



Banks of the Boneyard

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Faculty Spotlight

("Faculty Spotlight, a regular feature of the ACM Newsletter, attempts to introduce one CS faculty member to our readers. -Ed.)

Our Faculty Spotlight this month is on Professor Saburo Muroga of the Department of Computer Science. Professor Muroga holds a Ph.D. in Electrical Engineering from Tokyo University and has been involved with the Department since its earliest days. He worked with the Japanese Telephone Company from 1947 until 1953 when he came to work at MIT for a year. In 1954 he spent the summer at U of I working on the historic Illiac I. He returned to Japan to develop the 'parametron' computer, a passive-element machine that was produced and sold in Japan. In 1960 he returned to the United States to work with IBM on Computer Aided Design technology. In 1964 he accepted a post at the University.

Currently, Professor Muroga is working on Computer Aided Design of Very Large Scale Integrated circuits (VLSI). His research is funded by the National Science Foundation, General Electric, and Nippon Telephone and Telegraph. One of the major trends that Professor Muroga sees in Computer Science is the production of minicomputers in much smaller packages, so-called "super-minis". Through the use of VLSI, machines which used to take many circuit boards can now be produced with a few integrated circuits. The super-minis have as much power as their original minis, but are much smaller and cost about 1/5 as much. Examples of super-minis are the MicroVax II (compatible with a Vax 11/780) and the IBM Mini 370 (compatible with the IBM 370 mainframe) which will be released in February.

When asked what advice he had for C.S. students, Professor Muroga said that the main problem he sees with students is their fear of hardware courses. While admitting that most students here are very proficient in software and even logic design, when you mention hardware "they begin shaking and sweating with fever". He claims that this fear is only psychological, and that a hardware background is very important to education in Computer Science. This department has always been highly regarded in

industry because of the breadth of knowledge of its graduates. To maintain this position, students should try to learn as much as they can in all areas.

Professor Muroga teaches C.S. 391 in the Fall and C.S. 363 in the Spring.

The HAL Project

A new subgroup of the ACM student chapter is being formed. Its concentrations will be in Artificial Intelligence, information theory in Physics, Mathematics and Biology, and new concepts in mathematics. We will discuss future plans like student research projects for ACM and invitations to major guest speakers in these areas. If you are interested, talk to me after the next ACM general meeting or write:

David Pautler
URH 487 Allen
Urbana, IL

ACM at the Movies

One of the projects we are considering for next semester is a movie fund-raiser. If you are interested in helping out or have any suggestions for movies, call Jeff Sowinski at 359-7438.

Some possibilities are:

Low-Budget Science Fiction
Good Science Fiction
Adventure Films
Disney Movies
Classics

Give us your input, unless you don't mind seeing "Dracula's Dog" or "Spawn of the Slithis" as some people have already suggested.

The Cray X-MP 24

Cray is the maker of the world's fastest computer. The model currently at the University of Illinois is the Cray X-MP 24 located in the Astronomy Building. The Cray is divided into three parts: the Central Processing Unit (CPU), Input/Output Subsystem (I/OS), and the Solid-state Storage Device (SSD). The X-MP 24 houses two CPUs with sixteen megabytes of memory. The Solid-state Storage Device can store up to 1024 megabytes or one hundred twenty-eight Cray megawords of very fast random-access secondary memory. A Cray word is defined as sixty-four bits (eight bytes).

The power supply is housed beneath the seats of the Cray in units that act like giant capacitors. It originates in the basement in the motor generator room. There the conversion of approximately sixty to four hundred hertz takes place. It then travels up to Power Distribution Units (PDU) in the machine room. From the PDUs the power is sent via cables under the floor to the various parts of the Cray.

In addition to the Cray itself, there are eight disk drives with six hundred megabyte storage capabilities each and several terminals. The machine room and the motor generator room are each equipped with costly halon fire extinguishing systems.

The machine room temperature is maintained at approximately sixty-eight degrees Fahrenheit. Air is forced through vents in the false floor as well as through vents in the ceiling. The Cray is cooled via freon running through its cooling system which has been chilled with sixty degree (Fahrenheit) water. If the cooling system should fail, an alarm will sound to notify someone in the twenty-four hour operations staff.

The current operating system is the Cray Time Sharing System, the only timesharing system that can operate on a Cray. It was designed to be a 'bare-bones' operating system so as not to take up much storage space. In January of 1986, the University of Illinois is expected to become a national site. At the present time researchers from the University of Illinois are already using the facilities.

Professor John Kogut is exploring the physical state of the universe in its first few seconds of existence. Professor Larry Smarr is using the Cray to do research on black holes. Presently researchers around the nation are being selected and given the opportunity to tap into the Cray here at the U of I. Plans are already being made for the arrival of the

Cray X-MP 48 (which has four CPUs) sometime in 1986. The Cray X-MP 48 has twice the computing power of the present Cray and comes in a wide variety of colors.

— Jennifer George

C.S. Open House

All students in ACM: now is the time to start thinking about Computer Science Open House. If you would like to get involved in a project, help organize, or donate a little of your time to help make this the best CSOH ever, please give me a call. There is a lot to be done, so don't be shy!! Get involved. Thanks for your participation.

Jeff Sowinski
CSOH Chairman
359-7438

Happy Hour

There will be another ACM happy hour on Friday December 6th at 4:00. This will be one of your last chances to party before the grim spectre of final examinations rears its ugly head once more. Forget about those assignments and unfinished projects for an afternoon! Meet your fellow ACM members! Look for announcements on the Engineering campus for details. Be there. Aloha.

Laws of Computing

If builders built buildings the way programmers write programs, then the first woodpecker that came along would destroy civilization.

The attention span of a computer is only as long as its electrical cord.

To err is human but to really foul things up requires a computer.

The computer can make as many mistakes in 2 seconds as 200 people working for 20 years.

Any given program, when running, is obsolete.
