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### **Improving Network Access From Off Campus Pilot Readies for Take-Off**

In March, with the launch of the next phase of the Remote Access Pilot project, all tenure-track faculty and senior lecturers will have the opportunity to test software-controlled modems. This is one of a series of pilots that Information Technology is conducting to evaluate the costs, benefits, and feasibility of remote access alternatives to the campus network.

#### **Facilitating Teaching and Research**

The Remote Access Pilot is for faculty who connect to the campus network from off campus for the purposes of teaching and research. It was developed to evaluate the instructional and research benefits of newer remote access technologies, and in response to the continuing congestion on the modem pool. The pilot offers participants 33.6Kbps modems (with 56K and ISDN capabilities) and a lower ratio of users to modems. In exchange, the data furnished by participants' use of the pilot system

through June 1998 will help identify longer term solutions and future funding options for remote access for all UC Davis network users.

One of the primary goals is to determine the level of support necessary for all participants to take full advantage of the service. The first indication of the need for a high level of technical support surfaced when the first group of faculty began to participate in the pilot last fall.

To access and use the software-controlled modems, many had to convert and reconfigure their software and hardware. This, in a few cases, required several hours of technical assistance from the support team. Clearly, participants' needs for support varied greatly, depending in part on their own technical background, the equipment they used to access the newer modems, and the level of support available in their departments. To evaluate longer term technical support models, the initial group of 23 faculty was expanded in February to include a number of departmental Technology Support Coordinators (TSCs). This next phase of the pilot will help determine the costs associated with support alternatives and identify the most appropriate support infrastructure.

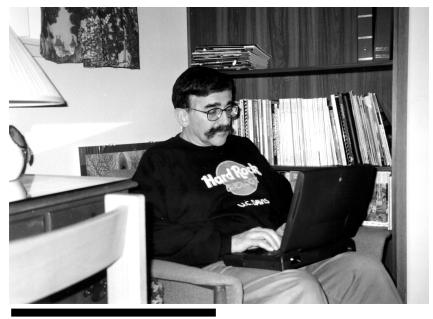
#### **Preparing for the Pilot**

Within the next few weeks, tenure-track faculty and senior

lecturers will receive information on the pilot, instructions on how to access the system, and participation requirements. (Visit the Remote Access Web site for updates and further information.)

The pilot team has developed a number of materials to help faculty prepare for and take advantage of the service:

Hardware and software configuration recommenda-



A participant in the Remote Access Pilot, Geology Professor Kenneth Verosub accesses the campus network from home.

see Pilot, p. 6

### **Faculty Participant Paves the Way**

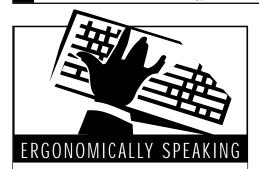
BY MATTHEW MATUSZAK, COMMUNICATIONS RESOURCES

In joining the Remote Access Pilot (see story above), Geology Professor Kenneth Verosub hoped to get faster and more convenient access to the campus network. "The pilot seemed like a reliable way of logging on," he said when asked why he decided to participate. But he also realized that, as with any pilot project, problems were likely to arise.

Indeed, Verosub encountered a few difficulties. He needed assistance upgrading his computer's operating system and Eudora software, and installing a higher-speed modem, among other things. Complications led to four and a half hours of assistance from the pilot's technical support staff. (On average, members of the first pilot group required one-half hour of technical assistance to ready their systems for participation.) Accessing the pilot system also required a new-style password, which Verosub obtained himself from the appropriate Web site (see Resources at the end of this article).

By making suggestions for improvement to the pilot team, Verosub is paving the way for a simpler process and increased technical assistance for future participants. "I felt IT needed to provide a lot of hands-on support or make installation very simple," he says. "Make sure people have the modem they need. Provide information on what's needed and where to get it."

Verosub does not consider himself a computer wizard. Only recently did he begin to incorporate technology into his teaching and research. Like many faculty, he uses the network primarily to access the Web and email. While most of his Web development work has been accomplished on campus, Verosub says he finds working at home to be less distracting. "I have finally arrived," he says, commenting on the increased and more convenient access he has to the Internet from his home. Earlier this quarter, Verosub decided to augment course lectures and reading materials by developing a page of Web links for his introductory Geology 1 course. With faster and more reliable connections to the network, he has been able to use the Web to research honors programs similar to the Davis Honors Challenge (which he directs) and scholarship and fellowship application programs. In addition, he is able to com-



BY JANET FORD, PT, MS

#### **Ergonomics 101**

The science and art of fitting the work environment to the individual employee, ergonomics can be applied to most work settings, including industrial, agricultural, and office environments. The goals of any ergonomics program typically include improving employee comfort, job satisfaction and productivity, and reducing injury.

The ergonomic approach is not unlike that of other health and safety programs. It entails four major steps: 1) identifying risk factors which affect employee comfort, job satisfaction, productivity, and chance of injury; 2) identifying and implementing strategies to control or eliminate these risk factors; 3) following up to ensure that control strategies are working and that one risk factor was not traded for another; and 4) seeking continual improvement.

Computer ergonomics, the focus of "Ergonomically Speaking," involves three main risk factors: awkward and sustained postures, repetition, and contact stresses. In future columns, we will discuss in more detail some of these risk factors and explore ways to control them, beginning next month with having to reach for a mouse which is not properly located, a very common example of an awkward posture.

While attention to proper ergonomics is important in achieving a safe, healthy, happy, and productive work force, ergonomics should not be considered a cure-all. Psychosocial factors, such as good communication between employee, supervisor, and colleagues, have been identified in the literature as having a significant influence.

UC Davis takes seriously its responsibility for providing a safe and healthy work environment, including addressing ergonomic and psychosocial needs and working with individual employees to ensure they are able to work safely. In turn, employees are responsible for attending to their own health needs and for adopting safe and healthy habits so they can reach their full potential both on and off the job.

Send questions and comments about ergonomics to ergonomics@ucdavis.edu.

# **Enhanced Learning Through Technological Support**

DICK WALTERS, COMPUTER SCIENCE

These days, much attention is given to teaching and learning on this campus and around the state. This attention stems from two causes: greater emphasis on teaching as a factor in merit and promotion at the university level, and greater demand for delivery of instruction under increasingly stringent conditions.

#### **Difficult Challenges**

California faces a number of crises: Population expansion is creating new pressures on higher education to provide more spaces for

qualified students, and changes in the job market are creating major demands for retraining, with emphasis on the ability to use technology as a requisite job skill. Lifelong learning is a reality for all of us, placing a heavier burden on an already overloaded higher education system.

