

Public Access Computers in Libraries : A Justification for Existence

Harold C. Ogg
Director
Hammond Public Library
Hammond, IN

The Situation

No one can fault librarians for lack of willingness to incorporate trendy media into public service. All of us have viewed with interest the many permanent and not-so-permanent developments in technology which, from day one of availability, have piqued imaginations in terms of applicability to our individual libraries. The situation can be quite frustrating in that the librarian is not sure whether to gamble on a hefty expenditure only to discover later that the equipment purchased was the result of a fad. Envision explaining to a budget-conscious board of directors after the fact, for instance, the wisdom of having acquired a library van with a rotary engine, a quadrasonic stereo system for the listening room, or a supply of wet-process copy machines. Since it is still a relatively big-ticket item, the micro-computer falls under the same cloud of suspicion as the aforementioned dinosaurs, a situation further aggravated by the flux occurring

in data hardware technology. Needed are some purchase justifications for those librarians who are already sold on the idea of public access computers. This discussion includes some barebones information for avoidance of common pitfalls and a few pointers for intelligent shopping. What will not be presented herein is a consumer's guide to appropriate brands. Enough factors are involved in the purchase of hardware that each situation renders itself unique, as will be evidenced.

The most conspicuous operant is "why?" Indeed, with home computers so ubiquitous and available even in drugstores, why should public libraries or educational institutions not connected to timeshare hookups consider a service that may already be covered in other sectors? This is followed closely by "Why should I provide public access computers when the library doesn't yet have terminals for its own needs and processes?" The natural rejoinder becomes, "Is or will the technology be universally accessible?" Unbiased market figures are difficult to obtain, since much of these data are accurate for sales but not for applications. Perhaps the best technique to use is inductive reasoning: who would have access to a terminal for shared personal use? Students of both high school and college ages are becoming computer literate through hookups in the classrooms. Microcomputers and minicomputers are also becoming common tools in office environments, and of course, there is the booming video game market that allows for modular upgradings to "keyboard and 48K RAM" onto tabletop consoles. The media would have us believe that within the decade the microcomputer will become a typical household appliance, second only to television. Thus, it becomes difficult to justify tax dollar purchase of such an item in light of the presumption that a microcomputer is so common that inclusion of one or more is merely a subsidization of what the general public should be able to afford on its own.

Is not this exactly the illogicalness that confronts librarians all too often in the alter guise of "Shouldn't people buy their own books?" The argument is obvious: just as there is a public mandate for literature, so will it be for technology. This can even be developed into a survival matter—that element of the citizenry that exhibits computer literacy will have a decided advantage over the facet that does not. Here is precisely where the public and community college libraries step into the picture. There will always be persons who do not have access to counseling services or offices or other formal hardware environments, and those potential users must turn to the old reliable standbys, the libraries. What remains to be presented is a convincing list of potential uses and applications to insure that the library administrator who is proposing so great an

expenditure will have ammunition to evidence that the purchase is not merely a reaction to current fad.

Uses: The Software and Program Applications

In making available a variety of programs, or software, the library has a decided advantage over the individual. Off-the-shelf, turnkey software packages can range in price from \$50 to well over \$1,000 for quality products that will perform maybe two or three functions a piece. There is an obvious cost prohibition for a consumer to buy such programs for home use. The library's collection can, of course, be accessed (even if not copied) by all who would care to examine it. Major classifications of offerings might include:

- Games
- Educational and tutorial packages
- User-contributed programs
- Text editors and word processors
- Accounting and budget manipulators
- Information databases (library fact files)
- Message boards (electronic mail)
- Programming language tutors (e.g., interpreters/simulators)

There will, of course, be some controversy over the first item on the list. It is up to the individual library to decide whether to provide entertainment media. Also, add to the list one or more programming language interpreters, such as BASIC (Beginner's All Purpose Symbolic Coding) for those patrons who wish to write their own programs. For public use, favor an interpreter over a compiler, however; the latter requires more operations. Staff members can become literate in BASIC with about fifteen hours' contact time. It is suggested that program media and manuals not circulate, since user licenses are rather specific about the restrictions against copying for runs on any but the originally listed machine. What can be made available for checkout are books and magazines containing program listings; TAB and Sams publishers are particularly useful, as are the periodicals *BYTE*, *Interface Age*, *Creative Computing*, and others. Be sure to check the author's requirements regarding copyright before downloading programs because many books have added a phrase ". . . reproduction in an electronic retrieval system is prohibited," or the equivalent subtlety. "Public domain" is a welcome catchphrase to see attached to generic software.

One further possibility for service is to set up patron access to online databases such as The Source, TEDS, INDIRS or Compu-Serve. Keep in mind, however, that such a provision involves time and telephone charges for the library. It would be up to each institution whether to pass the costs on to the user. Further, the library must be careful not to divulge its user codes since accounts can be activated from telephones off the premises.

