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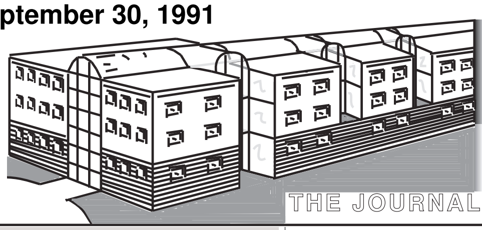

BANKS OF THE BONEYARD

THE JOURNAL OF THE ASSOCIATION FOR COMPUTING MACHINERY AT UIUC

Contents:

INSIDE:

ACM Library Now Open!

The ACM print library is now available to all members. This small but rapidly growing collection includes many tomes on programing , specific computer languages, boolean algebra and other subjects. We even have some textbooks that are being used this semester! In addition, class notes from a variety of Computer Science courses are also available.

The library is now on-line (or soon will be, hopefully, maybe) so you can find what you need more easily. Material may be checked out for a period of two weeks with a valid ACM Membership card.

To use the library, just stop by the ACM office during regular hours. Bring your ACM membership card and choose up to five books or magazines. Then ask the friendly executive on duty to check them out for you.

Anyone who wants to donate books or magazines to our growing library is encouraged to do so. Anyone who doesn't want to donate anything is still encouraged to do so. All donations would be greatly appreciated.

- Kevin Morgan
ACM Library
acm@uiuc.edu

Law, Ethics, and Computer Science

The field of computer science is becoming increasingly involved in legal disputes as computers become more and more vital to society. As well, there are tough ethical questions for computer scientists and other computer professionals. In this column, I will take a look at some of the legal and ethical questions facing computer science professionals. There will be few answers but many interesting questions and issues. For legal questions, this is because, in many cases, there are as yet no good answers. The field of computer science is too young for many important issues to have been addressed by the law. For ethics, the answers must come from the community as a whole, and many of these issues are either unanswered or unasked questions.

Some of the issues to be considered will be software patents, copyright issues, reverse-engineering cases, "look and feel" protection, licensing agreements, freedom of speech issues, the future of national computer networks, search and seizure issues, privacy and security, unauthorized access, use of computers in military and espionage, and several other current issues.

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ACM at UIUC Announces New Special Interest Group

Software Development Team Also Forming

From the Chair

I would like to announce the introduction of a new special interest group for our ACM student chapter, SigArch. SigArch will cover the design and implementation of custom computer architectures. This group will start with the design of a basic digital computer and continue with the construction and programming. At this point, no decision has been made as to which processor(s) to base the design on, or what peripheral devices to incorporate. If you are interested in computer design as a hobby or career choice, I would recommend joining this group. We will start by determining each person's experience level, strengths, and time availability and divide the design tasks accordingly. You will be able to learn about computer design and contribute to the project, even if you don't have much experience with digital design.

On the software side of computing, the ACM Software Development Team is off to a good start. Currently, there have been projects proposed for the Mac and IBM computers and groups are being created to begin work on them. The Software Development Team is looking for interested programers who would like to work with others on group projects. All programers are welcome to join and learn new programming skills. To join either the the ACM Software Development Team or the SigArch special interest group, contact Alex Bratton (bratton@cs.uiuc.edu), or call the ACM office at 333-5828 and leave your name and phone number.

This year, ACM is working to provide a more social atmosphere. Already we've had a canoe trip and a picnic at Crystal Lake park. The ACM Challenge volleyball tournament will be taking place on October 19, (see article in this issue for more information.) We will be organizing an ice skating evening, movie night, hockey game and many other activities for the coming months. If you have suggestions for events that you would like to see ACM hold, please let us know.

Finally, our general meeting will be held on October 2, at 4:00 in room 1225 DCL. As usual, free pizza and pop with be served after the meeting.

- Alex Bratton
Chairman
bratton@cs.uiuc.edu

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Special Interest Group Updates

SigArt

SigArt has already ushered in the new school year with its first meeting Tuesday, September 10th. During that meeting, we shortly discussed real-time expert systems—one of the most visible and important of AI applications today. In the future, we will be covering topics such as what AI really does, how to implement it, and how it is used today in industry and in reasearch labs. Later in the year, I hope to bring in speakers from the university who will give their opinions on artifical intelligence and what they do with artifical intelligence in their work.