These are some of our most pressing challenges. It is not possible for us to meet these needs, let alone the continuing needs of our current student population, by building more classrooms and hiring more faculty. Funding is not available on the scale required (the tenth UC campus would scarcely make a dent in the overall demands cited above). Furthermore, our student population is already changing from an 18-24 year-old cohort of fulltime students residing on one of the higher education cam-

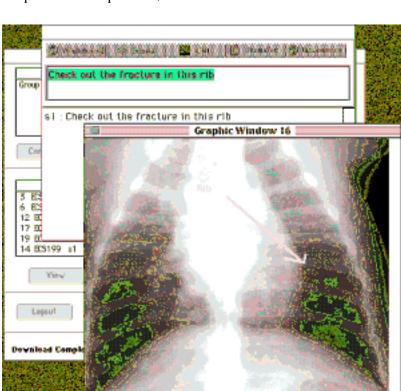
puses to a broader assortment of people of various ages, many working part- or full-time, with very tight restrictions on the time they can devote to learning.

These two sets of conditions — greater demand and the requirement for new alternatives in learning modalities — are forcing higher education institutions to take a new look at post-secondary education, including life-long learning and retraining. What are we learning from this examination? Several important points, in my opinion. The following conclusions set the framework for innovative solutions to our teaching and learning needs in the next few years.

### Lectures are ineffective forms of transmitting information.

The UC Davis campus has a great many effective lecturers and professors who inspire

their students, present complex facts clearly, and draw on their own vast experiences to bring these facts to life. We are learning new ways to make lectures even more entertaining and motivational. However, many studies have shown that what is actually learned by "seat time" learners bears a discouragingly low correlation to what was presented to them. This discrepancy stems from multiple factors, including different learning styles; the influence of external factors on learner receptiveness; learners' tendencies to focus



RTA facilitates communication among students and between students and instructors.

and reflect on a single statement, missing large segments of the ensuing lecture; and, above all, the lack of active learning in a lecture setting. Interaction between students and between professor and students is virtually absent in the lecture hall, yet that interaction is what is most needed to support an active learning process.

### Distance learning (as usually defined) is not the answer.

Ask twenty people how they define distance learning, and fifteen will respond that it is television-mediated instruction. The remaining five will perhaps include courses on the Internet, without distinction as to how this material is organized and presented or how student progress is evaluated.



### Interaction is the missing element in most forms of learning today.

As we have seen, lectures lack interaction. Broadcast or taped video courses are not even as good as lectures in providing interaction, a sorry standard for comparison. Internet courses may in some cases provide for some interaction, but in many cases they represent merely a repackaging of existing materials in a form that can be delivered electronically, with no attention to student-driven activities and associated interaction.

#### What can we do?

Let's start with the initial premise that the ideal way to learn is through student-centered, activity-driven learning supported by a live human tutor. This is an expensive model, but the best in many ways.

Let's add another premise: that learning should be student-driven in terms of schedule. If time, travel, external pressures, and receptiveness are impediments to a learning exercise, it is likely to fall short of expectations.

Let's throw away the idea that all learning must take place in one format. People learn in different ways; let's encourage that process by providing different options.

The resulting learning paradigm is one that is studentcentered, provides for flexible scheduling, and offers opportunities for both synchronous and asynchronous interaction, ei-

ther live or technology-mediated.

#### RTA: A tool to enhance all forms of learning

In the Department of Computer Science, we have been working for the last three years on a tool which we call Remote Technical Assistance, "Remote TA," or just "RTA." This tool was designed in response to the pedagogical considerations outlined above. The question we asked was, "How can learning be enhanced?" instead of the more common question, "How can we use the computer to ...?" RTA is only a tool, waiting for valid pedagogic applications, but it has proven highly flexible in addressing those pedagogic concerns.

RTA is a platform-independent package that runs on PC, Mac, and (soon) UNIX

#### **GUI Banner: Two Months Later**

Almost two months have passed since the implementation of GUI Banner. We asked two Banner users to share their experiences with the new system and the Banner Project Team to

tell us about the challenges they face. The following interviews were conducted during the first week of February.

#### **User Profiles**

**Buffy Tanner,** Advising Associate in Environmental Design, has used Banner for  $2^{1}/_{2}$  years.

#### How central to your job is your use of Banner?

I couldn't do my job without it. The upto-the-second information available on Banner allows me to give students very accurate information about course offerings, find out about their academic standing, and give faculty information about who is actually in their class.

#### How did you prepare for the transition?

I attended almost all of the classes offered by the Office of the Registrar. I felt that the Registrar's Office staff was really doing the best they could to prepare us and to respond as much as they could to our questions and concerns.

#### Did you ever contact the Banner Help Desk?

To be honest, Banner "freezes" on me a lot. I never call, because I've always got 10 students waiting to see me and it's faster to restart it than call and figure out why it freezes. When I did call the Registrar's Office in the first couple of days when I had glitches, they responded very promptly and the problems were solved.

#### How was transitioning to GUI Banner?

Actually, it was a lot smoother than I thought it would be. The meetings and classes helped a lot. It was beneficial to see and play with the new forms and to realize that they weren't all that different from the old. Installation was easy. The most difficult thing is learning all the new keystrokes. I still haven't memorized the new function keys, and that really slows things down.

### How long did it take you to become comfortable with the new version?

It didn't take long. I basically plunged in and started using it. A couple of days before the switch-over, I did practice navigating the new forms, but it was basically learning by doing.

#### What is your overall impression of GUI Banner?

I like being able to get back into the system immediately when I have to quit and come back. With the old Banner, I had to wait approximately 20 minutes before being allowed to log on again.

However, the system itself is very slow, and it freezes constantly. Since it is a GUI system, we can't use the mouse to highlight and copy and paste information quickly and easily into other applications. I don't like using the mouse for this application — I prefer the function keys, and since the keys have

all changed, that's a challenge.

I can't print at all from Banner, never could. If I want printed info, I have to "take a picture" of my screen and print that.

Overall, the new Banner is about as user-friendly as the old. For people who really like using the mouse, it's probably friendlier.

**Tracy Carter**, Administrative Assistant in the Veterinary Medicine Dean's Office, has used Banner for 3 years.

#### How central to your job is your use of Banner?

It is crucial to the curriculum scheduling aspect of my job, about 50% of my time. I use it mostly for course scheduling, verifying course rosters, and looking up Course Registration Numbers.

