Banks of the Boneyard

the journal of the association for computing machinery university of illinois student chapter

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volume 15, issue 1

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Virtual Reality On The Internet

Ken Gaebler, vice-president of VREAM, Inc. speaks on the future of VRML.

Thursday September 5th, 1996
5pm, 1320 DCL

Black Thursday and Beyond:
A History of the Fight Against Internet Censorship

By Paul Watts

The day that will live in Internet infamy is February 1st, 1996: Black Thursday. On that day, the House of Representatives, with a 414-16 vote, passed the Communications Decency Act (CDA), a bill that would make transmitting, posting, or distributing "indecent" material punishable with a $250,000 fine and up to 2 years in prison. Later that week, the Senate would vote 91-5 in favor of that bill, and President Clinton would sign the bill into law.

On that day, the Internet went black.

"This law restricts the entire communications industry and places the free speech and privacy rights of all Internet users in permanent jeopardy," spoke Ira Glasser, executive director of the American Civil Liberties Union. "For a Congress that says it wants to get big government out of people's lives, this law represents the most extreme hypocrisy."

Another wrote: "The voice of reason knows that free speech doesn't equate to sexual harassment, abuse of children, or the breeding of hatred and intolerance. We insist that any material that's legal in bookstores, newspapers, or public libraries must be legal online."

From all around, denizens of the Net backed these opinions by turning their Web pages black for 24 hours or posting blue ribbons to raise awareness of the law. Local rallies against the law sprang up everywhere, some of them even making national news. At the University of Illinois, CDA opponents wore T-shirts sporting the phrase 4 →

Java vs. C++:
A Programmer's Perspective

By Greg Kaiser

According to its designer, Bjarne Stroustrup, C++ is a "general purpose programming language designed to make programming more enjoyable for the serious programmer." Java is described by Sun Microsystems, its creator, as "a simple, object-oriented, distributed, interpreted, robust, secure, architecture neutral, portable, high-performance, multithreaded, and dynamic language." But besides the fact that C++ lacks any buzzwords, and Java lacks the enjoyability factor, what really sets these two languages apart? There are all of the issues of application, and which language is better suited to which tasks. This is difficult to tackle, however, as the languages are constantly changing, depending on which Java bugs have been fixed, which C++ compilers have properly implemented the standard template libraries, which Java security holes have been found and/or fixed, etc. So I will discuss the differences in the languages purely from a programming point of view. Ignoring all applications to the real world (just like an MP), I'll just discuss the differences a programmer will encounter while working under the two.

Syntactically, Java and C++ are very similar, as Sun borrowed much of the C++ syntax for Java. The largest difference between the two is probably memory management. C++ has pointers which allow the programmer to directly access memory, while leaving the often buggy task of memory management as a responsibility for the programmer. 6 →

From the Chair

By David Morgan

The Banks of the Boneyard is a monthly publication of the student chapter of the Association for Computing Machinery at the University of Illinois. ACM is the largest and most active computing organization at the University of Illinois, with 15 Special Interest Groups, monthly general meetings, frequent workshops and social events. In the 1995-96 academic year we also began a series of annual student conferences and biannual concerts featuring original computer music and graphics written by ACM members.

If you have an interest in any aspect of computing, there is a place for you in ACM. Whether you're into programming, hardware, business computing, concerned about the impact of computers on society, or any other computer geek stuff you can think of, ACM is for you. We have resources to help you pull off cool projects and there are always people around the office with similar interests and a variety of skills. Just a few of the resources that ACM members have access to include a UNIX workstation cluster, composed primarily of IBM RS/6000s; a Macintosh lab; a super-cool new Sparc20 that SUN Microsystems donated as our webserver; and a complete hardware development laboratory nestled in the basement of the Digital Computer Lab.

In addition to all this kooky computer-geek stuff, ACM has always been the global epicenter of social activity! We sponsor picnics, canoe trips, frequent movie-nights in DCL's own Cinema 1320™, happy hours, and the occasional off-campus soiree. Talk about one-stop shopping!