It is probably wise to shop for software packages through advertisements, since prices for like items vary widely, but make sure that the media offered are compatible with your particular machine. As for books that include machine readable disks or tapes, be careful in purchases by mail and be aware of the return privileges. Generally, once the seal is broken on the media (not the manual) envelope, permission for a return is not granted. Read the catalogs carefully and compare similar items. The majority of packages contain a royalty (license) charge which is a hefty portion of the retail cost, so try to identify a vendor who apparently does a high volume of business. If at all possible, purchase the users' manuals before deciding on the purchase of an entire software package; the manuals are generally only a fraction of the total price and the cost for the printed media is usually deductible from the total bill. Ask (but do not be surprised if the answer is negative) whether the package includes the programmer's source listing. The latter is the program code that generates the object statements which actually run the computer. Most authors jealously guard their work against unauthorized copying by retaining the source code or placing it on disk only in a "protected" format. But if the source code is made available, patchwork for your own custom applications is possible. For example, suppose that your payroll program computes Social Security at only the current 6.7 percent. It is far less complicated to change by yourself what is probably only one program line than to ship the disk back to the vendor or consultant for modification of a simple multiplication factor.

Shopping for Equipment

Hardware and equipment purchases need not be complicated nor should it be necessary for a librarian to feel obligated to write detailed justifications for acquisitions. The literature can provide reasonably objective product reviews. The lay consumer need only be concerned with commonsense, intelligent shopping. This is a simple process, if these four basic rules are followed:

1. Buy it locally. Drive a few miles if necessary, but interact with a human, face to face. Software purchases by mail are all right, but make your hardware deals with a salesperson. Reason: when (not if—*when*) the equipment needs repairs, you have the option of walk-in service. Anyone with an OCLC terminal knows how costly maintenance calls can be. Further, warranty repairs via United Parcel Service or the U.S. Mail are an opinion, at best.

2. Show me! If the dealer or literature claims such jargon as “RS232 compatible” or “universal handshaking,” have that person demonstrate that a particular combination of equipment will work and work harmoniously. If you have doubts, don’t buy it. This is particularly important where different brands of hardware are hooked together. The computer field is so competitive that many times a circuit or device will be marketed before having been thoroughly bench tested. Off line, a component may perform flawlessly; hooked into a peripheral device, it could go berserk or not work at all.

3. Don’t buy it if it hasn’t been on the market for two years. Reason: six months is about all the time necessary for a new piece of equipment to succeed or fail in terms of consumer acceptance. Another eighteen months’ time is needed to get the bugs out of the original model. The argument is that by the end of this introductory period, the equipment is obsolete. Technically, this is not so, because there are certain electrical protocols that were established on day one of the microcomputer’s conception. What may be sacrificed is the newest color, the latest graphics, or a little processing speed. An added plus is that it is like buying last year’s unsold automobile—the unit may not be as “new” as the current model, but you can usually strike a bargain with the salesperson.

4. Don’t skimp on price. Do not buy something that is overpriced, but do not buy a model that is cheap. There are two reasons for this statement: First, the inexpensive models, although not toys by any sense of the word, are for hobbyists and experimenters. The \$100 and \$200 models will not hold up to public use. What the manufacturers do not tell you is that you are buying, as the anecdote goes, the world’s best \$10 camera with film priced at \$20 a roll. In other words, the drugstore variety does not include a monitor, printer, or usually any external storage device. Workable memory area is generally an “accessory.” Second, there is a general rule of thumb that the better (read “more expensive”) machines have more programs and support code available. The reason is obvious: an extensive software line sells more computers.

Technical Considerations

Several other matters will influence the purchase of hardware and software. If not explicitly stated in the specifications, make sure that the produce is "upwardly compatible" with new versions of the same model. For example, if you purchase a word processing package, be sure that the manufacturer will, for a reasonable period of time, issue updates free or at a nominal cost, to keep pace with refinements in your particular operating system. In reference to mass storage: prefer floppy disk systems to cassette drives. Although the latter are inexpensive and work reasonably well, they are notoriously slow to operate and are bulky. Disks are advantageous in that it is easy to make backups of valuable programs contained on the master copies; most vendors will allow a reasonable amount of duplication provided that the ultimate use is on only one machine. Be mindful that a significant cost factor is that of peripheral devices. As mentioned above, an inexpensive machine can easily support several thousand dollars' worth of printers, monitors, modems, disk drives, etc. Do not buy what you do not need. For example, do not be lured into a letter quality printer when a matrix head (dot patterned characters) console will do just as well at half the price. Consider your equipment performing double duty with any planned or existing automated circulation systems. Printers are particularly adept at leading dual lives; some circulation system vendors use equipment such as Apple and Digital brands as backup processors for downtime periods. There is also nothing that says a public access terminal cannot hook into and share the library business office's computer. Two cautions: guard your files' passwords jealously, unless you want the world to read such things as personnel evaluations or circulation records. And, keep in mind that data lines for timeshared systems can be expensive and difficult to maintain, especially if telephone lines are used. One final caution: if you do not have an intimate and ongoing relationship with a soldering iron, do not buy equipment in kit form. The cost differential is not worth the frustration of construction and troubleshooting, since many kit designers assume a healthy level of previous knowledge on the part of the builder. Unless you have a test bench with several thousand dollars' worth of digital probes, frequency counters, IC exercisers and wave analyzers along with the knowledge to use them, the savings will be nil. Be wary also of kits that modify such equipment as electronic typewriters for use as input/output devices. Such accessories may work satisfactorily, but adapter packages can void warranties and escalate service contract prices.

