Report

of the

Scholarly Communications Task Force

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This report was distributed at the May 12th meeting of the Library Administrative Council (LAC) and put on the agenda for discussion at its next meeting. On May 19, 1994 this report was discussed, many of the questions it raised were answered and all of its recommendations were approved for implementation. This version of the report contains annotations (made June 24, 1994), especially to include answers to questions posed, and describes further activities of this task force.

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Report of the Scholarly Communications Task Force

Executive Summary

Since University Libraries' initial efforts to provide access to electronic journals in 1991, much has happened in this area of scholarly communications, not the least of which is the rapidly growing number of journals freely available via the Internet. In 1991, the ARL directory of electronic journals listed 27, with only seven of these being refereed. Today there are over 50 such titles and nearly half of them are refereed. Our library currently provides access to 12 electronic journals, double the number of experimental subscriptions placed in 1991.

University Libraries at Virginia Tech is one of the relatively few libraries that has fully accepted electronic publications as a true scholarly resource and provided access for its academic community. There is no doubt it was the correct decision when the Libraries decided not to wait for others to find solutions to supporting this new scholarly resource. If we had done so, we would still be waiting for those solutions. Instead, we have learned from our experiences accessing, storing, processing, and providing access to an increasing number of electronic journals. Now the Libraries are in a position to improve our methods and continue to learn from these evolving scholarly materials.

The Scholarly Communications Task Force strongly recommends fully implementing those policies and procedures not already in place as described in the Report of the Task Force on the Electronic Journal. However, having learned from three years experience with electronic journals on VM1, the task force believes that the Library Gopher server is a better system for storage, and through which to provide access--both campus-wide and worldwide. There are many reasons for supporting this recommendation, including:

- It is already owned by University Libraries.
- Purchasing additional disk space for the Library Gopher would be more economical (now and in the long term) than is renting space on VM1.
• Journals would be accessible without a VM account and access would be anonymous, thereby providing a wider ranging library service reaching beyond our immediate university community at no additional expense.
• The Library Gopher is capable of delivering a broader range of journal formats than does VM1; it is ready now for more sophisticated journals than the text-only ones to which the Libraries currently subscribe, including journals that have (or may have in the future) digital images (still and moving) and audio.

• Storing journals electronically currently requires 22Mb storage on VM1, about twice the amount required in 1992.
• Because of better control and in-house processing, a smaller amount of storage space is required for storing the same number of issues on the Library Gopher.
• The Libraries currently have the equipment and the staff available to do this in-house. * Retrieval can be done with the assistance of an intermediary (i.e., librarians and information specialists), or by the scholars themselves.

The task force recommends that the Library Gopher provide storage and access to electronic journals and subsume all related uses of VM1 for electronic journals.

Gopher is not necessarily the ultimate in electronic journal access mechanisms. Other means, such as World Wide Web and its companion client Mosaic software, offer more flexibility in organizing and presenting information and more opportunity to include instructions at the point where they would be most helpful. However, the Library Gopher will serve the Libraries’ needs as well as those of our user communities while not limiting the provision of access to the kinds of journals that are currently available for the broadest spectrum of readers.

Since the University Libraries also support the Scholarly Communications Project, the Library Gopher should provide an invisible link to the publications of the Project.

The journals published by the Project should not be copied to the Library Gopher; this would be an unnecessary duplication and is not necessary to improve access or for security purposes. It would be most appropriate for electronic journals that are described in VTLS to be directly accessible from the online bibliographic and holdings records, however, this is not currently possible. To reiterate the policies currently in place, we believe that electronic journals should remain in electronic form at every stage, from initial processing through to reader access. We do not recommend printing, binding, or shelving these materials and none of the task force consultants recommended doing so. We do not recommend transferring any of our issues of electronic journals to diskettes or computer tapes. This would result in undesirable delays in access to a publication medium that is designed to take advantage of immediate and near-constant availability. Because the Interim University Librarian (and the Vice President for Information Systems) fully support this philosophy, appropriate funds will remain available to maintain access to electronic journals.

To support this policy, the Libraries must provide distributed access—distributed throughout the Virginia Tech (and larger) community and throughout the Libraries. This means storage space must be evaluated and added before anticipated growth so that we can ensure that the server has the appropriate capacity to remain nearly-constantly available to many users simultaneously from local and remote terminals.

To take full advantage of electronic journals, the Libraries' server must be promptly updated when new titles and new issues of subscriptions become available.

Access to any of the Libraries’ online information resources (e.g., VTLS, the CD-ROM network, and the Library Gopher) is, of course, dependent upon an individual’s access to telecommunications lines and equipment. Not everyone in our university community (let alone the broader community of library clientele served by the University Libraries) has this; therefore, the Libraries must provide access within their walls to PCs and Macs equipped with viewing software as readily available as other equipment with which to read library materials (e.g., microfilm readers and CD-ROM players).

Availability is not enough. It is also the Libraries’ responsibility to provide education and training through its regular and extraordinary programs (e.g., Faculty Development Institutes, internal bibliographic instruction, Collegiate Librarian Initiative, and the Internet Interest Group).

No area of the University Libraries should be impervious to electronic journals. This extends from the public service areas to the technical service areas. To successfully integrate electronic journals into our technical processing units,
automatic receipt and posting should be implemented wherever possible. This will somewhat relieve the Serials Receiving staff from the burden of additional check-ins of still-unique library materials.

At this time the Scholarly Communications Task Force is prepared to seek more than simple "near-term" solutions. We feel the University Libraries are now in a position to draw upon our past three year's experiences with electronic journals and to provide storage and access to future scholarly journals that contain more than ASCII characters, such as mathematical notations and in-line graphics. The task force has addressed these and other issues with the goal of perpetuating this exceptional information resource. Every area of University Libraries should promote full implementation as well as full use of electronic journals.

Report of the Scholarly Communications Task Force

Introduction

On September 14, 1993, the Interim University Librarian charged the Scholarly Communications Task Force to examine the issues raised by the availability of increasing numbers of electronic journals. These issues included, but were not limited to, accessibility by our university community and by the Libraries' clientele, display media, and technical processes. In response to her charge, this report discusses the task force's recommendations and addresses implementation issues past, present, and future.

Gail McMillan chairs the task force. Paul Metz and James Powell are original members, while Maggie Zarnosky joined the task force on November 30, 1993. In addition to weekly discussions among the task force members, this winter we met with many people throughout the University Libraries who have each contributed in a variety of ways to making electronic journals accessible. We sought to gain understanding from their expertise and we learned much from them. Their questions and concerns about future access to electronic journals through University Libraries services are incorporated in this report.

