Successful Microprocessors II Seminar Held at CSUF

Over 350 engineers attended "Microprocessors II" last month. The second annual seminar on microprocessors was held at California State University at Fullerton. Sponsored by CSUF in participation with the Computer Society's Orange County Chapter, this year's presentations emphasized real-world applications.

The first paper, by Alex Williman of Rockwell Microelectronics, surveyed existing microprocessors and their structures, available peripheral support, instruction repertoires, timings, and semiconductor chip technologies.

Following Williman was Robert Dukarski of Applied Computing Technology, who presented a paper on the development of a high-speed $7 \times 9$ matrix printer-controller with emphasis on product development and hardware-software tradeoffs.

Dukarski's paper was followed by a presentation of a microprogrammable microprocessor in a pc-board test case, by Robert Kopiki of Technology Marketing, Inc. Kopiki's paper covered the hardware configuration requirements of such a device (e.g., cpu, memory, I/O, and interactive control interface), as well as the operating system requirements (e.g., system flow diagram and executive control).

Pertec's experiences in integrating an 8-bit microprocessor in a CRT terminal were described in the fourth paper, by Al Jennings of Pertec. Jennings discussed the breadboard model effort from an engineering point of view—i.e., methods and criteria used for the selection of the microprocessor, functions allocated to the microprocessor, and supporting logic.

The fifth and final presentation was given by Joseph Herr of Singer Business Machines. Herr's paper described the design of a point-of-sale terminal which uses a microprocessor, and covered requirements imposed on the system, solutions developed to meet those requirements, and overall performance and tradeoff considerations.

Dr. Howard Jelinek of Rockwell Microelectronics, Chairman of the Computer Society's Orange County Chapter, served as panel chairman and seminar moderator at "Microprocessors II," held March 15th at Cal State Fullerton. Coordinating CSUF's efforts in the seminar was Prof. Demetrios Michalopoulos (who also serves as New Products Editor for Computer).

April 1975

UPDATE

Structured Programming, Protection of Information Are Topics for Compon 75 Fall Tutorials

Topics for two pre-conference tutorial sessions have been announced by Dr. Richard E. Merwin, Compon 75 Fall general chairman, and Prof. Raymond Pickholtz, program committee vice chairman for tutorials.

The full-day tutorials, "Structured Programming" and "Protection of Information in Computer Systems," will run in parallel on Monday, September 8, the day before the conference begins. Compon 75 Fall—East Coast version of the international conference sponsored twice each year by the Computer Society—will be held September 9-11 in Washington, D.C.

"Protection of Information in Computer Systems" will be presented by Prof. David Redell and David Clark, both of MIT Project MAC. This tutorial will cover basic principles of protection, descriptor based systems, and higher-level protected object and protected subsystem concepts. The program will conclude with a state-of-the-art summary and a description of unsolved research problems.

Prof. Victor Basili, University of Maryland, and Terry Baker, IBM Federal Systems Division, will present "Structured Programming" in two segments covering theoretical and practical results, including applications experience.

"Since space will be limited, I'd advise early registration for either of the tutorial sessions," Dr. Merwin said.

Costs for the tutorials will be separate from Compon registration; full details will be published in future issues of Computer.

Advance registration information is available from Harry Hayman, Computer Society Executive Secretary, P. O. Box 639, Silver Spring, MD 20901.
ICCP Issues Statement on EDP Licensing; Computer Society Board Reaffirms Support

Recent discussions appearing in the trade press regarding the licensing of EDP personnel have prompted the following statement, released January 25, from the Institute for Certification of Computer Professionals:

"Some individuals and organizations have been publicly advocating the licensing of data processing personnel. The Institute for Certification of Computer Professionals (ICCP) recognizes that licensing may one day become socially desirable. However, at the present time the data processing profession does not have generally accepted definitions of job functions which could be licensed—nor has the profession agreed upon the knowledge and skills which a given individual should have to practice in those jobs. And, obviously, the profession does not have a complete set of validated tests to measure individual knowledge in those undefined areas.

"Along the orderly road to effective licensing, certification tests are a necessary prerequisite. The ICCP already has tests covering some of the knowledge areas. The ICCP is actively developing definitions of job functions which specify the necessary knowledge and skills that a practitioner should have and is developing certification tests for those job functions.

"Consequently, the Board of Directors of ICCP believes that licensing in the data processing profession will be premature until the needs stated above are met. The Institute was formed by its member societies to meet those needs."

The ICCP policy statement on the licensing of data processing personnel was presented to the Computer Society's Governing Board at its February 28, 1975, meeting. In presenting the policy statement David Jacobsohn, the Computer Society's Senior Director to the ICCP, stated that there was a complete consensus of the ICCP Board of Directors on the statement and that it was adopted unanimously. Subsequent to the presentation, the Computer Society Governing Board passed a motion reaffirming the Computer Society's support of the ICCP.

