TECHNICAL COMMUNICATIONS

ANNOUNCEMENTS

With this issue we begin the process of shifting the emphasis and content of *Technical Communications*. Some of the newsletter features of *Technical Communications* will be dropped due to the fact that as a quarterly publication it cannot be satisfactorily used to disseminate certain kinds of temporal information (e.g., short lead-time announcements, notification of institutes, seminars, meetings, etc.). Instead, brief articles, letters, or comments on *JOLA* articles, and pertinent information about technical developments will hopefully assume a larger percentage of the allotted pages for *Technical Communications*. The ISAD Editorial Board, in approving these changes, voiced the opinion that *Technical Communications* would be much more useful as a result.

Concise technical communications and information notes featuring any aspect of the application of computers, systems analysis, or other technological developments (hardware, software, or techniques) pertinent to libraries are solicited. The design is also meant to provide a forum for the more rapid dissemination of information that will sometimes serve as the basis for the longer, more detailed articles which are published in *JOLA*. Thus, the salient findings in a study, or the important developments taking place in a project or ongoing operation can be made known long before they might otherwise be brought out in a formal presentation.

These changes should become evident by the March 1974 issue, and to insure that this type of material does begin making its appearance, please send your letters, notes, and technical communications to the editor of *Technical Communications*. (See cover sheet, Page II.)

TECHNOLOGICAL INROADS

CATV Library Application

In Mobile, Alabama, a cable television subscriber can telephone the public library's reference department and turn to the library service channel to see the information requested over the telephone. The library installation costs are reported to be less than $500.

The spectrum of patrons making use of the service include financial analysts (looking at charts and graphs), illustrators and advertising personnel (obtaining pictorial representations), technicians requesting information from manuals, teachers, and even tourists looking for directional information.

Business applications loom important in the future and are already underway. It is now possible to offer a centralized microfilm storage with coded access to various documents. Similarly it was noted that retrieval and transmission of videotapes for the use of realtors will be explored. This would provide real estate agents with the ability to give a videotape tour of properties for sale. Transmission time of a tape could be metered and billed to the appropriate realtor.

Other possible applications encompass such library activities as story hours, instruction for children in schools, and live telecast of library functions. (Extracted from *The American City*, March 1973)

PEACESAT (Pan Pacific Education and Communication Experiments by Satellite)

Populations in the Pacific Basin are often small in size and divided by great distances, making it impossible for many to sustain adequate levels of education, health care, and technically based services. Inadequate communications constitute a principal barrier to development.

Pan Pacific Education and Communication Experiments by Satellite (PEACESAT) is a demonstration project in which selected educational and medical institutions in the Pacific Basin are linked by means of communication satellite relay. Voice and facsimile are sent and received by each location in the system. Slow-scan television and teletype will be used at some locations.

The PEACESAT project is not a permanent service. It is a pilot demonstration to provide experience in the use of long distance transmission on which to base the design of future telecommunication services. Its objectives are to increase the quality of education in the Pacific by facilitating sharing of scarce, costly resources; to improve professional services in sparsely populated areas through telecommunication support; and, generally, to assist in applying the potential of satellite technology to the solution of domestic social problems and peaceful world development.

The system is unique in the world. The satellite used is the ATS-1 operated by the National Aeronautics and Space Administration. Only established and tested technology is used in the system. The costs to participants are small. Exchanges conducted through the PEACESAT facilities involve two-way communication, two or more locations interconnected at one time, and often many users at each location engaged in dialogue with users at other terminals. The format and content are determined by the users.

The idea of using satellite relay to facilitate communication for educational, health, and community services in remote areas of the Pacific Basin was proposed in 1969 to the National Aeronautics and Space Administration by Dr. John Bystrom, professor of communication at the Manoa campus of the University of Hawaii. A start on the project was made in December 1970 when President Harlan Cleveland approved a grant from the University's Innovative Program. In February 1971, NASA approval for use of the ATS-1 was granted. Dr. Paul Yuen, professor of electrical engineering, and Katashi Nose, associate professor of physics,

had two prototype ground terminals available when the Federal Communications Commission approved licenses for the experiment.

In Phase I of the project, beginning April 1971, ground terminals constructed at the university were successfully test-operated and utilized between Hawaii Community College in Hilo and the Manoa campus of the University of Hawaii. The Hawaii State Legislature emphasized its support of the project by appropriating $75,000 in April 1971.