#### How did you prepare for the transition?

I attended the class given by the Office of the Registrar on how to log on to the new system. Although I got logged on during the class, I wasn't able to repeat the process back at my desk. Without the class, I would have been even more paralyzed.

#### Did you ever contact the Banner Help Desk?

Yes, I contacted the Help Desk several times, always regarding how to get logged on. After my class, when I successfully changed my password and logged on, somehow it did not work when I came back to my desk. I had to have the Help Desk walk me through changing it again.

#### How was transitioning to GUI Banner?

It was helpful having the email messages sent to us with hyperlinks to the Registrar's Web pages for more info. It turned out though that I wasn't able to successfully log on to the system just from reading those Web pages. I needed to attend the class before I was able to do it.

It was super easy for me to install because our technical support contact, Shelene Richards, figured it out for us and sent us an email with a hyperlink to install it ourselves.

### How long did it take you to become comfortable with the new version?

I am still not comfortable with it. I find the new Function Keys extremely difficult to re-memorize and I do not like having to use the shift key for most of my basic functions. Most difficult for me was learning how to log on to the system. It took several sessions before I understood what I was supposed to be doing, and for my password to work.

see Banner Profiles, p. 8

#### **Banner Project Team**

**Sandra Stewart**, from Information Resources, leads the GUI Banner Implementation Project.

#### What prompted the upgrade to the new Banner?

Last year, SCT, the software company who developed Banner, stopped supporting the version we were using. In addition, like other campuses, we had to support the functional and regulatory upgrades that SCT sends each year, including federal regulations on the disbursement of financial aid. In short, the campus was faced with two main issues: the need to conform to various requirements from the federal and state governments, Academic Senate, UCOP, and vendors, and the very limited discretion available when modifying the base system. While campus needs drive our efforts to customize the current version of Banner, they must be balanced against the long-term costs of re-customizing each new release.

### How well did the implementation of GUI Banner go from the Banner Team's perspective?

Not perfectly, but smoothly in the sense that we didn't experience any unscheduled down time for the system. A few unexpected events occurred with the application servers; however, the entire campus is never paralyzed when one of these servers goes down. We modified the system so that, if a service interruption occurs, users can log right back in and be switched automatically to the other available servers.

On the support side, since December 3, the Banner Help Desk Team has processed close to 1,000 requests for assistance. Those phone calls and email messages centered around four main issues: printing, speed, login problems, and forms navigation.

## Some Banner users have expressed the following concerns about the new system. Can you explain what's happening?

#### It's not as "user-friendly."

Over the years, we've made changes to Banner here at UC Davis to make it friendlier and to accommodate local needs. However, whenever the vendor sends an upgrade, IT staff must re-install all the local modifications back into what was delivered by the vendor, and staff in the business units must re-test everything. The cost of making such changes (e.g., re-coding and re-testing) is so high that we try to keep the local modifications down to a minimum.

#### It's slow.

Many other campuses complain about speed problems. A graphical user interface (GUI) is by definition slower than a character or text application, which is what "old" Banner was. Here, we've done some tuning to speed things up, and the vendor (SCT) has joined our efforts to investigate this problem. Currently, our efforts focus on built-in security logic, and determining whether the forms can be redesigned for speed and the database tuned even more.

#### There were problems with passwords initially.

Yes, initially, the Oracle database rejected some passwords. We've added more error checking in the login form to communicate to the user why the password is not acceptable to the database. A list of "reserved words" (words that cannot be used as passwords) is available on the Web. If you have problems wih passwords, please call the Help Desk at 757-8996.

#### It "freezes."

We've corrected this problem by upgrading a piece of Oracle software on the application servers. This upgrade was completed on February 6. Since then, we have not had any more complaints.

#### It's more difficult to print.

We've made progress with respect to printing, but we're still in the process of addressing all the unique print complications with both Macs and PCs.

#### The new function keys are difficult to memorize.

This is true, and other campuses are facing the same problem. To help users, a help pull-down menu with key mapping for any part of the system is available on every screen. There is also a template which the Registrar's office issued at one of our Banner presentations to the campus.

#### Using the mouse adds extra time.

You may want to use the same online help pull-down menu to find out the key stroke equivalent for every mouse action.

### It's no longer possible to paste data into a word processing document.

In the new Banner screens, you see not only data but also the screen composition itself. Your clipboard cannot copy the screen and the data as a text file because the screen is composed of graphics, not text.

### Do you intend to make any improvements to the system?

We make changes all the time, typically by working with a team of customer groups who set our priorities. Each year, we complete all the mandated requests for changes, and make as many other changes as we can according to the priorities provided by our customer teams.

### Yes, Virginia, There is a Postmaster

BY AVIVA LURIA

If you've ever suspected that the UC Davis postmaster is a machine, software program, or U.S. mail clerk, guess again. The postmaster is a very real person with a name, Debbie Edwards. A veteran of the UC Davis campus for nearly 14 years, Edwards marks her two-year anniversary as full-time postmaster this month.

In the past few years email usage has escalated on campus, and the UC Davis postmaster has become a more visible presence. Viewing this as an opportunity to reach out to the campus community, Edwards has taken an active role in educating people about email. She makes presentations to the campus, and co-teaches IT Training courses on mailing list administration. That's in addition to responding to the 200-odd email messages and numerous phone calls that she receives each day.

Edwards begins her day by logging in to three different email accounts. There's her personal account, for inter-office mail and the newsgroups and mailing lists she subscribes to. Then, as accounts administrator, Edwards receives the mail directed to accounts@ucdavis.edu, from people whose computing accounts have been terminated automatically by the system. Lastly, there's postmaster@ucdavis.edu, with an average daily mail load of 150 messages, and a record maximum of 4,500 in one day.

"One mailing list on campus just went crazy," Edwards says, referring to the 3,500 er-

ror messages that were generated one day by a new list with a new list owner. Edwards disabled the list until she and the owner could reconfigure it and correct the problem.

The postmaster receives a copy of every

error message generated by every mailing list on campus. She also receives mail delivery errors when mailboxes "bounce" their mail.

"There are eight or so different mailboxes that feed into the postmaster account," Edwards says. "It keeps me very busy."

Requests for electronic mailing lists make up a large portion of Edward's email. She creates both the lists administered by listproc, the interactive mailing list processing program, and the automated class mailing lists, or ACLs. Established last quarter, ACLs are course mailing lists that initiate and maintain subscriptions according to information fed directly from the

Banner Student Information System. So far this quarter, the number of ACLs has topped 250, with nearly 15,000 subscribers.

