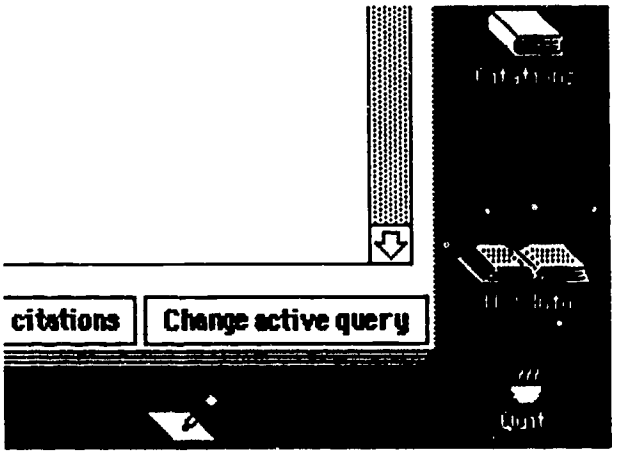

Figure 7: Screen shows the Change Active Inquiry icon.

find further information on a given citation. For example, if an abstract is available, it can be displayed on screen by clicking on the ***Abstract*** button. The citation & abstract can be saved to a file by clicking on the ***Camera*** icon.

USCinfo caught on quickly and is used very heavily by undergraduates researching term papers. In the near future, the library plans to load six Wilsonline databases: *Art Index, Humanities Index, Social Sciences Index, Applied Science and Technology Index, General Science Index,* and *Library Literature.* This will give very good subject coverage at the undergraduate level. Later plans are to expand the system to include such research level databases as *Psychological Abstracts* and *Medline.*

Both *Project Jefferson* and *USCinfo* involved innovative software development by a team of programmers. A *Project Jefferson* "shell" is being developed which will enable non-programming faculty and librarians to more easily create and incorporate material for their own assignments and databases. This version will be available through the Kinko's Software Catalog and can run on a Mac SE with a 20 Mb hard disk. *USCinfo* requires the data storage capacity of a mainframe computer linked via a communications network to the Macs which may not be duplicatable in many other libraries. However, there are a number of other ways in which the College Library is using its Macintosh SE's as stand alone processors. For example the commercial program, *Pro-Cite for the Macintosh,* is used to create bibliographic databases from which specialized subject bibliographies and discographies can be produced.

The library first turned to *Pro-Cite* when it was looking for ways to develop subject discographies for its collection of some 3,000 spoken word tapes. These cover a wide range of subjects of current and historical interest, as well as selected literature readings. On each of these literature tapes there might be as many as a dozen poems, or several excerpts from prose works. The goal was to make each of these individual titles accessible to patrons, so a sophisticated indexing tool was needed. Using *Pro-Cite,* a database was created which is searchable by keyword to identify authors, titles, subjects, distributors, etc., and which can be sorted to create subject oriented discographies.

Pro-Cite allows the creation of records using one of twenty different data entry workforms, each designed for different material types, such as books, journals, newspapers, audiovisual materials etc. All fields in a record are of variable length. Bibliographies can be printed out according to standard styles such as ANSI (American National Standards Institute), APA (American Psychological Association), MLA (Modern Language Association) etc., or customized punctuation files can be created. The data files can be searched by any of the fields in the record, and they can be indexed and sorted either alphabetically or numerically.

After the success of the discography project, it became apparent that *Pro-Cite* could be put to a number of other uses in the library. Its ease of editing made it an excellent means of internal control for the library's acquisitions program. From the *Pro-Cite* "On Order File", College Library prints out a weekly list of titles to be ordered by the central Acquisitions Department. Information such as order date, special ordering instructions, source of reference, fund numbers etc., are entered into each record and the entire file can be sorted to create subsets such as "reserve orders", "rush orders", etc. This allows for very close monitoring of the status of all book orders for the College Library. When an item is received, a call number is added to the record, a subject is assigned to the index field, and from these completed records, a new booklist arranged by subject is printed out each month. Records can also be transferred from the "On Order" file to specialized databases such as those for videocassettes and reference books, in order to update current holdings lists in these areas.

Future plans for *Pro-Cite* include the creation of databases from which to update and produce College Library publications such as pathfinders, study guides, and bibliographies. *Pro-Cite* together with the graphic capabilities of the Mac make possible very handsome, but relatively inexpensive library publications.

Macintosh in the Apple Library: An Update

Rosanne Macek

An Ethernet-based Macintosh local area network is used to operate the Library of Apple Computer, Inc. (Cupertino, CA). Word processing, computer aided instruction, online searching, budget analysis and administrative statistics, public relations, database management, and electronic mail are all managed with this network. HyperCard *is extensively manipulated to provide a means for patrons to understand the Library and its services and locate historical information on the Company. Future plans include further adaptations of scanning and CD-ROM technology.*

Introduction

Quite a bit has changed since "Macintosh in the Apple Library" was written last year. This updated article will briefly mention the hardware and software covered in last year's article and highlight some new things.

The Apple Library is now seven and a half years old. As with our parent company the library staff and collection has grown steadily over the years. The staff currently consists of ten professionals and seven paraprofessionals or clerks. The library's collection consists of about 7,000 books, 660 periodical subscriptions, industry standards, software, videotapes, audiotapes, manuals, and conference proceedings. Services include literature searches, document retrieval, table of contents distribution, ready reference, and information consulting. We are also just beginning to offer end-user online database training.

Hardware

Each staff member has either a Macintosh SE or a Macintosh II with 40 megabytes of storage on his or her desk. All of these Macintoshes are connected via an EtherTalk local area network. The advantages of EtherTalk over LocalTalk are that EtherTalk allows the staff to transmit information faster and connect more devices to the network.

Included in this network are: fifteen Mac II's for staff, two Mac SE's for staff, a Mac SE for the reference desk, two LaserWriter Plus printers, a LaserWriter II printer, and a file server. This hardware setup allows all staff to access a laser printer and share information stored on the file server. An Apple Tape Backup is also shared among the staff so backups can easily be made for all hard disks.

MultiFinder

The internal memory on many of the Mac II's has been upgraded to 4 or more megabytes so that the staff can adequately take advantage of *MultiFinder*. *MultiFinder* gives the the staff the ability to copy and paste information between documents without having to save one document before opening another, have constant access to the Finder, and run certain applications in the background while working in another application.

Word Processing

The Apple library produces a variety of written materials: memos, letters, reports, bibliographies, promotional handouts, newsletters, etc. For simple memos and letters, some of the staff prefers *MacWrite* for its ease of use and simplicity. For more sophisticated applications, such as editing large documents, most staff members prefer Microsoft *Word*. Several staff members have also recently begun to use *WordPerfect* because it allows them to create macros. The library's two newsletters, Get Info and the Apple Library User Group Newsletter, are both produced using *PageMaker*.

Computer Aided Instruction (CAI)

There is a public-access Macintosh in the front of the library that includes a tour of the library and description of all library services. This program was created using *HyperCard*. It explains to the new client what services the library offers, how to locate information in the library, and introduces the library staff.

Book records have been recently loaded into this system so clients can verify whether or not the library has a specific book. When the desired book is located, a call number and location is given (Figure 1).

Online Searching

Because of the need to obtain information very quickly and the need to manipulate that information in ways impossible with printed indexes, the staff are heavy users of online databases. DIALOG is used most often as well as NEXIS, Data Times, VU/Text, and others.

The staff uses *Smartcom* for online searching because of its ease of use and ability to easily download large amounts of information. Downloading is as simple as clicking on a picture of a disk to begin downloading and clicking again to stop downloading.

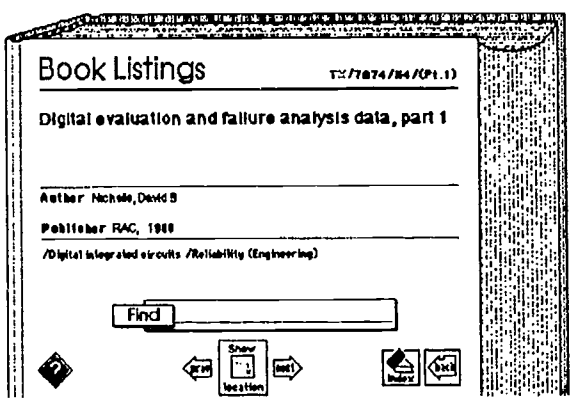

Figure 1: A tour of the Apple Library is available to clients in a HyperCard *stack. Clients can search the library's holdings and find the location of an item.*

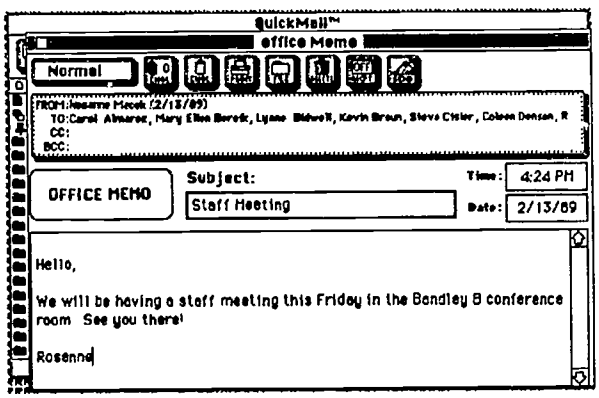

Figure 2: The library staff uses QuickMail *to communicate information within the department.*

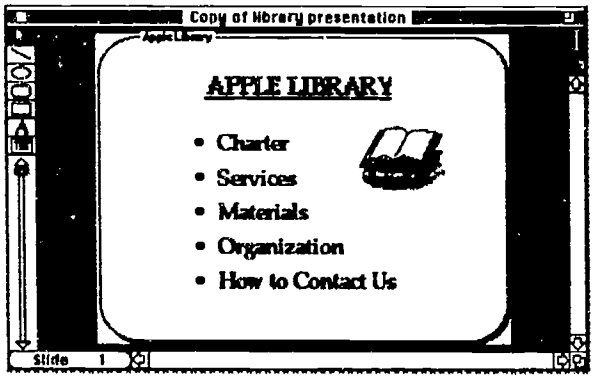

Figure 3: This image created with PowerPoint *can be printed on 8 1/2 by 11 inch paper for the production of overhead transparencies.*

Once information from an external database has been downloaded, Microsoft *Word* or *WordPerfect* is used to reformat it. The staff typically adds a cover page and footers to each search.

While last year online searching was done at 1200 baud, the reference staff recently began searching at 9600 baud. We worked with Apple's MIS department so that we can access a 9600 Telenet pad through the company's phone system. This allows our information specialists to download information much faster, has made them more productive, and has reduced our costs.

Budget and Statistics

Microsoft *Excel* is a very powerful spreadsheet program that also includes charting capabilities. It is extremely helpful when preparing the library's budget and can be used to show upper management summaries of library statistics in the form of graphs or pie charts.

Electronic Mail

Apple has a company-wide electronic mail and bulletin board system called *AppleLink*. This allows the library staff to send messages to clients, post new information about the library, and obtain all kinds of information about company news or events.

QuickMail is used to communicate within the library staff. This system has cut down on the amount of paper generated in the library because it gives each staff member the ability to send a memo electronically to any or all of the rest of the staff at the click of a mouse button (Figure 2).

Public Relations

The Apple Library staff regularly attends other department's staff meetings to educate employees about library services. The visuals for these presentations were created with Microsoft *PowerPoint*. *PowerPoint* can be used to create a series of professional overheads that can easily combine graphics and text (Figure 3). The overheads can also be reduced to 2 or 3 on a page for handouts.

File Management

The library staff has set up quite a few individual databases to help track information in various forms:

- *OverVUE* is used to track document retrieval requests. Information about each request is entered in the database, uploaded and set to our vendor via electronic mail, and checked in on the database when received.
- *Omnis 3* is used to maintain book acquisitions information. Information from this database is also uploaded via electronic mail to vendors when placing orders. This database also produces detailed reports on how much is being spent for each department on a monthly basis.
- *HyperCard* is used to track Apple historical information. The staff has tracked significant dates in Apple history and entered this information into *HyperCard* (Figure 4).
- *FileMaker II* has been used for several applications. The library's periodical database is set up using this software. This allows the staff to check in periodicals, track claims, and print routing slips.

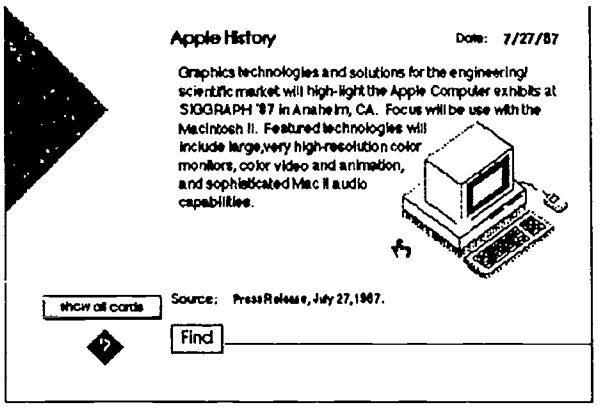

Figure 4: A database of significant dates in Apple's history was created using HyperCard.