Later on in the year, SigArt may sponsor some LISP workshops for any ACM member interest in learning a little about today's leading language in AI, and would like to begin programming in it. Also, with the approach of next spring comes Engineering Open House, and I would like anyone who is interested in working on a project to contact me if he/she has an idea. SigArt meetings are on alternating Tuesday nights at 6pm in the ACM office (1225 DCL). The next meeting is on October 8th. If you have any questions or are just wondering just what SigArt really is, don't hesitate to e-mail me at sigart@uiuc.edu or just stop by the ACM office in 1225 DCL to ask a question.

- Andrew Vernon
SigArt Chairperson
sigart@uiuc.edu

Sig Micro

SigMicro has begun fleshing out our plans for this year. There's still time for people to get involved, however. Our goal for the fall semester is trifold: win another award at Engineering Open House, get the public domain library on its feet, and offer workshops to university students.

The 1990 Engineering Open House produced a Third-place victory for SigMicro's project on computer viruses. 1991 was not to be so grand. But now we're looking forward to next year, and looking back on where we came up short this last year. It has been resolved that SigMicro will get an earlier start on a project for the spring. Our meeting on September 10th produced the proposal to create a graphical chat system on a Local Area Network of DOS machines. This idea is not without its shortcomings, and certainly is not entirely laid out. It is my opinion that we should consider alternatives through our meeting October 8th. After that, we should probably get together a team and start working.

The Public Domain / Shareware library has found a new home. These 175 floppy disks have wandered aimlessly for the past six months, looking for hard drive space to occupy. As many of you know, we've been working on obtaining a large hard drive to drop into the Compaq machine donated by Lante Corporation. Last spring we purchased a 9600 baud v.32/ v.42bis modem for use as a SigMicro BBS. Still waiting for a permanent home, our collection of utilities, shareware applications, games, and much, much more is currently inhabiting part of the Dragon Palace BBS. Local dialup is 9600/N-8-1 at 359-6761. We hope to get a hard drive and a dedicated phone line in the office this semester, so we can finally put this collection where it belongs.

Finally, it has been resolved that this semester SigMicro will offer a 3-part workshop on learning C. This powerful language has become the weapon of choice for many programmers, including most of our upperclass members. It is likely that our EOH project will be mostly written in C. If you're still in the dark about C, contact Ajay Patel or myself for information on these workshops. The first of these is tentatively scheduled for Sunday, September 29th from 1pm to 4pm. We are waiting for permission from CSO to use the Oregon site, or perhaps the Agriculture lab in the Ornamental Horticulture building.

SigMicro meets every other Tuesday in 1102 DCL. Upcoming meetings are September 24th and October 8th. We hope to see you there!

-Mike Stangel
SigMicro Chairperson
sigmicro@uiuc.edu

National ACM News

The August 1991 issue of the Communications of the ACM was focused on Real-Time Knowledge-Based Control Systems. These systems are involved in a variety of industrial areas including aircraft and automobile production, chemical industries, and nuclear systems. The field originated from Artificial Intelligence involved with work on robotic systems capable of autonomous, flexible, and intelligent behavior. Articles presented are:

• "Real-Time Knowledge-Based Control Systems" by Marcel Schoppers, a senior computer scientist at Advanced Decision Systems.
• "Real-Time Disturbance Control" by B. Chandrasekaran, a professor of computer and information science and director of the Laboratory for AI Research at Ohio State University, R. Bhatnagar, employed at GTE Laboratories, and D.D. Sharma, a senior research engineer at Advanced Decision Systems.
• "Intelligent Real-Time Control of Robotic Vehicles" by David W. Payton, head of the Autonomous Systems Section in the Artificial Intelligence Department of the Hughes Research Labs, and Thomas E. Bihari, chief computer scientist at Adaptive Machine Technologies, Inc.
• "Declarative Control Architecture" by Wolf Kohn, Chief Researcher in Artificial Intelligence at Boeing Computer Services.
• "Reducing Problem-Solving Variance to Improve Predictability" by C.J. Paul, a Ph.D student in computer engineering at Carnegie Mellon University, Anurag Acharya, a graduate student in the School of Computer Science at Carnegie Mellon, Bryan Black, employed at Motorola Semiconductor Products Sector in Austin, and Jay K. Strosnider, an assistant professor of electrical and computer engineering at Carnegie Mellon.

