

<http://ittimes.ucdavis.edu/>

A new open access computer room in 73 Hutchison Hall recently opened its doors to UC Davis computer users, offering a glimpse of what's to come for campus computer labs. Not only does the lab feature the latest computer equipment, it is also the first in a cluster of computer classrooms and labs to settle in Hutchison Hall.

"By Spring Quarter 2003, two more computer rooms will move to the Hutchison Hall location, making up a suite of labs conveniently grouped for student use," says Chris LaVino, Space Coordinator for Information and Educational Technology (IET). LaVino worked closely with Resource Management and Planning, the office responsible for the management of space on campus, to coordinate the closure of the open access lab in TB 114 and the computer rooms in Surge IV, all of which are being re-purposed for classrooms and staff offices.

On Nov. 7, the lab's opening day, 163 users — including 139 students, 22 staff members and 2 faculty — stopped by to check out the new locale, spending a collective 194 hours using a variety of software programs, surfing the Web, checking email, or writing papers.

The workstations these folks enjoyed are courtesy of the Dell Computer Corporation "Higher Education" program. The well-known company donated 74 new PCs, 31 of which are now installed in the new Hutchison lab. The remaining donated machines will find homes in the additional Hutchison labs to be completed in the Spring. Dell allowed the Computer Lab Management team the flexibility to configure the computers as they wished. As a result, the new Dells exceed the campus' hardware recommendations, with 2.4 GHz Pentium IV processors, CD-rewritable drives, DVD playback and flat-panel monitors, according to Computer Lab Manager Peter Blando.

While Blando said the building of a user base for any lab "takes some time," the relatively short wait times and new equipment are sure to eventually attract a larger crowd. In fact, during the relatively low-volume time of a recent Friday afternoon, the computer room was nearly filled to capacity with new clientele.

"People are starting to realize there's a lab down here and more people are starting to come...I'm surprised; it's only the first week," said Joey Ou, a computer room consultant and double major in Communication and Economics.

Victor Romero, a fifth-year Managerial Economics student, was taking advantage of the lab that afternoon, remarking that, "the lab has up-to-date equipment, and it's not too far from the library, the MU, and most of my classes."

With near-100% usage rates in the MU computer room during most of the day, the Hutchison lab, located on the

## New Computer Lab Sports the Latest Equipment A Look at the Growing Demand for Computing Facilities



Liz Pickett, Computer Room Consultant Supervisor, and Anthony Zung, Junior Computer Room Consultant, oversee the computers in the new open access computer lab in 73 Hutchison. Photo by Jim von Rummelhoff, IET Mediaworks.

western edge of the Quad, provides a choice alternative. The Computer Lab Management group has been publicizing the lab in the Aggie, on IET Web sites, and on the walls of computer rooms across campus to get the word out about the new location, but Blando said that students will eventually come across it by word of mouth and the sheer demand for on-campus computers and printers.

### Demand Continues to Rise

The demand for computer lab access has been enhanced by a number of factors, including the explosive growth of instructional technology, the student computer ownership program (<http://computerownership.ucdavis.edu/>), research needs, specialized software applications used by faculty in the computer labs, and student use of the robust network and printers.

Despite UC Davis' expectation of student computer ownership (which recommends that all incoming undergraduate students own a computer that meets certain standards), the demand for on-campus computers continues to increase. According to Janette Dickens, the Classroom Technology Services Manager, "the national trend is that campus computer ownership expectations actually raise campus computer lab usage."

Though it would seem that computer-owning undergraduates would need campus computer labs less and less, the computer ownership expectation actually feeds into a general trend of increased technology usage, which is strongly felt in the labs in many ways. For instance, more instructors are requesting to reserve computer classrooms. Even instructors who don't

teach in the computer classrooms might load certain software programs on the computers in the campus labs where students must go to complete their coursework.

IET currently manages 15 computer rooms, including four open access facilities for drop-in use. Over the past five years, the number of logins in open access labs jumped 21%. The number of unique users in the labs rose by 1,724 students. Printing in the labs has also increased significantly.