My goal for this year is to further energize ACM by encouraging more freshmen and sophomores to get involved. Every Computer Science or Engineering junior or senior looks back on their first year at the U of I and can't believe how much free time they had, and wasted. So, if you're new on campus, whether or not you think you know anything, come check ACM out! The Special Interest Groups are a great way to have fun and get valuable experience, regardless of how experienced you are. As for all you upperclassmen, ACM is always looking for members to help lead the organization! In addition to the 15 SIG chairs, there are a number of exec positions that keep ACM running and interface between ACM and other organizations, both on and off-campus. The exec board meets every Monday during the academic year at 5:00 p.m. in 1102 DCL and anyone is welcome to sit in!

If you think any of this sounds cool or even interesting, come visit! Check out the upcoming events, visit us on the Web (`http://www.acm.uiuc.edu`), or just drop by the ACM Office in 1225 Digital Computer Lab. As your chairperson, I can also be reached by email at `acm@uiuc.edu`.

ACM@UIUC expresses our **extreme gratitude** to SYMANTEC for donating a new Power Mac 8500 for our office. The machine will have a 17" AV monitor and more RAM than a Mac knows what to do with. Coupled with Adobe PhotoShop and Adobe Pagemaker, it will make one incredible machine for our graphic design crew.

SYMANTEC is a major corporate sponsor at ACM@UIUC. During 1995-96, they provided funding for our annual student conference and sponsored a very successful JAVA programming contest.

ACM wishes to extend a huge thank you to the SYMANTEC Corporation for their continued support, and especially Roxanne Herrera for her quick work and assistance.

Thank you!!

Battle of the Web Search Engines

By Paul Watts

Hits for the word "Norbert":
- Yahoo: 9
- Lycos: 3,929
- Alta Vista: 23,960

Hits for the word "Spicoli":
- Yahoo: 2
- Lycos: 153
- Alta Vista: 429

Hits for the words "Einsturzende Neubauten":
- Yahoo: 5
- Lycos: 564
- Alta Vista: 900

Yahoo: `http://www.yahoo.com/`
Lycos: `http://www.lycos.com/`
Alta Vista: `http://altavista.digital.com/`

SigSoft

By Mike Lee

Software development: what does that term mean? To some, it means weeks of sleepless nights resulting from 36 hour programming marathons to get that elusive networked game working. To others, it brings horrific memories of writing seemingly contrived and irrelevant code for CS programming classes. Well, in the real world, it can range between the two, but is often quite a different experience.

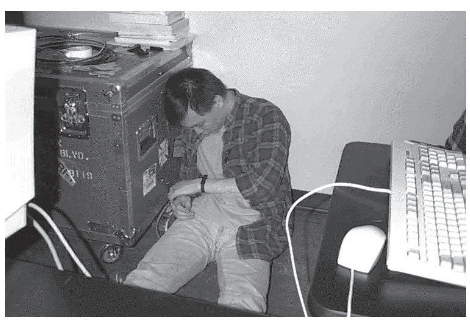
When badly managed, it can be an excruciating process of fighting for the ability to direct the focus of your contributions. However, when managed well, your creative freedom can be unleashed with unbristled inspiration. SigSoft is dedicated to the exploration of the unusual software development beast.

We may start another large scale project - we've always got room for programmers with any amount of experience. Or we may continue last semester's discussion of real experiences with development. We are planning workshops on advanced techniques in C and C++ programming, as well as "What they don't tell you in CS223" primers. This group is about experienced programmers helping out each other, even newbies, as everyone has been there once too.

If you think you can't learn much or get very far in a year, think again. In fact, the sooner you start, the sooner you'll learn that on this campus the only thing that' will start or stop you is the amount of desire you have. This is especially true with ACM. I guarantee determination is all you need to have someone help you. ACM will provide the resources if they have them.

Two topics I'd like to address over the coming year are distributed computing and customizing a free development environment in UNIX. We are still awaiting news on ACM obtaining a copy of Plan 9, a new operating system from AT&T. Who knows? We may delve into such deviant topics as threads or even Java. [Ed: For a take on the roles of C++ and Java from a damn fine programmer, look for Greg Kaiser's article in this issue]

If you have any questions, visit SigSoft on the Web (`http://www.acm.uiuc.edu/sigsoft/`) to see the glory of SigSoft past and present, or e-mail `sigsoft@uiuc.edu`



SigSoft Chair, Mike Lee, takes a nap after a long night of coding at EOH 1996.