Edwards also receives a number of complaints from users each day, some dealing with spam, or unwanted 'junk' email, others reporting abuses by other users. "I consider myself a proactive postmaster," she says. "But I'm a re-

active abuse handler. In other words, I don't go looking for people that have misused their accounts, but when I get a complaint I investigate it, and I deal with it."

The most common abuses, Edwards says,



tiate and maintain subscrip- Debbie Edwards is the person who answers email sent to tions according to informa- postmaster@ucdavis.edu.

are chain letters, commercial uses of campus accounts, mass postings to newsgroups, and sharing of accounts with unauthorized users. The one duty she regrets is having to suspend the accounts of people who misuse them. "Everybody who comes to see me gets to read the Acceptable Use Policy," Edwards says, referring to the UC Davis document (also

known as the Computer and Network Policy) that sets out rules and guidelines for holders of campus computing accounts. "I have them read it, I have them ask questions, and I usually highlight the part of the policy

for which they got suspended." These sessions are required in order to reinstate an account, and Edwards views them as learning opportunities. She considers the process a success. "In all the time I've been doing this, I've had only two repeat offenders," she says.

Edwards isn't planning a two-year anniversary party, but it's clear she regards the occasion with personal and professional satisfaction, due partly to the expressions of gratitude she receives regularly from her clients. Last year she received over 2,000 thank-you messages by email. "I really enjoy what I do," she says, "and I enjoy working at

UC Davis. As postmaster, I'm

part of IT — IT pays my wages, and I'm a part of that organization. But I belong to the whole campus."

#### **Contact Information:**

Email: postmaster@ucdavis.edu

**Phone:** 752-1208

Web site: http://clientservices.ucdavis.edu/



Q: I am interested in reserving a computer classroom for a class session. What is the process for doing this? What resources are available to me?

— Compiled from questions received during Winter Quarter

**A:** If you are a faculty member, teaching assistant, or staff member, you can reserve a computer classroom for academic purposes and use it for any class period, lab session, discussion section, or one-time demonstrations.

During the academic quarter, on weekdays between 8 a.m. and 6 p.m., you may reserve computer classrooms for academic classes only. Outside this time frame the rooms may be reserved on a recharge basis for non-academic use.

We accept reservations up to a year in advance, and we recommend early reservations: the more popular computer rooms get booked up rapidly. Daytime hours generally fill up more quickly than those in the evening, so if you reserve late your preferred classroom or time may not be available.

It's important to note Lab Management's policies before reserving a classroom. (A complete listing is available on the Web.) Here are a few of the main policies:

- An instructor or teaching assistant (TA) must be present during the reserved time.
- Software must be submitted to Lab Management for installation no later than two weeks before scheduled use of the lab. We will install the software, but the person reserving the computer classroom must test non-standard software in advance

of the class.

• If the instructor or TA has not arrived 15 minutes after the scheduled start of the class, the classroom will be opened for public use.

We will assist you in using the computer classrooms to their full potential. This includes creating electronic drop-off and pick-up folders on the file server if needed, allowing your students to pick up computer files and drop off their finished work.

We can also load the software you need for your class. Please note that any software that is loaded on the classroom computers must be properly licensed. Generally, this means that software licenses must be purchased for each classroom computer. Many software vendors will give faculty permission to use a package in their class for free or at minimal cost. Please contact us if you have questions about obtaining software for a class.

All computer classrooms come equipped with projection equipment, which is attached to the instructor's computer and allows you to show students what is on your screen. Each room cluster is

staffed by a student Site Attendant who can troubleshoot problems or help you to use the computer classroom.

— Tim Leamy, Computer Lab Manager, Information Resources

#### Resources:

Phone: 752-8549

Email: labmanager@ucdavis.edu
Web site: http://lm.ucdavis.edu
To reserve a computer classroom:
Call 752-8549, send email to Lab
Management at lab-reserve@ucdavis.edu,
or fill out a form on the Web at http://
lm.ucdavis.edu/rooms/
reservationform.html.

The computer classroom reservation policies and a list of standard software already installed in computer rooms are located at <a href="http://lm.ucdavis.edu/rooms/reserve.html">http://lm.ucdavis.edu/rooms/reserve.html</a>.

### **Online Floor Plans Gain Popularity**

BY MATTHEW MATUSZAK, COMMUNICATIONS RESOURCES

When Sharie Sprague, a technology support coordinator (TSC) in the Chancellor's Office, needs to identify or verify the location of NAMs (Network Access Modules) in Mrak Hall, she views and prints this information from an online campus resource.

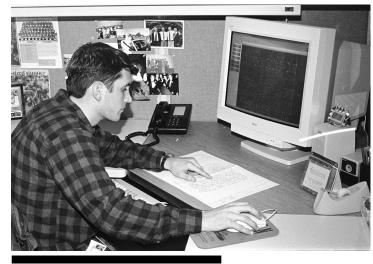
"I use the maps periodically when I need actual NAM information or simply want to see the spatial layout of an area," said Sprague. "I've found the maps very useful, even when I simply want to view a large area with regard to space utilization."

The floor plans were added to the Communications Resources (CR) Web site in the spring of 1997 in an effort to expand access to NAM location information. The goal is to eventually develop a system that will allow campus staff who coordinate moves and installations of telephone and data connections to view the same information used by Com-

for example, use the floor plans when they in- mation quickly. "It's saved trips out to sites for

stall a new NAM or reactivate service to an existing NAM.

The online plans already allow departmental network support staff who maintain their own records to crosscheck CR's records



Ron Burt, a Senior Drafting Technician in Communications Resources, makes changes to an online floor plan.

munications Resources staff. CR technicians, against their own system or to pull up infor-

myself or my student assistant," said Ray Cabral, a programmer/analyst with the Division of Biological Sciences, who also maintains records of his own department's floor plans and room locations. "Sometimes it's

> easier just to go online to look something up," Cabral said.

Work on the floor plans began in Fall 1994 when Network 21 contractors required information about the wiring configuration of campus buildings. Obtained from Physical Plant, the original floor plans were revised, enlarged, and converted into online plans with AutoCAD, a Computer Aided Design (CAD) drawing program used to draft the interior layout of buildings. A team of CR staff, including Senior Draft Technician Ron Burt, developed the set of 600 documents containing several layers of information, such as the name of the building, the floor level,

the room number and the location of NAMs

see Floor Plans, p. 8

## Web Server Survey Reveals Shifts

BY RICHARD DARSIE

In order to understand the resources and support Web administrators may need in our highly decentralized, distributed and diverse Web server environment, Distributed Computing Analysis and Support (DCAS) has produced a preliminary database of campus Web servers, using a combination of survey techniques. There were three motivations for this endeavor: 1) to gather information on the campus Web server environment: 2) to prepare a Recommended Solution document with guidelines for selecting hardware and server software for Web servers; and 3) to determine the needs of the server population to whom IT will be providing distributed authentication services.