With reports of increased enrollment on the horizon, the labs continue to chart their services. There are 409 computer lab seats now available, 119 of which are in the open-access labs, with the remaining seats in the often-reserved computer classrooms. Dickens points out that students may use computer classroom terminals when a class isn't in session, bringing the statistical number of seats available for drop-in use to about 219 at any given time. (For computer lab hours and locations, log on to <http://clm.ucdavis.edu/>.)

### A Look at Labs Past

As Blando (Computer Lab Manager) looks ahead to the challenges of meeting campus demand for computer labs, he can't help but reflect on the growth of computer lab resources over the years. Beginning as a student lab employee in the early nineties, Blando remembers a decade ago when only computer science and engineering students frequented the UC Davis computer labs. At that time, they consisted of large terminals connected to a big UNIX-based

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## Simulcast Brings President's Speech to Students

When President Clinton recently made a stop at UC Davis (by way of the Mondavi Center's Distinguished Speakers Series), he announced his resolve to, "make [himself] available to students when [he] visits college campuses." As it became clear that only about 300 of the 1800 ticket-holders for Clinton's speech at the new performing arts center were students, a couple of campus units stepped up to help the 42<sup>nd</sup> President keep his word.



Immediately after viewing Clinton on a 20-foot telecast screen, the audience at Freeborn Hall was treated to an in-person visit. The simulcast was made possible by ASUCD, the Office of Student Affairs, the Office of University Relations, and Information and Educational Technology. Photo by Jim von Rummelhoff, IET Mediaworks.

Freeborn Hall became host to a crowd of 650 people (mostly students) and a live video-feed telecast of President Clinton's address. Since so many Mondavi tickets went to season ticket holders and "special guests," many students had to camp out overnight to compete for the few remaining tickets made available to students. There were waiting lists, long lines, and upwards of 30 dollars on the price tag. For those students

who didn't feel like camping out overnight or just plain couldn't afford it, the Freeborn simulcast was a relief.

### Plugging in to the President

A lot of preparation went into the simulcast event. Besides the funding, planning, and special security measures, Information and Educational Technology (IET) had its hands full laying the groundwork for a smooth live video feed that would meet the crowd's expectations and the Secret Service's requirements. A Communications Resources (CR) team laid three fiber-optic feeds that would transmit the speech via live video. One feed would do the job, but they configured three to ensure multiple back-ups in the event of a technical problem or last minute change. Doug Hartline, CR Director, and his crew set up the fiber-optic lines between the Mondavi Center, the video team's production vehicle, the high-powered news-satellite truck, and Freeborn Hall, where a new video system with specialized projectors beamed Clinton onto a 20-foot screen for the anxious crowd.

Due to security regulations set by the President's Secret Service team, back-up sites for the production trucks had to be established. "And we did have to use our plan-B locations," Hartline explains. "We also set up dedicated land phone lines at all production sites in case of cellular phone problems," Hartline says. The cell phones that production crews often rely on during events like these became inoperative shortly before the President's appearance: although not confirmed, it appears that the Secret Service may have jammed local cell phones for safety measures.

IET Mediaworks provided the live two-camera videotaping of the event. From the control room of the Mondavi Center, Mediaworks also fed a separate video and audio signal through another switcher to a second dedicated fiber link to Freeborn Hall, in case power in the production truck was lost.

### The Audience Response

ASUCD entertainment director and student Andrea Chalupa had a ticket to view Clinton's speech at the Mondavi Center. However, when she heard about how many students were still hoping for Mondavi tickets to Clinton's speech, she joined the simulcast efforts and even, impressively, initiated the arrangement that brought Clinton in-person for a 20-minute surprise visit to Freeborn after the speech (for more details and photos, visit <http://www.news.ucdavis.edu/clinton/>.)