SigMicro

By Paul Watts

Greetings to all incoming freshmen and all others returning! We are the Special Interest Group for Microcomputing: those devoted to PC interests and activities. By PCs we mean things that run Windows or DOS—there's this Linux operating system that we've heard rumors about, but we leave that to ACM's Linux Users Group.

Don't know Windows programming? Want to learn? Our workshops for Programming Windows 95 were a big hit last year and we're planning on presenting introductory workshops with all new material. The best way to learn, though, is to get involved with some of the projects which we're planning for Engineering Open House. We're planning on writing a game with Win95's DirectX SDK, which stands for Interface For Writing Cool Games. Almost all of the leading game developers are planning on supporting the DirectX interface, so if you want to get in on this hot technology, now is the best time to learn.

Or, maybe you've said a thousand times, "Yeah, I got this bitchin' idea for a program—but I don't have the resources or the time or anything." ACM is the place for you: there are probably a bunch of other people who would like to help you with your idea. So come on in!

What's Happening?

August

8/30 Quad Day: Check out one of ACM's three booths on the UIUC Quad.
8/30 ACM Movie Night: Come watch a **free movie** with thousands of people. ok... maybe not thousands.

September

9/3 Classes start
9/4 E-Mail Workshop: Learn everything there is to know about e-mail.
9/5 ACM General Meeting: Meet the ACM Special Interest Groups.
9/6 ACM Movie Night: Come watch another **free movie** with even more people than the last time.
9/8-9/14 First SIG meetings: Special Interest Groups begin meeting throughout this week. Check the ACM office for meeting times and places
9/17 SigUnix Workshop: Learn cool tricks that will impress your friends and your hamster.

October

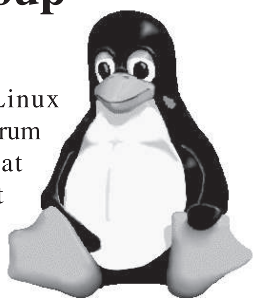
10/11 ACM Job Fair: Come **grovel for a job** from the likes of Intel, Symantec, and AMD.
10/12-10/13 2nd Annual ACM Conference: Listen to cutting edge computer gurus, participate in the programming contest, and boogie at Amy's Disco Inferno. `http://www.acm.uiuc.edu/conference/`

Thought for the month:

"I wish there was a place that delivered pancakes" --Paul Bleisch, hungry in the ACM office at midnight.

The Linux Users' Group

By Mark Roth



The UIUC Linux Users' Group is a forum for Linux users at UIUC to get together, help each other, and collaborate on projects. Linux is a free implementation of the UNIX operating system, currently running on 386/486/Pentium or compatible PCs. At each meeting, we announce recent happenings in the Linux community, work on current projects, and have an open forum for people to ask each other questions and discuss other matters of interest to the Linux community here at UIUC.

New members are always welcome to bring questions or project ideas. Watch the `uiuc.sw.linux` newsgroup for information on meeting times and projects.

The Banks of the Boneyard

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.

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

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SigVR

By Jason Hartman

SigVR is the Special Interest Group for Virtual Reality. For those of you unfamilar with VR, it can be defined as a fully immersive environment in which the user actually believes he or she is in the computer generated world.

The main project of SigVR over past years has been and will continue to be developing RAVEn, the Relatively Affordable Virtual Environment. Currently, RAVEn is composed of a head-mounted display (two Casio TVs and VGA to NTSC signal converters), two PCs, and software written by SigVR members.

Other projects in the past have included SigVR's Virtual Sandbox. In the Virtual Sandbox, you interact with the world as if you were the size of an action figure. Inside the Sandbox, items such as a sand castle, a matchbox car, and other surprises await the user.

In the future, SigVR hopes to add full body tracking, support for Virtual Reality Modeling Language (VRML), and other cool features to RAVEn. In addition to continuing work on RAVEn, SigVR is open to new ideas. If you are interested in Virtual Reality, join in on a SigVR meeting or visit us at `http://www.acm.uiuc.edu/sigvr/` on the web.

