The Journal of the Association for Computing Machinery at UIUC: The

Banks of the Boneyard

Volume 17, Issue 1

From the Chair

by Mark Ashton

Welcome to the first issue of Banks of the Boneyard for the Fall semester. If you're a new student or just aren't familiar with ACM@UIUC, you will find all sorts of useful information. You will learn a lot about our various Special Interest Groups (SIGs) and activities, and maybe get an idea why you should join. If you're already a member, I don't need to remind you of the many splendors each issue of the Banks contains.

We've got an exciting lineup of events this year. Our first General Meeting will take place on September 3 at 6 PM in 1320 DCL. Our speaker will be Dick Bains, on of the original architects of IBM's AS/400 architecture. We'll be having the usual slew of corporate info nights, where you can learn about companies, get a job, and eat free pizza. Our marquee event is the annual Reflections | Projections computing conference on October 2-4. Our keynote speaker will be **Bjarne Stroustrop**, yes that's right, **Bjarne Stroustrop**, the creator of C++. We will also have the new incarnation of our Mechmania programming contest and our huge Conference job fair. For more details, check out www.acm.uiuc.edu/conference. Of course, we will present the latest incarnation of our annual EOH extravaganza come fall, and there will be plenty of social events sprinkled throughout the year.

Check out the rest of this issue for great computing articles from various members and updates on what our SIGs are doing. If you're not a member of ACM, be sure to come to our first General Meeting and find out what it's all about; a little free pizza never hurt anyone.

In This Issue:

What fields interest you the most?

As the year kicks off, the ACM's many Special Interest Groups (SIGs) begin their projects and workshops, accommodating a wide variety of computer-related interests. Whether you're a freshman neophyte or consider yourself an old pro, you'll be amazed at how much you can learn from these groups.

Sigs:

Random stuff I wish I had known when I got to UIUC

by Jason Luther

A lot of this stuff seems like common sense, and a lot of it you probably already know. These are just a few things that I found to be really useful by the end of my first year. I hope at least one of them will make your adjustment to the campus a little easier.

The Association for Computing Machinery:

ACM is a nice place to hang out. People are always glad to answer your questions, and they order food a lot.

ACM has old CS exams available for checkout.

There are fun toys in the office.

The North Campus:

There is a nice cafeteria at Beckman, the northernmost building on the campus (and a short walk from DCL).

The CCSO resource center is where you go when you forget a password or need to get software for your computer. It is in 1420 DCL.

Busses:

The 22 Illini that picks you up in front of the Illinois Street Residence halls takes one of two routes. Neither will get you north of ISR until going around the entire campus.

Your ID will get you on any MTD bus. You don't have to show your ID to get on any campus busses.

General Education Requirements:

http://www.engr.uiuc.edu/Advising/gen.html tells you what general education requirements a class satisfies for the College of Engineering. Some classes can count for more than one requirement.

http://www.uiuc.edu/colleges/provost/gened.html tells you what the University requires.

Campus Computing:

CCSO has a site license for a lot of software, including the full version of Eudora, and all of the Macintosh system software.

You can get a lot of good-quality used computer parts for low prices. Read the uiuc.classifieds.computer newsgroup.

Computer Science:

CS classes don't waste much time on things that they don't think are important. What you don't understand, you should figure out because it will appear on the final.

Studying for CS classes is a lot easier when you study with other CS majors.

ACM is your friend in the CS department. The projects you can do with ACM will apply what you learn in class, and we have people who have been through your class already.

Miscellaneous:

You will overcommit yourself on Quad Day, so don't feel too bad when you realize that you don't have enough time to save the rain forests, volunteer for six charities, book acts at the Union, and jump out of airplanes.

Having a car is nice when you need to get off campus, but you won't want to use it to get around campus.

Join ACM, and good luck!

The Banks of the Boneyard is a student publication of the UIUC Chapter of the ACM, the First Society in Computing, and does not necessarily represent, in whole or in part, the views of the University of Illinois, the Department of Computer Science, or the International ACM. Partially paid for by SORF and the Department of Computer Science.

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or visit our homepage at www.acm.uiuc.edu

The newsletter staff encourages ACM members to submit letters to the editor, articles, photographs and artwork for future issues of *The Banks of the Boneyard.* If you would like to contribute or participate in its creation, please email boneyard@acm.uiuc.edu.

DON'T MISS THIS CHANCE: THE CS MENTOR PROGRAM!