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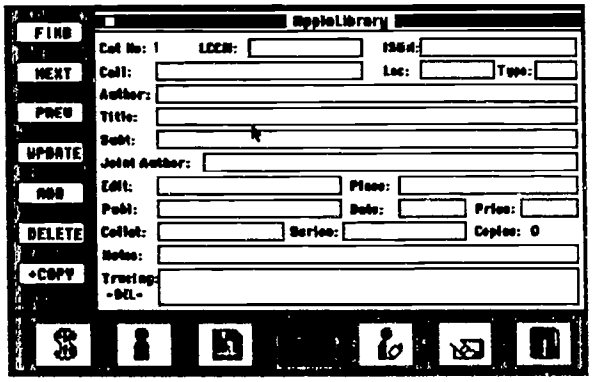

Figure 5: The catalog module of Macintosh Library System *(MLS).*

- *FileMaker II* was also used for a special project for the Lowell Observatory in Flagstaff, Arizona. The Apple Library staff set up a template and travelled to Lowell to enter information into the database. This database will be used to index the early papers of the observatory's founder and other Lowell researchers.

Integrated Library Management

The library is currently using the *Macintosh Library System* (MLS) for our catalog and to maintain circulation records. A Macintosh is dedicated to *MLS* at the reference desk so staff members can quickly identify whether or not the library owns requested materials (Figure 5). The circulation module is used to track circulation, reserves, and to print out overdue notices.

The Future

The next year will probably bring as many changes as last year. The staff is constantly looking for ways to automate library operations to both improve services and offer new services. Following are a few areas we will be exploring:

- The library has an Apple Scanner which we hope to put to work on automating some of our paper-intensive operations. We hope to eventually be able to scan and send table of contents electronically to clients of this service.

- As more and more CD ROM databases become available for the Macintosh, the staff hopes to offer information in this format to our clients. This will allow them to search databases without incurring expensive connect charges. We also want to experiment with networking some CD ROMs.

- Since every Apple employee has a Macintosh, there is a high demand to be able to access library information from each individual's desk. We will be working towards putting some of our library databases on a file server to meet this need.

We are very fortunate to be in an environment where technology is readily available to us and its use is strongly encouraged. We will continue to investigate how technology can be used in our library and share that information with our colleagues.

The Macs-imized High School Library Instructional Program

Carole Martinez and Ruth Windmiller

Faculty and librarians at the Cherry Creek High School (Englewood, CO) increasingly are utilizing the Macintosh as a vehicle to develop instructional plans and documents, incorporating bibliographic resources directly into materials. These strategies have produced succeeded in enhancing the research and critical thinking skills of students. Customized materials are also generated for special purposes. A student-staff macintosh lab encourages the use of computer technology and provides an avenue for broadcasting the expertise of the library staff with the Macintosh.

Since writing for the 1988 edition of *Macintoshed Libraries* the Cherry Creek High School library media staff has become even more convinced of the powerful support the Macintosh computer brings to our multi-dimensional, resource-based information skills curriculum. All instructional functions which were traditionally dependent on paper files are now supported by Microsoft *Works* documents which can be adapted for individual teacher and department needs. Grade and skill level outlines in our sequential program are easily updated; data from past planning documents support the shared teacher-librarian planning process while encouraging flexibility; and research activities for student instruction are generated following each planning session with a minimum of staff time and effort. In the first semester alone, librarians planned with approximately seventy teachers for over five hundred class sessions, a nearly impossible task without Macintosh computer support. Sample copies of each student activity sheet are filed in a notebook according to grade and skill level within curriculum area and have proven to be invaluable consulting resources, especially for new or non-user teachers planning for the first time.

Instructional Records

Before any class is scheduled for instruction, the teacher and librarian plan together to ensure the success of the assignment. A *Research Planning Document*, the basic instrument for shared planning, becomes the calendar and blueprint for each assignment. These planning guides contain the teacher's specific goals and objectives, due dates, and library resource times combined with instructional strategies and lists of related materials. From the planning guides a Bibliographic Instruction database is developed each semester. In addition to serving as a valuable resource for teacher-librarian planning, the data can be sorted and reported for use in school-wide curriculum planning and departmental program evaluation. The data base contains the following fields: course, research topic, teacher name, assignment, materials, location, product, computer involvement, month, and length of assignment. The flexibility of the data base format allows us to organize and sort instructional information in a variety of ways and enhances stategic planning for staffing, materials, and facility use.

Research Process Documents

Documents have also been developed by the library staff which strengthen our consulting role and allow for modeling of effective research instruction. Those currently in use include *Sequential Research Tasks*, noting products for each specific research task, *Critical Research Skills Formats*, incorporating sequential critical thinking skills, and *Suggested Research Activities* for each major curricular area. The major advantage of relying on these planning tools for instructional consulting is the ease of incorporating appropriate skills into various courses, grade levels and departments in any sequence or format.

Bibliographies and Special Collections

Another task which the Macintosh has simplified is bibliography production and maintenance. Bibliographies are generated in response to an instructional need determined by teacher-librarian planning. After the initial compiling of a subject area bibliography, updates are accomplished with a few keystrokes when new materials are acquired or outdated ones are withdrawn from the collection. The bibliographic information is entered into a data base for ease of sorting alphabetically or numerically, then copied into a word processing document for formatting and adding appropriate graphics. Microsoft *Works* v. 2.0 enhanced by *WetPaint* desk accessories facilitate this once cumbersome process and add a professional, artistic touch to our bibliographies. Over one hundred subject and genre specific bibliographies and lists of special collections such as *U.S. Historical Fiction, New Journalism, Labor Practices*, and *Race and Prejudice* are on file for use in conjunction with specific lessons or reader guidance.

Student-Staff Mac Lab

Teacher and student access to Macintosh technology was enhanced at Cherry Creek in 1986 by setting up a Mac Lab as part of our Personal Computing Center. The lab consists of four Macintosh Plus computers, three with access to ImageWriter II printers, with the fourth connected to our AppleTalk network for laser printing. Students as well as teachers take advantage of the Macintosh's superior graphics capabilities for preparing instructional presentations and activities, polishing science fair projects, and writing copy for the yearbook and student newspaper. A Mac Users Club meets monthly in the lab to exchange information and preview new software.

Direct Instruction

Instruction in the use of Macintosh computers and software occurs informally and frequently because of the low learning curve. The ever-growing numbers of Mac enthusiasts seem almost evangelical in their desire to "spread the good word." Teachers and students who once saw *AppleWorks* as the solution to all their computing needs are now bombarding us with requests for more computer stations, more networking to access the LaserWriter, page scanners, and *HyperCard*-driven laser disk players. Direct instructional support using Macintosh technology occurs when teachers incorporate the use of instructional software into the curriculum. Students check out software packets provided by the teacher for use on the library Macintoshes to complete course requirements. Recent examples of this use include Biology *HyperCard* stacks and the *Perfect College* college selection software. We recently submitted a proposal in response to Apple's Apple Library Of Tomorrow (ALOT) program to request more equipment and support for public access computing on the Macintosh and will continue to investigate all

potential funding sources and meet weekly with a building computer council to develop long and short range plans for computer use and acquisition.

CCHS Librarians:
Elizabeth Bankhead
Carole Martinez
Janet Nichols
Ruth Windmiller

The Power To Be Our Best: The Macintosh at the Niles Public Library

Duncan J. McKenzie

A network of eight Macintoshes handle electronic mail, database searching, word processing, desktop publishing, budgeting, and cataloging at the Niles (IL) Public Library. The network is available twenty-four hours a day through the file server, allowing the staff remote access to files and printers. Overall, the Macintoshes have improved staff communication and information transfer.

Our love affair with the Macintosh began in 1984 when we purchased the original Macintosh 128K for public use in the Computer Lab. Today we have a total of eight Macintoshes and we plan to add at least six more. We have also realized that we will need to purchase up to three Macs a year to replace present Macs as they grow older. We are committed to the Macintosh because the library staff has proven it is the machine with which they can be comfortable and are most productive. It's the Macintosh which gives us the power to be our best.

Macs are not the only machines in our library. We have four MS-DOS machines, eight Apple IIe and IIc computers, an Apple IIGS, a Commodore, Texas Instruments, two Kaypro CP/M computers, and a CPT dedicated word processor. With all of these machines available, staff prefer the Macintosh for its simplicity of use. As an administrator, I appreciate the fact that the Macintosh reduces the amount of time and money we need to spend on training. Once a staff member learns one Macintosh program, he or she can be adventurous and try a second, third and fourth.

The advantage of the Macintosh is that almost all programs start up and look the same: they have the standard Macintosh user interface. Staff are comfortable with, and reassured by, the familiar pull down menus. They aren't confronted with the "A>" prompt, which is well-known to MS-DOS users, but which offers no indication of what to do next. The differences between the Macintosh user interface and the MS-DOS system are similar to the differences between multiple choice and essay test questions. Who wouldn't prefer a multiple choice test, on which the correct answer is guaranteed to be one of the choices offered—not unlike the menus on a Macintosh—to a blank piece of paper or essay test, such as the A> prompt in MS-DOS?

Ours is a very automated library. It's difficult to work at this library and not use a computer in performing your daily duties. Throughout the library there are stand-alone computers for dedicated uses: automated acquisitions and fund accounting; accounts payable; CLSI back-up; OCLC; and MARC edit. It is, however, the Macintosh network which dominates the activity at our library. The eight Macs on the network pull the heaviest work load and perform the following duties: electronic mail; database searching; word processing; desktop publishing; budget preparation; indexing and catalog preparation. The Macintosh has allowed us to improve our methods of communication and information transfer, two elements which are very basic in libraries and librarianship.

Electronic Mail

Currently, we use Microsoft *Mail* for this application (Figure 1). No longer do we play telephone tag, leaving message waiting signals on our co-workers phones when they're not in, and forgetting what we wanted to discuss when they return our call. Now we leave a message on their Macintosh which they receive automatically as it is sent or, if their machine is off when the message is sent, as soon as they turn on their machines. Electronic mail has proven its benefits in several ways. One example is in the preparation of monthly board reports. As I was preparing a recent report about our current increases in circulation, I needed some retrospective statistics and percentages relative to the increase. I sent an electronic mail message to the Chief of Circulation Services asking for the data. When her reply arrived, I simply copied the data using standard Macintosh "shift-click-drag" techniques and pasted it into my report to the board. Nothing could have been easier.

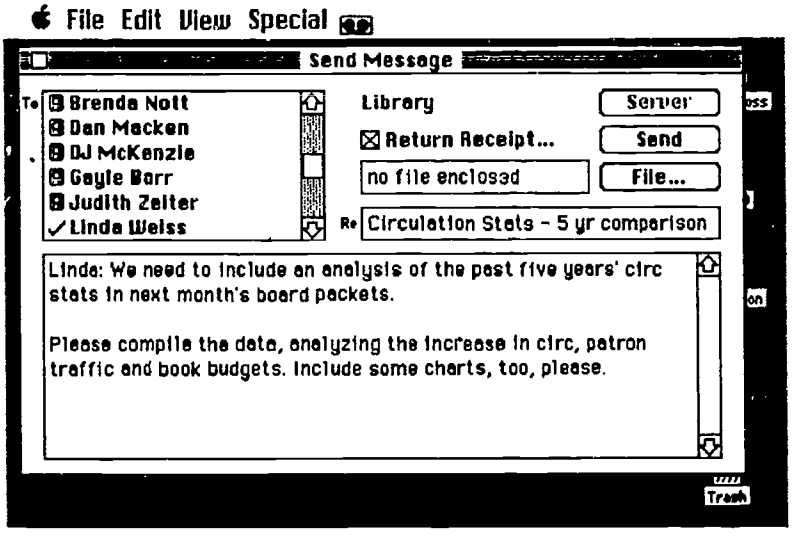

Figure 1: Microsoft Mail

Database Searching

We have a Shiva NetModem on the network. This 2400 baud modem can be accessed by any Macintosh on the network, eliminating the need for separate modems and telephone lines for each Mac that needs access to telephone communications (Figure 2). When a networked Mac boots up its communications program, access to the NetModem is automatic and the icon for the modem, complete with LED display lights, appears in the Mac's menu bar. We use the modem for dial accessing the CLSI database — supervisors can check holdings from the Mac on their desk instead of leaving the office area to find an available CLSI terminal; searching public bulletin boards to download desired public domain software; booking AV materials from our audiovisual supply service; booking blind and physically handicapped materials; searching the on-line catalogs of neighboring libraries; doing DIALOG searches and more.

Word Processing

As with any business, our library generates a considerable number of documents that include letters, memos, reports, meeting minutes and press releases. Many of the documents we produce undergo drafts and revisions. With the addition of *TOPS* networking software, administrative personnel send their draft correspondence and

reports electronically to a secretary's machine for final preparation. This eliminates the tedious routine of writing longhand on yellow legal pads, hoping a secretary can interpret the handwriting when she or he types it, and then retyping again to make editorial changes. We use *MacWrite*, *MergeWrite*, and Microsoft *Word*.