In February 1997, around 300 potential Web servers and their locations were identified. This fall. 207 of those servers were active. An in-depth email survey was sent to the identified site administrators, seeking more details about server hardware and software, databases and middleware, various content categories (in order to better assess the needs for secure Web pages), and site traffic. (To fill out the survey, see Resources at the end of this article.)

The excellent response rate from the email survey provided a good "snapshot" information base that will help plan future services and Recommend Solutions. The results that have been tabulated so far are presented on the Web survey page.

Hardware platform results include:

- 30% of the respondents indicated they were using PCs running Windows NT. Another 18% use other PC-based servers. This represents a shift from primarily UNIX-based servers to midsize Intel-based servers, and a corresponding need for a shift in support.
- 20% of the respondents indicated they were using Macintoshes. During the distributed authentication project, team members identified some special challenges associated with use of Macintosh Web servers. These need to be better understood and communicated to the campus in a future Recommended Solution.

Server software findings include:

- Over 20% of the surveyed platforms use NCSA, which is no longer in active development and support. The general Web server community is migrating away from this server software (typically less than 5% continue to use this software). Our campus Web server community may need some migration support and resources.
- Less than 20% of the respondents use

Netscape as the server software, although it is site-licensed to this campus. To understand and respond to this selection pattern, IT will compare campus needs to the functions supported by Netscape.

Apache, WebStar, and Microsoft IIS together comprise another 30% of the server software population. The remaining 30% is distributed among almost 20 other server software products.

A Web page in early development is available to Web administrators interested in this survey and other Web administration information resources. To share suggestions for further development of this page, contact Doreen Meyer (dimeyer@ucdavis.edu).

#### Resources:

Web Administration Page: http://dcas.ucdavis.edu/webadmin/ Web Survey Page: http://dcas.ucdavis.edu/webadmin/survey.html Online Web Server Survey Tool: http://www.netcraft.co.uk/Survey/ Remote Access Web Page:

http://access.ucdavis.edu/

Doreen Meyer and Vicki Suter of Distributed Computing Analysis and Support (DCAS) contributed to this article.



Submissions are welcome; please send them by email to itpubs@ucdavis.edu.

#### **Human Resources**

http://hr.ucdavis.edu/

Human Resources and Risk Management provides a broad array of services to the campus in the areas of employment, benefits, staff development, and diversity. You will also find a multitude of downloadable campus forms (in several formats), the Payroll/Personnel system, and a new feature: the "Risk-O-Grams," which provide notification to the campus community about potentially hazardous situations (for example, there is a Risk-O-Gram about El Niño).

#### **Entomology**

http://entomology.ucdavis.edu/

You won't get bugged by this newly-revised departmental page! UC Davis is home to one of the top Entomology departments in the nation. You are invited to visit their online showcase and learn about their facilities, such as the Bohart Museum of Entomology, and programs, such as Integrated Pest Management and the UC Mosquito Program. All course descriptions are online, as well as a schedule for the department's weekly seminar series, and much more.

#### **Child Care Services**

http://www.housing.ucdavis.edu/general/ child.htm

Child Care Services is the principal resource on campus for child care information and referrals, and co-sponsor of the Breastfeeding Support Program. Find out about family support services, children's programs, summer care for school-age children, employee benefits, and financial assistance.

#### The 4-H Youth **Development Program**

http://fourh.ucdavis.edu

The 4-H Youth Development Program is an 80+ year old program of the Division of Agriculture and Natural Resources. 4-H is rooted in project-centered education with themes of citizenship and leadership, and is delivered by the county-based UC Cooperative Extension. This program is looking for departments and programs interested in helping 4-H deliver research-based information to youth and local youth organizations.

#### **Pilot**

from page 1

tions are designed to help simplify the initial set-up process.

- Information about new-style LoginIDs is now linked to the Remote Access Web site.
- A working draft of a future Recommended Solutions document entitled "Telecommuting via Modem: A Suggested Approach" is posted on the Remote Access Web site. The document outlines the issues that participants in the current phase of the pilot had to consider when reconfiguring their systems for modem usage.

Information gathered throughout the pilot, including usage data, case studies, user pro-

files, and survey information, will be compiled in a recommendations report, which will be reviewed by campus constituency groups in the spring. A decision on remote access services for the 1998-99 academic year will be made shortly thereafter.

Matthew Matuszak of Communications Resources and Vicki Suter, Technical Project Manager for Remote Access Improvement Projects contributed to this article.

#### Resources:

Remote Access Web site: http://access.ucdavis.edu

Email: ramp@ucdavis.edu (for questions and comments about this and other remote access pilot projects).

the Remote Access Web site.

#### ge 1

from page 1

**Participant** 

municate more quickly with the graduate student who is developing a Web site in conjunction with a proposal to the National Science Foundation (NSF).

"Because of the pilot, I am able to go to the site immediately when the student contacts me. Previously, this would have been impossible," he says.

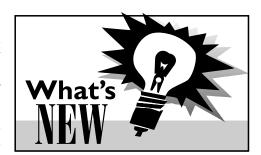
Verosub's experience, together with those of the other participants, will help prepare for the next phase of the Remote Access Pilot in March. In response to participants' comments, Technical Support Coordinators (TSCs) were incorporated into the current phase of the pilot to augment the level of support available, and hardware and software recommendations were made available on

#### Resources:

New-Style LoginID: http://mothra.ucdavis.edu/UCDLoginID Remote Access Web Site: http://access.ucdavis.edu

#### **Award-Winning Cover**

On January 17, the cover of the UC Davis and UCDMC 1997-98 staff directory was awarded the silver prize in the design category in the Sacramento Club of Printing House Craftsmen's annual contest. The cover was designed by Todd Zerger from Reprographics, who collaborated on the cover's conceptual theme with Pat Elkins and Linda Nixon from the Directory Services unit of Communications Resources.