Hey! ACM is online at: http://www.acm.uiuc.edu

→ **CDA continued from page 1**

"I told the government to piss off on the Internet and all I got was two years in prison." At Engineering Open House, ACM informed visitors of the CDA via an explanatory poster and a 10-foot tall blue ribbon hanging from DCL's rafters.

However amid all the backing, opponents of the law could only wait as the court cases against the government, backed by the likes of Citizens Internet Empowerment Coalition, the Electronic Privacy Information Center, and the ACLU, made their way through the judicial process.

Then, on Wednesday, June 12, three judges from a federal court in Pennsylvania voted 3-0 against the constitutionality of the CDA, finding that it violates not only the 1st Amendment but the 5th Amendment (due to its attempt to regulate speech through criminal sanctions). The decision also attacks the ambiguity of the law, saying "if the Government is going to intrude upon the sacred ground of the First Amendment and tell its citizens that their exercise of protected speech could land them in jail, the law imposing such a penalty must clearly define the prohibited speech not only for the potential offender but also for the potential enforcer" while saying that "The CDA will, without doubt, undermine the substantive, speech-enhancing benefits that have flowed from the Internet."

As news of the judges' decision spread, Netizens rejoiced by turning their blue ribbons into fireworks proclaiming free speech on the Internet. One of the Netizens, Microsoft CEO Bill Gates, said of the decision: "This is a great victory for anyone who cares about freedom of expression or the future of the Internet. Freedom of speech on the Internet deserves the same protection as freedom of the press, freedom of speech, or freedom of assembly."

The CDA, while dead for now, faces a final confrontation in front of the Supreme Court of the United States. Will the Supreme Court uphold the Pennsylvania judges decision? Will they rule in favor of Congress? Right now there is only speculation.

What we do know is that if the Supreme Court upholds the law, the Internet will have an entirely different future than the one we see now. If they rule against it, the CDA will be dead. Nevertheless, that doesn't mean that the Internet will be forever shielded from the claws of censorship: only for a time. It would only take another law for the whole process to begin again. Will that law be so quick to be overturned? We can only wait and see.

The future of the Internet has never been more uncertain.

Finding the Perfect Job:
Where Do You Want To Go This Summer?

By Paul Watts

Hey! While you're busy getting adjusted to your new classes, your new dorm room, apartment, roommate, hair-style, prescription glasses, or whatever it is you're getting used to, Engineering Council has moved Engineering Expo all the way up to September 9-11th.

What's Engineering Expo you ask? Engineering Expo, or simply "Expo," is the College of Engineering's huge Job Fair strictly for Engineering students. It's pretty big, believe you me. Usually it's held later on in the year, but this time they had the bright idea to put it in the second week of classes.

"Ack!" you say. How can I think about jobs when I am just beginning a new semester? You should. When you're looking for jobs for next summer, it's always best to start early. Remember, while you may be thinking only about what's due next week, companies have a much longer time frame in mind. So you should really start thinking about if you want a cool job next semester right now.

"But I'm just a freshman and don't have a resume. What can I do at this job fair?" No problem. If you've got a free night and a word processor handy, you can make a resume. Don't know how to make a resume? The best reference is the World Wide Web. Many students have made available their resumes on the Web. You can see some of them off ACM's resume page at `http://www.acm.uiuc.edu/membership/resumes/`. Just follow their examples, filling in what you know for what they know. A few hints: don't make it too flashy. Don't go hog wild with fonts—a few plain ones are sufficient. Make sure it fits on one page. It won't take long to get a pretty good looking resume to show a company.

...you should really start thinking about if you want a cool job next semester right now.

Absolutely can't make it to Expo? Then come to ACM's Computing Job Fair '96 on October 11th. We have a bunch of companies who are looking for Computer Science or Computer Engineering majors. Not only that, but they are looking for people who are involved in ACM!

Next, who do you want to work for? The best way to decide is to ask other people who have worked for various companies. There are plenty of people who have worked for really cool companies, from Silicon Graphics to Intel to DEC. Come into the ACM office (1225 DCL) and ask where's a cool place to work.