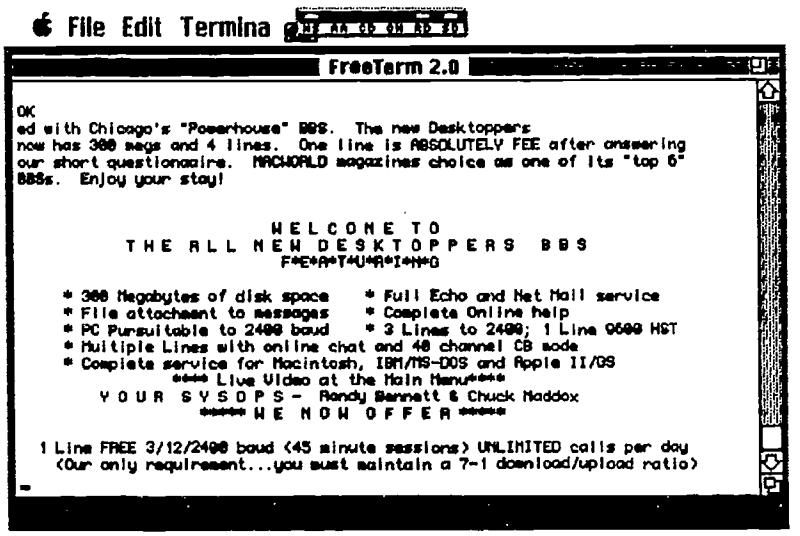

Figure 2: On-line searching using the Shiva NetModem

Desktop Publishing

We use *Ready,Set,Go!* for preparing reading lists, newsletters, signs, posters, articles, flyers, bookmobile schedules, etc. (Figure 3) *Ready, Set, Go!* has a built-in word processor and spelling checker and it's the easiest to use single publishing program we've found. Perhaps the biggest project we prepare on *Ready, Set, Go!* is the library's quarterly newsletter. All department heads prepare articles on their Macs and, using the network, store them on the Administrative Assistant's hard disk. As the Administrative Assistant begins to lay out the newsletter, she retrieves the department heads' articles and fits them into the newsletter. Once the newsletter is ready for printing, she transfers the document via modem to the service bureau we use to typeset and print the newsletter. They print the camera ready copy on their Allied Linotronic machine, hand it to their printing department which offsets 26,000 copies, folds and bundles them in groups of 50, and delivers them to the library for bulk mailing to our residents. The Linotronic printer is used for the newsletter's camera ready copy rather than the laser printer because of its superior look. The resolution of the Linotronic copy, at 1270 dots or lines per inch, is superior to the LaserWriter's 300 dots per inch.

Budget Preparation

Don't ever ask us to go back to preparing a budget with pencil, paper and a calculator! We couldn't give up Microsoft *Excel* for this project. With our specially designed templates we even have double checks on each budget line item to ensure that appropriate sources of income will balance out the expenditure for the line item. It's almost fool proof.

Indexing

We create our own index to the New York Times Biographical Service using *OverVUE*. We also create separate indexes to Macintosh, Apple and MS-DOS computer software and hardware reviews and articles using *Panorama* (Figure 4). Our telephone book collection is indexed using *dBASE Mac*. This index has replaced the former card catalog index.

Catalog Preparation

We use the Mac and *Pro-Cite* to create our videotape catalog and *FileMaker* to create our software catalog.

Local Area Network

Our Local Area Network (LAN) is made up of Apple LocalTalk cables and connectors and Farallon's Phone Net connectors and Belden cable. The reason for the mix is that Apple's LAN is limited to a maximum of 1000 feet and PhoneNet has a maximum of 3000 feet. When our network reached the 1000 feet maximum, we installed the rest of the network using PhoneNet. The entire network was installed by our own staff using empty conduit drops throughout our building which were designed for this purpose.

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Figure 3: Ready, Set, Go! *page design software.*

- a Mac 512k with external floppy drive in the Reference Office;
- a Kaypro MS-DOS with Bernoulli 20 + 20 removable hard disk cartridge system in Technical Services;
- a Shiva NetModem 2400 baud modem;
- two Apple ImageWriter II printers — one located in Children's Services and the other in Reference; and
- an Apple LaserWriter Plus printer

Equipment

The equipment on the network consists of the following:

- a Mac SE with 20 Mb hard disk in the Computer Lab;
- a Mac SE with internal 20Mb hard disk in the Chief of Circulation Services' office and another in the Children's Services work room;
- a Mac SE with 20Mb external hard disk and a 32Mb hard disk containing indexed clip-art files in the Chief of Operations' office;
- a Mac SE with 2.5Mb Random Access Memory (RAM) and 20Mb internal hard disk, 32 Mb external hard disk and Radius Full Page Display monitor in the Administrator's office;
- a Mac SE with 2 Mb RAM, 40Mb internal hard disk and Radius Full Page Display monitor at the Administrative Assistant's desk;
- a Mac Plus with 20Mb external hard disk in the Chief of Adult Services' office;

We own different models and types of Macintoshes only because of what was available at the time of purchase and, sometimes, because of budget restrictions. A word about the Radius Full Page Display monitor. This is a separate monitor which sits next to the Macintosh computer. It displays a full 8-1/2 by 11 inch document and is invaluable for those staff who do a lot of page layout for desktop publishing.

Our network is available 24 hours a day for access by our supervisors from their home computers. The Chief of Operation's Mac is our mail server and is left on twenty-four hours a day, seven days a week. Staff with access to the network from their home or other

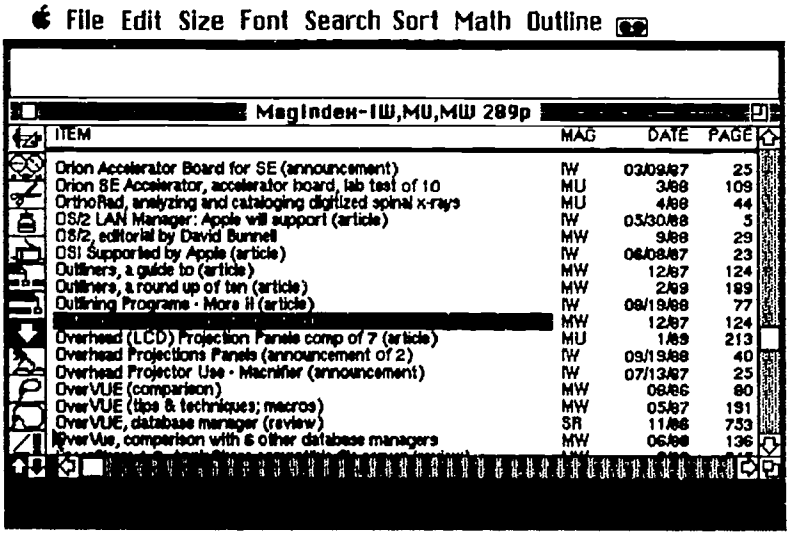

Figure 4: Panorama *database program.*

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remote locations have access to the electronic mail system, any published files on the TOPS network and any of the networked printers.

With the 32Mb hard disk of indexed clip art available on the network, any of our staff needing a piece of art for incorporation into their document can access the clip art files using *Curator*, request all files meeting their criteria — such as "witches" for incorporation into a Halloween flier for Children's Services — and select the one they wish to electronically incorporate into their document.

Conclusion

We honestly don't know what we'd do without our Macintosh computers. Just like Apple says, they give us the power to be our best! The library staff and trustees are enthusiastic about the products we've been able to turn out using the Macintosh computer. The Mac has replaced several Selectric typewriters and even an earlier office network that included a dedicated word processor. As we move more of our projects over to the Mac, similar changes will take place throughout the library.

For further information about the development of microcomputer applications and the Macintosh network at our library, the following articles have been previously published:

McKenzie, Duncan J.,"Desktop Publishing: Its Role in Waging a Successful Referendum." *Small Computers in Libraries* (December 1988): 22-25.

———. "Macintosh Computers: Developing a Local Area Network in the Public Library." in *Macintoshed Libraries*, Cupertino, CA - Apple Library Users Group, 1988: 27-30.

———."Desktop Publishing: Getting Started." *Small Computers in Libraries* (May 1987): 32-37.

———."Here a Computer, There a Computer, Everywhere a Computer." *Small Computers in Libraries* (November 1985): 21-23.

Taking the Plunge... or, How to Launch a "Mac-Attack" on a Public Library

Vickie L. Novak

With a Macintosh II and a LaserWriter, the Calumet City (IL) Public Library creates a variety of publications for both patrons and staff. Library Board reports, letters, a Policy Manual, and personnel forms are internally designed and printed for the staff. Announcements, guides, and a quarterly newsletter are generated for the public.

Less than three short years ago, the personal computer shared the same status as the dinosaur at the Calumet City Public Library - totally non-existent. It was a library where hand-charging books was still the order of the day. However, following the completion of a new, "state-of-the-art" library facility and a change in administrative philosophy, an evolutionary adaptation took place. In addition to an on-line circulation system, when I took over responsibilities as Library Director just over two years ago, I "inherited" three Apple IIe computers, and a staff which eagerly embraced the concept of utilizing the computer to perform those tasks that had been done by hand for so many years. Therefore, "letting go" of time-honored and traditional practices was no obstacle. In fact, just the opposite was true.

After training and working with staff for only a few months, it became apparent that we were overtaxing the resources of currently-owned hardware and software. The IIe's were simply not capable of doing the job that we needed them to do. A counterpart with greatly expanded memory, (to avoid segmenting files), more speed, and graphics and accounting capabilities needed to be found.

Therefore, it was not so much the conversion of the Calumet City Public Library to the ranks of Macintosh users that is so incredible, but the way in which it was done. The timeframe was January 1987 - a time when the Macintosh did not enjoy the widely-acclaimed popularity that it currently has in the public library marketplace. Never having been one to tackle a project half-heartedly, I felt the only way to go was to "take the plunge, and jump in with both feet!" I enjoyed a very unique situation, (one about which most library directors fantasize), where budget limitations were not a major consideration. Therefore, I searched the marketplace and came up with a viable solution to our problems to present to the Library Board.

I had absolutely no prior experience whatsoever with the Macintosh - I relied solely on the testimony of my friends in the corporate environment who, once they had used a Macintosh, swore they would never (by choice) work at an MS-DOS machine again. At the time I was gathering documentation for my presentation to the Library Board, Apple announced its plans to release the new generation of Macintosh - the Macintosh II. Although it was so new that I was not able to see this new animal "on the hoof," I rationalized, "why not?" The high level promotional literature and hype of the journal articles had convinced me that this was the way to go. It was easier to think big than to have to retrench in a few years. So, early in spring of 1987, I recommended to my Board that we purchase a machine that was not even to be released to the public until June! They accepted my proposal, which included a 40 megabyte hard drive and a Laserwriter. Due to the limited number of machines available for shipment, the bouncing baby Mac did not arrive on the library's doorstep until October of 1987. This made us the second public library in the country to own a Mac II.

My purposes for getting the Mac II were fourfold: to produce the quarterly library newsletter and to embark upon other desktop publishing projects; to have enhanced graphics capability for the above; and to find a machine powerful enough to manage very large databases, (as would be needed for special projects, such as indexing the local newspaper), as well as one that had full spreadsheet and accounting capabilities.

I felt the basic software ingredients should include packages for word processing, desktop publishing, database management and spreadsheet. To handle these functions, I chose Microsoft *Word*, *Ready, Set, Go!*, *4th Dimension* and *Excel*.

At this point, I realized that I was in desperate need of help. Here I was with a new computer about which I knew nothing. Having familiarized myself with a Chicago-based Macintosh User Group, (The Rest of Us), I began to get my feet wet. It was then that I realized what a coveted possession I really had at my library. Mac aficionados said they would actually "give anything...?!" for the privilege of using my machine, so I decided I could capitalize on this. Mac Plus and SE owners spoke about the II in tones which reflected reverence and awe. We had something they had not seen before, but about which they had heard a great deal. I found I could offer them the opportunity to "play" with my Mac II for a few hours in exchange for teaching me the fundamentals. And so began my orientation to the world of Macintosh...

Within only four weeks of owning the Mac, I produced my first desktop publishing project, Things to Know: the Calumet City Public Library, using Microsoft *Word*. It was a handy, 8-page, pocket-size reference to the library and its services, aimed at welcoming newcomers to the community and educating other patrons on the depth and breadth of library services.

I soon became a victim of that illness known as "Mac-mania!" I could easily spend the majority of my working day in front of my monitor and keyboard, and forget that I have a library to run. The staff all know where to find me when I am not at my desk. However, there are only so many hours in a day, and only so much time that I could justify "playing" with my new-found hobby, so I took steps to maximize the benefits to be derived from the time that I was able to spend in front of the computer. I once again utilized the resources of the User Group, and placed an ad in their newsletter. I was looking for a Mac "consultant" to guide us through our first efforts, and to help us with the basics of each software program.

We were fortunate in finding a very good one. After getting past the introductory stages, we work on our own for awhile, and arrange for follow-up sessions, when we have attained enough knowledge that we are at the point of "knowing which questions to ask."

Currently, all library Board reports, letters, essentially all major correspondence, is produced on the Macintosh. I found it to be particularly useful in compiling the rewrite of the library's Policy Manual. Changes could be updated quickly with only a few keystrokes, paragraphs switched or rewritten, adjustments made simply and easily. The wide range of formatting options available in Microsoft *Word*

allow the creation of customized word processing documents. Add to that the enhancements available with different fonts and type sizes, and one has the ability to "spruce up" such mundane things as memos and monthly reports. In fact, I can say with a high degree of certainty, that memos generated on the Mac are generally read by a larger proportion of our staff than those that are typewritten, because I see to it that they look different and am able to grab their attention!

We have also recently undertaken a Personnel Position Reclassification Study. I have had the monumental task of rewriting the Job Descriptions for all positions and resubmitting them to the Committee for review. As changes were made on a daily basis during this intensive study, the Committee expected current updates at each session - a feat which would have required twenty-four hour round-the-clock efforts before the days of word processing. Also, there was never any question as to which was the most recent draft of a document, as I created a footer which automatically updates an entry every time the document was changed in any way.

The desktop publishing capabilities give someone like myself, who could never draw a straight line with a ruler, the ability to wield the sword of graphics artist and designer. Suddenly, patrons and fellow librarians, who did not even know of the existence of the Calumet City Library News, our quarterly Library Newsletter, were complimenting us on its professional quality, its neat, crisp layout.

In addition to the Newsletter, *Ready, Set, Go!* has also been useful for designing library program flyers and doing organizational charts, as well as for generating signs and illustrating letters and reports, in order to lend emphasis to a particular point.