- Information Technology's 1995-97 Biennial Report is available on the Web at http://it.ucdavis.edu/9597report. Read about IT's projects, collaborative work, and accomplishments in the last two academic years.
- ▶ Looking for the names of colleagues engaged in bringing technology to the classroom? Trying to find articles we wrote on accessing the Internet from off campus? Thanks to Mike Hogarth, from the UC Davis Medical Center, you can now search all issues of IT Times (since September 1993) on the Web at http://it.ucdavis.edu/it.times.
- You are invited to participate in a bibliographic software online survey. Representatives from the General Library, the Health Sciences Library, Information Technology, and UCD's faculty have formed a workgroup to evaluate and recommend a bibliographic software package for the campus. The workgroup constructed an online survey to gauge current use of this technology on campus and learn what product features are most important to the campus community. To participate in this survey, visit http:// draco.ucdavis.edu/biblio/surveyef.cfm. The Web site also contains information sheets and a demonstration version for

- each software package. The deadline for submitting entries is March 1, 1998. An evaluation will be posted in April.
- If you missed any of the first four **Year 2000 Presentations** or would like to review the material, go to the Web at <a href="http://y2k.ucdavis.edu">http://y2k.ucdavis.edu</a>. The handouts from each presentation are available both in PowerPoint format and as a text file.
- Get ready for **Odyssey 98**! Visit http://odyssey.ucdavis.edu to find out about this year's celebration of technology use on campus. And volunteer to help make this year's event another smashing success! Sign up by March 2.

### Two new Recommended Solutions documents are now available:

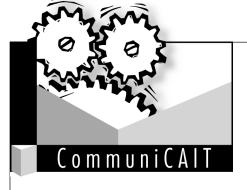
"Guidelines for Developing and Implementing Administrative Systems at UC Davis" is designed to help departments develop a methodolodgy for building new administrative systems. (See Campus Presentations on page 7 for presentations on this topic.)

The second document, "Light Web Pages," provides guidelines on how to create Web pages that can be easily and quickly accessed by modem.

To find out about or review the major options for connecting to the campus network from off-campus, consult the "Overview of Off-Campus Connectivity Options," a Recommended Solution document made available last December.

All Recommended Solutions can be accessed on the Web at http://it.ucdavis.edu/Solutions.

see What's New, p. 8



#### **New 56K Modem Standard**

On February 4, after debating the standard for nearly a year, the International Telecommunications Union (ITU) came to an agreement on 56 kilobits per second (Kbps) modem proprietary recommendations, thus ending a fierce marketing battle between two incompatible 56K modem technologies.

In February 1997, Motorola Corp. introduced the first 56K modem, which was built on Rockwell's K56flex proprietary recommendation. At the same time, U.S. Robotics

(now 3COM) released its 56K modem built on its x2 56K proprietary recommendation. These two technologies competed directly, and could not communicate with, each other. Until now, anyone with a K56flex or x2 modem could get fast service only from an Internet Service Provider (ISP) who specifically supported that technology. Many computer users held back from buying the modems, uncertain which technology would prevail.

The ITU, an arm of the United Nations, started meeting in March of 1997 to address this incompatibility issue. Rockwell and 3COM both submitted their proprietary recommendations for review. The ITU was charged with producing one standard from all the different recommendations proposed by the vendor industry. (A standard is defined as, "a technology agreed upon by the various vendors in an industry and ratified by an international governing body.")

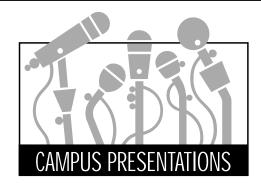
Unlike in 1994 when it selected the V.34 standard over V.FC for 28.8 Kbps modems, this time the ITU proposed a merger between K56flex and x2 56K technologies. The new V.90 56K standard will make it possible for consumers to purchase any product and use it with any other vendor's product. The final draft standard is due into the ITU in May, but the new standard will not be officially ratified until September 15.

Manufacturers have announced that they will release modems built on the V.90 standard in late March. If you decide to buy a 56K modem built upon the V.90 draft standard before September, be warned that you may have to upgrade the modem if changes are made to the draft standard. And keep in mind that, while the standard supports 56Kbps when the user requests information or downloads information from the Internet, the maximum transfer rate reaches only 33.6 Kbps when sending

information to the Internet. The FCC in North America has limited downloading speeds to 53 Kbps, but is currently reviewing this regulation. If you already own a 56K modem, many manufacturers have promised to offer free software upgrades to make them compatible with the new standard.

At press time, the battle between the two main manufacturers was not quite over. Rockwell has announced that it will not test its modems with 3Com's and that the K56flex modems will connect to x2 modems at a maximum rate of 33.6 Kbps. On February 5, Hayes, Ascend, and Cisco announced that compatibility within the V.90 draft standard is still not reliable. They have decided not to build products until testing between users and ISPs with different V.90 vendor modems is completed.

For further information and updates on the new 56K modem standard, go to http://cait.ucdavis.edu/advtech/evals.



Mark your calendar! The special presentations below will help you stay abreast of issues related to the information technology environment. For updates on special events, presentations, and professional development opportunities, visit <a href="http://it.ucdavis.edu/itcalendar.html">http://it.ucdavis.edu/itcalendar.html</a>.

### February 24: Year 2000 Presentation - Macintosh

Find out how the Macintosh will be affected by the Year 2000 problem and what applications might be problematic.

Time: 1:30-2:30 p.m.

Location: Center for Advanced Information Technology (CAIT), Shields Library.

Web site: http://y2k.ucdavis.edu

#### February 26: Guidelines for Proposing and Building Administrative Computer Systems at UC Davis

If you've built, or are thinking of building, your own departmental administrative computer system, don't miss this presentation. Debbie Lauriano, Project Director in Information Resources, will offer guidelines for proposing, developing, and implementing such systems, and she will introduce two friendly, flexible tools that will help you accomplish these goals. This presentation is based on a Recommended Solution document released this month (see What's New, on page 6).

Time: 2-3 p.m.

Location: Center for Advanced Information Technology (CAIT), Shields Library.

## March 2: Guidelines for Proposing and Building Administrative Computer Systems at UC Davis

(See February 26 for description.)

Time: 12-1 p.m.

Location: East Conference Room, MU.

### March 3: Year 2000 Presentation - Networks: WANs, LANs, Hubs, Routers, and Switches

This presentation will explore hardware and code problems associated with older equipment, as well as fixes and code revisions that will support Year 2000 compliance requirements. Voice-related compliance issues will also be discussed.

Time: 1:30-2:30 p.m.