Let CS alums in the "real world" be your personal guide to life by joining the CS Mentor Program. Get advice on classes to take, how to find a job, industry trends, you-name-it, all while improving your networking skills. Students and mentors are matched according to background and interests; most contact is via e-mail. If you don't receive the signup form in September, send e-mail to alumni@cs.uiuc.edu. Sponsored by the CS Alumni Association and the Department of Computer Science.

SigArch

by Jason Gallicchio

If you aren't just satisfied with using technology, but instead want, no, demand to know how it all works, the Special Interest Group for Computer Architecture is for you. SIGArch is different from the other SIGs in ACM -- We're primarily focused on digital logic design and electronics projects.

In the past, SIGArch has been involved with such diverse projects as the ACM scrolling sign that can display messages sent to it through e-mail and the PowerGlove Serial Interface that allows users to input three-dimensional information to a PC or Mac program through a Nintendo PowerGlove.

New members are always welcome, and no electronic experience is necessary -- only a strong interest in electronics and the desire be involved with some of the coolest projects. The best way to learn more about SIGArch is, of course, to visit our newly redesigned web page at http://www.acm.uiuc.edu/sigarch/

http://www.acm.uiuc.edu/sigarch

Stretch your Web-legs, and check out:

www.acm.uiuc.edu

VR Sig

by Ray Kaplan

Do you find that modern GUIs like those on the Windows and the Mac to be missing a critical dimension? Do you think that depth is important in your interactions with your computer? Would you like to work with virtual reality on your home computer? If you answered yes to any of those questions then SigVR, the special interest group in virtual reality is right for you.

In SigVR we deal with everything in virtual reality from immersive experiences with head mounted displays to internet virtual reality. In the past we have dealt with head mounted displays and harware, but in the last two years we have shifted our focus to software. We have been working with VRML, the virtual reality modeling language. VRML is a scripting language like HTML that allows you to work with VR on the internet and your home computer.

Last year our EOH project was a multiplayer maze game using VRML that allowed any two people over the internet to play due to the use of VRML, Java, and CGI. This year we may continue with this type of project or do something else. We are always open to suggestiongs from our members. If you are interested in joining SigVR email sigvr@uiuc.edu or visit: http://www.acm.uiuc.edu/sigvr/. You can also come to our first meeting on Monday Aug. 31 at 7:00 PM in 1225, the ACM office.

http://www.acm.uiuc.edu/sigvr

Need to know when the SIG you wanted to check out is meeting? Check the handy guide below. All SIGs meet in the ACM Office (1225 DCL) before heading off for greener pastures.

Windevils:
September 3rd, 8:00

SIGWeb:
Wednesdays at 7:30

SIGBio:
Tuesdays at 6:30

SIGDave:
Wednesdays at 8:30

SIGVR:
Mondays at 7:00

SIGArt:
Wednesdays at 7:00

SIGArch:
Tuesdays at 7:00
Thursdays at 9:00

SIGOps:
Tuesdays at 7:00

SIGSoft:
Wednesdays at 6:00

LUG:
Tuesdays at 8:00

SIGMusic:
Wednesdays at 7:00

SIGOPS

by Doug Armstrong

To all incoming freshman, and those who haven't discovered us yet, be sure to check us out this semester. At SigOps we do operating system development, so you really get a chance to use your skills. Or, come and learn everything from our members who are always willing to help. This coming semester we will be putting on our "Roll Your Own OS Workshop" which was a huge success last year. People who didn't even know C++ at the beginning had their own 32-bit multitasking operating system. You have true freedom to do everything *your* way, yet still the support and technical knowledge of the group. The best of both worlds! Last year we went on to use our home-brew operating systems and wrote network drivers and protocol stacks to network them together. We then created an award wining distributed fish tank (with graphics no less) for Engineering Open House. Be sure to visit our web pages at http://www.acm.uiuc.edu/sigops and don't forget Tuesdays at 7:00 in the ACM office 1225 DCL, an hour earlier than last year.

http://www.acm.uiuc.edu/sigops/

Be sure not to miss the ACM's beginning-of-the-semester activities:

Thursday, August 27th, the ACM Open House

Come out for a viewing of *Dark City* on DVD. Afterward, come out and learn about our Special Interest Groups and enjoy **FREE** snacks and pop.

Thursday, September 4th, our first General Meeting

On the first Thursday of classes, take a much needed break, and come by 1320 DCL at 5:00 for our first General Meeting. Find out more about us, and get

FREE PIZZA AND POP!