Other papers in the Communications include:

• "A Storage and Access Manager for Ill-Structured Data" by Jeffrey E. Kottemann, Michael D. Gordon, and Jack W. Stott
• "Impacts of Life Cycle Models on Software Configuration Management" by Edward H. Bersoff and Alan M. Davis
• "Computing Perspectives: Revisiting Computer Security in the Business World" by Maurice V. Wilkes
• "Electronic Frontier: Private Life in Cyberspace" by John Perry Barlowi
• " Inside RISKS: Mixed Signals About Social Responsibility" by Ronni Rosenberg.

In the September 1991 issue of the Communications of the ACM, the focus is on Lisp. Fifteen percent of the readers of the Communications use Lisp, and many are interested in learning more. It is one of the primary languages for Artificial Intelligence. Articles presented are:

• Introduction by John Foderaro
• "CLOS: Integrating Object-Oriented and Functional Programming"by Richard P. Gabriel, Jon L. White, and Daniel G. Bobrow.
• "Philosophy of Lisp" by Kenneth H. Sinclair and David A. Moon.
• "The Metal System" by Oliver Gajek
• "Lisp Systems in the 1990s" by D. Kevin Layer and Chris Richardson
• "CLIM: The Common Lisp Interface Manager" by Scott Mckay
• "LispView: Leverage Through Integration" by Hans Muller
• "Delivering the Goods with Lisp" by Richard Barber and George Imlah
• "Real-Time Programming in Common Lisp" by James R.Allard and Lowell B. Hawkinson
• "Biosphere 2 Nerve System" by Rocky L. Stewart.

Other articles presented in the Septmeber issue include:

• "On Building Systems That Will Fail" by Fernando J. Corbató
• "An Interview with Fernando Jose Corbató" by Karen A. Frenkel
• "International Perspectives: Computer and the Resuscitation of Romania" by Seymour E. Goodman
• "Log on Education: How the Nintendo Generation Learns" by Elliot Soloway

National ACM News

• "Inside RISKS: The Not-So-Accidental Holist" by Peter G. Neumann

Another additional release from the ACM Press is the SIGGRAPH '91 Conference Proceedings. SIGGRAPH is an annual conference sponsored by the Association for Computing Machinery's Special Interest Group on Computer Graphics. Areas in which papers and presentations were given include: Animation, Display of Building Interiors, Raster Techniques, Animation and Illustration Systems, Filtering and Sampling, Illumination and Reflection, Volume Modeling, Surface Modeling, Volume Sculpting and Rendering, Texture and Synthesis, and Hands and Legs.

Panel discussions included Intellectual Property Rights; Computer Graphics:More Unsolved Problems; Graphic Design in the Nineties: New Roles, Options, and Definitions; Making Virtual, Artificial, or Real Computer Art; Scientific Visualization on Advanced Architectures; The Third Dimension: It's Not a Virtual One; Future Directions of Visualization Software Environments; Designing for New Media: Technologists and Visual Designers Work; HDTV: Technologies and Directions; Education Technology: Doing With Images Makes Symbols; Applications of Virtual Reality: Reports From The Field; Semiconductor Requirements For Merging Imaging And Graphics; Desperately Seeking Standards; Managing Time in Multimedia; Object-Oriented Graphics; and Networked Digital Video.

In addition to these publications, the annual Symposium on User Interface Software and Technology co-sponsored by SIGGRAPH and SIGCHI will take place in Hilton Head, SC from Nov. 11-13. UIST '91 is the premier forum on innovative engineering of the human-computer interface. The symposium brings together user-interface researchers and practitioners with an interest in techniques, tools, and technology for constructing quality, innovative user interfaces. The intimate size, single track, and comfortable surroundings make this symposium an ideal opportunity to exchange research results and implementation experiences. For a registration form, send email to biske@cs.uiuc.edu.

These ACM publications are available in the Digital Computer Lab Library, and a limited number of publications are in the ACM office. Stop by the office if you have questions or for more information.

Law and Ethics (from Page 1)

There are many useful sources of information for people who want to find out more about these issues. Some of these sources are the USENET newsgroups alt.privacy, alt.comp.acad-freedom.talk and .news, alt.society.cu-digest, misc.legal, gnu.misc.discuss, and comp.org.eff.news and .talk. Organizations involved in these issues include the League for Programming Freedom (LPF), the Electronic Frontier Foundation (EFF), and Computer Professionals for Social Responsibility (CPSR). Some ACM publications are concerned with social issues in computing as well. All of these are good sources of information for people who want to keep up to date with the status oflaw and ethics in computer science.

- John Coolidge
coolidge@cs.uiuc.edu

vi ? ls lpr

Need help using that free student account?
Never used a UNIX machine before?