So, any more questions? I didn't think so. This terse introduction should get you started well on your way to figuring out exactly where you're going next summer.

Getting into the Bay:
"How can I penetrate this Nirvana of Geekdom?"

By David Morgan

You have doubtless heard all the hype about the "Silicon Valley," formerly known as the Santa Clara valley on the San Francisco peninsula. It's all true. (Or at least most of it is.) The computer industry grew up in the Bay Area, and most of the major players and newcomers in the industry are based there. Just driving down Highway 101 reveals all the company names that we've grown up with: Apple, Informix, Oracle, SUN Microsystems, and Intel, just to name a few.

The bay area is the hippest haven for computer geeks in the world. Socially, geekspeak is totally accepted down-peninsula. For the daring, San Francisco is only 30 minutes away with its club scene, not to mention Berkeley and Stanford being nearby. The businesses of the area are very in-tune with the geek scene, as many common services ranging from classified ads to pizza delivery are available on the World Wide Web. You can even get paid to cruise Fry's Electronics (`http://www.fry-s.com`) or Computer Literacy Bookshops (`http://www.clbooks.com`) depending on your employer.

Lots of bay-area companies are looking for young talent...

So, you might ask, "How can I penetrate this Nirvana of Geekdom?" There are a number of ways. One of the easiest is to seek out an internship or co-op in the area. You can either go directly onto the peninsula or anyplace within driving distance to schmooze your way into a better location for your next time out. Having friends in the area is another great way to find work there. Lots of bay-area companies are looking for young talent, but either don't have the resources or the foresight to aggressively recruit as far inland as the University of Illinois. The trick is to talk to a lot of companies and to have patience with them. A company may have a harder time finding a specific position for you than simply deciding if it wants you.

The bay area is the hippest haven for computer geeks in the world...

There are some caveats to living in the Bay area. The most notable of which is the real-estate market. Depending on how many roommates you have, rent can range from $450 to over $1000 per month. High gasoline prices and taxes are also factors to consider. Not all of California is as expensive to live in as the San Francisco area. The cost of living in Sacramento, for example, is roughly equal to that of Champaign-Urbana and is only a couple of hours outside of San Francisco.

It's easy to be skeptical about the wonders of the Bay Area, until you actually go and visit. I encourage every computer geek to make at least one pilgrimage to this mecca of the computing world.

SigMusic

By Patrick R. Eaton

Do you like to make music? Are you always looking for new sounds, new effects, or new tools? Have you ever considered using your computer to help you make music? If you answered 'yes' to any of the above questions, you should visit the Special Interest Group for computer applications in music, SIGMusic.

SIGMusic is a group dedicated to discussing and exploring any computer music related topic that might interest our members: MIDI, sound modules, keyboards, sequencing, MOD's, effects, and much more. If any of this interests you, or you have other ideas to investigate, come visit SIGMusic.

This past year, we began a really exciting semi-annual concert. Members' original works are recorded and mastered on a CD. The CD is then handed over to some graphics gurus who, using some of the best equipment around, add graphics to accompany the music. In most cases, the music actually helps to control the graphics! For the concert, the music is played back on ACM's new sound system and the graphics are displayed on the large screen projection system in 1320 DCL. This has been a popular project, filling auditoriums at each show.

Other projects that SIGMusic has worked on include a software vocoder and a MIDI interface. A vocoder can be used to make it seem as though your computer is talking. A MIDI interface enables a computer to communicate with musical devices such as a keyboard or drum machine. Both of these projects were displayed at the 1996 Engineering Open House.

SIGMusic welcomes all people regardless of their major or experience. If you enjoy music and want to learn more about how a computer can help you enjoy music, come and visit us! You can e-mail us at `sigmusic@uiuc.edu` or find us on the web at `http://www.acm.uiuc.edu/sigmusic/`

ACM Professor of the Year

Professor Sylvian Ray

ACM@UIUC would like to recognize **Sylvian Ray** as its professor of the year for the 1995-96 academic year. Sylvian Ray has long served as faculty advisor to ACM@UIUC, assisting us in receiving support and working with the Computer Science Department. Professor Ray teaches courses in data aquisition systems and neural networks, as well as doing research in Artificial Intelligence and Biomedical Computing.