How I Learned to Stop Worrying and Love MicroSoft

by Mark Ashton, ACM Chair

Lately there has been a lot of talk about wrongful use of monopoly power in the computer industry. Everyone is either complaining that Microsoft is stifling the industry with its powerful hold over the OS business and its dominance in computing mindshare, or defending the company that managed to get to the top with very shrewd business practices. I find the entire dialog irrelevant, and I'll tell you why.

Being a member of ACM has taught me one important thing. The future of the computing industry always lies in the hands of enthusiasts. The history of computing has been one of seemingly unstoppable trends being swept away by totally unforseen changes. No one in the world would have predicted the move from Big Iron to personal computing. No one could have predicted that the ArpaNet would mutate into the unstoppable juggernaut the Internet is today. No one could have imagined that a weird little protocol for publishing hypertext over TCP/IP connections would become the modern Web. It happens because of people like our ACM members. Who else is willing to work until five in the morning coding some obscure software that will probably never see the light of day?

Enthusiasts see the powerful possibility behind new technology, and have an unmatched ability to turn potential into reality. Back in the late 70's people who worked with computers all day decided they wanted ones for themselves, so they built their own in the garage, which became the catalyst for today's personal computing industry. It's not industry giants who change the world. It's the lone programmer, or the distributed development effort. Individuals have an incredible ability to enact change in this industry.

That's what ACM is all about. Our goal is to provide the enthusiast with an environment where he or she can thrive, and produce cool stuff. At ACM@UIUC you are surrounded by about 350 like-minded individuals, each with similar goals and interests. There's no limit to what you can learn or do.

If you aren't a member of ACM, I invite you to join and see just where it can take you. If you are, flip through this edition of the Banks and think about all the great stuff you can do with other members' help. Eventually we'll figure out something that will change the world, and catch the giants by surprise.

SigArt: The Artificial Intelligence Frontier

by Misha Voloshin

When Gary Kasparov said he felt an intelligent, reasoning consciousness from his opponent, the figure on the other side of the chessboard was not that of a fellow grand-master, but of a machine. There was a time when nobody believed that a computer could exhibit the "thinking" skills required to play a decent game of chess, but today's world champion is Deeper Blue, IBM's massively-parallel A.I. construct.

Genetic Algorithms

But Deeper Blue is not the only A.I. to make headlines. Perhaps you've heard of MIT's robotic insect colonies, whose six-legged members teach themselves to walk and then to cooperate as a team. Or Carnegie-Mellon's autonomous car, which cruises driverless down the highways of Pittsburgh. Or the neural network chip recently marketed by Nestor Corporation for high-performance optical recognition.

Expert Systems

With this rate of growth of the A.I. field, one is forced to wonder how far we can go, both on technical and philosophical ground. After all, according to Arthur C. Clarke's classic novel, *2001: A Space Odyssey*, HAL was supposed to be assembled right here at the University of

Illinois in January of 1997. Can we ever hope to create a computer like HAL from 2001, or SkyNet from the Terminator movies, or even Rudy from the Jetsons? And, with background such as HAL and SkyNet, would we really want to?

Belief Engines

It is these kinds of questions that we ponder at SigArt. Every Thursday at 7:00 P.M., we gather to trade information and work on projects. We provide a learning forum for those who are new to A.I., as well as a circle of discussion for those who have had more experience in the field.

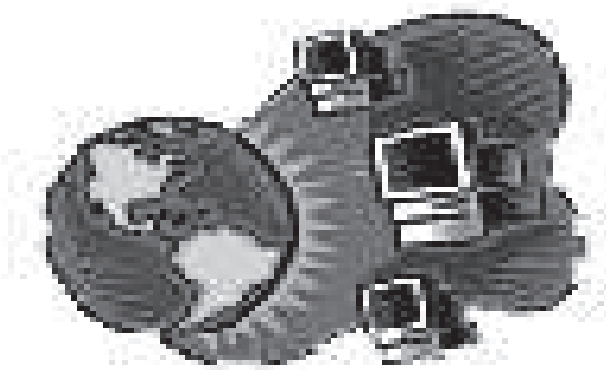
Artificial Life

If you fantasize about the far-reaching future of computing, if you ponder the construction of knowledge bases and neural networks, if you question the barrier between man and machine, then SigArt is where you should be.