In addition to aiding in budget projections, monthly reports, circulation statistics, and the like, we have found the *Excel* program grid feature to be very useful when it comes to generating professional-looking "in-house" reporting forms. We have

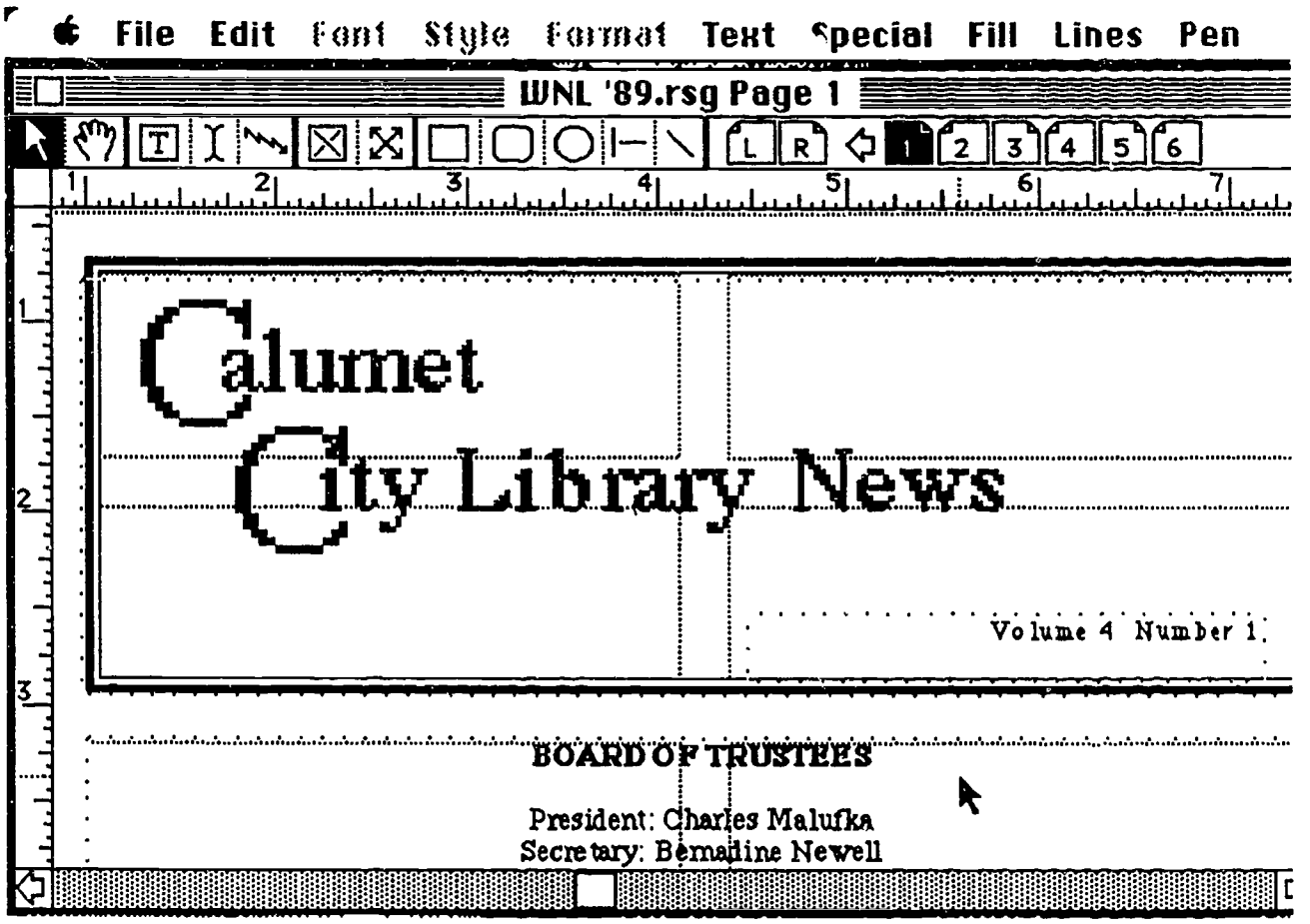

Figure 1: The library newsletter using Ready, Set, Go!

designed such things as Vacation and Sick Leave Forms, Compensatory Time Forms, etc. I also like the charting capabilities to help illustrate a point when it comes to making professional-looking Board presentations.

In addition to our initial purchase, we have added some items which I feel essential to the smooth performance of a Macintosh II business system. We upgraded the original package with four additional megabytes of RAM after only a few months, to allow us to utilize such things as *MultiFinder* and *HyperCard*. A single megabyte of RAM in a computer this size is simply not sufficient. It did not take long before I became "spoiled" and did not enjoy having to quit one application to be able to work in another. The second "must" is a tape backup drive for the hard disk. Unless you are one of that rare breed who religiously backs up sessions at the computer on a regular basis, this peripheral device is well worth the initial cost, both in terms of staff time and the feelings of security it will provide. Ask anyone who has tried to reconstruct the contents of a hard drive... We learned our lesson "the hard way" when our System folder became corrupted, and the only alternative left was to wipe out everything and start from scratch!

The past fifteen months have been a real education for myself and for the library staff. Our problems now consist of ways in which to try to get more Macintoshes throughout the building, as the "budget was not a concern" situation was not a permanent one! The incredible nature of it all is not so much what we have done, (as I do not think we are doing anything so unique or original that it has not been done in some form or other in other public libraries throughout the country), but the simple and easy manner in which it was all accomplished. Our success story should be a testimonial to the ease of use and the friendly user interface of the Macintosh, which have enabled our library to accomplish projects which would have been deemed nigh impossible only three years ago...

The Public Macintosh: Solutions for the Rest of Us

Jean Armour Polly

This survey examines five public Macintosh laboratories operating in four universities in New York State as well as the Liverpool (NY) Public Library. Policies and day-to-day operations vary greatly from lab to lab, especially relative to the access of printers and software. Human consultants onsite are a common feature to all labs as well locally developed software manuals. The popularity of the Macintosh with students means that various schemes are devised to handle waiting patrons.

This paper examines the use of Macintoshes in public settings in libraries, focusing on operations where Macs are provided with a healthy mix of other hardware and software. In visiting public Macintosh labs in my area of central New York, we met universally with enthusiastic, motivated people. Nearly all personnel operating these labs provided interesting stories of dealing out Macs to the public; success stories as well as those with Stephen King-ian horror. One description of "Macs for the perversely incompetent" sticks in my mind. And so is the delightful tale of the frustrated computer lab manager who, on one fine Spring day in the Northeast, found out exactly how many helium balloons it took to float his electronic beeper off campus.

Here's a case-by-case analysis of the Macintosh usage in libraries in public areas:

Liverpool Public Library[1]

The Liverpool Public Library has had public computers since 1981. Reservations for the computers

average about 1,000 per month with 75% of computer use by adults. Liverpool also circulated 13,500 software items for home use in 1988. The Macintoshes are the most popular computers in our public lab, which also houses Apple IIe, IIGS, Panasonic MSDOS, and Atari 1040ST equipment. Our two public Macs are LocalTalked into an ImageWriter II and a LaserWriter Plus printer. The Macs are most often used for word processing, including resumes. In addition, Liverpool also has an Electronic bulletin board as well as scanning and file transfer services and provides a 'Save your life file' resuscitation service.

Cornell University[2]

Cornell University opened its first public lab in April of 1984, with 2 Macs and 2 DEC Rainbows. It has grown to several labs campus-wide. Cornell also has an experimental lab of 20-some NeXT computers. Above the sleek black cubes, which really do, as some wag has said, look like "Darth Vader's Ultrasonic Air Cleaner", the signage on the wall is instructive: "Don't turn these off, they take 10 minutes to reboot." and "If you must use word processing on the NeXT be advised *WriteNow* is very buggy - please use a Mac instead."

To be fair, the NeXT's beta operating system in use was only version 0.8 when we visited; a vastly improved upgrade to *WriteNow* was expected any day. The NeXT machine, and its Digital Librarian indexing and searching capabilities holds promise for the future, and indeed, in a couple more years I may in turn be writing on the public NeXT lab.

The main computer lab at the Mann Library is Cornell's most extensive public facility, housing 5 Mac Plusses, 2 SEs, 2 Mac IIs and 6 PS/2 Model 50s. An adjacent lab contains 21 IBM PCs, which are used mostly for classes. The Macs are not networked at all, and only two are connected to printers. The computers are all placed on long tables, giving ample workspace for books and papers, but no privacy. The computers are for walk-on use, and cannot be reserved.

Two Macs are hooked up to ImageWriter IIs, at a "Quick Print" station. No editing is completed at the "Quick Print" Macs as they are for printing only. LaserWriter output is generated elsewhere on campus and at a LaserWriter "Quick Print" station. Two of the PCs are hooked into a HP LaserJet printer using the *Vendacard* system. *Vendacards* can be purchased in specific dollar amounts. The cards are magnetically encoded with their value. The cards are used to pay for photocopies as well as laser printouts.

The *Vendacard* system attached to the peripheral automatically deducts payment from the magnetic strip on the user's card. The cards can be re-encoded when their funds are low or depleted. Although Cornell's experience with *Vendacard* has been seemingly good, two other sites we visited reported that their *Vendacard* installations were fraught with problems.

Paper recycling bins are everywhere to recover high-quality scrap computer paper. These bins became a familiar sight at many other college and university sites visited in the course of this study.

Cornell has devised a unique and wonderful system for organizing patrons waiting for a computer. If all computers are in use at a given location, a potential user's name goes on an on-line waiting list. Student attendants log in all computer users on their master AT computer. The user gets 60 minutes of time before the master computer flags that account. Once this happens, the AT checks its on-line waiting list. If no one is waiting for the flagged computer, the user may stay on as long as he likes. But if the master computer "sees" a flagged Mac II, the name of patient party on hand automatically comes up on a video monitor in the lounge area outside the computer lab. The name stays there for 5 minutes in the number one position. If the slot is not claimed, the patron is cycled to the bottom of the list to wait another turn.

Curtis, editor of *Public Access Computers in Academic Libraries* (Chicago: American Library Association, 1987), told me that in any other aspect of library service, patrons with questions do not immediately approach a consulting librarian. In computer centers, users look for the human resource right away. At Mann's lab, they don't have far to look. The lab is staffed with several student assistants, and the lab manager's office is right there, too. The student jobs offer the highest pay of any student employment, making the positions very attractive to applicants. This allows the computer center staff to be very selective in whom they hire. Consequently, they obtain a very high level of computer expertise, and a strong sense of public service in their personnel.

Every semester, courses in using Macintoshes and PCs are given by the staff. This is seen as an

important preventative measure in reducing the one to one staff consulting time needed by individuals in the lab.

Cornell's extensive software collection for the Macs is stored in filing cabinets behind the lab assistant's desk. It is checked in and out using the student's ID card. When Mac software is returned, every disk is run through a battery of vaccine and virus detection tests before it is placed back on the shelf. This is extremely labor-intensive, but Cornell feels it is necessary due to the current plague of viral attacks. This attitude toward viral infection was the most intensive clinical practice in all of the labs visited.

The MS-DOS software is distributed in a hands-free manner. All the PCs are networked using Ethernet, and are hung on an 3.5 Mb RAM AT with two 70 Mb servers. The user flips on his PC, and a menu appears asking what application he'd like to use. If he wants a word processor, that choice will take him to another screen where several word processors are provided. If he selects *WordPerfect*, the computer finds a copy of *WordPerfect* on the server with the name extension .IN, meaning a copy is available. The file server "checks out" the copy to the student's PC, running a batch file which changes the extension to .OUT. When the student logs off the computer, the batch file is automatically run again, changing the name extension back to .IN. This keeps statistics in the background, too, so that the lab manager knows what software is most heavily used, and what is not used. A similar system to serve Mac software will be available in the near future.

Curtis notes that they are under pressure to add more Macs to the public labs, although the IBM PCs are still in use for instructional purposes. He reports that the Apple Macintoshes are the most heavily used computers in the Cornell public labs.

University of Rochester[3]

The day we drove to Rochester, there was a blizzard highlighted by blinding whiteouts everywhere. In spite of the weather, the computer labs were full. The University is a sells and services Apple, IBM, Zenith, and Sun computers. Public computer centers at the University of Rochester are widespread. There are four unstaffed sites in dormitories, each with 6 to 8 Macs, printers, and an occasional PC. Four other labs are located in a variety of academic buildings. The main staffed lab is in the Computer and Reserve Library, acronymed CARL. Students enter CARL through 3M's Tattletape pillars, which provide security to the collections. The main desk, staffed with student assistants, houses books on reserve for academic coursework. It is also the circulation point for all software used in the computer center.

Students select software from a printout list of some 800 titles. A student assistant retrieves selected titles from a file cabinet. Copies are circulated with the original disks functioning as master archives. "Reference cards" are packed with the software. Manuals are stored in a separate area and can only be checked out on request. Software, labelled with a barcode, is checked out via barcoded IDs of the students. Software is circulated for two hours only. Fines of 50¢ per hour accrue to student's account after that period.

Students carry their software across to the main reading room, which also features an exhaustive collection of periodicals, books, and other materials on computers and software applications. It is SO exhaustive they even had a copy of my two books (*Hardware: Set-up and Expansion.* Westport, CT : Meckler, 1987; *Public Technology: the Library Public Access Computer.* Westport, CT : Meckler, 1986) there!