The task force agrees with the principles of access, storage, and technical processing as put forth in the University Libraries 1991 Report of the Task Force on the Electronic Journal. Those initiatives demonstrated the Libraries ability to provide a new and, at the time, quite unique service with on-hand resources. The Scholarly Communications Task Force recommends that the University Libraries refine the methods, set new goals, and fully accomplish those goals for providing electronic journals.

Two 1991 recommendations have not been implemented. These are (1) processing receipt of electronic issues within the Serials Receiving Unit and (2) integrating electronic journals into Reference Department's activities, such as bibliographic instruction. It was perhaps premature to expect this to take place in 1991, but there is no doubt that the Libraries are now in a position to do so.

Throughout the winter the task force met with University Libraries personnel who have contributed in a variety of ways to making electronic journals accessible. We sought to gain understanding from their expertise and to learn from their questions and concerns about future access to electronic journals through University Libraries activities and services. Following our discussions, we acted upon many of the suggestions made by these task force consultants. The individuals the Scholarly Communications Task Force consulted are listed in Appendix A.

While we envision that electronic journals and their means of access will continue to evolve and change, University Libraries must continue to provide storage and access to this information resource of vast potential. Every participant in any aspect of electronic journals has learned immensely from the experience, and we will continue to learn by subscribing, storing, and providing access to electronic journals now and in the future.

Electronic Journals at the University Libraries

Like the previous task force, we believe that there is now and will continue to be an important role for libraries in
providing access to and storage of electronic journals. This is an imperative service to both information producers and information consumers, for libraries direct their clients to the best sources of information and increasingly this information is becoming available electronically. These library materials are available to many users rapidly and simultaneously; they are never 'unavailable' while circulating or while at the bindery because issues are never 'missing' from the electronic 'shelves.' As the collection grows, they do not consume shelf space, and while storage space on a server is a definite consideration, the largely text-only journals require moderate storage space. The potential for cost savings is still a very important factor because electronic journals continue to be largely free of subscription charges. As the library's collection grows and electronic journals develop into more sophisticated publications, with digital images for example, the need for additional computer storage should be factored into the Libraries' annual budget.

Following the 1991 recommendations of the Task Force on the Electronic Journal, access for the Virginia Tech community has been through VM1. This was a very satisfactory first step, but changes since then require that University Libraries re-examine this system of information storage and retrieval. Changes include: a university-wide focus on decentralized computing, the ability to easily provide worldwide access to our electronic journal collection, expanded journal formats (i.e., not limited to text), the need to move processing out of the Library Automation Department and into the appropriate unit(s), and the in-house development of the Library Gopher (originally called Nebula). Today, unlike three years ago, the Libraries have a server, and personnel in Library Automation have successfully experimented with providing access to electronic journals through it. It is the logical replacement for VM1 at this time and it meets not only our current but our future needs as well. The task force recommends that the Library Gopher provide storage and access to electronic journals and subsume all related uses of VM1 for electronic journals. In addition, we recommend installing an invisible link from VM1 to the Library Gopher for participants in the university community who are accustomed to this access point; the VM Gopher client makes this possible. Through current and on-going education and training, the Libraries has already begun to eliminate the need for VM1 access, but it should remain in place until the migration is complete, or as long as it is still affordable and useful to our clientele. [LAC recommended that the VM1 access point (as a link to the Library Gopher) should remain available as long as possible.]

Implementation Issues

Electronic journals on the campus mainframe systems should be phased out in favor of a more easily accessible, distributed information system known as Gopher. Gopher presents information in a hierarchy of menus, a manner very similar to the INFO system on the VM1 mainframe. Each line of a display is a menu item which, when selected, presents additional menus or text. (See Appendix B)

For quite some time the university administration has been encouraging its mainframe users to migrate to distributed systems. Therefore, it is appropriate that the Libraries' collection of electronic journals migrate from VM1 to the Library Gopher as soon as possible. Gopher has many advantages over the INFO system, including:

- Gopher supports the delivery of non-textual formats.
- Gopher can be configured to be publicly accessible (unlike INFO, which requires the end-user to have an account on the server).
- Gopher supports distributed information access and delivery.
- Gopher supports advanced search capabilities.
- One of several widely accepted information delivery systems on the Internet, one Gopher is also easily integrated with other Gophers as well as World Wide Web servers.

With various clients available on library systems and around campus, virtually all computer-literate users in the campus community will have some access to the Libraries' electronic journal collection.

Storage

VM1 will cease to be a viable storage location for electronic journals in the very near future due to decisions made by the university administration. The Scholarly Communications Task Force has determined that the Libraries' UNIX systems (specifically the Library Gopher on a DECstation 5000), installed since the last report, have the necessary hardware, connectivity, and software to store and make available electronic journals in a fashion similar to the current system on VM1. All electronic journals that are subscribed to by the Libraries, but that are not published by its
Scholarly Communications Project, should be copied to our local server and made available through the Library Gopher.

The publications of the Scholarly Communications Project are the only electronic journals in the Libraries' collections which should not be stored on the Library Gopher. These should be accessed through a link between the Project's and the Libraries' Gophers. The Project's server (originally known as Borg) is part of the Libraries' computing systems and is covered by the same policies as the DECstation; of primary concern is the fact that all journals stored on this server will be retained indefinitely.

Other sites which purport to retain large, comprehensive collections of electronic journals contain collections which are not complete and are not maintained in a timely manner. Sites on the Internet which identify themselves as the primary site for a particular publication are also a concern as a potentially inconsistent source, since sponsorship can change (e.g., Journal of Extension, now edited at Virginia Tech, will move every two years), or they may not be committed to also serving as an archive.

There are also advantages to local storage, such as faster and more reliable access and value added services such as full text searching with WAIS. Local network failures are easier to track down and report, and the nearness of the library's servers to the main contingent of University Libraries' clients (campus faculty, staff, and students on local networks) will, in general, make delivery of journal texts and graphics quicker.

The Scholarly Communications Task Force recommends electronically storing journals on site. University Libraries should continue to acquire electronic journals because if we provide access only, we cannot control the maintenance or preservation of issues. If off-site administrators should decide to discontinue providing access to journals, our clientele would be left without access to any titles not archived on the Library Gopher. There is no other single source to which we could merely link that would provide the same level of service or security that University Libraries can provide by storing electronic journals on its own system. (See Appendix C for a summary of electronic journals available through CICNet.) By storing the issues received through subscriptions, the Libraries can better guarantee access to our clients while providing optimal response time due to the immediate proximity of the server. The task force further recommends that emergency policies and procedures, similar to those made for the HP, be developed for the Library Gopher server.

Access Issues: Education and Training

We see the need for integrating electronic journals into the Libraries' other information resources so that library personnel become accustomed to them as a regular part of the Libraries' collection and use them as they would other library materials. This is being done through standard bibliographic control and has been initiated through recent training and user education. The principal education and training issues that currently exist involve informing the Libraries' staff and user community about the availability of electronic journals. The Libraries must also provide information and instruction about their accessibility.