Location: Center for Advanced Information Technology (CAIT), Shields Library.
Web site: http://y2k.ucdavis.edu

Web site: http://y2k.ucdavis.edu

### March 6: Guidelines for Proposing and Building Administrative Computer Systems at UC Davis

(See February 26 for description.)

Time: 11am-12 p.m.

Location: Cabernet Room, Silo.

### March 9: How Do You Improve Your Information Situation?

This is the second in a series of four seminars.

Following the assessment exercise described in the first seminar, tools, techniques, and information-receiving and organizing skills will be presented to help you manage information more effectively.

Time: 12 - 1 p.m.

Location: Cabernet Room, Silo.

#### March 10: Year 2000 Presentation - Networks: Server Operating Systems (NT, Netware, LAN Manager)

A presentation and discussion of operating system bugs as well as code revisions and fixes associated with the Year 2000 Problem.

Time: 1:30-2:30 p.m.

Location: Center for Advanced Information Technology (CAIT), Shields Library.

Web site: http://y2k.ucdavis.edu

### March 12: Internet 2, CalREN-2: How Can We Use It?

Join Russ Hobby, director of IT's Advanced Networked and Scientific Applications (ANSA) and chair of the CENIC's technical planning group, in an exploration of CalREN-2's capabilities and offerings. Hobby, one of the Internet 2 architects who developed the initial Internet 2 design, has been coordinating UCD's Internet 2 engineering efforts. Hobby will explore with the audience how CalREN-2 can meet the needs of researchers and instructors and expand their use of technology in their work.

Time: 2-3 p.m.

Location: East Conference Room, MU.

# March 24: Year 2000 Presentation - UNIX (Note: This presentation was originally scheduled for March 17.) Come explore how to research Year 2000 bugs in your

UNIX workstation (or server) applications.

Time: 1:30-2:30 p.m.

Location: Center for Advanced Information Technology (CAIT), 165 Shields Library.

#### **Book Review**

Connecting

Online

### Effective PR on the Internet

By BABETTE SCHMITT

Released in early February, Connecting Online: Creating a Successful Image on the Internet by Emily Avila and Greg Sherwin, was written primarily for public relations practitioners who want to apply their strategies and tactics to the Internet. In reality, this book is a tremendous resource for anyone — from PR neophyte to experienced Web developer — who wants to learn how to plan, budget, and establish a positive Internet pres-

ence. The book covers a wide range of issues, from myths about the Internet and public relations basics to proven Internet PR techniques, reallife examples, tips, innovative ideas, and tools to help develop, market, maintain, and renew a Web site. The language is friendly, straightforward, and inviting.

Emily Avila is a public information representative for the UC Davis Health System. She is responsible for televi-

sion production (including the medical show PULSE) and media/news service. She also works with designers, programmers, and system administrators on Web site development and management for the entire Health System (http://www.ucdmc.ucdavis.edu).

"Technology is a part of everyday life for me," Avila says. She uses tools such as email, online services, and public relations electronic mailing lists to learn from other communications professionals and to keep on top of trends in the business.

The idea for the book came in spring 1996 when Avila and Sherwin, a senior software engineer at CNET: The Computer Network, were developing the curriculum and materials for a University Extension course on communicating on the Internet. "There wasn't too much information about PR as it relates to the Internet when we started," she says.

The Internet became an indispensable tool for both writers. Avila used email extensively to conduct interviews, meet up with people, collaborate on drafts with Sherwin (who lives in San Francisco), and stay in touch with the publisher in Oregon. "We took up a lot of bandwidth, " she recalls.

The authors have set up a Web site (http://www.connectingonline.com) to complement the book with updates about public re-

lations on the Internet, a forum for professionals to discuss issues, and a collection of over 800 helpful bookmarks. They promise to keep the site updated as an evolving example of the techniques they endorse. The site itself is worth studying as an example of how powerful online public relations can be.

Avila's talents and expertise did not go unnoticed at UC Davis. She has been approached by many departments for help developing

their Web sites. "Have a plan before you start on your site," she advises, commenting on the frenzy surrounding Web development. "Design your site for your viewer, rather than to stroke internal egos," she says. Practical advice abounds in the book, from how to assess the market to how to define goals, identify an audience, develop interactive press kits, and create a production schedule.

When asked about UCD's Web presence, Avila notes: "I would suggest that we work hard to maintain a sense of 'community' among our sites. It's disappointing to see some Web sites that don't look anything like UC Davis."

Connecting Online is available at major bookstores and through online booksellers such as amazon.com (http://www.amazon.com) and Barnes and Noble (http://www.barnesandnoble.com).

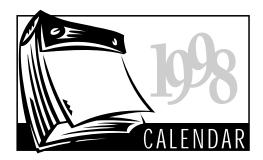


This month's Online Exclusives feature:

• Grants for Technology Training and Leadership, from the National Foundation for the Improvement of Education (NFIE) are now available.

- The Seventh Edition of the Directory of Electronic Journals, Newsletters, and Academic Discussion Lists has just been released.
- The Web site for the Sunnyvale Center for Innovation, Invention, and Ideas offers a wide range of trademark and copyright information.

To access Online Exclusives, visit our Web site: http://it.ucdavis.edu/it.times/



#### **February**

24 Melvyl Special Features and Advanced Search Techniques: 11 - 11:50 a.m., Carlson Health Sciences Library.

Year 2000 Problem Winter Quarter Series: Macintosh. See Campus Presentations, p. 7.

- 25 ☐ Get Started Searching with Melvyl on the Web: 2:10 - 3 p.m., Microcomputer Room, 163 Shields Library.
- 26 ☐ Find Information on the Web for Research: 11 11:50 a.m., Carlson Health Sciences Library.

Guidelines for Proposing and Building Administrative Computer Systems at UC Davis. See Campus Presentations, page 7.

#### March

♦ Working with Excel Functions: 1:30 - 4:30 p.m., TB 134.

Guidelines for Proposing and Building Administrative Computer Systems at UC Davis. See Campus Presentations, page 7.

3 Web Publishing: Working with Frames: SDPS, 8:30-11:30 a.m., TB 134 (Faculty & students: learnit@ucdavis.edu or 754-8091).

Year 2000 Problem Winter Quarter Series: Networks: WANs, LANs, Hubs, Routers, and Switches. See Campus Presentations, page 7.