Come to the ACM SigUnix Workshops and find out what you need to know!

C Shell Part 1: Monday Sept. 30
C Shell Part 2: Monday Oct. 7
C Shell Part 3: Monday Oct. 14

All workshops will be held from 7-8 p.m. in room 1245 DCL. Room is subject to change.

Tips on Microcomputers: MS-DOS Batch files and Paths

Welcome to what we hope will be an informative new series in The Banks. This column, sponsored by SigMicro, is dedicated to easier and more productive microcomputing. In this issue we will discuss batch files on DOS machines.

When you find yourself executing the same group of steps each time you want to perform a specific task, you may save yourself a lot of work by creating a batch file for it. For example, to play golf on my computer, I must turn off my screen saver. So each time I play, it looks something like this:

```
D:
CD \GOLF
C:\UTIL\SAVER.EXE /d
GOLF.EXE
C:\UTIL\SAVER.EXE /e
```

This would be easier if I could just type GOLF. The first thing to do is create the batch file. This is most easily done by COPYing from the CONsole to a file.

```
COPY CON GOLF.BAT
```

The computer responds by giving you a cursor beginning a blank line. Now type in all the commands seen above, hitting ENTER at the end of each line. At the end of the last line, press F6. This will put an end-of-file character (^Z) in the file. Once this character is in the file, and you press ENTER, you are done copying. Take a look at your work. Enter:

```
TYPE GOLF.BAT
```

GOLF.BAT is a standard ASCII file. If you made a mistake, you can use EDLIN or any simple word processor to fix it.

Where should we put this batch file? We could always put it in the golf directory, D:\GOLF, but that would mean we'd still have to type D: and CD \GOLF everytime we wanted to play. It might also interfere with the file GOLF.EXE, as DOS wouldn't know whether you meant GOLF.BAT or GOLF.EXE when you typed GOLF! We could change the name of one of our GOLFs, but there's a better way. If we create a directory called BATS, and put all of our batch files in there, then we can run a number of things very easily! All we have to do is add the BATS directory to our PATH, and we can be anywhere among our several disks/directories and still play golf with one easy command.

What is a PATH? A path gives directions to the computer to tell it where to look when it can't find a file. For example, supposed we typed PATH at the DOS prompt and it gave us this:

```
C>PATH
PATH=C:\DOS;C:\UTIL;C:\WS
```

Suppose I was using A drive. When I type WS to run WordStar, it looks on the A drive for WS.COM. When it doesn't find that, it then looks on the A drive for WS.EXE. When that fails, it looks on the A drive for WS.BAT. That's not there either, so DOS needs to pull in some help. Looking at the path, DOS then tries looking for C:\DOS\WS.[COM,EXE,BAT]. Those fail, so it looks for C:\UTIL\WS.[COM,EXE,BAT], to no avail. Finally, it looks for C:\WS\WS.COM (fail) and then for C:\WS\WS.EXE. Aha! DOS found my word processor, because I told it where to look. Similarly, you can tell DOS where to find GOLF.BAT, which will then go to the D:\GOLF directory to play the game. So we're ready to do it:

```
MKDIR C:\BELFRY
COPY GOLF.BAT C:\BELFRY
DEL GOLF.BAT
```

We've created a directory specifically to hold batch files, and put our golf file in there. Now we must modify the PATH. Unfortunately, you can't just add to a path, unless you have a special utility to do so (check the SigMicro Public Domain Library!). So we have to retype the whole path:

```
PATH
(DOS returns with whatever
path you have)
(PATH=C:\DOS;C:\UTIL;C:\WS)
SET
PATH=C:\DOS;C:\UTIL;C:\WS;C:\BELFRY
```

I suggest you also put that last line in your AUTOEXEC.BAT file, so you don't have to do this all the time. (Don't have an autoexec? Create it with COPY CON! Be sure it's in the root of your boot drive.)

Now we're done! You can play golf at any time, just by typing GOLF. Of course you may want to spice up your GOLF.BAT file, just

(Continued on Page 7)

Tips (from Page 6)

to make it nice. Here are some tips:

• Chaining batch files: You can run one batch file from another. For example, AUTOEXEC.BAT is run each time you turn on your computer. If it has a line that says GOLF.BAT (or just GOLF) in it, it will load the golf game. The number of chains are endless, so it can become very powerful. DOS will end execution of the first batch file unless you use the CALL command, as in CALL GOLF.BAT.