Neural Networks

Come to 1330 DCL. at 7:00 P.M. on Wednesdays to join in the excitement. More information is available by emailing sigart@uiuc.edu. The future awaits!

http://www.acm.uiuc.edu/sigart



SigNet

by Jason govig

SigNet is the Special Interest Group for Networking and Security. We do anything network related, whether it is writing network code, setting up small networks of computer, or discussing current trends and technology related to networking in general. If you want to learn anything about networking, then this is the place to be. No experience is necessary!

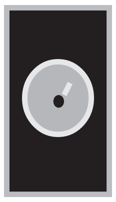
This past year, our main project was Voodoo City, a Java powered, networked gaming site. All applications and servers have been written in Java and are playable through our site at http://www.acm.uiuc.edu/signet/voodoo. Some games currently online are Asteroids, Black Jack, Minesweeper, Dots, and Tic Tac Toe. We are always looking for people to write new games, change current games to be two player network games, and design graphics and webpages.

If you are interested in helping with Voodoo City, starting other projects, or learning anything about networking, come to SigNet. Meetings will be Mondays at 7:30pm in 1102 DCL, starting in September. For more information, visit our website or email me at the addresses below.

www: http://www.acm.uiuc.edu/signet
email: signet@uiuc.edu

Save Paper: Read the Banks Online at:

www.acm.uiuc.edu/banks/



"Just what do you think you're doing, Dave?"

-*HAL*, 2001: A Space Odyssey

SigDave

In Search of a Mission

by Nick Michels

Egad! SigDave! Approximately 63115200 seconds ago, an unusual special interest group officially emerged from three years of existence in the ACM underground. Led by Dave Morgan, a man later destined for greatness at Silicon Graphics, Inc., SigDave became the official special interest group for, well, nothing in particluar! Dave, now reverently known as Dave the First, passed the torch of leadership to Mike Kolb. Mike, the second in the line of Dave leaders, fearlessly continued in the proud traditions set forth by our illustrious founder, leading us to our first EOH.

We look back with great fondness the myriad of nifty things we had a chance to explore. We looked at VRML 1.0. We tried our hand at C++ programming with our networked Tamagotchi project. Mike showed us the ins and outs of Stick Fighter, our DirectX/OpenGL/whatever-else-was-in-it fighting game. Recently we've even looked into writing an OpenGL VRML 1.0 browser with the help of SigVR!

What do we do at SigDave? Anything that suits our fancy! To quote Dave's original email announcement, "The purpose of SigDave is to do whatever Dave (including both natural and honorary Daves) wants to do."

Interested? We meet in the ACM office on Wednesdays at 8:00 PM. Remember, everyone is welcome, for there is a dave inside us all...

http://www.acm.uiuc.edu/sigdave/

SIG-BIO

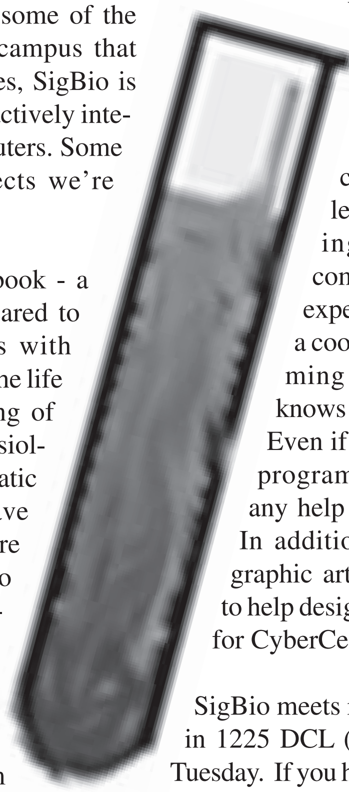
by Romesh Kumbhani

So, you say you're grumpy, lethargic, and feeling anxious about the first day of classes? Well then, kick back with the guys and gals of SigBio - ACM's Special Interest Group for BioComputing. Unlike some of the other organizations on campus that deal with the life sciences, SigBio is the only one that tries to actively integrate biology with computers. Some of the interesting projects we're working on include:

• Virtual Anatomy Textbook - a WWW based tutorial geared to helping undergraduates with little or no experience in the life sciences or understanding of human anatomy and physiology. Currently the lymphatic and nervous systems have been completed and we're looking for other areas to document. Got suggestions? Mention them at the next meeting (see below).

• CyberCell - a program that models cell activity at the chemical level. In essence, one gives the cell some food and the computer shows what biochemically happens. Although this sounds quite boring, we hope to add some multimedia effects to make it more exciting.