The main CARL computer lab has only been open a year or so. There are 35 Macs, 8 PCs, and a number of mainframe terminals. Adjacent to the lab itself are two training rooms, one with 10-12 Macs, the other with 12 IBM PS/2 Model 50s. These labs are used exclusively for non-credit training classes given by the staff. The staff of student assistants operate from a centrally located desk. They have a Mac II, an Mac SE, an IBM PC, and an Apple IIe at their disposal for user support and file transfer. These positions are the most coveted on campus, and again rate the highest compensation. Salaries are increased with demonstrated competency. An assistant who additionally teaches a minicourse makes $10 per hour. One can always find 2 or 3 student assistants on duty at any time. As all the software is loaned from the reserve library desk, the assistants in the lab focus on helping users with software.

Another level of support can be obtained from "User Services." It is comprised of 20 or so professional computer consultants, available for phone support during regular business hours. The computer center itself is rarely closed, and operates on what amounts to a 24-hour schedule.

The "default Macintosh cluster" consists of 4 Macs LocalTalked to an ImageWriter II. Each cluster uses a long table layout, perpendicular to the wall, two users to each side, with the printer at the head of the table on the aisle. Some clusters have two printers. Two LaserWriters are available at "print only" stations. They use the *Vendacard* system there also. On our visit, students were eight deep, in swivel office chairs, queued up to use the laser printers. An interesting phenomenon, according to our guide, was that no matter what hour of the day or night, or what number of people were using the lab, the LaserWriter lines usually contain 8 to 10 patient students.

Most of the Macs in the lab have only one disk drive. However, users can borrow a second drive from the computer room desk and hook it up themselves. Rochester was the only lab on our tour with a public CD-ROM drive. A Mac Plus supports the CD-ROM drive along with a second disk drive. It is used as a quick download machine for fonts, art, and public domain software. One CD ROM is always loaded and running, but users can request others. The Rochester compact disk collection is extensive, with CDs from Club Mac, Educorp, the Boston Computer Society, and the Berkeley Macintosh User Group. A similar download scheme was available for PC users, with Microsoft *Bookshelf*, Grolier's *Electronic Encyclopedia*, and many public domain titles.

One unique feature of the Rochester lab is its homebrew documentation. Users can pick up free mini-manuals on everything from an introduction to the Mac, to the use of Font/DA Mover, to use of *Kermit* in file transfer. The PC side has similar docs, including using the LaserJet with *WordPerfect*, and an intro to *PC Write*. They also have a pamphlet on eradicating viruses from disks, and a disk full of vaccine utilities. At semester breaks, all Mac software is checked for infection; so far nothing has been found.

Optical scanning is done on a service basis, with a 4-day turnaround time. Fees are $2 per page for text and $1 per page for graphics. An extensive scan policy statement is posted, which includes their definitions of "fair use" as it applies to scanning copyrighted documents. They will not scan the University of Rochester seal.

Rochester also features exemplary technician support for its hardware. A technician makes the rounds of all computer labs on campus, twice a day. Our guides told us that Macs were their machines of choice for public use, as they let the beginner get up and running faster, and with less consultant support.

Colgate University[4]

Both snow and freezing rain were in the weather picture when we visited Colgate, coming to a stop just an engaging encounter with the edge of a cliff. Peter Jörgensen gave us a tour of his facility. The year old main lab has about 12 Macs, along with Zeniths, DEC Rainbows, and some mainframe terminals. Computers are set up on the familiar long table as we saw at other locations, but the printers were isolated behind acoustic panels. The interspersed panels made the room attractive, which was also uniformly color coordinated, well-lit, and lush.

About half of the Macs are LocalTalked into ImageWriter printers, with one standalone Mac hooked up to a *Vendacarded* LaserWriter. The lab supplies free paper and ribbons for the ImageWriters, but the user must supply his own ribbon for the daisywheel printers on the Rainbows. Attached to the main room is a training room, which can be arranged for small groups interested in either the Mac or MS-DOS environments. An Electrohome projector allows everyone to see demonstrations on a large screen.

At the front of the lab, the user is forced past the desk of a student consultant. There are always two consultants on duty. At the back of the lab, there is another desk from which the software is circulated. This desk is staffed by a student monitor, who is authorized to give out software only. The monitor takes the student ID and attaches it to a card from the software that has been requested. Less than 15 Macintosh titles are available, but the lab swears that *WriteNow* v. 2.0 is the most popular application.

There is no time limit for use of software. Manuals are stored separately, and are available on request. Behind the software is an inner sanctum, the home of a DEC VAX, which hums noisily, tended by its student Operators. Operators can distribute software, load printers with ribbons and paper, and load the VAX.

There are three levels of student help at Colgate: monitors, operators, and consultants. A consultant has to have been a monitor or an operator for at least one semester before they migrate up to this level. Unfortunately, there is no commensurate raise in pay

with increased responsibility, although there is a move to change that policy.

Jörgensen uses several utilities to make life easier for computer managers in the public labs, some of which he has developed. One is a very nice anti-viral program. Another one makes files invisible, and another lets you set up an application that will call another file and run it. For example, say you want to thwart software piracy, by making your application files invisible on the desktop, yet you want patrons to be able to run them. This third utility, similar to a widely distributed one called "Doppleganger," will permit this operation. Colgate has four other satellite labs, each with 2 Macs, two Zeniths, and printers.

More Macs will appear in the near future, and less IBM PCs and clones. There is a need for more software, as well as more classroom tutorials. On our visit, the staff was particularly excited by their work with a loaned Apple Scanner. Magnetic resonance Images of brain lesions were being scanned and then analyzed using *Digital Darkroom's* gray scale editing features.

Syracuse University[5]

My last visit at SU's Machinery Hall was in the '70s when I took a minicourse in keypunching during my previous life as a major in Medieval Studies. We met our guides and stepped out into the fickle central New York State sunshine, which disappeared in five minutes to a cold drizzle.

Our destination was a one-month old lab with 23 Mac IIs. The lab was set up at the request of the English Department as a means to teach writing. It is made available to the public whenever it is not in use by a writing class. The lab is not staffed. It is one of two such labs on campus. The SU administration wants more Macs at the expense of less staff to operate the labs and assist students.

The prevailing attitude could be summed up with "If these computers are so easy to use, EVERYONE should be able to figure them out!" This excludes the notion of incoming students each semester facing something called a Macintosh, trying to figure out how to struggle with software. While we were standing there, a student stared wistfully at a silent ImageWriter (there are 2 in the room), finally wondering out loud where his paper had been printed (the Chancellor's Office, I hope!). One of our guides explained the wonders of the Macintosh Chooser to him, and all was well.

SU's system is run on AppleShare. There are several file servers located around campus. All students need to do is acquire their own SUMAC boot disk from the computing center. This allows them to boot from any Mac on campus, and access the application software on any of the file servers. Of the eight computer sites, five are unstaffed, but all have phone access.

Human consultants can be found at three locations despite the administrative climate with the busiest location being the boiler-room atmosphere of the Student Center's cluster. Poorly designed, it is in a long narrow room with no sound proofing and no privacy. The software collection is large and varied, with many well-written mini-manuals developed by the staff.

Our guide said that people will wait for hours to use a computer in this cluster, despite the availability of Macs elsewhere on campus, even at sites where consultants exist. There may be some attraction to the student center's amenities including the ever-important fuel, food.

While students can get to a local LaserWriter from the Student Center, everyone else has to send his print job to the LaserWriter at Kimmel's Micro Center, the main lab on campus. It's somewhat of a hike from the other clusters, a fact that does not make the idea of spooled output popular with students. Furthermore, after you've hiked over there, you have to pay in advance before your document is printed! It literally sits on the spooler until you show up, cash in hand. And then to add insult to the entire procedure you have to wait in line for it to be printed after you have paid for the privilege. SU did have a *Vendacard* system, but found the spooled system more appropriate. There is hope for a more centralized printing location.

Thanks to SU's resources and some clever planning, Macs on the SUMAC network can communicate with practically any other computer in the world, via various networks like Internet. Despite this elegant and flexible feature, 95% of SUMAC use is word processing, not telecommunications. They have standardized on Microsoft *Word* v. 3.02, *SuperPaint* v.1.0, and *HyperCard*. The University has negotiated contracts with each of these vendors allowing them the privilege to operate software in the network environment.

Our guides made only one complaint wishing that Apple would develop a System that would boot from a server, instead of a boot disk. That would eliminate the problems of trying to fit fonts, useful Desk Accessories, and boot software on an 800K disk.

Conclusion

So what did we learn from our scenic tour around New York State's countryside in search of the perfect Mac lab?

- Macs are universally easy to use and maintain;
- Labs with 35 Macs have more options than labs with 2 Macs;
- Reservations are needed for small sites vs. walk ins; for large sites, edit only stations and print only stations vs. both in small sites;
- Users seem to prefer labs with human consultants;
- Human consultants require nerves of steel;
- Consultants should be paid well for what they do;
- If you can, separate the software loan area from the consultant area;
- Everyone is rewriting documentation to fit the local situation, and to translate dense manuals for their users;
- Users want easy access to a laser printer;
- A network is probably the way to go to reduce handling of software, but this feature won't be optimized until the Mac can be booted from a server; and
- It takes 21 helium balloons to float the average beeper out of earshot.

Footnotes

[1]Contact: Jean Armour Polly, Liverpool Public Library, 310 Tulip St., Liverpool, NY 13088

Liverpool's public lab has been described at length in *Macintoshed Libraries* (1988) and also in "The Pale Elephant," *LaserDisk Professional* (March 1989), 38-43.

[2]Contact: Howard Curtis, Head, Information Technology Section, or Gwen Urey, Lab Manager, Mann Library, Cornell University, Ithaca NY 14853-4301

[3]Contact: Bob Hauser, Assistant Director, User Services, University of Rochester, Taylor Hall, or Phil Harriman, Lab Manager, U of R, Computer and Reserve Library, Rochester, NY 14627

[4]Contact: Peter Jörgensen , Microcomputer Specialist, Colgate University, Computer Center, Hamilton, NY 13346

[5]Contact: Don MacLeod, or Keith Gatling, Lab Manager, Syracuse University, Machinery Hall, Syracuse, NY 13244-1260

Keyword Access to Specialized Library Collections in an Academic Library Using the Apple Macintosh

Elena Romaniuk

Access to publications of the Institute of Electrical and Electronics Engineers (IEEE) and the Association of Computing Machinery (ACM) has been difficult with traditional methods at the University of Victoria (Canada) Library. A specially designed application of Microsoft Works *improves access for patrons, using seven key records per field. With Boolean searching, customized reports can be created on demand for patrons. A* HyperCard *stack is being used to show the location of materials within the collection as well as determine the extent of the Library's holdings.*

Part 1. Using *Microsoft Works*

Since the University of Victoria (UVic) Library started to acquire, in 1984, most of the serial and monographic titles published by the Institute of Electrical and Electronics Engineers (IEEE), and many serial titles published by the Association for Computing Machinery (ACM), it became increasingly clear that existing methods of access to the collection were inadequate, particularly for those IEEE conferences catalogued as serials.

The current UVic serials system is based on a combination of manual records, an online mainframe-based bibliographic file in an obsolete MARC format, and a separate online authority file for corporate bodies. This system is used to produce three sets of microfiche: Title, Classification and Corporate lists, which provide the access to the collection. Two major factors affect the success rate with which serial titles are found in the microfiche. A bibliographic record in the Title sequence is displayed under the *exact title* (not the main entry, although there are cross references) which is very often *not exactly the same* as the title given in the citation,

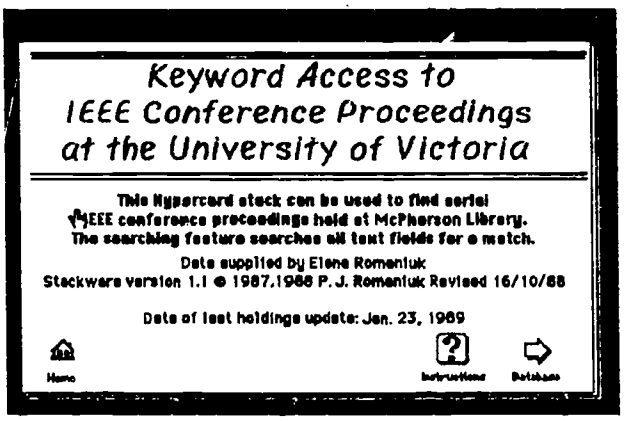

Figure 1: Keyword Access *stack.*

particularly for conference proceedings. In order to find a given serial, our users have to know either the exact title, the exact call number, or the cataloguing form of the corporate name. It should be noted that, although it is possible to reprogram the existing UVic serials file, no substantial programming funds have been available for a number of years, either to upgrade the file or to produce additional tools from it.

The problem was to find a fast and inexpensive method to provide simplified access to a bibliographically complex, but easily identifiable (IEEE and ACM) subset of the serials collection. It was solved through the creation of printed lists, the "Keywords vs author list to access IEEE (or ACM) serial publications" and the "Keywords vs title list to access IEEE (or ACM) serial publications" using a Macintosh Plus and Microsoft *Works*.

Two databases, one for all IEEE serial titles and a second one for all ACM serial titles, were created using Microsoft *Works*. The design of each database was the same, with seven fields per record: *new, keywords, author, title, call no, date* and *comments*. The actual designing stage was very easy and straightforward, taking only a few minutes to complete. Since it is possible to add and delete fields at any time, one can continue to tailor the database to the needs of the project even when data has already been input.

The relevant IEEE and ACM bibliographic records were identified and printouts of these records were obtained from the online serials file. The records were manually scrutinized and keywords highlighted for input. To provide more access points, additional keywords were extracted from within the phrases already used. Keywords were also added if they were implied in initials.