The task force recommends that the Training Coordinator (Brenda Hendricks) and the Network Information Librarian (Harry Kriz) coordinate staff training for public services personnel and others who need to be aware of these library materials but who will not be involved in the technical processing of them. All staff will benefit from a better understanding of this area of the Libraries' collections. Instruction could range from using electronic journals as examples to be incorporated into general training sessions, to working with individual library departments through utilizing in-house 'experts' on electronic journals.

Instruction of the immediate user community should be the responsibility of the Reference Department and should be wide ranging. Creation of a specific VTLS "Help" screen about electronic journals could also be a source of some basic information for its users. Another valuable and necessary means of providing instruction to users would be handouts developed by the Reference Department to instruct users in accessing and downloading information from electronic journals on the Library Gopher. (See a draft handout in Appendix D) Individual bibliographers should include
discussion of electronic journals in their course-integrated instruction sessions, as well as publicize the electronic journal collection through outreach sessions to their departments. Additional publicity should be available through articles submitted to the *Newman News*, *Spectrum*, *BiblioTech*, and the *Collegiate Times*.

Further, *it is time to thoroughly integrate electronic journals into technical services processing* (as CD-ROMs have been) so that they can be handled as much as possible as other serials (e.g., full VTLS access and control). At the same time that the task force gathered information for this report, personnel from the Serials Group began drafting procedures for full technical services processing of electronic journals. The Serials Group also had an introductory workshop in electronic journals. (For further discussion, see the section below on "Internal Processing: Serials Receiving Procedures.)

**Public Service Issues**

Internet connections are currently available in the second and fourth floor reference areas, as well as in the Media Center, though available terminals are not (and need not be) dedicated to electronic journal access. Both IBM or Windows and Macintosh platforms in the ERA are available. The Art & Architecture branch library is similarly equipped. Those branch libraries not currently able to support public access should be provided with the necessary equipment, software, and connections as soon as possible, with the Reference Department head identifying these needs. Library patrons interested in electronic journals should receive instructions for using both platforms.

The task force recommends that the Libraries provide terminals in open areas of Newman and the branch libraries that support both high end and low end electronic publications. Information specialists and librarians staffing reference service points must be willing to help library patrons access electronic journals. We hope that a willingness to do so will arise out of additional information and training specifically about electronic journals provided to the Libraries' staff and faculty.

Patrons should also be encouraged to download information to a floppy disk whenever possible. Shared printers for the Mac platform are available in the Media Center, while patrons downloading from the IBM will not have ready access to a printer. The prospect of providing printing facilities for both the IBM and Mac platforms can be addressed in the future but we recommend that selected stations be equipped with Postscript printers. Many library clients will access electronic journals through their own systems where they are already familiar with those printing and downloading capabilities. In addition to having the options of downloading to diskettes and printing to paper, readers will have the opportunity to mail articles to themselves as a way of retrieving a copy of an article, as some Gopher clients support this capability.

**Collection Development: What Electronic Journals Will We Make Available?**

The Scholarly Communications Task Force recommends that *electronic journals to be added to or deleted from the University Libraries collection should meet the same criteria as other library materials*. Although few electronic journals charge subscription fees, all require storage and all exact demands on staff time. These costs, however, must be weighed against the potential benefits of subscription. To facilitate efficient cost/benefit analysis of proposed new titles, we should create an intralibrary, online form that will ask for the following information:

- Title
- Sponsorship
- Audience, presumed beneficiaries at Virginia Tech
- Frequency
- Anticipated annual storage requirements
- Method of receipt (active/passive)
- Formatting (ASCII, Post-Script, etc.)
- Any special considerations with implications for staff time

This form (See Appendix E for a draft) should be submitted to the Principal Bibliographer by the subject bibliographer who is proposing that the title be added to the Libraries' information resources. It might also be submitted by a faculty member outside the library. The Principal Bibliographer will review the form and forward it to the Library Gopher Administrator (i.e., James Powell), who will provide an assessment of the impact of the proposed subscription.
considerations will be whether the University Libraries have the necessary equipment and technology to provide full access. The current Gopher Administrator does not anticipate that we will encounter electronic journals that cannot be stored and delivered to the Libraries' collection in the foreseeable future, provided sufficient disk space is available. The Principal Bibliographer, drawing also from the advice of subject bibliographers, will decide whether a subscription is warranted and, if so, whether a back file should be sought.

In addition to enhancing the Libraries' collection by providing timely and easy access to electronic journals, bibliographers have a somewhat unique collection maintenance opportunity. If they decide to discontinue a title, they could also decide whether to retain the title or to have all issues purged from the Library Gopher. The task force recommends that if issues of discontinued titles are retained, a note should be added to the menus of titles and issues available that tells readers "Current issues of this title are no longer available through the Library Gopher."

The task force continues to see the potential in maintaining electronic-only access to electronic journals. We should not develop a print>bind>shelve policy for them since this would greatly reduce the advantages of this medium. However, it is the Libraries' responsibility to educate and train our clientele so that they can realize the advantages of the electronic journal collection.

In addition to recommending that electronic journals remain in this format, we do not recommend that any issues be stored on tape or diskettes. We want to take full advantage of current technology to provide immediate access to all of our electronic journals whenever possible. In the future, the Libraries may want to store on CD-ROM provided that direct links to the Library Gopher are possible. If the Libraries' electronic journal collection grows tremendously and if the Libraries (i.e., Scholarly Communications Project and Special Collections collaboration) purchase a CD-ROM writer for storage of digital images and other electronic collections, storing journals on CD-ROMs may become a worthwhile option. This could greatly reduce the cost of CD-ROM archiving and retain in-house control of the collection at all stages of production.

Direct access to electronic journals through VTLS is still a goal well worth working towards, but is not possible at this time. The VTLS InfoStation does allow links from the bibliographic and holdings records to multimedia data on other systems. Whenever these stations become available in the University Libraries, consideration should be given to writing the necessary programming to take advantage of this capability. University Libraries' administration should also assume responsibility for funding access to electronic journals since it not be logical to divide the responsibility between Library Automation and Reference Departments.

The Library Gopher has the capability to limit access to our university community and the task force recommends this. Electronic journal access through the University Libraries will be open to anyone who comes onto campus, but we would need to request special permission from each journal editor or publisher to open access to others outside our primary clientele. This is the Gopher equivalent to expecting library patrons to come into Newman or a branch library to use noncirculating materials.