The professor of the year is selected in a public vote, usually held late spring. Watch the `uiuc.org.acm` next semester for information on how and when to cast your ballot.

→ **Java vs. C++ continued from page 1**

Java, on the other hand, has no pointers, and no direct access to memory. Instead, it takes care of all of the memory management for the programmer. This is a very important difference, as manual allocation and deallocation of memory is a large source of bugs in C++. Java takes over this task for the programmer, and while its garbage collection can never be as efficient as well-written C++ code, it is, in theory (although not yet entirely in practice), bug-free.

Another difference between the languages is operator overloading. In C++, this practice of allowing an operator such as '+' to be used with classes defined by the programmer is allowed, but can also cause confusion, as the programmer could let '+' denote the multiplication of two matrices. For this reason, Java doesn't allow overloading of operators, to try to ensure that the code will be readable. In general, the differences between the languages seem to be ones of power and responsibility. C++ tends to empower the programmer, but also leaves all of the responsibility for readable, runnable code in the hands of the programmer. Java, on the other hand, takes on much of the responsibility for how the code looks and runs.

This philosophy is echoed in the languages' compilers as well. In most C++ compilers, any code which is syntactically correct will compile, including potentially devastating code such as `while(1) fork();`. And while things such as exception handling are available in C++, most compilers make no attempt to mandate their use. The standard Java compiler, on the other hand, requires exception handling code where it is applicable. The Java compiler takes on more responsibility than the C++ compiler, in that it not only interprets the lines of code, but also examines them for potential problems at runtime. Just the possibility of the use of a variable before it is initialized will yield a compiler error. Even a worthless but syntactically correct line such as `while(false) i++;` will result in a compiler error, stating that the line `i++;` is never reached, and forcing the programmer to realize and correct this.

Basically, the descriptions given by the creators of these languages are pretty accurate. C++ is intended for the "serious programmer", while Java has "simple" as the first word to describe it. A serious programmer should be allotted the most power available, and will be willing to take the responsibilities that this power includes. The serious programmer can be trusted with his knowledge and ability in the language, rather than be at the mercy of a picky compiler. For more simple uses and less experienced programmers, however, one simply wants to get a program to work, with reasonable assurances that it won't crash. This includes refusing questionable code and mandating certain practices, which is what Java does.

Java has been referred to as C++--, since it is similar to C++ minus some C++ features. Using that, I think one could see C++ as a bicycle, and the '--' as training wheels which Java puts on for you. You won't go as fast, and you won't have as much control over it, but you will eventually get to where you're going, and you're much less likely to crash on the way. Of course, the experienced rider gets annoyed with the training wheels, feels held back by them, and would rather trust his own ability to keep himself from crashing. But in all fairness to Java, a look at the bigger picture shows the training wheels are used mostly to ensure that Java is "secure". Just as an animal is less likely to harm someone when it is in a cage, a program poses less of a threat to a system when it is restricted by Java. The question for Java's future is, will programmers be willing to work within a cage?

So You Wanna Get on the Web?

By Dan Wellman

The World Wide Web has exploded in the last two years to the point that even television commercials and movie previews advertise web sites. To add to this, if you've got a University account then creating your own web page is easy! In this article you'll gather a basic understanding of the web page creation process and learn where to find more information.

Background - How It Works

Before we get started on creating web pages, it's important to understand a little bit of the behind-the-scenes workings. Every web page that you visit is stored on one computer somewhere in the world. To allow multiple people to access this one document, a program called a server stored on that computer handles all requests for this page. Thus, when you use your favorite web browser to view ACM @ UIUC's home page, your computer makes a request to ACM's server to retrieve the page. The server then locates the page and sends it to your browser along with any graphics which appear on the screen. The document which contains the instructions to display a web page is called a HTML file, short for Hyper-Text Markup Language.