• A new program that we plan on starting this year (in joint effort with SigVR) is a virtual reality walkthrough of the Gastrointestinal Tract. We need help with concept layout, graphics, biological accuracy, etc. Come join the fun, but it's recommended you don't eat cafeteria food before attending. Actually it's recommended that you never eat cafeteria food; want to find out why? Come to the meeting!



Wait, you say you're not a life science major? Or you don't know a ribosome from a mitochondrion? No problem. We're also looking for people with computer programming experience. What good is a cool computer programming concept if no one knows how to implement it? Even if you're still a novice programmer, please come; any help will be appreciated. In addition to programmers, graphic artists are also needed to help design the visual segment for CyberCell.

SigBio meets regularly at 6:30 PM in 1225 DCL (ACM Office) every Tuesday. If you have questions or new ideas for projects, don't hesitate to contact the SigBio Co-Chairs, Mary Lee (marylee1@uiuc.edu) and Romesh Kumbhani (kumbhani@uiuc.edu) or email sigbio@acm.uiuc.edu. See you Tuesday!

http://www.acm.uiuc.edu/sigbio/

Linux Users' Group

by Geoff Raye

The Linux Users' Group is one of the rebellious special interest groups of ACM which has decided to (GASP!) go without the prefix "SIG". Despite this, we've survived for three years, each year in greater numbers. We meet weekly to discuss issues of importance to Linux users as well as to provide a question and answer session for anyone who isn't quite sure how to solve a problem.

For those who don't know, Linux is a free version of the UNIX operating system. While it was originally written for Intel x86-based computers, the kernel now compiles and runs on a wide range of systems, including Sparcs, Alphas, and PowerPCs.

One of our current projects involves creating a Linux driver for a 24-bit DA converter. This relatively simple driver will be used to teach basic programming in the Linux/UNIX system environment, and all are encouraged to contribute.

We welcome new members regardless of experience and plan to meet Tuesday evenings at 8:00 P.M. in 1102 DCL when the fall semester begins.

http://www.acm.uiuc.edu/lug/
LUG mailing list: lug@acm.uiuc.edu
LUG chairperson email contact: lug@uiuc.edu
Linux related newgroup: uiuc.sw.linux

For more information on Linux, try these sites.

www.linux.org

sunsite.unc.edu/mdw/

www.acm.uiuc.edu/lug

MacWarriors

by Rick Roe

Greetings to all the incoming students and returning members, and especially to those who thought Apple would be dead by now...

So, chances are you're an incoming freshman who picked this up at Quad Day and you're wondering what would make ACM, let alone MacWarriors worth your while. (If you're not, bear with me.) Well, first off, let me tell you that ACM is pretty damned cool. Join us and you will be happy.

But what is MacWarriors, you say? We're a Special Interest Group within ACM dedicated to doing cool stuff with Apple products. And with Apple's impressive turnaround in the past year, there's getting to be more and more cool stuff to do.

Last year, we were the first on campus to get our hands on the new Rhapsody operating system --a best-of-both worlds fusion of UNIX, OpenStep, and the MacOS which will soon be released as Mac OS X (that's roman numeral ten, not Mulder and Scully). We've since ported a number of handy UNIX utilities to the new OS and demoed the ease of writing applications using the its included Yellow Box development environment.

At last spring's Engineering Open House, we created an virtual walkthrough of the campus to showcase the power of QuickTime VR and the Internet. To see this impressive technology, check out http://www.acm.uiuc.edu/sigmicro/macwarriors/eoh98/.

So what's in store for the coming year? By the time you read this, we'll have added a new PowerMac G3 (yes, the computer that blows the Pentium II away in BYTE magazine tests... and costs less) to the ACM office. As we develop a closer relationship with out campus Apple representatives, we'll be demoing more advanced hardware and software. We're also gearing up for another big MacOS development project to spend our time on this year.

So, you want to be a MacWarrior? Interested in how Apple's using cutting-edge technology to redefine the computing world? Want to learn how to get more out of your Mac? Come stop by the ACM office at 1220 DCL Saturdays at 3:00 pm and check it out!
http://www.acm.uiuc.edu/macwarriors/

SigMusic

by Ken Wronkiewicz

Computer music is what SIGMusic's all about, and we're looking forward to an exciting year with plenty of things to do for SigMusic. We've played with trackers, MIDI, samples, algorithmic music, guitar, recording, general purpose noise, playing a cymbal with a violin bow, and much much more. We're a bunch of people who have yet to reach the limits of what we can think up.