HELP Reports on Regional Divisions

During the meeting of the Computer Society Education Committee at Compocon 75 Spring, plans of the Regional HELP Subcommittee were reported by Dr. S. Ghosh, chairman. The subcommittee's purpose is to help educational institutions set up curriculum in computer science and engineering. To accomplish this the U.S. has been divided into regions and members have been assigned to each. Any institution needing help should contact the representative allocated to its state.

For California, Oregon, Washington, Montana, Idaho, Nevada, Utah, and Arizona, contact:
Dr. S. Ghosh (Chairman)
Computer Science Dept.
IBM Research Lab
Monterey & Cottle Roads
San Jose, CA 95193

For Alaska and Hawaii, contact:
Professor M. Tsuchiya
School of Engineering
University of California
Irvine, CA 92664

For Missouri, North Dakota, South Dakota, Nebraska, Wyoming, Colorado, New Mexico, Nebraska, Kansas, Oklahoma, and Texas, contact:
Professor C. Harlow
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Columbia, MO 65201

For Illinois, Minnesota, Wisconsin, Iowa, Arkansas, Louisiana, Alabama, Tennessee, Kentucky, Florida, Indiana, and West Virginia, contact:
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West Virginia University
Morgantown, WV 26506

For Georgia, North Carolina, South Carolina, Virginia, and Washington D.C., contact:
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For Ohio, New Jersey, and Pennsylvania, contact:
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333 Jay Street
Brooklyn, NY 11201
Texas Instruments Offers Microprocessor TV Lectures

Early morning commercial television will bring two hours of microprocessor technical lectures into the homes of engineers across the nation, the Texas Instruments Learning Center has announced. The half-hour telecasts will be presented in 20 major metropolitan areas on four successive mornings, April 15-18.

Broadcast cities include Washington, D. C., Philadelphia, New York City, Boston, Los Angeles, Orlando, San Jose, San Diego, Seattle, Houston, Denver, Dallas, Minneapolis, Dayton, Chicago, Cleveland, Detroit, Phoenix, Miami, and Rochester, N. Y.

The broadcasts cover the evolution of system architecture as a basis for understanding the wide range of applications for microprocessors and the varieties of chip architecture. Also included is a detailed discussion of the technological choices involved, including the new integrated injection logic (I²L) technology. The third session defines the types of systems suitable for microprocessors, discusses principal parameters of several types of microprocessor equipment currently on the market, and gives broad guidelines and specific examples of applications. The final broadcast session discusses the application of microprocessors to digital communications systems.

To aid the broadcast viewer, a microprocessor handbook is being offered.

Recommended for review before the broadcast, the “Microprocessor Handbook” is available at $24.95, check or money order, from Texas Instruments, P. O. Box 3640, MS-54, Dallas, TX 75285.

TC Chairmen Named

IEEE Computer Society President Stephen S. Yau recently announced the appointment of four standing committee and technical committee chairmen: Prof. Jack Carlyle, Mathematical Foundations of Computing; Prof. Edward Parrish, Admission and Advancement; Prof. King-sun Fu, Machine Pattern Analysis; and Prof. William C. Lynch, Mass Storage. In general, TC chairmen are responsible for organizing meetings and workshops for their areas of interest and for setting up specialized sessions at Computer Society conferences.

Prof. Carlyle, vice-chairman of the Department of System Science at the University of California, Los Angeles, has been a member of the TC on Mathematical Foundations of Computing since 1965. Carlyle’s present research interests include interactive computing, theoretical computer science, digital communications, and random processes. He received the BA degree in mathematics and the MS degree in electrical engineering from the University of Washington, and the MS degree in statistics and PhD degree in electrical engineering from the University of California, Berkeley.

Prof. Parrish, in his new position, will be responsible for the admission and transfer of applicants who wish to achieve member status in the Computer Society. Parrish has research interests in the areas of pattern recognition and picture processing, digital systems, industrial automation, and microprocessor applications, and is currently a visiting professor of electrical engineering at the University of Virginia. He received the BEE, MEE, and ScD (Electrical Engineering) degrees from the University of Virginia, Charlottesville.

Prof. Fu has had an extensive career as a teacher, researcher, author, and chairman of several committees of the Computer Society. Presently a professor of electrical engineering at Purdue University, his major teaching and research interests lie in the areas of adaptive and learning systems, pattern recognition, and stochastic automata theory. An associate editor of IEEE Transactions on Systems, Fu received the BS degree from the National Taiwan University, the MAsc degree from the University of Toronto, Canada, and the PhD degree in electrical engineering from the University of Illinois, Urbana.