Creating Space on your University Account

The first step in creating your web page is to create the proper space for it on your university account. By default, web pages are stored in a directory called public_html in every user's directory. To create the public_html directory, use the UNIX command `mkdir public_html`. After you create this directory, you must allow the web server to let people from all over the world have access to this folder containing your web pages. Changing file and folder permissions is accomplished with the UNIX program chmod; to make your public_html directory world readable type `chmod 711 public_html`. Once this is done you can create the actual HTML files in the directory; the first file you should create is the index.html file. The index.html file is unique as it is the default page that the server loads when accessing your web directory. You must also mark each HTML files as "world readable", otherwise you'll get an error such as "You do not have permission to read this file" when you attempt to access the file via the Web. For step by step instructions on how to create space on your university account and change file and folder permissions, refer to the University Web Page Creation document located at `http://www.cen.uiuc.edu/personalwebs.html`.

Basic HTML

HTML is a snap to learn, and finding examples is even easier. If you look at an HTML file, you'll notice it looks like a text file with strange brackets and other codes sprinkled here and there. To view example source code, simply load up any web page on your browser and select the "View Source" menu item from your browser and the source will be appear. To display text in a web page, you simply type the text to be displayed in the HTML file along with any HTML "tags" needed to format the text as you like it. The actual commands of HTML appear inside < and > brackets, usually followed by a closing set of brackets containing a forward slash character ('/'). For example, to make a section of text appear in bold, you would enter <B> followed by the text and then the closing </B> command. The following code displays the sentence "HTML is **fun** to learn!".

```
HTML is <B>fun</B> to learn!
```

One important thing to remember is that a carriage return in a source file will not cause a return in the viewed HTML document. So, if adding extra carriage returns to your documents makes you happy, feel free to do so as browsers will ignore them. What this means though is that if you want a carriage return in your viewed HTML, you have to use the HTML break tag,
. The
 tag will continue the HTML text on the next line, and unlike most HTML tags, there is no closing </BR>..

To link to other documents, you use the command <A HREF=""> followed by the </A> command. This is called an anchor (hence the "A") and holds a hypertext link to a specified document (hence the HREF=""). To specify the document to load, inside the quotes type the full URL (Uniform Resource Locator, or in short the web site location usually containing "http://" or "www.") Finally, to specify the text which the user clicks on to go to that page, place the desired text between the <A HREF=""> and the </A> tag. Thus, to create a link on your page to ACM's web page you could type

```
Here's a link to the <A HREF="http://www.acm.uiuc.edu/">ACM@UIUC</A> web page.
```

And the user would click on the word "ACM@UIUC" to get to the ACM home page.

Images

Placing a picture on your web page is a simple task. You need to store the desired GIF or JPEG image in your public_html directory, using a file transfer program such as FTP or Fetch. As with your HTML files, you must also tell the web server to make the image readable by the world with the UNIX chmod command. For example, to make an image called "mryuk.gif" readable by the world you would enter the command `chmod a+r mryuk.gif` at the UNIX prompt. Finally, in your HTML source code, enter the command <IMG SRC=""> at the location in the document where you want the picture to appear. To put our picture of Mr. Yuk next to a warning message in your web page, you would type the following:

```
<IMG SRC="mryuk.gif">Warning: This web page will self-destruct in ten seconds.
```

If the image doesn't load properly on the page, ensure that you have made the file world readable and is stored in the public_html directory along with your HTML source files. An image that is not world readable or stored in the wrong location will appear as a torn piece of paper or it may not even appear at all.

To Boldly Go...

The commands above are the bare minimum building blocks used in creating a web page. One of the best ways to learn new tricks is to look at the HTML source of other people's pages and copy their code to experiment with on your own. Many references and tutorials of the HTML language exist online - one good example is `http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html`. If you've got any questions on web page creation please feel free to drop by the ACM office and ask the people there; someone is bound to have already tried the same thing.

SigArch

By David Morgan

The Special Interest Group for Computer Architecture is the place to be on campus if you're interested in electronics or computer hardware. Whether you're a novice or an expert, SigArch is for you. We discuss pertinent topics in hardware every week, as well as learning about the basics and working on cool projects. We have a killer lab where we can build just about anything or try out any idea - with the bonus of SigMusic's kickin' stereo in the lab for those late-night hardware jam sessions.

Some of our ongoing projects include: The Digital Nametag — a new kind of nametag capable of storing over 1,000 frames of animation; The Cylindrical Display — a "retro-tech" color display device that spins at over 2,000 RPM; CamBot — a hyper-aggressive project to transform a commercial video camera into an Internet-ready device.