The international network began in January 1972 with terminals at Wellington Polytechnic in Wellington, New Zealand, and the University of the South Pacific in Suva, Fiji, joining the system. Additional terminals have been established at Maui Community College, Kahului, Maui (Hawaii); Papua New Guinea Institute of Technology, Lae, PNG; the University of South Pacific Centre, Nuku'alofa, Tonga; and the Department of Education, Pago Pago, American Samoa. Operating terminals are being established at Saipan and Truk in the Trust Territory of the Pacific Islands.

The project is administered by the University of Hawaii with the assistance of the Governor's Committee on Pan Pacific Educational Communications, appointed by Governor John Burns and headed by UH President Harlan Cleveland. A Faculty Advisory Committee assists development at the University of Hawaii. Recommendations for long range planning in medical research are provided by a Medical Communications Study Advisory Committee. Project director is Dr. John Bystrom, assisted by James McMahon, system coordinator. Technical design and development is under the direction of Dr. Paul Yuen. Key to the system is a small inexpensive ground terminal designed and constructed at the university by Katashi Nose.

Each of the educational institutions which have terminals have their own autonomous staff and organization which operate the equipment and develop educational uses of the system. Management of the PEACESAT terminal on the Manoa

campus is under Carol Misko, terminal manager.

During its relatively short existence, the PEACESAT system has been utilized in a wide variety of educational and scientific programs. The East-West Center used a receiving station on the ocean liner *President Wilson* to conduct orientation sessions with its arriving grantees. Hamilton Library on the Manoa campus has demonstrated exchange of materials with other locations via PEACESAT. Doctors of the Pacific Research Section of the National Institute of Health consult with doctors at the Bethesda, Maryland, National Library of Medicine. The Hawaii Cooperative Extension Service has used the system to conduct seminars with specialists from New Zealand, Fiji, Tonga, and Hawaii locations.

Faculty and students at the various campuses of the system have utilized the communication channels made available by PEACESAT. A few among the many disciplines they represent are political science, English, Spanish, education, Indonesian languages, physics, oceanography, computer science, journalism, urban planning, and speech-communication. It was the PEACESAT system which carried the world's first regularly scheduled class of instruction via satellite.

Within the Pacific Basin keen interest has been shown in the development of this project, as evidenced by discussion of PEACESAT at meetings of the South Pacific Forum and the South Pacific Commission. The PEACESAT network recently provided the means for South Pacific poets to exchange their works with one another. Among those joining in the well-received poetry series was the poet laureate of Tonga.

In April 1972 the National Library of Medicine awarded the University of Hawaii a contract for a study of medical networking in the Pacific, incorporating demonstrations of library and professional exchanges.

Hours of operation for the network are currently 9:00–10:00 a.m. and 4:30–6:00 p.m., Monday through Friday (Honolulu time). The Manoa Exchange Center is located in George Hall (212) on the campus of the University of Hawaii. PEACESAT Project, Program in Communication, University of Hawaii, Honolulu, HI 96822. Phones: (808) 948-8848, (808) 948-8771, RCA Telex #723597.

Tomorrow's Library: Spools of Tape

Libraries with ranks of musty tomes and files of catalog cards may be difficult to find in the future. Books probably will be in museums; libraries will be on spools of computer tape. Library users might push a button for a no-deposit, no-return paperback printout, instead of standing in line for a hardback from the stacks.

Movement in these directions has already begun at the University of Georgia where a staff of 110 and $9 million of computer hardware provide the following type of service: A professor sits before a CRT and types out the chemical names of DDT on the keyboard. Almost immediately, the television screen above the keyboard displays a list of 176 scientific references to DDT.

This information is the result of an electronic search of about 40,000 issues of *Chemical Abstracts*, a title compilation on computer tape of all published scientific papers in chemistry. Similar abstracts are available in other scientific fields, and three large foundation grants will enlarge these holdings to include literature in engineering, education, and the humanities.

The information retrieval system allows a user to "browse as he would in a library." But the browsing is done through one of 37 remote terminals. The number of remote terminals is expected to more than quadruple in future years, giving a total of some 200 individual outlets. (Extracted from *College Management*)

LIBRARY PROJECTS AND PROGRAMS

Microfiche Catalog by Tulsa City-County Library

The Tulsa City-County Library computer output microfiche catalog was published in early March, according to Ruth Blake, director of technical services, Tulsa City-County Library. The catalog is in

register-index format. The register, arranged by number, contains full bibliographic information for each title. Adult and juvenile indexes contain brief bibliographic entries, location information, and a reference to the register number of each title. Both indexes are in dictionary form, with authors, titles, and subjects in a single alphabet.

