ACADEMIC AND RESEARCH DEMONSTRATIONS

ACM Computer Science Conference and Computer Science Education Symposium
February 12-15, 1974, Detroit Hilton Hotel, Parlors D and E

An academic and research display will be available throughout the Conference and Symposium featuring demonstrations of equipment and software related to computer science research and education: terminals, logic lab equipment, programming languages, CAI curriculum, etc.

The demonstration rooms will be open at the same hours as the terminal and book exhibits:

10:30 to 1:30 Tuesday, Wednesday 9:30 to noon Friday
3:30 to 6:30 and Thursday (not all demonstrations)

Those exhibiting will usually be available for conversation between 5:30 and 6:30; appointments might be arranged through requests left on bulletin boards near the entrances of Parlors D and E. Information about the demonstrations, and instructions for operation of some of the equipment, will be available at all times.

A discussion of the exhibits bearing on computer science education will be held Thursday at 7 PM in Parlor F in conjunction with the program of the Computer Science Education Symposium. Other participation of demonstrators in the technical program is mentioned below and will be posted on the bulletin boards.

Brief abstracts of those participating in the demonstrations are given below:

PLATO Instructional Technology in College Teaching
University of Illinois at Chicago Circle, Doctor of Arts Program,
Dexter Fletcher

Instructional technology using the PLATO-IV Computer-based Education System and other facilities has been made part of the Doctor of Arts Program for preparation of college teachers.

Demonstration of TUTOR-compatible HYPERTUTOR CAI System on a CDC 6400
Northwestern University, Computer Aids to Teaching Project
James Schuyler

The Computer Aids to Teaching Project will exhibit its HYPERTUTOR system, running on Northwestern's CDC 6400 and driving regular CRT printing and PLATO-IV student terminals. HYPERTUTOR provides many of the capabilities necessary to drive TUTOR-IV programs on standard time-sharing systems, interfaced to computers sending standard ASCII codes.
Graphic Interaction with Data and Procedures
in a Computer Network Environment
MÉRIT Computer Network (Ann Arbor, Michigan)
Susan Colman

Graphic terminals on general-purpose computers at Wayne State University
and the University of Michigan gain access to data bases and graphic
routines throughout the MÉRIT Computer Network. Data on water pollution
in one computer may be combined with geographic descriptors in another
to display the condition of Michigan rivers. Communities of scholars
in Michigan universities cooperate on data base assembly and use, each
accessing the work of the other through his own familiar computer. The
functioning of the Network is represented in a graphic presentation
prepared especially for the purpose.

Automated Computer Science Education System (ACSES) on PLATO
University of Illinois, Department of Computer Science,
Jurg Nievergelt and Thomas Wilcox

In response to a large and increasing enrollment in introductory computer
science courses, we have started a project to automate these courses
on the PLATO IV Computer-Based Education system at the University of
Illinois. The key components of our automated course are: a library
of lessons, covering several programming languages, computing technique
and application areas; a completely self-contained interactive programming
system; a conversational advice-giving and information retrieval system.

Generative CAI Systems for Digital Logic Design
and Machine-language Programming
University of Connecticut, Department of Electrical Engineering
and Computer Science,
Elliot Koffman and James Perry

A generative computer-assisted instruction program which is used in an
introductory course in computer science will be demonstrated. The
course presents an introduction to the design of digital systems and
machine and assembly language programming. Students use the CAI system
in place of homework problems. The content and difficulty of the
problems generated is tailored to match the student's past performance.
The degree of monitoring and instruction provided is also tailored to
the individual student. A paper on this system will be presented in
the Wednesday afternoon Session on CAI (3:15).

A personal Computer for Learning Activities of Young Children
Xerox Palo Alto Research Center,
Adele Goldberg and Alan Kay

A computing engine of sufficient power can both simulate existing media
and provide new frameworks for creative ideas. It must be personal,
portable and inexpensive. A display of photographs shows a prototype
of such a system in use by children; a film will be shown in a Thursday
afternoon panel presentation: "Why should children, ages 7 to 70, learn
about computers?"
Logic Laboratory Units in Computer Science Education
Brigham Young University, Department of Computer Science, Duane Call and Richard Ohran

The Computer Science and Electrical Engineering Departments at BYU have cooperated in the development of what is proving to be a very successful digital logic laboratory. Details are provided via a display consisting of: 1)sound-slide show and collection of photos, 2)several prewired lab stations showing typical completed lab assignments, 3) several hands-on stations for experimentation by conference attendees, 4)literature regarding origin and management of lab and associated curriculum.

Logic Lab for Teaching Computer Architecture
University of Wyoming, Department of Computer Science, David Winkel

This exhibit shows logic labs that are cheap enough to allow one to be assigned per student. They are powerful enough to allow a student to build and debug his own minicomputer.

LANG-PAK: An Interactive Language Design System
Bell Laboratories (Holmdel), Lee Heindel

LANG-PAK is an interactive language design system which aids a language designer in designing and implementing simple interactive computing languages. LANG-PAK is written in standard FORTRAN and is primitive based making for simple machine transferability. LANG-PAK will be completely described in the monograph An Interactive Language Design System to be published by American-Elsevier.

A Computer Terminal with Synthetic Speech Output
for CAI and other Interactive Uses
Michigan State University, Department of Computer Science, Fert Rahimi, John Eulenberg, and Charles Yoshida

Equipment has been constructed and software created for low-cost, synthetic-speech output device to be used with a computer terminal, Its use in CAI and other interactive programs will be demonstrated.

Hexadecimal Assembler Digit System
Rowco Engineering Company (Indianapolis) R.O. Whitaker

Since the Arabic-decimal system does not convert directly to the binary system used by computers it should be retired and a base-16 system adopted. To further enhance communication with computers it is proposed that an "Assembler Digit" having four lines each of which corresponds to a binary bit be adopted. A computer readout, a digital clock, a digital voltmeter, and an event timer have been built using this system. Experience indicates the new digits can be read with ease. An extended Assembler Character having ten elements for alphanumerics is proposed. A keyboard having only ten keys operated in combinations to encode up to 1024 different characters has been built. A presentation is scheduled on the technical program for 10:15 Wednesday morning.
The academic and research display area also includes books, technical reports and brochures.

A table has been set aside for brochures and other information from academic departments of computer science at colleges and universities throughout the country.

A collection of books and technical reports on curriculum was assembled in connection with the display. Special attention has been given to materials for secondary school computer science programs and to the preparation of teachers at both the secondary and college levels. The projects represented include:

IFIP Technical Committee on Education, Working Group on Secondary Programs

OECD Centre for Educational Research and Innovation, Program on Computer Sciences in Secondary Education

Conference Board of the Mathematical Sciences, Committee on Computer Education, Report on Computers in High Schools


Special Interest Group on Computer Uses in Education (ACM), special issue of the newsletter on computers in secondary schools, and projected special issue on preparation of teachers.

Project SOLO, University of Pittsburgh, "SOLOWORKS LABS"

Project EXTEND, University of Michigan, Seminar for College Teachers on Instructional use of Computers

Department of Computer Science, University of Oregon, Computers in Education Resource Handbook

The final list of the materials on display, and other information about the Academic and Research Demonstrations, can be obtained from the organizer:

Karl L. Zinn  
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University of Michigan  
109 East Madison Street  
Ann Arbor, Michigan 48104

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