- Web Publishing: Converting and Repurposing Documents: SDPS, 8:30-11:30 a.m., TB 135 (Faculty & students: learnit@ucdavis.edu or 754-8091.)
  - ◆ Creating Newsletters and Flyers Using PageMaker: 1:30-3:30 p.m., TB 134.
  - ☐ Melvyl Special Features and Advanced Search Techniques: 2:10 - 3 p.m., Microcomputer Room, 163 Shields Library.
- **♦ Working with Word Mail Merge**: 9:30-11:30 a.m., TB 134.
- 6 Guidelines for Proposing and Building Administrative Computer Systems at UC Davis. See Campus Presentations, page 7.
- **38 Web Publishing: Creating Custom Web Graphics:** SDPS, 8:30-11:30 a.m., TB 134.

(Faculty & students: learnit@ucdavis.edu or 754-8091.)

- O InfoRelief 2: Noon 1 p.m., Silo Cabernet Room.
- **Web Publishing: Working with Tables:** SDPS, 1:30 4: 30 p.m., TB 134. (Faculty & students: *learnit@ucdavis.edu* or 754-8091.)
- 10 **Structure** Fundamentals of Web Publishing: SDPS, 8:30-11:30 a.m., TB 134. (Two-day course offered 3/10 and 3/12.) (Faculty & students: learnit@ucdavis.edu or 754-8091.)
  - ◆ Designing an Access Database: 1:30-4:30 p.m., TB 135. (Two-day course offered 3/10 and 3/12.)

Year 2000 Problem Winter Quarter Series: Networks: Server Operating Systems - NT, Netware, LAN Manager. See Campus Presentations, page 7.

- ☐ Find Information on the Web for Research: 2:10 3 p.m., Microcomputer Room, 163 Shields Library.
- 11 ☆ Fundamentals of Eudora: 8:30-Noon, TB 134.
  - ☐ Get Started Searching with Melvyl on the Web: 11 - 11:50 a.m., Microcomputer Room, 163 Shields Library.
  - ◆ Interactive Electronic Mailing List Administration: 2-4 p.m., TB 135. (Faculty

& students: *learnit@ucdavis.edu* or 754-8091)

- 12 Internet 2, CalREN2: How Can We Use It?: See Campus Presentations, page 7.
- 7 Advanced Image Manipulation Using Photoshop: 8:30-11:30 a.m., TB 134. (Twoday course offered 3/17 & 3/19)
  - ♦ Windows 95: Beyond the Fundamentals: 1:30-4:30 p.m., TB 135.

#### **Key to Classes & Seminars**

- **38** Information Provider Series: Staff Development & Professional Services. Faculty and student registration: learnit@ucdavis.edu or 754-8091.
- ☐ Library Instruction Programs: LibraryClass@ucdavis.edu or 752-4381.
- ◆ Staff Development & Professional Services (SDPS): Enroll online at http://sdps.ucdavis.edu. Call 752-1766 for an application or catalog.
- Student/Faculty Series: Information Technology; call 754-8091 or email learnit@ucdavis.edu.
- Technology Intensive Seminars: No registration required; call 752-1766 for more information.

#### **RTA**

from page 2

computers. It allows for synchronous communication between students and between students and instructional staff. The communication can be by dialog (including the use of foreign character sets for students of Japanese, Spanish, or any other language); by voice (stored for repetition as with foreign language phrases); by "whiteboard" (a screen snapshot of anything appearing on one user's screen) that can be annotated by all viewing the image; by attachments, such as Word documents, spreadsheets, or multimedia clips; and by Web Pages on all screens in a group or paired discussion. RTA also provides asynchronous communication, in all forms listed above, through messaging that allows attachment of sound, whiteboard, or file, to explanatory text. Finally, it provides an entry point to Web-based instructional material, including items generated by RTA, such as frequently asked questions.

RTA is real, alive, and running on IT systems today, thanks to the efforts of Tim Leamy, IT's Computer Lab Manager. It has been used experimentally in language learning and computer science, and, thanks to a grant from FIPSE (the Fund for Improvement of Post-Secondary Education), it will be used in intermediate Spanish and Japanese courses starting this Spring Quarter.

We, the developers of RTA, are anxious to help the UC Davis community take advantage of this tool. I am spending my 1998 sabbatical year promoting the concept of interactive learning mediated through technology. Part of our FIPSE grant will fund distribution of RTA on this campus and elsewhere. My

sabbatical gives me an opportunity to work with members of the Davis community to achieve that goal.

RTA has to be seen to be appreciated. I plan to put on several RTA demo sessions at the Arbor over the next few months. If you are interested in learning more about this tool and how it might help your learning and teaching goals, please contact me at walters@cs.ucdavis.edu.

Dick Walters is Professor of Computer Science and the developer of Remote Technical Assistance.

#### Resources:

RTA Web site:

http://escher.cs.ucdavis.edu:1024 Arbor: AOB IV; 754-2115 Email: arbor@ucdavis.edu

Email: arbor@ucdavis.edu Web site: http://arbor.ucdavis.edu

#### **Banner Profiles**

from page 3

#### What is your overall impression of GUI Banner?

I find the new version much harder to use, mainly because it is so slow! I could run around the block sometimes while waiting for my keystrokes to kick in. So far I haven't noticed the mouse being useful for much of anything. The commands are harder to use because most of the basic function keys that I use require holding the shift and the function keys down. Printing is difficult, too. I have tried several different methods, but have been able to print only what is displayed on the screen.

#### What's New

from page 6

If you have campus cellular phone service through Communication Resources and your existing account number is in the 916 area code, you will have the opportunity on March 3 and March 9 to obtain a new phone number in the 530 area code at no charge. Take your cellular phone to 1113 Academic Surge between 9 a.m. and 4 p.m. Call 752-4603 if you have any questions.

#### **Floor Plans**

from page 5

used for phone, modem, fax and computer network connections.

The version of AutoCAD currently in use also contains a feature that allows each floor plan file to be converted into a Drawing Web Format (DWF), which can be accessed by

Windows 95 or Windows NT system users once a free viewer plug-in from AutoDesk Inc. is downloaded. With the plug-in, users can print and size any area of a floor plan.

Tests are continually being conducted to open up access to the floor plans to other platforms, including Macintosh and Unix systems. CR Webmaster Erin Magers is keeping track of newly developed software that supports multiple platform users, and she's working on streamlining the site's search capabilities. A beta test of a Java-based CAD viewer for Macintosh and Unix platforms that began in January has been extended for at least another sixty days.

"These maps are proving useful for other things besides NAM issues," said Doug Decker, a TSC in the Graduate Studies Department. Decker reports that a colleague is using the maps to show room locations for meetings and other events.

#### Resources:

Floor Plans: http://cr.ucdavis.edu



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