Although Microsoft *Works* does have specific size limitations for records and field lengths, these were not a problem and the entire IEEE file, which is the larger of the two containing approximately 600 records or 100K, can be easily and quickly manipulated.

The fields appear in the record in the order given above, but they can be rearranged at any time. Records can be displayed one at a time or as a list, and updated in either display format. New records can be added anywhere in the sequence and can be sorted on any field, even allowing a multi-level sort. The database can be searched in a variety of ways, with Boolean searching included as an option.

In order to print the keyword lists from the database, the records are first sorted alphabetically by keywords. Reports are then defined in:

a. the report function by specifying:

- the size and order of the fields to appear in the list, both easily adjusted directly on the screen;
- the selection rules which determine whether all or only a portion of the file will be printed.

b. the page set up by indicating:

- the size of the margins, the contents and specifications for the headers or footers, including page numbers; and
- the page size and page orientation chosen for printing.

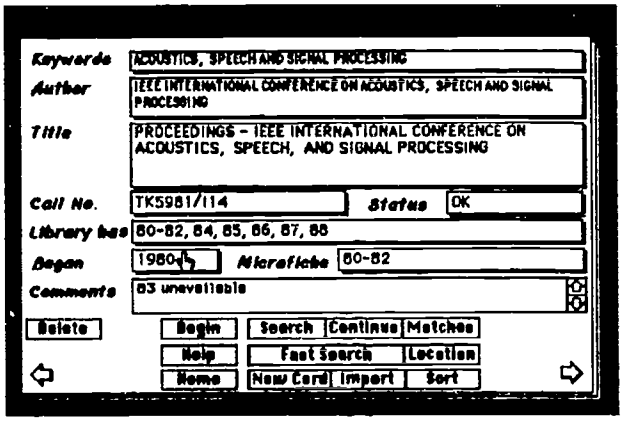

Figure 2: First card of the information stack.

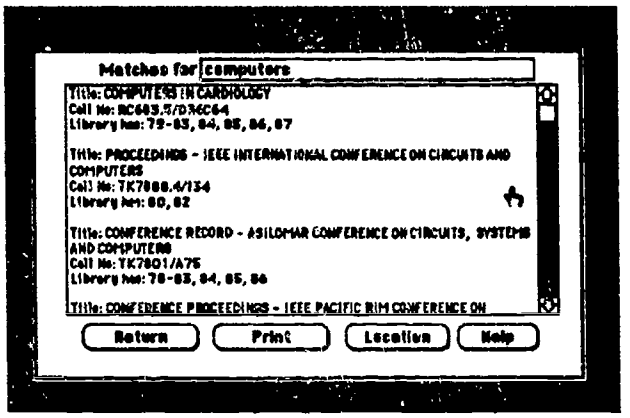

Figure 3: Matches *card.*

Two reports are defined to print the keyword lists. The "Keywords vs author list" is produced to facilitate easy identification of author-main entry records, mainly to be used by library staff. This report is an alphabetical listing, in columns, of keywords with the corresponding main entry and call number printed alongside. The second report, the "Keywords vs title list", is produced to facilitate easy identification of the exact title. In this list, the title of the publication is displayed along with the keywords and the call number. The lists are updated on a continuing basis and printed approximately every other month. They are distributed to various Divisions within the Library, and are also sent to the Department of Electrical and Computer Engineering as well as the Department of Computer Science. The keyword lists have elicited a number of positive comments from many users including staff, faculty and students.

Part 2. Using *HyperCard*

The IEEE database was modified to contain only IEEE serial conference publications, and additional fields were added so that the library's holdings could be added to the file. This file is printed with holdings and is used to keep track of all IEEE serial conference proceedings which the library receives.

The information from this second IEEE file was exported into a *HyperCard* stack, designed to allow users to search the records in the stack using keywords or call numbers, in order to find out which IEEE conferences catalogued as serials are in the library and what the library's holdings are.
The stack has an introductory title card briefly stating the purpose of the stack (Figure 1). It gives the user three choices of buttons: to go back to the Home card, to go to the help cards or to go directly to the IEEE database.

The stack contains several help screens which explain the functions of the various fields and buttons. The fields contained in each record are: *keywords, author, title, call no., status, began, library has, microfiche,* and *comments.* The function of each of the fields is explained using help windows. For example one help screen explains that the *microfiche* field is used to indicate which of the proceedings listed are available in the library in that format.

By clicking on the database arrow found on the title card or on the help card, the user can go to the first card in the stack to search for the required information (Figure 2). Altogether there are fourteen buttons on the card. Two of these are arrows which allow the searcher to browse through the records in the stack. Five of the buttons are hidden from the user. They are used for adding cards for new conferences, for deleting or importing records, and for sorting of cards within the stack. The user is left with a choice of seven buttons, in addition to the arrows already mentioned. These are:

- *Begin* which takes the user to the introductory card of the stack;
- *help* which takes the user to the help screen;
- *search* which allows the user to search all of the text fields for the desired word or call number, retrieving one record at a time;
- *continue,* which used together with *search,* retrieves all matches one at a time;

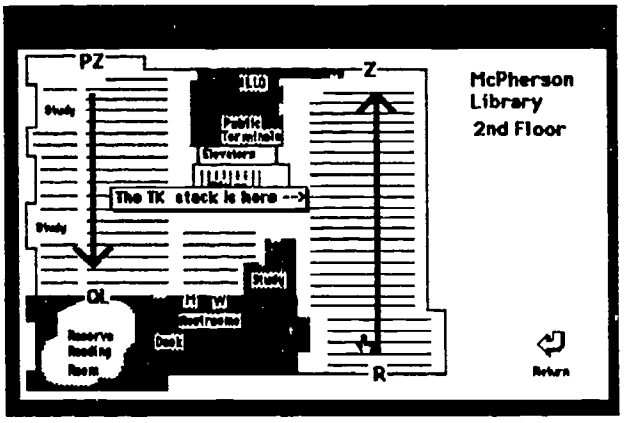

Figure 4: Location card.

- *matches* which lists all matches of the latest search found up to that point;
- *fast search* which retrieves all occurrences of a match and displays them as a list; and
- *location* which displays a map of the appropriate floor in the library and indicates the general location of the library stack where volumes with those call numbers can be found.

Both the *matches* and the *fast search* buttons display a *matches* card which, in addition to listing all occurrences of matches for the latest search, contains additional buttons (Figure 3). These are:

- *return* to return the user to the last card viewed;
- *print* to allow the user to print the information found;
- *location* to display the map of the appropriate floor of the library and to indicate the library stack where the required volume can be found (Figure 4); and
- *help* to go to a help screen explaining the *matches* screen.

The printed list of matches for a particular search includes the title, call number and the holdings of the desired conference.

This stack has been made available to the Engineering faculty and students, with a feedback form designed to find out how the stack can be modified to enhance its usefulness. So far the response has been very enthusiastic.

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2. ————. "Access to IEEE publications." *Minds in Motion* (Fall 1988): 32-34.

The King of Fonts: Sharing Fonts on a TOPS Network (or, 'Hey Where's University Roman?')

Alan Rowoth

Handling 10 Mb of Postscript typefaces on a local area network at the Liverpool (NY) Public Library presents unique problems in order to meet the differential needs of users. With Suitcase II, *individuals files for each Macintosh on the network are designed with fonts, desk accessories, sound, and FKEYs. Upgrades in system and networking software have eased difficulties in making fonts available across the network.*

Here at Liverpool Public Library we make extensive use of different typefaces for our many desktop publishing projects. The fonts come in 2 flavors: PostScript and Bitmap. We have close to 100 PostScript typefaces; these are much more useful than the bitmap ones in that they can be scaled to any size and retain their precision. We have many more bitmap faces, some of which are quite unique. With care, they can yield satisfactory results in certain applications. In certain special situations we find it advantageous to create text blocks as art elements, using tools like Adobe *Illustrator 88* or *Postermaker Plus* to overlap, shape, fill, or distort text elements to create an eyecatching design.

PostScript fonts come in 2 necessary hunks: the "screen font" file and the "printer font" file. On the average Macintosh, if you want to use a "downloadable" (not native in the printer's ROM) laser font, you have to either manually download it into the printer's memory, or leave the file in the system folder for automatic downloading by the LaserWriter print driver. Due to the sheer size of our PostScript printer font files, it is impractical to tie up

nearly 10 Mb of disk space on everyone's Macs, and even more foolhardy to load *different* sets of fonts on each Macintosh. In the beginning, using extra laser fonts required adding the screen font to your system file and putting the printer font in the system folder. It was just too cumbersome.

All of our Macintosh computers are networked with the *TOPS* network software. They can share disk space, files, printers, modems, etc. The problem was intercepting the call to the system folder for the download font and re-routing it. This was solved by a product from Olduvai software called *Fontshare*. It creates a list of the locations of the downloadable fonts, and calls them when they are used in a document. This just left about 2 Mb of screen font files in our system file. Most of the Macs on our network have their own hard disks, so this worked-after a fashion. Then came *Suitcase II* from Software Supply. Using this product, I was able to segment the font, Desk accessory, sound, and FKEY files for each Mac into "suitcases" that could autoload as necessary into each Mac. In addition to expanding the Mac's innate capability to handle these files, it provided the facility to compress the fonts and sounds and give us more disk space and faster loading time.

Things couldn't have been much better; we did have a few font number conflicts that I attempted to resolve with the *Font Harmony* utility included with *Suitcase II*. Some applications store font types by number, and we had a few problems when reloading old documents, but life was good. We got a little money and bought a couple of more Macs, this time without internal hard drives. There were two reasons why we went this route: Our Apple brand 20Mb internal hard drives had about a 40% failure rate (usually just after the warranty ran out...) and we felt larger capacity, better quality drives were available that we could add in our next budget cycle.

It took a bit of trial and error, but eventually I got the new Macs to boot properly calling their font and DA files from other locations around the network. I had to rename *Suitcase II* to "Zuitcase II" to get it to load after the *TOPS* INIT, but then things seemed to be working fairly well. *TOPS* is supposed to remember which directories are loaded and mounted where if you ask it to. Sometimes it did, other times it didn't. This was a problem. All of this paved the way for the simultaneous upgrade to System 6.0.2 and *TOPS* v.2.1. *TOPS* has solved the "remember" problems and added a few other enhancements. There isn't a lot to say about *TOPS* because it just lies there and works. (We like that...)

Surprise, surprise, now *Fontshare* no longer worked. A couple of calls to Olduvai yielded no assistance and no callbacks, so I went looking elsewhere. Reading the *Suitcase II* manual (Oh no! Not the "M" word...) told me that it should do the same trick (It just didn't). I tore hair, I chewed fingernails, nothing worked and then, like manna from the skies.... *Suitcase II* v.1.2.2. (oops...) The solution came up like a sunrise and, knock on wood, seems to still be working.

I bought a copy of the *Font/DA Juggler Plus* just to get at their font renumbering utility and I renumbered all the Adobe fonts to their original numbers and renumbered most of our Casady, Springboard, and Public Domain fonts into the "forbidden zone" between 36 and 137. New schemes are on the horizon to control font conflicts in the future, like calling them via font name or the new NFNT numbers; though many of our current applications don't support these niceties yet.

I tried opening shared screen font files for all of the Macs across the network. It worked, but it was just too slow. Now I use a dummy screen font file (actually one so unattractive that no one would ever stoop to use it in a document.) This tells *Suitcase* where the laser fonts are located and things just hum along.

I especially appreciate the separate font and graphic smoothing options in the latest Apple LaserWriter drivers, and ability to use an unlimited number of downloadable fonts. These alone make the upgrade to the current system software a must, I think.

What's in the future? More fonts, of course. EmDash has a face that looks a lot like Dom Casual and I think we NEED that one. There are still a couple of minor wrinkles to work out. I would like to move back to *Fontshare*, as it is a more elegant solution to the font server problem (I'll bet they are working on a new version right now...) I wish there was a mechanism to compress the printer fonts, I don't know if that is truly viable or not. I still have trouble reverting to a plain Goudy face after I have used a Goudy Bold in the same text block. I suspect that the *Suitcase II* utility that consolidated the various styles into one font menu selection may be the culprit, but I have to get in the analog file cabinet and pull out our original disks and try working on fresh copies for a while.

I want to pick up a *Font Sizer* and a *Font Liner*. I would like an easy way to copy an Adobe *Illustrator* art file into a *Fontographer* typeface. I want a bigger,

faster LaserWriter II NTX with its own hard disk and at least 4 Mb of RAM to generate the documents that my little LW Plus spits back at me in fits of maniacal laughter. I want life, liberty, and blacker blacks. All in all though, I guess I'm doing just fine.

Use of the Macintosh in the Reference Section

Neal Schleifer

Macintoshes are used at the Riverview High School (Sarasota, FL) to help students improve their research techniques, understand the rudiments of computer technology, and interact with electronic databases. Students access information via compact disks or through telecommunications links. Future expansion of the Macintosh facilities will include a writing center and additional CD-ROM hardware and disks.

The Program

The Riverview High School Media Center added online search capability to the library reference section in 1986. The purpose was both to introduce students to the use of computer search technology and to enhance their research skills. The program is primarily instructional, but teachers also have access and make use of special services such as the Department of Education Bulletin Board, databases, and other appropriate services.

Students are informed of the program during library orientation or through their classes. Individual students may request its use as well. English classes grades 9 through 12, average, dual-enrollment, and advanced placement, have all made extensive use of the program for reports and term papers. Specialized classes, such as debate and journalism, and other subject areas also benefit. Information from searches is stored in a print vertical file and on hard disk to increase student access.