If you have any cool project ideas or are just interested in learning about how computers work, come check out a SigArch meeting! We meet every Thursday at 6pm in L510 DCL.

mailing lists about ACM@UIUC:

membership - information about ACM events for registered members
events - updates on various lectures and events on campus
acminfo - topics related to the innerworkings of ACM@UIUC
acm-jobs - list with information about job openings on and off campus
alumni - information for past ACM members about ongoing events
acm-west - list for members and alumni residing in the western US
beer - news about geek social gatherings

In addition each ACM Sig has their own mailing list. To subscribe to one of the mailing lists, send email to `list-request@acm.uiuc.edu` with the subject `subscribe.` For example, to join the sigarch list, you would send mail to `sigarch-request@acm.uiuc.edu`

newsgroups about ACM@UIUC:

uiuc.org.acm
uiuc.org.acm.sigarch
uiuc.org.acm.sigbio
uiuc.org.acm.sigmicro
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uiuc.sw.linux

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treasurer - paul watts (treasurer@acm.uiuc.edu)
membership - jon schultz (membership@acm.uiuc.edu)
corporate liaison - doug youngwith (liaison@acm.uiuc.edu)
lectureship - corey townsend (lectureship@acm.uiuc.edu)
social chair - jeremy shaw (social@acm.uiuc.edu)

CLIP ME AND STAPLE TO YOUR MONITOR

ACMWest: Geeks Go Camping, All Survive!

By Jonathan Stark

The fog rolled in quickly, obscuring the picture perfect view of the Milky Way. Within 30 seconds, all that could be seen was a familiar Champaign-Urbana-looking overcast sky. So, the first group to arrive at the second annual ACMWest gathering started up the dark trail towards the campsight.

Sporting more cell-phones than flashlights, setting up the tents proved to be a challenge for the first group. It was actually interrupted by a phone call from the second car, still enroute to the campgrounds.

ACMWest started last year as an excuse for ACM members and Alumni on the west coast to get together. In its first year, people came from the San Francisco Bay Area and Seattle for the weekend adventure at Flint Ridge, 60 miles north of Eureka, California. This year alumni from the Portland area also joined in the fun.

The group from Portland and Seattle seemed to know their way around the campground. Within 10 minutes of rolling in, around 2:00am, they had their tents up and were ready to bed down. By 8:00 the next morning, much of the group was up and about. A treacherous trip down to the beach through a fairly steep set of unmarked trails was the first adventure of the day (excluding, of course, breakfast, which is always an adventure when cooked by ACM'ers).

Soon after reaching the beach, driftwood logs were being rolled, carried, and kicked to form an ACM logo. It seems you just can't stop ACM'ers from building something.

The night was topped off with an attempt to "make glass" by creating a huge bon-fire on the beach. (yes... we know... we weren't really trying to make glass, but it did sound good at the time. Besides, you had to be there drinking Margaritas from a squeeze-bottle to get the full effect of it anyway.)

After pancakes and eggs, the groups went their seperate ways Sunday morning, concluding yet another ACMWest outing.

If you're on the western half of the country and would like to organize a trip, send mail to `acm-west@acm.uiuc.edu`. If you are interested in joining next year's outing, you can get on the acm-west mailing list by sending mail to `acm-west-request@acm.uiuc.edu` with a message of `subscribe`. If you'd like to set up a regional list for ACM and ex-ACM'ers, send mail to `acm@uiuc.edu`. We will gladly start one up for you.

ACM members and alumni enjoy the ocean view at the second annual ACMWest camping trip.

acm

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university of
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membership form

membership form

Return or mail this form to:
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UNIVERSITY STATUS

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

special interest groups

lug	linux users group
sigarch	architecture
sigart	artificial intelligence
sigbio	biocomputing
sigbiz	enterpreneurship
sigcas	computers and society
siggraph	graphics
sigir	information retrieval
sigmicro	microcomputers
sigmusic	music
signet	networking and security
sigsoft	software development
sigunix	unix programming
sigvr	virtual reality
webmonkeys	www development

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

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