We feel that this is necessary because of previous experience: When we subscribed to the Electronic Journal of Communication, we told the editor we would be providing access to our university community and that was acceptable to him. However, in experimenting with access through the Library Gopher, the EJC/REC editor discovered we provided worldwide access and they rebuked us for expanding access outside of our original agreement. Therefore, the task force feels that it would, otherwise, be necessary that we receive explicit permission to provide access beyond our campus community. Library Automation is in the process of installing a separate Gopher which limits access to its contents to the IP (Internet Protocol) address on campus (.vt.edu). All restricted electronic text and data will reside on this Gopher and will be transparently linked to the main Library Gopher.

This still provides broader access to our electronic journals than the VM1 system, which requires all users to have an account specifically on that system. A call to a CMS Gopher client can be installed in place of the existing system on VM1. This will connect users to the electronic journal portion of the Library Gopher. No electronic journals would reside on VM1; they would have only a link to the library server.

**Internal Processing: Serials Receiving Processing**
The previous task force envisioned a scenario where electronic journals would be handled like serials in other formats. Current practices fall short of this goal by being subscribed to, checked in, and posted from the Library Automation Department. Serials Receiving is nearing completion of its large automation project which moves receiving information for serials from paper files to VTLS check-in records. This increasingly automated environment now makes it appropriate to move internal processing of electronic journals to its appropriate processing location in Serials Receiving. Where they previously shared fewer, less capable systems, staff now have workstations capable of accessing VTLS, Internet, and the Library Gopher.

Preliminary training has already been provided for the Serials Group in the form of a hands-on introduction to electronic journals and Gopher (Jan. 20, 1994). Staff responsible for receiving and claiming electronic journal issues will receive additional training on FTP, Gopher, and other currently used journal delivery mechanisms as soon as VM1 storage of electronic journals is phased out for currently received titles. As soon as our electronic journal collection is migrated from VM1 to the Library Gopher, new procedures already under development should be implemented by Serials Receiving staff. (See Appendix F.)

By July 1994 internal processing can be streamlined to parallel internal processing of other serials in the newly forming Serials Receiving/Binding Unit. Internal processes such as VTLS check-in, listing on holdings records, and full bibliographic access (cataloging, maintenance, authority (name and subject), etc.) are sufficiently mature processes that electronic journal processing can flow relatively smoothly through the Technical Services Department.

The Scholarly Communications Task Force recommends that each issue of an electronic journal will be made available on the Library Gopher immediately upon receipt, whenever possible, with subsequent technical processing occurring promptly. Many titles will also be indexed for full text search access using WAIS (Wide Area Information Searches) during technical processing. Copies of files (i.e., issues) will be electronically transmitted by serials personnel to appropriate library units (e.g., Cataloging, Maintenance, Business Services, etc.) as currently is deemed necessary by the serials personnel. Invoices should be paid through the Acquisitions and Business Services Departments as usual based on confirmation by serials check-in personnel that the journal is being received.

Acquisitions concerns: Electronic journals will most likely be paid for "direct" and that department must have an invoice. However, the invoice can be an electronic message which will be printed for manual filing whenever necessary. According to state of Virginia guidelines, our journal vendor must be in the 'loop' if it is handling a journal to which we wish to subscribe. Business Services does not require a printout or an electronic message/invoice; they work from the information added to the payment database by personnel in the Acquisitions Department.

Standard operating procedures require that any paid subscriptions must be handled by the vendor with which the Libraries have contracted. However, electronic journals that do not have subscription fees can be processed entirely in-house and should be done so as is our current practice for other serials that are free.

**Transition Phase**

As previously mentioned, electronic journals are still distributed and accessed through the mainframe system. In 1993 this system began being phased out in favor of the Library Gopher. All texts residing on the mainframe should be transferred immediately to the Libraries' Unix server, which supports the Library Gopher. [This has been fully accomplished.] They should be replaced by a short script which executes a CMS Gopher client to connect to the Library Gopher and display the electronic journal list.

Currently, EJACQ and EJPOST are the two accounts utilized by Library Automation staff to retrieve and post electronic journals. Serials Receiving staff will use EJPOST for posting, and EJACQ to retrieve journals from remote sites. These accounts now exist on the Library Gopher. EJACQ@VTVM1.cc.vt.edu, which was the account originally used to subscribe to electronic journals distributed via Listserv, has been discontinued and it has been replaced by EJACQ@NEBULA.lib.vt.edu. Under the EJACQ account user directory will be separate directories containing information about each journal, such as the location of the Listserv list and subscription information. This information is usually returned by the Listserv software when a new subscription is accepted. EJPOST will be given exclusive "write" access to the electronic journal portion of the Library Gopher menu (/home/gopher-data/library/ejournals/) as well as "read" access to EJACQ. **Training, guidance, and assistance must be provided to serials receiving staff by**
knowledgeable staff currently in Library Automation. Staff who are responsible for electronic journal posting must become familiar with Listserv, Gopher, and FTP.

Some electronic journals will lend themselves to automatic retrieval. Further development needs to be done to make this a reality, and this may ultimately be possible only for those journals delivered via Listserv lists. However, activities such as moving text from mail to the Gopher menu, reindexing for WAIS access, and even providing some interactive retrieval such as through FTP can be automated. Retrievals which normally require interactive sessions such as FTP and Gopher could be automated using the EXPECT scripting system, already installed on the Library Gopher server.

Each journal for which automated retrieval will be possible will require a good deal of initial set up to do so. The site from which it is retrieved must remain constant, file names must be at least partially identical, and it is preferable for the title to have a regular delivery time (such as daily or weekly). The first targets for automation should be journals delivered frequently as significant labor savings can be attained by automating their receipt. An automated system should be able to retrieve the entire issue, determine if all articles are present, correctly insert the issue into the Gopher, reindex if necessary, and notify the appropriate receiving staff when it finishes or send an error message to technical support personnel for the Gopher if a problem is encountered. The task force recommends that the work necessary to automate receipt and posting be completed as soon as possible to reduce the work load for Serials Receiving staff.

CHIP

When CHIP was first selected for the Libraries' electronic journal collection, Library Automation was asked to develop a system for automatically retrieving and posting the issues. (See Appendix G for an article originally posted to VPIEJ-L and PACS-L based on those procedures.) The main reason that this system was not implemented was due to some dissatisfaction with the search mechanism. Indeed, the system ultimately developed for CHIP is easy to use and provides user-friendly search access to the articles. However, it is much more costly to maintain than the current system and it is available to a smaller number of readers, those who have accounts on VTVM1.

CHIP should be migrated to the same Gopher system proposed for all other electronic journals to make it more accessible and more affordable for the Libraries. It must not become a model of electronic journal processing. The current files should be dumped to plain text files and moved to the Library Gopher where a menu can be constructed for them. While it is arguable that some fine access to the articles might be lost, this has not been tested. It is certain that the potential audience for CHIP accessible on the Library Gopher will be many times what it could ever be through the current mainframe system. It should soon be possible to provide a more refined search mechanism (free WAIS with Boolean search) than was available when CHIP was initially added.