The following services are available: *BRS/Instructor* (Bibliographic Research Services), LUIS (the Florida

State University System book catalog), FIRN (Florida Instructional Resource Network), and *AppleLink.*

In 1988 a CD-ROM station was added through a grant with the University of Central Florida and the Florida Department of Education to expand electronic reference capability. Students find the *Hypercard* interface of the CD-ROM especially easy to use.

Professional

- Riverview's online reference program was named a Program of Excellence by the Florida Department of Education for 1988-1989. Fifteen programs were selected for this honor from a field of sixty-two programs;
- A video paper on the program, "Online Computer Technology in the Media Center," was presented at The Third Interactive Technology Teleconference in Education, November, 1988, sponsored by WHRO-TV, Norfolk, Virginia and WVIZ, Cleveland, Ohio;
- The program was recognized in the book *Sharing Success in Computer, Math and Science Education* in Florida for 1987-88;
- Riverview presented Online Telecommunications workshops for Sarasota County and represented Sarasota at the Florida Online workshop at Florida A & M University in 1987. Florida A & M and the State Department of Education Committee on Technology in the Schools have sent observers.

Development

By the end of the first year, as usage grew, it became apparent that hardware and software that was user friendly was necessary to optimize program use. A modem faster than 300 baud was also desirable.

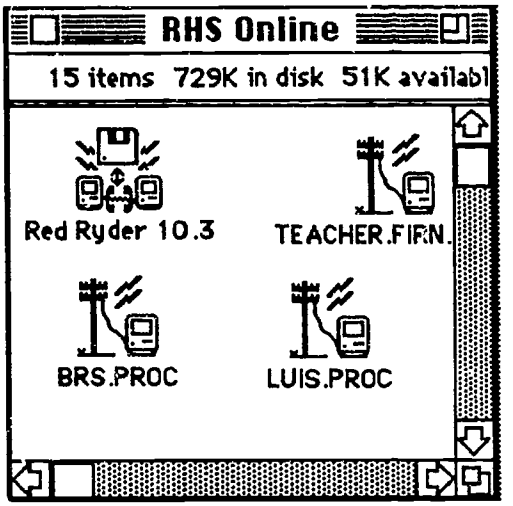


Figure 1: The active window that appears when the online research Macintosh is turned on.

The Macintosh was chosen for ease of use and because file handling was relatively simple and forgiving. *Red Ryder* was selected for telecommunications because log on, log off, and other procedures could be automated, and the technology made virtually transparent to the inexperienced user. In addition, passwords could be encrypted in a non-text procedure file and hidden from users. Later, this information was stored on hard disk, virtually eliminating security problems for the media specialist. The hard disk was set to present appropriate menu choices upon boot-up to further simplify operation.

We discovered that it is often beneficial for students at the secondary level to work in small groups, facilitating the learning of research techniques and online systems. Those with more computer experience serve as group leaders and aid others. Use of student assistants is also a valuable resource.

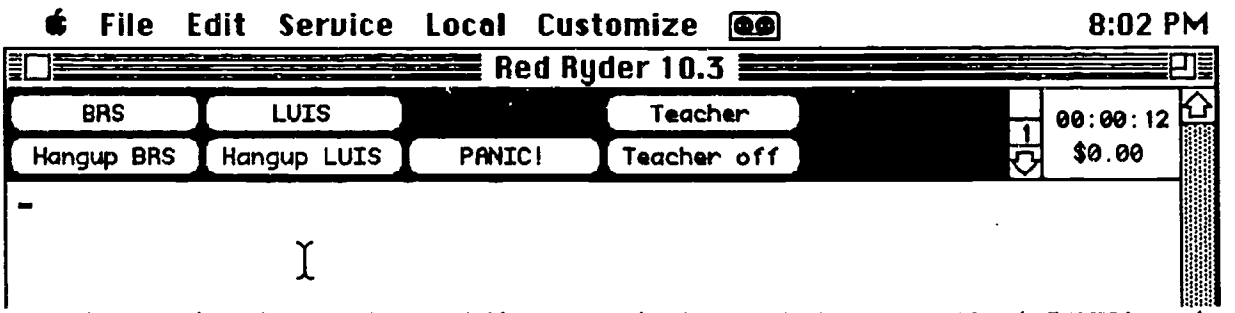


Figure 2: This screen shows the button choices available once inside the telecommunications program. Note the PANIC button for emergency logoff from any system. The timer on the right can be preset to indicate online charges.

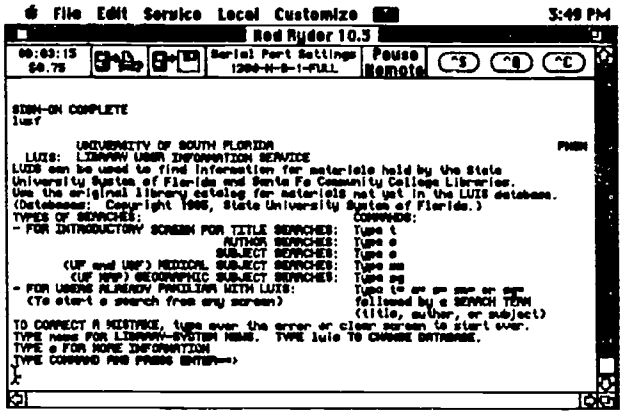


Figure 3: Main menu of the university book catalog on the LUIS system as the automated log-on procedure is completed.

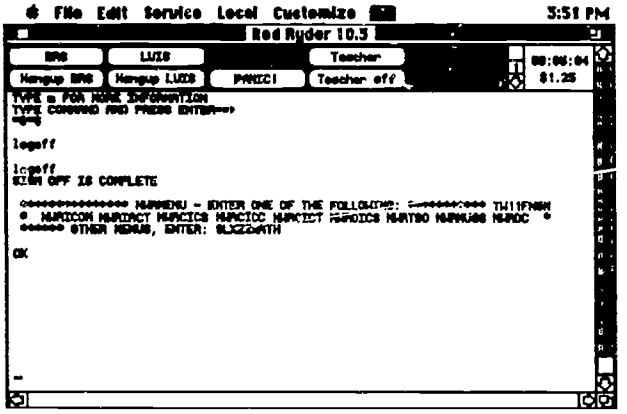


Figure 4: Automated logoff from a university book catalog.

Equipment

Online Research Station: Mac Plus, Hard Disk20SC, 800k external drive Apple Personal Modem, Imagewriter II.

CD-ROM Station: AppleCD SC CD-ROM drive, Macintosh SE, Jasmine Hard Drive, Imagewriter II.

Primary Software: *Red Ryder, MacWrite, HyperCard, BRS Simulator.*

The Future

- Future expansion includes plans for a writing lab in the media center networked to the online research and CD-ROM facility;
- This would enable students to work more completely and efficiently. Research, writing, and editing could be done within the same lab. Students would be able to make better use of the Macintosh's graphic potential, including clip art, graphs, diagrams, and maps available on CD-ROM;
- A LaserWriter and a digital scanner would help implement this goal;
- The CD-ROM station should be upgraded to take advantage of CD color potential;
- While CD-ROM technology has already proven itself both fascinating and useful to students, delivery of new disks has been slow. This should change as CD use becomes more commonplace;
- As use of online technology and electronic media becomes more widespread in the academic and professional worlds, high school students will reap benefits from early exposure and acquisition of skills. The library plays a key role in the development of electronic media.

The Macintoshed Lab at Case Western Reserve University Libraries

Sharon K. Schmitt

The Microcomputer Lab of the Library of Case Western Reserve University (Cleveland, OH) contains seventeen Macintoshes, ImageWriters, and a LaserWriter. An on-site software library, operated by student staff members, provides the tools for word processing and graphics generation. Two-thirds of the use of the Lab is by undergraduates, heightening the Library's role as an information center on campus.

The University Libraries of Case Western Reserve University currently houses a microcomputer lab in Freiberger Library and will soon house a second lab site in another campus location. The lab is open to any student, faculty, or staff member that belongs to the University community. The lab hardware currently consists of 17 Macintosh Pluses and SEs, a bank of ImageWriter LQs, modems, additional external 800K floppy drives, a hard drive for the lab monitors, and a LaserWriter II NTX with a hard drive for font storage. A Datacopy Pro Scan 830 scanner will soon be added to the hardware configuration.

Students trained as lab monitors are on duty every hour that the lab is open to monitor hardware and software, distribute software, register lab users, and most importantly, to provide assistance to all lab users. The lab maintains a software library that features applications from the following areas: word processing, data analysis, database, graphics, spreadsheet, telecommunications, desktop publishing, and scanning. All applications have complete documentation available. The contents of

the lab's software library as well as a catalog of lab fonts are available for use by lab clientele.

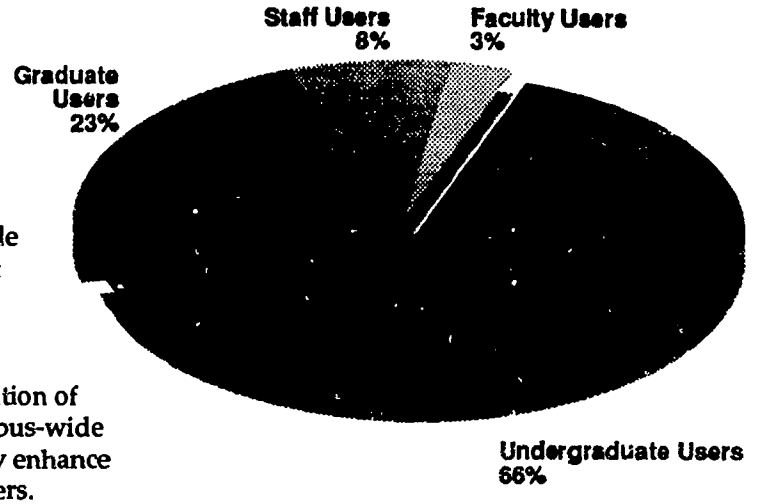
All lab users are asked to sign a Statement of Responsibility the first time they use the facility. The statement outlines what is and is not permitted to occur in the lab especially in regard to the illegal copying of software and what responsibilities the user is expected to assume. The signed statement remains on file and in effect throughout the users' tenure at the University. While the current lab provides software on a disk distribution system, future plans include the use of a MicroVAX 2000 as a file server and the addition of the current and planned lab site(s) to a campus-wide network of services. These plans will greatly enhance the quality of service the lab can offer its users.

Some of the lab's statistics reveal both a profile of its users and its overall appeal to the University community. The following figures are estimates based on past statistics and current weekly figures:

Total Users to Date: 20,132
Hours open per week: 78
Total number of user hours available daily: 224 (with 100% of the Macintosh units available).
Total number of laser prints to date: In excess of 100,000.
User Profile: Undergraduates - 66%; Graduates - 23%; Staff - 8%; Faculty - 2%.
Software Profile: Word processing - 49%; Graphics - 25%; Users' personal software - 14%; Miscellaneous software - 10%; Guided Tour software - 2%.

The lab is more than just one kind of working environment. The development of University Libraries Microcomputer Lab is in keeping with the mission of University Libraries, and the strategic emphases and goals elaborated in the Libraries Five-Year Plan. Specifically, the lab responds to the Libraries mission of participation in the research and educational programs of the University by facilitating access to relevant information and information technology. The lab also reflects the Libraries consideration of ongoing technological developments in information creation and dissemination. The Libraries intend to emphasize "technological assessment and adaptation" and have, in part, goals of improved information services to faculty and students, and maximized use of library services by students and faculty.

Summary Profile of Lab Users Spring 1988



graphic by Bill Vaccaro from original by Sharon K. Schmitt

The lab, in accordance with the mission, goals, and strategic emphases of the University Libraries, strives to provide a non-threatening, user-friendly environment in which library clientele can experience information management on a microcomputer. A microcomputer offers one way of organizing information so that it has a greater chance of turning into knowledge than it does of turning into confusion. The eventual goal of computer literacy is not to know a RAM from a ROM, but to be able to use the available bodies of knowledge in all their formats, effectively and efficiently. The lab is designed to give users the opportunity to experience some of the formats in which a microcomputer can organize information across a wide range of applications. The approaches to organizing information on microcomputers are by no means the only or best ones, but they do represent additional ways to enhance conceptualization, simulation, analysis, and presentation. Providing this kind of opportunity is in keeping with our organizational goals and complements the information-handling skills the librarians have long possessed.

The planning process for any facility is always of critical importance. The University Libraries Microcomputer Lab was no exception. The following factors were especially critical in providing for the lab's initial and future success:

- Goal setting. The translation of the initial vision of a lab facility into a real goal;

- The recognition of the resources that would be required to establish and maintain the lab facility;
- The establishment of measures of performance *before* the project was undertaken. This means that a definition of success was in place before the facility was created so that consequent evaluations would have a standard against which they could be compared. These "measures of performance" included both emphirical and subjective goals;
- Detailed evaluations of the various user interfaces that were available and their respective consequences to the user;
- Detailed evaluations of the software available on the user interfaces of choice;
- Detailed evaluations of the hardware available to run the above mentioned software;
- A pre-planned installation and testing phase;
- A pre-planned training phase for lab personnel and the commitment to always make trained personnel available in the lab;
- Careful evaluation and provision of value-added services, such as laser printing, for lab users;
- Constant re-evaluation and adjustment of policies and procedures to "real life" situations;
- Commitment to steadily more sophisticated training for lab personnel; and
- Pre-testing for all lab software and hardware before installation.

