Banks of the Boneyard

A Journal of the Association for Computing Machinery at UIUC

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Volume III, Number II — October 13, 1985

Faculty Spotlight

As head of the Center for Supercomputing Research and Development, Professor David Kuck is one of the men who is helping establish the University of Illinois as a leader in the field of Computer Science. Professor Kuck received his B.S. in Electrical Engineering from the University of Michigan in 1959. He did his graduate work at Northwestern University, graduating with a Ph.D. in 1963. He took a position at MIT as a Postdoctoral Fellow and Assistant Professor of Electrical Engineering before coming to the U. of I. in 1965. Since 1969, Professor Kuck has been involved with research in alternative architectures, including parallel, pipeline and multiprocessor systems. His work here at the University and as a consultant in industry have earned Professor Kuck an international reputation as an authority on supercomputers.

With grants from the Department of Energy, the State, the National Science Foundation and other sources, Professor Kuck is now working on the Cedar Project, the goal of which is to produce a large multiprocessor supercomputer. Using the 8-processor FX/8 from Alliant Corporation (a firm that Professor Kuck has consulted on the development of that machine) the Cedar Project aims to combine many of these machines into a large vector- and parallel-processing system. The current timetable will see the completion of a 32 processor system (the Cedar-32) in 1986, which will be expanded to a 128 processor system in 1988. The project will eventually produce the 512 processor Cedar-512, due for completion in 1990. Technologically, Professor Kuck says there is nothing preventing the production of 1000+ processor machines. As memory technology advances, improved and expanded memories will be added to the Cedar machines.

Along with Professors Duncan Lawrie, Ahmed Sameh, and Edward Davidson, the Cedar Project will develop the necessary hardware, software, algorithms and applications for the final product. The center currently employs thirty five Computer Science and Electrical Engineering graduate students involved in all aspects of development of the project. The Center for Supercomputing Research and Development is located in the newly renovated third floor of Talbot Lab.

(This is a special issue of the ACM's newsletter. In this issue, we will try to introduce you to the PLATO computing facilities of the University of Illinois. Topics covered are the hardware, educational lessons, and recreational facilities. -Ed.)

Peer Advising

On Wednesday October 30 ACM will be conducting its annual peer advising session. Students from the Department of Computer Science will be available to answer your questions about courses, instructors and curricula. Advising will be taking place from 7 to 9 pm in room 115 DCL. Come by and get the facts from people who know first-hand!

Social Calendar

There will be an ACM Happy Hour at R & R Sports Grill on Friday, October 25 at 4:00. Forget about those mid-term blues and relax with other ACM members. Anyone with the price of a pitcher is more than welcome!

Our Next Meeting

Our next general meeting will be on Thursday October 24 at 4:30 in 100 Met & Mining. The speaker will be an industry representative. Look for announcements on the engineering campus for specifics about the speaker and topic. As always, refreshments will be served, and everyone is invited.

The PLATO System

The CERL PLATO system is the largest single system on campus. It has the capabiltity to deal with over a thousand users, although rarely are more than a few hundred signed on at the same time. It is used by people all over the world. The largest groups of PLATO terminals on campus are at Cerl, and the Physics, Chemistry, and Foreign Language buildings.

The PLATO hardware consists of two Control Data Corporation 170-730 series Cyber mainframes, 19 disk drives, an Extended Memory, Communications Interface Units (CIUs), Site IV Controllers, modems, Microwave transmission equipment, and of course terminals. Each Cyber has 2 CPUs and 25 PPUs (Peripheral Processing Units). The PPUs handle jobs dealing with the outside world, including the terminals and the disk drives. The Extended Semiconductor Memory is used for high speed memory swapping, and has a capacity of 4 million words. This is a key factor in being able to provide good response time to hundreds of users. The ESM is shared by the two Cybers. The Site IV Controllers handle up to 32 terminals at a time and provide an interface between the terminals and the CIUs. The CIUs then interface between the PPUs and the Site IV Controllers. There are 6 single density and 6 double density disk drives, and 7 fixed media drives. They currently hold 23,558,000,000 bits of information.

If you desire a non-author signon to this system you must go speak with a system operator at CERL. There is an operator there monitoring the system and assisting users 24 hours a day.

PLATO Gaming

Any student or staff member of the U of I may be provided with a PLATO signon by the CERL operations staff. You must bring a student or staff ID card to room 166 ERL. It takes a day for your signon to be registered with the system so you can not game the same day that you register for a signon.

To game you must sign up for gaming in advance. This is done by registering as "signups" of "guests". You will be prompted for your signon and group at this time. Once you are in you can register for a night up to several months in advance.

Gaming is restricted to the period 10PM-8AM. Also, normal system usage must be low, for if system resources are not available you may not game even if signed up. Gaming is restricted for good reason. Not only is the primary purpose of PLATO educational, but gaming can be addictive. Gaming provides a good way to unwind, and it is one of the cheapest sources of entertainment in the area (it's free). However, don't get so involved in it that your studies suffer.

The list of games can be found in the lesson "bigjump", and CERL policy and policy changes about recreational use of the facilities can be found in the lesson "cerlnote".

You should bring your ID with you when gaming, because if asked to produce it and you can not provide it you may be banned for the semester. A handout sheet on CERL access to the recreational lessons on PLATO can be found at the operators office at 166 ERL.

PLATO Lessons

The PLATO system has a number of instructional lessons available to any student. Anyone may sign in as "student" of group "guests" and have access to a large number of lessons. One of the lessons has information on the locations of all the terminal locations on campus.

The instructional lessons include the following subjects: Physics, Biology, Chemistry, Accounting, Health Sciences, Electrical Engineering, Computer Science, and Foreign Languages.

The Computer Science lessons cover many subjects. A few of them are: Pascal, PL/I, FORTRAN, BASIC, COBOL, APL, Machine and Assembly Language, Job Control Language, Information Structures, Numerical Analysis, Applications, System Programming, Logic Design, and Compilers.

The Electrical Engineering lessons are more directly tied to specific courses. To just touch on a few, they include: Introductory Electromagnetics, Basic Principles of Network Analysis, Introductory Logic Laboratory, Circuit and Signal Analysis, and Semiconductor Electronics.

For anyone who wants extra help in studying for an exam, help in understanding the syntax of a computer language, or who just is curious about a subject, the PLATO instructional lessons will provide a great deal of helpful information.