Internal Processing: Bibliographic Control

The task force recommends that there not be substantive changes to the bibliographic control-related recommendations of the previous task force. A revised VTLS local note (MARC tag 590) about how to access electronic journals should be implemented by the Serials Group personnel. The note on the record for each electronic journal should be the same: "This journal is also available electronically from the Library Gopher at Nebula.lib.vt.edu; log in as 'lib.'" This note is repeated on the holdings screen (MARC tag 866 0 62). This duplication is necessary to prevent OPAC users, so far as is possible, from assuming that these are typical paper journals available on library shelves.

The task force recommends that the Head of Library Automation contact VTLS Inc. and request that it add field 856 to MARC records so that a Uniform Resource Locator (URL) (and/or its successor, the Universal Resource Name, URN) can be added to supply the links that eventually can be implemented between an OPAC record and the electronic journal it describes.

It would be most appropriate for electronic journals that are described in VTLS to be directly accessible from the online bibliographic and holdings records. This is currently not possible, but perhaps when the Libraries install the Z39.50
VTLS software and installs the VTLS InfoStations, we will have the opportunity to provide these links on a limited number of on-site library terminals. If the Libraries decide to provide World Wide Web access to electronic journals, then some limited cut and paste capabilities from a URL in the VTLS bibliographic and/or holdings records to Mosaic and other information clients which understand the URL can also provide more direct OPAC-to-electronic journal access. WWW access is available through the Libraries’ home page (http://vatech.lib.vt.edu) which links to the Gopher, but procedures need to be created for this format.

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**Internal Processing: Library Gopher Maintenance**

Some policy decisions yet to be made about the display of electronic journals on the Library Gopher include:

- List the most current issue available first/at the top of the menu; i.e., in reverse chronological order.
- Do not display file names, such as "allen.cat-v23n3.txt." When describing articles available in a particular issue, include the (first) author's name (last name first up to 12 characters) followed by the full title whenever possible, such as: Allen, Betty, Students in Higher Education: Nontraditional Student Retention.
- Add a copyright warning to each of the two top level Gopher menus.

For some current and specific maintenance needs, see Appendix H.

**Copyright**

It is the unanimous opinion of the members of the task force that copyright warning statements should accompany each journal that University Libraries make available through any system. We recommend that the two top levels of menus on the Library Gopher have the selection (in addition to titles or volumes) "COPYRIGHT."

A difference between VM1 access to electronic journals and the Library Gopher is the earliest point at which readers can view the copyright warning statement. On VM1, display of the copyright warning precedes access to any electronic journal. With Gopher, this statement can be presented as a menu selection. The task force feels that this will be equally effective to readers on either system, especially since each electronic journal usually has its copyright statement. The display could look like this:

**Gopher Menu**

[top level]
COPYRIGHT [*** READ ME***] WARNING
Community Services Catalyst
Journal of Technology Education
Journal of Veterinary Medicine
Virginia Tech Spectrum

**Gopher Menu**

[second level]
COPYRIGHT [*** READ ME***] WARNING
Community Services Catalyst

Search Catalyst
Volume 33 number 1 Fall 1999
Volume 33 number 2 Winter 2000
Volume 33 number 3 Spring 2000
Volume 33 number 4 Summer 2000

Upon selection of "COPYRIGHT" from the menu, readers will see the same full copyright warning statement that has been associated with electronic journals on VM1:

**WARNING CONCERNING COPYRIGHT RESTRICTIONS**

The copyright law of the United States (Title 17, United States Code) governs the making of reproductions of copyrighted materials. A reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a reproduction for purposes in excess of "fair use," that user may be liable for copyright
infringement.

Whether or not each journal and/or article has a Copyright, it is appropriate for University Libraries to present a copyright warning statement similar to our postings at library photocopy machines.

**Administration of Electronic Journals on the Library Gopher**

We recommend that the Scholarly Communications Task Force become a standing committee. Its purpose would be to keep University Libraries aware of access issues regarding electronic journals, while avoiding the considerable lag that resulted when problems arose between the time of the implementation of the recommendations of the Task Force on the Electronic Journal and the present implementation on the Library Gopher.

The current task force sees the need for someone or a small group to serve in a perhaps ad hoc capacity to advise and make recommendations regarding continuing developments in the various aspects of electronic journals. Since the membership of the task force includes the Libraries Gopher Administrator and the Serial Group Coordinator, it seems logical that they would be in a position to handle problems ad hoc and confer with the other members of the task force whenever necessary. The Libraries should never again be in the position of dropping access to a title because there was no one to address a particular problem.

For example, if there had been an advisory group when problems arose, such as the numbering changes in Psycoloquy, the Libraries might have avoided the lapse in access to current issues. We might also have had a forum for discussing what to do when an editor of an electronic journal asked that we limit access to our university community, rather than discontinuing our subscription. These are just a few of the problems that might have been resolved by having a standing advisory group.

There needs to be a small group to which questions can be directed and which can make decisions about how to handle problems so that the Libraries can avoid some of the gaps/lapses in our current electronic journals. [LAC agreed that the Scholarly Communications Task Force had the expertise among its membership to resolve these issues appropriately.]

---

**What Should Happen Next?**

[LAC agreed on May 19, 1994 that these recommendations should be implemented.]

Upon the acceptance of the recommendations in this report, and the directive for implementation by the Interim University Librarian, the Scholarly Communications Task Force suggests that:

1. Library Automation should complete the work necessary to implement automatic receipt and posting for a journal as a proof-of-concept project.
2. The expert staff in the Library Automation Department should finish migrating all issues of every electronic journal currently on VM1 to the Library Gopher. When this is completed, Serials Receiving staff should be trained in all aspects of electronic journal subscription, receipt, and processing as described in the procedures in Appendix E. [The Serials Adds Clerk will perform these functions until internal changes in the Continuations Management Team have been fully implemented, i.e., filling vacancies and integrating check-in and binding functions.]
3. Personal subscriptions by individuals should be transferred to the Libraries account (e.g., Beagle's ALAWON and Kriz's CHIP). [ICPSR can only be delivered to/retrieved by the campus representative.]
4. Serials Receiving staff should receive further training and should begin subscribing to all future titles, and to receive and forward all future issues.

**Future Public Service Issues**

1. The Scholarly Communications Task Force endorses the work of the Gopher Implementation Team and recommends that it assume responsibility for the Library Gopher having a prominent place in any future campus-wide information service (CWIS) in order to ensure easy, logical access to electronic journals and other electronic resources.
2. Evaluation of the effectiveness or 'usability' of the electronic journals provided on the Library Gopher can be facilitated through the use of an online survey. The same small group that is designated to have oversight of electronic journals on the Library Gopher could develop an online survey that queries readers about this service. [LAC recommended that the Scholarly Communications Task Force should develop this survey instrument.]