How, then, does this all translate to use by the public? There is little difference in the physical setup than with the offering of coin

operated typewriters. Note that there is no mandate that a library must charge fees; it would be just as simple to do bookings on the machine(s), say, at fifteen minute intervals. If coin boxes are used, be sure that the electrical shutoff inhibits only the display (screen) and does not shut down the entire system. There are inherent problems with timers: any quick powerup with all the system's switches closed throws a 110 volt surge across the internal power regulators which the circuits may or may not be able to handle. Also, a total shutoff (even for a second or two) erases everything in memory. Most microcomputers are outfitted with static RAM's (memory chips) which will not hold data unless constant electricity is applied. Patron displeasure with the wipeout of an hour's work need not be elaborated upon. Be cautious also of placing coin boxes on any equipment purchased with grant funds. According to Federal guidelines this could constitute restriction of use, even if the boxes are installed after the end of a project since the Federal government still holds title to the hardware purchased.

Possibly the greatest problem with microcomputers is theft. Do not be ashamed to bolt equipment to a carrel or desk top; if a large atlas or dictionary can be stolen, so can a computer. Be certain that any bolts installed on the equipment do not pinch or crush data cables. Consider also treating user manuals as reference books. Set up a system of internal circulation, keeping the program disks inside the manuals' covers. Patron browsing through a rack of disks is superfluous; better to have a trade book collection on open shelves with a mimeographed summary of library software holdings near the computer. The annotations will give the user as much information as is needed for selection. This is akin to shelving empty cassette boxes and record jackets on open racks, with the actual media stored in a controlled area. A related cost problem is that of supplies. Computer paper is not expensive; the library may wish to consider waiving paper costs as part of the coin box's intake, or it may simply require the patron to furnish his/her own paper. Floppy disks are another matter. These are generally in the \$3-\$6 price range and, since the most expensive item a library generally sells is a book bag, the trade in such items could cause a hassle with sales tax collections. These media are, nonetheless, essential for anyone who wishes to save programs or data for future use. Better, then, to offer the patron specifications sheets so that the floppies may be purchased out of house. If there is no local supplier, these can easily be ordered via toll free numbers printed in journal advertisements.

One final note: if there is still some administrative or board-related doubt concerning outlay of capital for a microcomputer, consider an arrangement similar to the franchising of copy machines.

There are already a couple of firms (check the literature) that will install a coin operated microcomputer in your library at no cost to the host institution, although some companies require a one-time rental or membership fee. Bear in mind, however, that the companies usually leave little or no commission payment for the privilege. It may also be possible to persuade a corporation to donate equipment to the library as a tax deduction. Atari and Tandy (Radio Shack) have in the past indicated willingness to make grants of hardware. Even in these recessionary times, one may do well to explore the possibility of generosity by local companies, since such an effort costs only a twenty-cent stamp and a letter to test the waters.

Select Bibliography

- Kusack, James M., and Bowers, John S. "Public Microcomputers in Public Libraries." *Library Journal* 107 (November 15, 1982) :2137-41.
- Mason, Robert M. "Choosing a Microcomputer: A Success Story." *Library Journal* 108 (March 15, 1983) :356-58.
- _____. "Choosing a Vendor: Where to Buy a Micro." *Library Journal* 108 (March 15, 1983) :560-62.
- _____. "Searching for Software: Finding and Buying the Right Stuff." *Library Journal* 108 (April 15, 1983) : 801-02.
- Matthews, Joseph R. "The Automated Library System Marketplace, 1982: Change and More Change!" *Library Journal* 108 (March 15, 1983) :547-53.
- "Microcomputers: Basics and Caveata." *LJ/SLJ Hotline* 11 (November 8, 1982) :2.
- Shain, Harold M. "Coin-in-the-Slot Computing at a Public Library." *Best of Creative Computing*. Vol. 3. Morristown, NJ: Creative Computing Press, 1980. Pp. 16-17.
- Wallman, Jane. "Coin-Operated Computers." *Popular Computing* 1 (April 1982) :141-43.