• Replaceable Parameters: Your batch files can have variables, entered as %0, %1, %2 ... %9 in them. %0 is a special parameter, which will fill in the own file's drive designation and name (without .BAT) upon execution. The rest of the variables are the words which follow the name on the command line. Try this example:

```
COPY CON:MOVE.BAT
DIR %0.BAT
COPY %1 %2
DEL %1^Z
```

The DIR command is just to demonstrate how %0 works. It will give you the directory listing of MOVE.BAT. The next line does that which DOS forgot: the move command. Pick a file on your current directory, other than MOVE.BAT. And pick somewhere else to put it, like the B drive. Now type

```
MOVE (filename) B:
```

And the file is moved to the B drive. COPY MOVE.BAT to your BELFRY directory, and you now have a move command! (You may remove the DIR %0 line.) In fact, you may MOVE it to that directory, but be forewarned that standard DOS doesn't load an entire batch file into memory. If the DEL command had occurred earlier, DOS would come back to look for MOVE.BAT to execute the next command, and upon not finding it, would hang. (Try it, it's fun!) Be sure you have enough space in the target drive/directory for the move command, or the COPY will fail, but it will still delete the file! Finally, you can get more than those ten variables by using the SHIFT command. SHIFT, executed by itself in a batch file, moves all the variables one place, shifting %0 out (%1 becomes %0) and shifting the 11th variable into %10 (%10 becomes %9). This allows you to have an unlimited number of command-line arguments, but you may still only operate on ten at a time.

• Named parameters: Your batch files may retrieve named variables from the environment, such as PATH. Anything can be created with the SET variable, and your batch file can use anything that has been SET. It will leave blank anything you use but have not SET. For an example, put ECHO %PATH% and ECHO %KOOSH% in a batch file.

• Labeled lines: You may label any line in your batch file, so that you may GOTO it later. An example demonstrates it best:

```
GOTO QUIT
...
:QUIT
^Z
```

Now that you know all these things, have a look at my ADDPATH.BAT file. See if you can figure out what each line does.

```
: addpath.bat by Rick Satler
: This batch file will
: expand the
: DOS PATH environment
: to include the added path
: If no parameter is
: specified
: then an error message is
: shown giving the correct
syntax.
@echo off
if !%1==! goto noparm
path=%path%;%1
goto exit
:noparm
echo no parameter specified
- addpath [d:][pathname]
:exit
```

Notice how tricky Rick was—he used labels as comments! The "@" preceding "echo off" means "don't echo this line." Without it, you would see the line "echo off" each time you ran ADDPATH.

There are several commands which may be used in batch files, including FOR loops, IF commands, and ECHOing information to the user. You may find all of these commands in most DOS books, or ask one of us at our SigMicro meetings. Questions? Email sigmicro@uiuc.edu.

Mike Stangel
Chairman, SigMicro
sigmicro@uiuc.edu

Are you up to the ACM Challenge?

The first annual ACM Challenge volleyball tournament will be held on Saturday, October 19. If you are an ACM member, we have two teams reserved that you can participate on. If not, you can organize your own team of 6 to 8 players. Registration costs $2 per person, and prizes will be awarded to the winning team. To register, please stop by the ACM office in room 1225 DCL with your team registration fees. The registration deadline is October 11, but team space is limited, so make sure to get your team signed up early. For more information, stop by the ACM office, email acm@uiuc.edu, or call 333-5828.

Departmental Announcements

• Room L440 in DCL has been set up to be a study room for undergraduates. Several tables are there to facilitate homework sessions, and various terminals will be available soon, making network access easier. There are also facilities there to accomodate meetings/teaching/whatever for 30 people. You will need to use your ID to open the electronic lock on the door. If you need to have your ID encoded, please see Shirley Finke in room 3270 DCL.

• CSO has moved the Mac lab that was in the Woodshop into room L410 in DCL. They will be upgrading the machines later this semester.

• Preparation has begun for the demolition of the Woodshop building in October. This, along with the Police Station and Aero. Lab B, will be torn down to make way for the new Engineering Library. Construction should begin in spring.

UPCOMING EVENTS

October 1 - SigGraph Meeting 1102 DCL, 7pm

October 2 - General Meeting, 1320 DCL 4pm

October 8 - SigMicro Meeting 1102 DCL, 7pm

October 15 - SigGraph Meeting 1102 DCL, 7pm

October 19 - Volleyball Tournament, Crystal Lake Park

ON-LINE ACM

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