3. Reports from log files can be extracted from Gopher and made available to those interested in periodically reviewing search and retrievals of electronic journals. Appendix I contains an example of the type of information that is logged by the Gopher server when a user accesses an electronic journal).

4. The Scholarly Communications Project should publish this report.

Conclusion

University Libraries have gained three year's experience processing, storing, and providing access to electronic journals. Because the scholarly community has so readily accepted electronic journals distributed through the Internet, the task force members did not feel it was necessary to address whether or not to provide access to them. Further, because no other single source is as quick or as reliable (both in the short and the long term) as our own, we did not dwell for long on the question of "access versus ownership." In this report the Scholarly Communications Task Force recommends local improvements to the growing body of electronic journals.

It was appropriate in 1991 that the Libraries decided not to wait for others to find solutions, or, indeed, even discover the problems with electronic journals. This was recently reconfirmed through a phone call from ARL and e-mail from a library school class looking for information and reports about electronic journals. Virginia Tech's University Libraries are where they turn for information. While the task force readily admits that the current handling of electronic journals is far from definitive or perfect, we continue see the need to learn from our past, present, and future experiences. University Libraries are still on the forefront of electronic journal processing when compared to most other academic libraries. Our near-term approach to electronic journal problem solving has served us well and we believe it will continue to do so in this area.

In addition to access policies, we also addressed the issues of collection development so that our library could make informed decisions to expand the range of information options available to our user communities. However, the Libraries should also be willing to subscribe (at least for the short term) to some electronic journals if merely to learn from storing, providing access, etc. for the benefit derived from experimentation, if not for the subject relevance to our university community. [LAC agreed that this could be done using the Libraries' materials budget.] The Libraries can certainly afford to do this when subscription fees are reasonable and non-existent.

Appendix A

Consultants
to the

Scholarly Communications Task Force

<table>
<thead>
<tr>
<th>Who</th>
<th>When</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melissa Wilson</td>
<td>Nov. 9, 1993</td>
<td>VTVM1 access to e-journals; serials receiving processing</td>
</tr>
<tr>
<td>Harry Kriz</td>
<td>Nov. 30, 1993</td>
<td>CHIP, access to electronic journals</td>
</tr>
<tr>
<td>Beth Hanson</td>
<td>Dec. 14, 1993</td>
<td>Copyright for electronic publications</td>
</tr>
<tr>
<td>Alan Armstrong</td>
<td>Jan. 31, 1994</td>
<td>His role as Internet Librarian;</td>
</tr>
<tr>
<td>Name</td>
<td>Date</td>
<td>Issues</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Eleanor Garrison</td>
<td>Jan. 31, 1994</td>
<td>Reference Department issues</td>
</tr>
<tr>
<td>Brenda Pratt</td>
<td>Jan. 31, 1994</td>
<td>Payment issues</td>
</tr>
<tr>
<td>Bruce Heterick/Faxon</td>
<td>Jan. 31, 1994</td>
<td>Serials receiving processes</td>
</tr>
<tr>
<td>Tamara Kennelly</td>
<td>Feb. 15, 1994</td>
<td>Archiving, VT publications</td>
</tr>
<tr>
<td>Stephen Zietz</td>
<td>Feb. 15, 1994</td>
<td>VT publications, Special Collections materials</td>
</tr>
<tr>
<td>Brenda Hendricks</td>
<td>Feb. 22, 1994</td>
<td>Training</td>
</tr>
</tbody>
</table>

### Appendix B

#### Library Gopher main menu:

Internet Gopher Information Client v1.02

Root gopher server: nebula

1. Virginia Tech Library System (VTLS)
2. Library Hours and Directory/
3. Library Information and Requests/
4. Electronic Journals/
5. Databases/
6. Holdings and Electronic Resources/
7. Library Catalogs/
8. Other Internet Resources/
9. Chronicle of Higher Education /
10. Search University Libraries Gopher

Press ? for Help, q to Quit, u to go up a menu

#### Electronic Journals submenu:

Internet Gopher Information Client v1.02

Electronic Journals

1. ALA Washington Office Newsline/
2. Community Services Catalyst/
3. ICPSR Bulletin/
4. Journal of International Academy of Hospitality Research/
5. Journal of Technology Education/
6. New Horizons in Adult Education/
7. Newsletter on Serials Pricing Issues/
8. Postmodern Culture/
9. Psycology/
11. Search Current Cites
12. Virginia Tech Spectrum/

Press ? for Help, q to Quit, u to go up a menu
Appendix C

Electronic Journals on CICNet

Gail McMillan reported to the following to the Interim University Librarian, Joanne Eustis, at the end of March 1994:

I've looked at the CICNet Gopher and found that our titles and holdings duplicate CICnet's only for the following:

- ALAWON
- Catalyst
- JIAHR
- Psycholoquy

We have the following journals that CICNet doesn't have:

- Electronic Journal of Communications
- Journal of Technology Education
  - CICNet has ONLY v.3, no.2
- New Horizons in Adult Education
- Newsletter on Serials Pricing Issues
- Postmodern Culture
  - It looks like CICNet has only 1990-1992, but it's not clear from the numbering.
- Public Access Computer Systems Review
- Search Current Cites
- Virginia Tech Spectrum

The following Scholarly Communications Project's publications (also not available at CICNet) will eventually be available also through the Library Gopher:

- Modal Analysis abstracts
- Journal of Fluids Engineering databank

Because of these findings, as well as for several other reasons, a link from the Library Gopher to CICNet is not a satisfactory substitute for complete storage on an in-house server.

Appendix D

Draft

How to Access Electronic Journals Posted by the University Libraries

Via INFO journals available:

- ALAWON - ALA Washington Office Newsletter
- Community Services Catalyst
- Electronic Journal of Communication
- Journal of the International Academy of Hospitality Research
- ICPSR Bulletin
- New Horizons in Adult Education
- Newsletter on Serials Pricing Issues
- Postmodern Culture
1. Follow your normal procedure to connect to vtvm1.
2. Enter INFO LIBRARY E-JOURNL at the Ready; prompt.
3. Select the desired title by moving the cursor to the appropriate entry; press ____(Enter or Return ).
4. Select the desired issue and article by moving the cursor to the appropriate entry; press ____(Enter or Return ).
5. Follow directions on the screen for printing individual articles; downloading capabilities are not available.