Last year, we have two concerts at the Illini Union Cafe, a concert at the Reflections/Projections ACM conference, produced the "Sounds and Visions" concert with our partner group SigGraph. We made a bunch of weird noise and had a bunch of fun. We got a DAT digital tape deck to add to our equipment, adding another milestone to our slightly surreal quest going to build a digital studio in the basement of DCL.

This year, we're setting our sights even higher. We're going to have concerts this year. We're going to have a Sample Fest, where teams of four people, armed with a tape recorder and microphone, get 24 hours to search for the most interesting noises and sounds. We're going to have workshops on anything from recording to synthesis to writing music. We're going to have jam sessions. We're going to see if we can produce a CD of the different music composed by our members. We're going to be experimenting with electronic music software for an Engineering Open House project. I'll bring in my musical toys for one or two meetings. We're planning to have an extended meeting where everybody can show off their gear and jam with the rest of us.

Anybody's welcome to show up. It doesn't matter what major you are in, what instrument you play, what kind of music you like, or what level of music skill you posses. Everybody should learn something this year in SigMusic and everybody should have fun at the same time. If you have some music you've finished or are working on, bring a tape or CD to a SigMusic meeting and we'll give it a listen. Our webpage is http://www.acm.uiuc.edu/sigmusic/ Our e-mail address is sigmusic@uiuc.edu. Or you can stop by the ACM office at 1225 DCL. Our meetings are on Wednesdays at 7:00 PM.

SigSoft

by Erik Gilling

SIGSoft is the special interest group for software development. In SIGSoft we like to focus software Engineering. This is the art of writing good programs and working well with other programmers on projects. This is a skill often overlooked by most classes in the CS department but is invaluable in the "real world".

Currently SIGSoft is working on VIDEX, a Visual Integrated Development Environment for X/ Windows. This is a development environment that, rather than replace, ties together your favorite editor, compiler, etc. VIDEX will include a project manager and class browser and other utilities much like many commercial IDEs. We are currently rewriting most of the source code from python to C++. A public release is planned during the next academic year.

Several of out members are involved with MechMania IV, a programming contest run during ACM's Midwest conference in the fall. This is an exciting chance to work with many people on every stage of development form the initial concept design to the releasing of the framework to the teams. By the time you read this most of the work should be done. If you you are interested in the competing you can sign up on the ACM web page.

Close to the beginning of the semester I plan on holding a CVS workshop. CVS is a wonderful, and free, tool to help manage large projects with may developers. CVS is powerful enough to be used in commercial settings. It's used at Wolfram Research to manage the Mathematica source and I've found evidence of it's in some PlayStaion games. It's capable of fixing many problems caused by two people editing the same document. Version control is a must in today's software development industry and you can't learn about it too soon.

We are looking to pick up a project for this year. If you have any great project ideas or would like to learn a lot about the process of software engineering show up to out first meeting of the semester on Wednesday, September 2nd, at 6:00 in the ACM office, rm 1225 DCL.

http://www.acm.uiuc.edu/sigsoft/

acm

student chapter university of illinois urbana-champaign

membership form

membership form

Return or mail this form to:
1225 Digital Computer Lab, MC-258
1304 W. Springfield Ave.
Urbana, IL 61801

name:

campus address:

campus phone:

home address:

home phone:

electronic mail:

curriculum:

University Status

- ☐ freshman
- ☐ sophomore
- ☐ junior
- ☐ senior
- ☐ m.a. / m.s.
- ☐ ph.D.
- ☐ faculty / staff
- ☐ postdoc
- ☐ alumni
- ☐ other

special interest groups

lug	linux users group
bug	be users group
sigarch	architecture
sigart	artificial intelligence
sigbio	biocomputing
sigbiz	enterpreneurship
sigcas	computers and society
sigdave	short-term distractions
siggraph	graphics
sigir	information retrieval
sigmicro	microcomputers
sigmusic	music
signet	networking and security
sigops	operating systems
sigsoft	software development
sigunix	unix programming
sigvr	virtual reality

Membership Types

return form with check or money order payable to the ACM at UIUC

- ☐ $40 for eight semesters
- ☐ $22 for four semesters
- ☐ $12 for two semesters

ACM National Member

- ☐ yes — #
- ☐ no
- ☐ currently applying

for internal use

Received Date: _____ by:_____
Chk #_______ $_______

Enter Date:_______ by: ______