Prof. Lynch, the new Mass Storage TC Chairman, has special research interests in the areas of operating systems, performance measurements, large file systems, and computer generated images. Currently a professor of information science and engineering at Case Western Reserve University, Cleveland, Lynch received the BS degree in mathematics at Case Institute of Technology, and the MS and PhD degrees in mathematics at the University of Wisconsin.

Software Engineering Conference Issues Final Call for Papers

Papers on “Software Engineering—the Prospects and the Practices” are requested for the First National Conference on Software Engineering. Sponsored by the National Bureau of Standards and the IEEE Computer Society's Technical Committee on Software Engineering, the conference will be held September 11-12 (immediately following Compcon '75 Fall, September 9-11) at the Mayflower Hotel, Washington D. C.

According to Chairman Harlan Mills of IBM, the conference will address the problems of building reliable and robust programs, on-schedule delivery of low-cost software, thorough testing of what is practically unprovable, and organizing creative skills for maximum productivity.

Authors are invited to submit original, unpublished papers on practical tools and techniques in software development, as well as case studies and experience reviews of recent large-scale software projects.

Operation Upgrade: Senior before Fellow

Every year a number of nominations for IEEE Fellow grade abort because the candidate has not yet been elevated to the grade of Senior Member. (This is a necessary requirement.) In some cases the candidates have been eligible for as many as ten or fifteen years, but no one has bothered to initiate action to get the membership upgraded. A little care and attention on the part of the chapter officers or interested members of the Computer Society can prevent this.

Elevation to Senior Member grade can be initiated either by the candidate or by a separate nominator. Fellow nominations must be submitted by a separate nominator who must be either a Fellow or Senior Member.

If necessary forms are not available from your local Chapter or Section Awards Committee chairman, then write to: Mr. Michael S. J. Toole, Institute of Electrical and Electronics Engineers, 345 East 47th Street, New York, NY 10017.
Suggested methodology topics include software specification and design techniques, program validation and verification techniques, top-down and modular design criteria, evaluation and quality control procedures, interface and integration techniques, and software design for portability.

In the area of applications, papers are requested on structured programming experiences, program testing results, reliability analyses of current software, and project organization and management control.

Submit five copies of the paper (5000-word maximum) by April 15, 1975, to Thomas Steel, Program Chairman, Equitable Life Assurance Society, 1285 Avenue of the Americas, 7-F, New York, NY 10019. Camera-ready copy for selected papers will be required on July 1, 1975.

For further information regarding this conference, write to Software Engineering, P. O. Box 639, Silver Spring, MD 20901.

Editorial Schedule Announced for Transactions and Computer


Authors who would like their work considered for publication should check the schedule and contact the appropriate editor.

Best Papers Selected

Awards for the best papers appearing in Computer and IEEE Transactions on Computers were approved at the February 28 meeting of the Computer Society’s Governing Board.


“A Practical Low-Cost, Home/School Microprocessor System,” by Joe Weisbecker, August 1974, was selected the best paper from Computer.

According to Awards Committee Chairman Harold Stone, the number of best paper awards will be increased from two to three in 1975. The new one will be for the best paper appearing in the new quarterly, IEEE Transactions on Software Engineering.

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Reader Service Number 423
The IEEE Computer Society’s Technical Committee on Machine Pattern Analysis has been collecting data bases which are made available with supporting documentation. The committee arranges for refereeing of data submitted and is currently publicizing eight available sets (see page 22 for the list of Pattern Recognition Data Bases). The purpose of dissemination of artificial data bases is to enable performance evaluation of general pattern recognition, clustering, and information retrieval programs.

Data bases submitted may consist of pseudorandom multivariate pattern vectors, or artificial data developed by nonstatistical methods. Non-statistical data with multilevel organization is of interest; examples are data originally for test of information retrieval programs or management information system design. Statistical data should be multi-modal and not exclusively normal, and redundancy and interdependence of data typical of realistic problems are considered useful. Nonlinearities and erratic “missing” items are also potential approaches.

Reader Service #425

Gorchow, Carter, and Sheehan Featured Speakers at NCC

Three luncheon speakers for NCC, to be held May 19-22 in Anaheim, California, have been announced by Conference General Chairman Donal A. Meier. Neil Gorchow, Vice President of Product Strategy and Requirements at Sperry Univac, the Honorable Jimmy Carter, former Governor of Georgia, and the Honorable John E. Sheehan, a member of the Board of Governors of the Federal Reserve System, will speak on May 20, 21, 22, respectively.

Gorchow joined Univac in 1956 as a system analyst, and has carried out major assignments in the areas of engineering, programming, and marketing. Prior to his present appointment, he served as Vice President, Worldwide Marketing and Support, and Vice President of Systems Programming. Included in his present responsibilities are the development of supporting technologies in hardware and software, and the collection and disposition of all product ideas within Univac.