Via Library Gopher journals available:

- ALAWON - ALA Washington Office Newsline
- Community Services Catalyst
- ICPSR Bulletin
- Journal of the International Academy of Hospitality Research
- Journal of Technology Education
- New Horizons in Adult Education
- Newsletter on Serials Pricing Issues
- Postmodern Culture
- Psycholoquy
- Public-Access Computer Systems Review
- Virginia Tech Spectrum

If you have client software available

1. Open a gopher connection using the capabilities provided by your client. Address: nebula.lib.vt.edu
2. Follow normal gopher procedures for retrieving and downloading specific articles.

NOTE: Procedures will vary depending upon your client software. 

If you don’t have client software available

Using the CBX or inbound modem pool:

1. Follow your regular procedure to obtain the CALL, DISPLAY OR MODIFY prompt.
2. Connect to vttelnet using this command: c vttelnet Press ____(Enter or Return ) several times.
3. At this prompt vttelnet>
   enter the telnet command followed by the gopher address, as follows:

   telnet nebula.lib.vt.edu

   Press ____(Enter or Return ).

4. At this prompt

   login:

   log in as

   lib

   Press ____(Enter or Return ).

5. When the gopher menu appears, use the number key to select the Electronic Journals menu option. (Arrow keys or letter keys may allow you to scroll through menu options, depending on your hardware configuration.)
6. To save a file, enter s (lower case required) and follow the instructions that appear. [This option did not work at the time of this writing. The error message “Segmentation fault” appeared and we were bumped out to the vttelnet> prompt.]
7. To download a file, enter D (upper case required) and follow the instructions that appear. [This option did not work at the time of this writing. The error message “Segmentation fault” appeared and we were bumped out to the vttelnet> prompt.]
8. To exit from the gopher menu, press q .
9. To exit from vttelnet, at the vttelnet> prompt, type quit and press __ (Enter or Return ).

 Appendix E

Electronic Journal Suggestion Form

Name: ____________________________________________________________

Your E-mail Address: _______________________________________________

Department: __________ Date: ______ Phone: ______

Information about the journal:

Title: ___________________________________________________________

__________________________________________________________________

Sponsorship: _____________________________________________________

__________________________________________________________________

Audience (presumed beneficiaries at Virginia Tech):

__________________________________________________________________

Frequency: _______________________________________________________

Method of receipt (check one)
  o Active (file retrieval must be initiated)
  o Passive (files will be distributed automatically)

Formatting (ASCII, Postscript, etc.): ________________________________

Copyright and Licensing Requirements/Restrictions:

__________________________________________________________________

__________________________________________________________________

Any special considerations with implications for staff time:

__________________________________________________________________

For follow-up or to provide additional information, contact Paul Metz, Principal Bibliographer (1- 5663) pmetz@vtvm1.cc.vt.edu.

Complete Information Will Speed Processing

Send a copy of this completed form to Paul Metz, Director's Suite, University Libraries 0434
Appendix F

DRAFT

Receiving and Adding Procedures for Electronic Journals:

Serials Receiving

[Gail Mc, Brenda, and Debbie Cash created the following procedures for the receiving and adds processes to be carried out in the Receiving/Binding and the VTLS Maintenance teams. James Powell edited those procedures and his suggestions are included in this draft.]

Electronic journals will be processed as much like other serials as possible. Therefore, bibliographic, holdings, and check-in records will have standard information, except as noted here.

Procedures we think check-in personnel (CIP [pronounced "sip"] i.e., Shirley Moede) may generally follow for

A. Automatic receipt and posting of an issue of an e-j to Nebula

1. Publisher sends issue
   a. to the e-mail account from which the subscription request was sent
   b. EJPOST should be subscription address for journals distributed in their entirety by listserv-type method.
   c. University Libraries subscription address will be ejpost@nebula.lib.vt.edu
2. When received by EJPOST
   a. issue will be automatically added appropriately to electronic journals on the Library Gopher
   b. note will be automatically sent to CIP (Check-In Personnel, i.e., SMOEDE) telling her which issue of which title was received.
      (See 6. below re issue doesn't arrive by expected date.)
3. CIP checks Library Gopher to verify issue is accessible to readers and everything else Receiving/Adds usually do when they receive an issue of any other serial (e.g., verify that title has not changed, corporate body name remained the same, frequency of publication will continue, etc.)
   a. If there is a title change, it is most likely (per JP) that the issue will be added to its previous title’s holdings on the Library Gopher.
   b. CIP will follow standard procedures for these changes and others that serials frequently go through.
   c. CIP will notify Library Gopher Administrator (JP) of title changes so that that person will separate issues into the appropriate title menus.

4. CIP adds holdings to VTLS (and creates check-in record if needed).
5. CIP modifies “expected” date for next issue.
   a. so that the system will prompt her if issue does not arrive by expected date
   b. according to publisher’s suggested frequency of publication
      (Check-in record will also include e-mail address of publisher.)
6. If an issue is not received by the expected date and VTLS reminds CIP:
   a. CIP looks on Library Gopher and finds that an issue was received but she was not notified.
      i. Add holdings to VTLS and continue with usual procedures.
      ii. Tell Library Gopher Administrator (LGA) that CIP did not receive automatic, system-generated notify of issue receipt
      iii. LGA will resolve the problem.
   b. CIP determines that an issue really wasn’t received
      i. Send e-mail message to publisher inquiring about whether or not the issue was sent.
      ii. Follow normal check-in procedures, based on publisher’s response.
B. Automatic receipt of a notice that an issue of an e-j is available for retrieval:

1. Publisher sends issue
   a. to the e-mail account from which the subscription request was sent
   b. EJACQ should be subscription address for journals that are NOT distributed in their entirety by listserv-type method.
   c. University Libraries subscription address will be ejacq@nebula.lib.vt.edu.
2. Serials Adds Clerk (SAC) retrieves issues: within one day of receiving notification that an issue is available.
3. Logs on to Library Gopher (currently know as Nebula) as EJACQ.
4. FTPs appropriate files to Library Gopher.
5. Once file transfer is complete, enters ls (el es) to list files just received, renames files using date of current issue as part of file name.
6. Makes new directory for latest issue and copy files into this directory.
7. Names and numbers each file so that menu list is meaningful to e-j readers; gives issue appropriate enumeration and chronology; reorders collection of issues so that latest is at the top of the list.
8. Looks at list of electronic journals to see if the latest issue is placed correctly in the list of issues available, that the captions and enumeration display correctly, that the issue is retrievable and readable.
9. Quits this level of command; indexes not only the issue just received, but to incorporate this issue into the entire index for the that journal.
10. Performs a word search to verify that issue was indexed.
11. Logs off Library Gopher.

C. Serials Adds Clerk (SAC) retrieves issues within one day of "knowing" (e.g., Spectrum ) or being notified that an issue has been published.