Minnesota Bio-Medical Mini-Computer Project

The University of Minnesota Bio-Medical Library has received a $361,729 three-year grant from the National Library of Medicine to provide support during the development of a low cost, stand alone, library dedicated computer system. The system will employ on-line terminals for data entry and file query functions, and will be based on an integrated system design of a processing system which would be suitable for use in other libraries of a similar size. The premise of the development is that an integrated acquisitions, accounting, in-process control system for all library materials coupled with an on-line catalog/circulation control system can be operationally affordable by a library or system of libraries in the 200,000 volume class using its own computer system.

A Digital Equipment Corp. PDP 11/40 system has been selected. The CPU features 16K core, 16 bit word, power fail/automatic restart, programmable real time clock, extended instruction set, and memory management option which permits access to 124K of memory. A DEC writer data terminal will be used as console and initial terminal on the system. Two 9 channel 800 bpi tape drives and one 40 million character moving head disk pack drive comprise the system's initial mass storage. A 132 column, 96 character set line printer completes the initial hardware configuration. Before the system is installed, suitable CRT type terminals and communications interfaces will be chosen. Six of these terminals will be required when the system is fully operational. Memory expansion in the CPU and additional mass storage may be acquired depending upon needs, although the design

efforts will be to minimize the amount of core required for the system and most efficiently use the mass storage available.

One of the problems of using a minicomputer system to service an interactive on-line library system is a lack of a suitable operating system which can require minimal residency in core, yet contain only the functions needed on a library system. Current timesharing operating systems provide some parts of a system, such as device handlers, but require too great allocation of core, or programming in a compiler level language such as BASIC. This approach has been deemed unsatisfactory if system costs for hardware are to be kept reasonable.

During the development period a PDP 11/40 DOS operating system will be used to assist in writing a hybrid operating system and utilities using the PDP 11/40 ASSEMBLER language. Also under development will be the file design, the system common modules, and system dictionary. These elements of the system will be required to then design and program the individual system applications.

Since the grant does not provide any support for data conversion, the circulation application will be developed and installed for the reserve materials. These only number a few thousand and involve short loan periods and other complexities which will provide an excellent test of a circulation control system for general library-wide use. Other application systems, such as acquisitions and serials already are computer supported and therefore have existing machine-readable data files.

The project staff includes Glenn Brudvig, director of the Bio-Medical Library as principal investigator; Audrey N. Grosch of the University Libraries Systems Division as project director and the following systems specialists: Bob Denney, Carl Sandberg, Eugene Lourey, and Don Norris.

PERTINENT RECENT PUBLICATIONS

Nationwide Survey of Library Automation —Phase I.

The California State University and Colleges has published the final report of Phase I of its nationwide survey of library automation. This comprehensive survey performed for the Chancellor's Office-Library Systems Project by Inforonics, Inc. covers over twenty-five library automation projects in the United States and Canada. Those interested in obtaining a copy should write, enclosing a check in the amount of $5.00 (Californians remember the 6 percent tax) to Chancellor's Office; The California State University and Colleges; 5670 Wilshire Blvd., Suite 900; Los Angeles, CA 90036.

A Survey of Commonplace Problems in Library Automation, compiled by Frank S. Patrinostro.

This survey documents actual library experiences concerning problems encountered, their causes, and what steps were taken to solve the problems. Order from LARC Press, Ltd.; 105–117 W. Fourth Avenue; Peoria, IL 61602.

Survey of Commercially Available Computer-Readable Bibliographic Data Bases, edited by John H. Schneider, Marvin Gechman, and Stephen E. Furth. Published by ASIS.

This reference tool provides descriptions of eighty-one machine-readable data bases.

Key Papers on the Use of Computer-Based Bibliographic Services, edited by Stella Keenan. Published jointly by the National Federation of Abstracting and Indexing Services (NFAIS) and ASIS.

Contains selected papers on the use and evaluation of computer-based services.

Cost Reduction for Special Libraries and Information Centers, edited by Frank Slater. Published by ASIS.

The four sections of the book cover an overview of recent literature on costing for libraries; general cost reduction considerations; show and tell—special cost reduction efforts; and real costs for information managers.

(The three preceding publications are available from Publications Division, American Society for Information Science, 1140 Connecticut Ave., N.W., Washington, DC 20036.)