Carter, an announced candidate for the Democratic Party’s Presidential Nomination in 1976, will address the conference on the effective development and utilization of information processing as a national resource. A graduate of the U.S. Naval Academy, his credits include chairman of a number of regional bodies concerned with education and other key issues, and National Campaign Chairman for the Democratic Party.

Sheehan, who received his B.S. degree in Engineering from the U.S. Naval Academy and his M.B.A. degree from Harvard Business School, has had a distinguished business and professional career. In addition to his present position, Sheehan has served as a member of the professional staff of McKinsey & Company, Vice President of the Cement and Lime Division of Martin Marietta Corporation, and Chief Executive of Corhart, a subsidiary corporation of Corning Glass Works.

Dr. Kenneth E. Iverson will receive the Harry Goode Memorial Award at the May 20 NCC luncheon. The award, established by AFIPS in 1964, honors individuals who have made pioneering contributions to the furtherance of computer science and information processing. Dr. Iverson, IBM Fellow and Manager of the APL Design Group, was responsible for devising APL, a major data processing language which has led to new directions in programming.

NBS to Study Computers and Copyrights

Problem: You have written and copyrighted a book. A major library enters the text of your book on its computerized information retrieval system. They do not pay you a royalty. Can you sue them under the copyright law?

The answer is yes, no, and maybe, depending on the court’s interpretation of the 66-year-old copyright law. This computer-copyright controversy will be the subject of an 18-month study to begin soon at the Commerce Department’s National Bureau of Standards. The NBS study will investigate the impact of copyright law on user needs and access to computerized scientific and technical information. Its aim will be to identify and recommend legally, economically, and technically sound alternatives which are beneficial to the public, the information industry and copyright owners. In addition, the study will point out policy issues which are crucial to the continued availability of scientific and technical information, and investigate a central legal question—whether or not magnetic tape used to store words in data banks constitutes a “copy” under the law.
NCC Sessions Described

Capsule descriptions for the first program area of the National Computer Conference—"Science and Technology"—were given in the March issue of Computer. Below is a preview of the other two areas: "Methods and Applications" and "Impact upon Society."

Methods and Applications

Users Viewpoint on EDP Two prime concerns of EDP users today—formalism in the data processing function and the privacy question—will be examined in this series of sessions. Recent advances in the state of the programming art, ways of optimizing the computer installation, and equipment selection methods, will be discussed. In addition, legislators will outline expected governmental actions regarding privacy and security.

Health Care and Computers An all-day forum of physicians and computer specialists will emphasize medical and health care users' needs and the future direction of medical computing. The day will begin with a discussion session on problems in medical informatics systems, followed by a presentation session of medical application systems. Afternoon sessions will address modular medical applications on small computers and the direction of graduate education.

Banking Industry—Electronic Funds Transfer "A Day on Banking," will begin with a discussion of electronic funds transfer systems. Other sessions will cover communication based systems, technology in banking, banking back office paper problems and various manufacturer approaches to reducing costs in this activity, and accomplishments in data base processing in banking.

Innovative Applications of Computer Science Four panel sessions will discuss computer-based innovations that can produce widespread practical benefits within a few years. The first three sessions will describe applications in education, medicine, and automation, and computer-inspired changes in these disciplines; the fourth session presents a major methodological viewpoint of knowledge-based expert systems.

User Requirements Exploiters/consumers of technology and technology-based products and services need ways to specify their technological requirements, and technology suppliers must have the willingness and ability to meet those requirements in a timely, cost-effective fashion. An initial session will offer submitted papers addressing particular technology-transfer issues; the second part of the program will be a panel discussion of the management of technology and of the process of its creation.

Impact upon Society

Education-Curricula-Training During the past year, interest and controversy in computer science and information science education has increased notably. Four seminars will be devoted to problems faced by educators and users. The first session will address the good work being done in the colleges and universities; another, "Data Processing Education—A View from Education—An Appraisal from Industry," presents a critical analysis of the existing data processing education. A third seminar, has been designed for noncomputer professionals; the final seminar examines the use of computers in the educational process in primary and secondary schools, junior colleges, and universities.

Management and Computers Problems confronting corporate managers and computer professionals in applying computers to their own operations will be explored in three sessions. A panel of top executives will offer the views of noncomputer professionals. Next, managers who are computer professionals will discuss computer usage. A final session will deal with selected management topics, including management information systems, long-range EDP planning, and cost benefit evaluation of interactive systems.

Making Computers Safer These sessions will provide an opportunity to engage in information and opinion exchange in six areas: technological methods, process control safety, constitutional rights (privacy question), good practices in computer environments, auditing, and professional responsibilities.

International Issues Four sessions focus on topics of particular interest to computer specialists outside the U.S.—especially standardization. The initial session provides a status report on public packet switching networks. Other sessions turn to discussion of policy questions, the economics of interface standards, and software.