1. Logs on to Borg (a.k.a., home system) and removes files from previous issue.
2. Logs on to VTM1 where the current issue to be retrieved resides.
3. FTPs appropriate files to home system.
4. After file transfer is complete, logs off VTM1 and returns to home system.
5. Enters LS to list files just received; renames files using date of current issue as part of file name.
6. Makes new directory for latest issue and copy files into this directory.
7. Names and numbers each file so that menu list is meaningful to e-j readers; gives issue appropriate enumeration and chronology; and reorders collection of issues so latest is at top.
8. Looks at list of electronic journals to see if the latest issue is placed correctly in the list of issues available, that the captions and enumeration display correctly, that the issue is retrievable and readable.
9. Quits this level of command, and indexes not only the issue just received, but to incorporate this issue into the entire index [as is current practice for Spectrum].
10. Performs a word search to verify that issue was indexed.
11. Logs off home system.

Whether the e-j is automatically sent or must be retrieved, we hope that electronic journals will not have VTLS "Notifies" attached to them. However, CIP and SAC could establish a "names" file as a routing slip and with one e-mail message notify each person on the list that the latest issue has been received.

Appendix G

Automated Acquisitions of Electronic Journals: A UNIX Based Approach

James Powell

Automatic acquisition of electronic journals in libraries is critical to the success of electronic journals. I first realized this
last fall when I was asked to put together a system to support an electronic newsletter that was updated almost daily. Upon review of our existing system, I found that it simply would not be practical to acquire a daily newsletter in this way. Having watched the growth of interconnected distributed systems such as gopher and World-Wide Web, it seemed to me that this is the way electronic acquisitions should work: acquisition of an electronically distributed journal or article collection should be automatic. However, most electronic journals received at the University Libraries of VPI & SU are received by a special account via electronic mail and moved from that account to a simple menu system. The entire system is based on a help facility for an IBM mainframe, but the essential ingredient is a knowledgeable person to manage the data.

The system I developed is extremely simple to implement on any UNIX system and requires no human intervention once it is set up. It uses UNIX mail, gopher and WAIS along with a few simple shell script programs to manage new issues automatically. Here is how it works:

A userID is set up for each new electronic journal to be received. A new directory is added to the gopher file structure to accommodate the new journal, and any back issues are added at that time. In this menu, two special menu items are required, one for browsing new issues and a second for searching the current article collection using WAIS. Using a shell script run by the UNIX cron program, any new mail for the electronic journal userid is collected nightly and moved to the gopher file system. The WAIS index for this title is also rebuilt so that the new articles or issues are incorporated into the database. At some predefined period of time, a second shell script is run by cron, moving an "expired" subset of the new data to a permanent location in the gopher menu.

E-mail to local userid
Received on UNIX mail server
Moved to new issues directory in gopher menu by cron executed script

| New Issue|--> UNIX spool file|--> a gopher data directory |-->

| WAIS database|--> | Permanent gopher subdirectory |

cron calls script Periodically, cron runs a second script

E-mail to local userid, Received on UNIX mail server, Moved to new issues directory in gopher menu by cron executed script

| New Issue|--> UNIX spool file|--> a gopher data directory |-->

| WAIS database|--> | Permanent gopher subdirectory |

cron calls script Periodically, cron runs a second script

to reindex articles to move articles to a permanent location.

A system like this could be extended further. For example, information about the frequency of publication could be included in a program. If issues lapsed, acquisitions could be notified by electronic mail. Likewise, acquisitions could be notified of the arrival of each new issue by e-mail.

Many assumptions were made:

1. Journals received were distributed by electronic mail.
2. Libraries would be willing to use WAIS for indexing the text. (Alternately, if they have a system running NeXTSTEP, they can use its indexing system. However, the main advantage of the NeXT indexing system is its support of Boolean searching which is now available in some versions of WAIS).
3. Acquisition would take place on UNIX platforms. (It is highly dependent upon the automated cron program and UNIX mail.)
4. The library would be using a gopher menu system for end-user access.

As a result of these assumptions, the methods discussed may work in part or completely on non-UNIX systems.

As an information provider, I know that we need to help libraries lead the way in the early years of electronic publishing. Placing more of the workload on the computer makes sense whenever possible. Automating the electronic journal acquisition process is one way libraries can reduce the perceived burden of managing a new resource that some might consider exotic. Automatic acquisition also provides the full benefits of electronic journals to the end-user, such as timeliness and full text searching capabilities. Resolving this problem for libraries will serve to make electronic journals a more attractive format for end-users.
Appendix H

Recommendations about Display of Electronic Journals on the Library Gopher

1. Journal titles match the titles in VTLS. See for example: *Newsletter on Serials Pricing Issues*; it has two titles in VTLS but only one the Library Gopher/VM1 menus.
2. There should be a note with the previous titles telling readers that a title has changed and a link to and from the next title.
3. List issues in reverse chronological order with the most recent issue first (e.g., *Catalyst* and *JTE*).
4. Keep up-to-date or include in menu of available issues brief note re title ceased, discontinued, etc.
   - Current issues are needed for *New Horizons in Adult Education*, *ALAWON*, and *Postmodern Culture*.
   - What about reviving *Electronic Journal of Communications* with restricted access?
5. List contents of an issue by author (last name first, only first author if multiple authors) and title.

Appendix I

Excerpts from the log files of the Library Gopher

Here a user from Internet address *****.pvcc.cc.va.us connects to the library gopher and selects an issue of *New Horizons in Adult Education*. The first five columns tell us the date the user connected to our machine (EST), the seventh column is the Internet address of the system the user connected from, and the remainder of the line tells us what the user requested. In this example, we can see all four transactions together in the log file. In some instances, the log file will contain intermixed transactions as several users interact with our Gopher simultaneously:

```plaintext
Mon May  2 11:36:34 1994 11460 *****.pvcc.cc.va.us : Root Connection
Mon May  2 11:36:43 1994 11461 *****.pvcc.cc.va.us : retrieved directory /ejournals/
Mon May  2 11:36:55 1994 11462 *****.pvcc.cc.va.us : retrieved directory /ejournals/new_horizons
Mon May  2 11:37:19 1994 11463 *****.pvcc.cc.va.us : retrieved file /ejournals/new_horizons/nhae0101.helpnhae
```

Another user connects from Colorado (*****.colorado.edu) and selects an issue of the *ICPSR Bulletin*:

```plaintext
```

Still another user from Alaska (*****.alaska.edu) selects an issue of the *Newsletter on Serials Pricing Issues*:

```plaintext
Sun May  8 05:59:58 1994 2240 *****.alaska.edu : retrieved file /ejournals/serials_pricing/nspins63.helpnspi
```

Return to Scholar Home Page

webmaster@scholar.lib.vt.edu