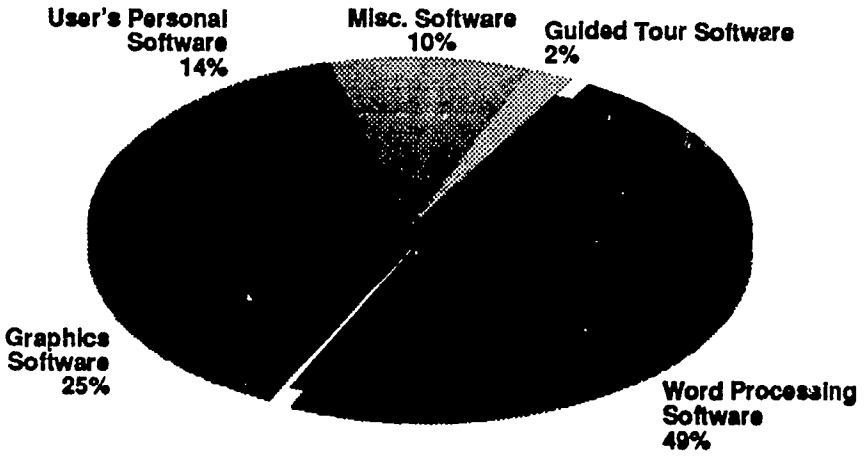
The above factors are by no means definitive, but they do represent some of the most critical reasons for the lab's success. In addition to these factors, the Libraries maintain an ongoing commitment to the following:

- Providing a high quality user-interface;
- Providing high quality hardware and software, complete with documentation;
- Providing high quality output devices, including free-of-charge, near-letter-quality printing and value-added laser printing;
- Providing upgrades, as they are released, for software supported in the lab;
- Providing on-site maintenance for all equipment;
- Providing security for all units and for the facility; and

Providing a well-managed and organized facility, with sufficient and qualified personnel to assure continued good service and long range planning.

While the lab's operation and planning is not without problems, the difficulties are frequently those of any environment where there is constant change and development. Microcomputing is one of the most explosive and exciting of the information management technologies and requires ongoing adjustments to cope with its increasingly sophisticated nature. As part of the information revolution, these are problems and responsibilities that University Libraries gladly accepts as part of the challenge of the future.

Summary Profile of Software Use Spring 1988



graphic by Bill Vaccaro from original by Sharon K. Schmitt

M.A.C. - the Media Access Center at the J. Paul Leonard Library, San Francisco State University

Mitch Turitz

The Media Access Center of San Francisco State University's Library provides a mix of Macintoshes and IBM PCs and clones to its patrons. Word processing and spreadsheet applications are most popular with students. Access is limited to two 60-minute intervals per person per day. In addition, a computerized music system is available along with hardware and software for the disabled. Problems in the Center stem from incompatible software and viruses.

History and Background

The Media Access Center (M.A.C.) originally was the Student Learning Center, a study skills improvement and learning assistance center. The center had three terminals linked to the university's mainframe and was used primarily for programming courses and instructional computing use. Apple II computers were introduced with media services including cable cast, video tape previewing and editing.

The media component grew as the university became more technological in its instructional approach. At the same time, M.A.C. began to acquire more microcomputers. IBM PCs were added to the computer configuration in the center. Then there were eight terminals linked to the campus mainframes and 6-8 microcomputers which were stand alones. In 1984 the center was administratively assigned to the library. This was when there was a university-wide introduction of the Macintosh. The center acquired two Mac 512Ks, then four Mac Pluses.

In 1987 the center opened the Faculty/Staff Training Center. The training center is a separate part of the microcomputer lab and has nine Macintosh SEs (linked through AppleTalk), nine PCs, a Mac II and a LaserWriter Plus. The Faculty/Staff Training Center was developed from an $80,000 grant from the university. It is an "L-shaped" training area with two clusters - a PC cluster and a Macintosh cluster. There is a 50-50 split on the use of each cluster. The university has an agreement with Apple Computer, Inc. to demo new products in the training facility as they develop. Presently there is a Mac II in the training facility. The training facility is separated from the "computer lab" by a sliding wall, so that training can continue while students are using the lab. Also, students can use the lab when it is not being used for training. The training facility has "state of the art work stations" for demo purposes. The Macintosh II and Zenith 386 are for demo purposes and not for student use.

Administrative

Since 1984, Macintoshes have been coming into the library into librarians' offices. There are plans to link 10 library Mac SEs into the LAN (Local Area Network) including 11 library PC clones. Most of the Macintosh users are librarians and most of the PC users are support staff. Because the PC format was the most widely used for office applications, the library selected a PC Ethernet network for the staff. The library faculty pushed very hard for Macintoshes. The fifth floor of the library has a graphics department which has a Macintosh SE with a LaserWriter, Radius monitor, etc.

Campus wide

About 50% of the campus use Macs and 50% use PCs. Some departments may be dominated by one (e.g. Business Dept. is mostly PCs, but Creative Arts Department is dominated by Macintoshes). The Education Department uses Apple II; the Science and Business Departments are big on IBM. The Humanities Department is a "mixed bag."

Purpose

Originally, students supplied their own software and they just had access to the computer equipment. Now, students are allowed to continue to provide their own software, but M.A.C. also has a software library (the software must be used in the library - it cannot leave the lab). The most heavily used programs are word processing (Microsoft *Word* and *MacWrite*) and spreadsheets (Lotus *1-2-3* and Microsoft *Excel*).

The lab provides reserve services for non-print materials, so professors can make software available for students to use in conjunction with a course. The library also purchases software for course-related use. Access in the lab is provided on a first come first served basis. Students cannot reserve a seat in advance. Students are limited to two hours/day on a computer. This way the staff can tell students waiting that within X minutes a computer will be available. The training facility is scheduled for faculty and staff use through the Computer Center in cooperation with M.A.C.'s computer lab manager.

The demand for Macintoshes and IBM PCs is about the same. Most of the time the center is at capacity. The lab is open 8am-10pm weekdays and has weekend hours.

There is a LaserWriter Plus available in the training facility which is linked to the Macintosh SEs through AppleTalk. There is also an HP LaserJet attached to a Zenith 386. The laser printers are available to students by reservation with a limit of one hour access and no more than 50 pages. The lab recommends that the laser printers be used for final drafts. Graduate students can have their theses done by special arrangement (since most are more than 50 pages and must be presented on special paper).

There are LCD (Liquid Crystal Display) units available for IBM and Macintosh projection. The Sharp QA25 and Macnifier transparency units plug into a PC or Mac SE that has a special video board installed. An overhead projector is used with the transparency units. Whatever appears on the screen of the computer can be projected onto a wall. This is most useful for classroom instruction or demonstrations to large groups.

Problems

Problems include students not using compatible software. Frequently students use a different version of an application or system software at home and at the computer lab. This can cause problems with printing or opening a document. Another frequent

problem is students bringing in their own system disks which do not have the AppleTalk ImageWriter or LaserWriter printer drivers on them. A sign was printed and taped on the desk next to each Mac SE showing an illustration of the selection of the AppleTalk ImageWriter icon through the *Chooser* Desk Accessory. This helped reduce questions regarding why a student could not get the printer to work.

The computer lab manager copes with computer viruses, now common on software disks provided by users. The software must be cleaned up daily. The software that the students use from the library are copies not originals. The originals are maintained as archival masters. New single lab use copies are generated when necessary. Consultants are available to advise students and to check to see that students are not illegally copying or damaging software. The consultants do not "police" the lab, but if, during their normal activities, they notice illegal copying they then instruct the persons to stop. The idea is similar to the photocopy model (i.e. staff cannot be expected to stand over copy machines and confirm that illegal copying is not happening). The consultants also help with resolving software version conflicts and overseeing the computer lab. They are paid at a higher student rate because they require a higher level of knowledge.

Computerized music

The computer lab has a computerized music system on a Macintosh SE with a MIDI interface with a Yamaha keyboard DX21. There is also associated software for composition, ear training (for music students), and aural training. The primary use of the computerized music system is for music composition. Several music classes use it.

Disabled students

"The lab has one of the most extensive programs for the disabled anywhere" according to Assistant Library Director Bill Costello. Visually impaired stations are available with voice activated computers - both PCs and Apple IIs. These are equipped with head phones so they do not disturb other people. A unit is set up with a braille printer. Disabled Student Services trains their clientele and it is used only for DSS students on dedicated terminals. Apple II users bring their own software. *Bank Street Writer* is used by the disabled students. The center also provides testing for disabled students in JEPET (Junior English Proficiency Essay Testing). The essays are written on computer.

Future

The "demo" state of the art machines will be "on loan" until new equipment is available; it will then be replaced with the new equipment (e.g. we expect the Mac IIx to replace the Mac II). These demo machines are for faculty use only, not students. (Librarians and professors are faculty at San Francisco State University.) The San Francisco State University NeXT machine will probably be located in the library Faculty/Staff Training Center or the Computer Center.

Only staff microcomputers will be hooked into the LAN. As we were preparing to have our Macintoshes hooked to the LAN, we were wondering about the problem of the files already on the LAN in IBM format that we would like to convert to Macintosh format. We found an easy solution. By downloading the IBM files to a 5.25" floppy disk and saving it as a DCA.RTF format, we were then able to convert the files using Apple Computer Inc.'s 5.25" drive that plugs into the Mac II or SE. DCA.RTF format is a standardized IBM format that preserves formatting (tabs, font sizes, etc.) and can be read by most IBM word processors. By inserting the IBM disk into the Apple PC 5.25" Drive and inserting a 3.5" Macintosh disk in the internal disk drive of the Mac II, we then ran the program *Apple File Exchange* (this program is free and is included with your system 6.0 upgrade software in the utilities disk). The *Apple File Exchange* program will convert a DCA.RTF IBM formatted file to a *MacWrite* file (and vice versa), keeping all the formatting including tab settings, size of fonts, etc. This is a very clean way of converting files from IBM to Macintosh, since *MacWrite* is the "standard" format that can be read by any Macintosh word processor. The Apple PC 5.25" Drive allows the Mac SE and the Mac II to translate files from MS-DOS formatted media to Macintosh and vice versa. There are other "third party" devices that will also do this with a Mac Plus, such as the DaynaFile by Dayna. The Apple PC 5.25" Drive will work with a Mac SE and a Mac II, but not a Mac Plus.

This article was prepared with the help of Assistant Library Director Bill Costello and Media Access Center Instruction Coordinator Russell Colunga.

Afterword:

MacProverbs

compiled by Rick Fensterer

1. Never pay good money to attend a conference whose instructor is pictured in the brochure wearing sunglasses.
2. Never buy a computer out of someone's trunk.
3. Never buy software whose technical support number rings at a pay phone.
4. Sometimes the best database is no database at all.
5. There are three kinds of people in this world; Dorks, Non-Dorks and people with Dorkish tendencies.
6. The number of crazy drivers on the road is directly proportional to the value of the equipment in your trunk.
7. The number of potholes in the road proportionally increases in relation to the amount of data stored on the hard disk in your trunk.
8. The word processor file that you are looking for is never in the word processor folder.
9. In a public computer lab, if a patron doesn't complete his or her paper on time, it's your fault!
10. Parallel cables will always tangle when left unattended. This is especially true if they are placed under a false floor.
11. The data lost in a hard disk crash is never backed up.
12. When taking your computer on the road, the place where you use it never has 3-prong outlets. If you bring adapters with you, you never have enough. If you have enough, you can't use them because they are polarized.
13. The file that you are searching for on your hard disk is always in the last folder that you look in.
14. The state-of-the-art equipment that you order today will be obsolete by the time you fill out the warranty card.
15. The extension cord that you bring for a presentation is always 6 inches too short. It's also always tangled.
16. When the network crashes, the data that you have sent to the printer is never saved. This is especially true if the report was important.
17. The data bits that disappear on a network can usually be found lying on the bottom of the computer's case. Also, you should never carry your Mac with its screen pointing down because all of the electrons will fall out. Since data is represented by electrons... (In the Apple][days, you used to have to occasionally vacuum the deleted bits out of the disk drive.)... Only kidding!

About the Editors

Bill Vaccaro is a Social Sciences and History librarian and unofficial Mac wizard at the Conrad Sulzer Regional Library, Chicago, IL. He is editor of the column, *HyperCard Applications*, for *Computers in Libraries* magazine. When not working at his Mac (which seems to be 95% of the time, according to his wife, friends and colleagues), he enjoys classic movies and watches *Knots Landing* religiously. His favorite foods are Buffalo chicken wings and anything Thai (both extra hot). His personal best on *Crystal Quest* is currently 27,234,000.

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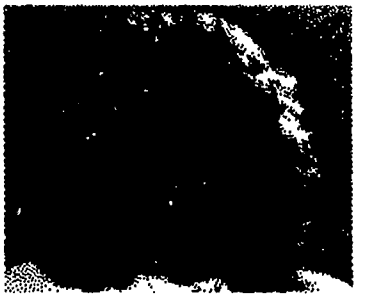

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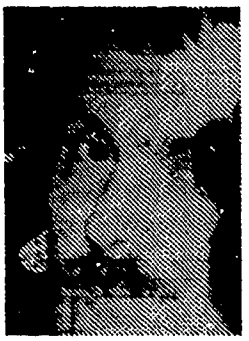

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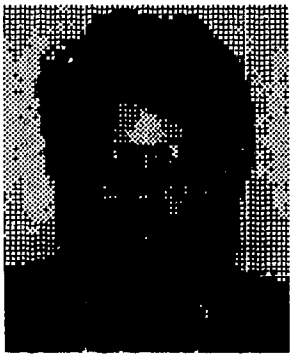

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