Needless to say, Chalupa gave away her Mondavi ticket and opted to stay at Freeborn. Even before Clinton's in-person appearance, Chalupa says the telecast created a unique experience of the speech: "On the 20-foot screen, Clinton was a huge figure," she recalls. Chalupa remarks on the youthful air of excitement in Freeborn: "We could hear the Mondavi audience's reaction to Clinton's address and I noticed that we were laughing and cheering about different things."

Well after the big event, the speech is being made available to an even wider audience, thanks to the Mediaworks videotaping. UCTV is still running the tape so that others can benefit. To check listing times for the month of December, or to view the speech online, you can visit <http://www.uctv.tv/>. (You will need Real Player-- which is downloadable for use at <http://realplayer.com/>-- to view the event online). □

*For those students who didn't feel like camping out overnight or just plain couldn't afford it, the Freeborn simulcast was a relief.*

## Wireless Network Grows Policy Anticipates Increased Use

Over the past year, wireless network services have become available in selected areas of the Shields Library, Memorial Union and Wellman Hall (see: <http://wireless.ucdavis.edu/Maps.htm>). In addition, a number of campus departments have initiated wireless network services.

It's easy to understand why any laptop user would enjoy wireless computing. For students, the sunny MU Quad can be home to more than just Frisbee playing; for faculty and staff, one computer can be configured for hassle-free online access from multiple classrooms and meeting locations.


However, the risks and challenges of using wireless are not as commonly known to the public, since it is such a new technology. Information and Educational Technology (IET) recently partnered with the Technology Infrastructure Forum and other computing councils on campus to create a policy focusing on some of these issues (to read the policy, visit: <http://Manuals.ucdavis.edu/ppm/310/310-17.htm/>).

The campus quickly realized that it needed to identify standards for wireless hardware, so that wireless users would be more likely assured of service availability no matter where they connect from on campus.

Most people are not aware of the fact that security in wireless transmissions is very slim. Regular Internet usage may not necessarily pose a risk, but anytime a user emails confidential information or purchases something online, this information can be accessed by other parties. Only encryption-protected sites will keep wireless transmissions safe; not all online purchasing sites or email services are encrypted. (One exception is MyUCDavis, the campus Web portal, which is encrypted). The new policy issues a warning to wireless users about security and reminds them that they must identify themselves using their encrypted UC Davis Kerberos passwords when they log on via wireless. This also ensures that people not affiliated with the campus won't use up our bandwidth or crowd out legitimate campus users.

Another challenge that wireless usage poses is competition on the frequency ranges among the many wireless devices now in use. For instance, at a wing in a hospital, life-saving patient care equipment can conflict with wireless phones, laptops and microwave ovens, if all are configured to access the same frequency. The new wireless policy establishes priority among these devices and also helps people make decisions about how to position wireless equipment to avoid these problems.

IET invites you to review the new policy and contact the campus IT Security Coordinator, Robert Ono ([raono@ucdavis.edu](mailto:raono@ucdavis.edu)), with any questions. □



**YOU ASKED**

**How Can I Manage My Email and Voice Mail During the Holiday Break?**

If you will be away over winter break, be sure to take a couple of minutes to set up absence notifications on your voice mail and email accounts. Doing so can prevent miscommunications and inconveniences for those who might try to contact you while you are away, and can also prevent a backlog of email or voice mail messages. To learn more about managing your email and voice mail while you are away, visit *IT Times* online and read, "How do I set up Email and Voice Mail Messages for Winter Break?" (<http://itimes.ucdavis.edu/dec2002/email.html>).

## Anesthesia Online Med Students Meet Virtual Patient

"Uh oh. I think we killed Stan," said a worried medical student to her classmate as she searched for visible signs of life in the seemingly still patient. A quick review of the vital signs monitor ensued, showing that all was well. After a closer look at the patient, the procedure continued, and Stan's 100 doctors, who were all 20 miles away, collectively breathed a sigh of relief.

In a preview of the possible future of medical education, a large group of students in Dr. Fleming's Anesthesiology class used a high-speed video network link between the campus and the UC Davis Medical Center (UCDMC) to remotely decide upon a course of anesthesia, direct the process on "Stan"—an advanced human patient simulator mannequin—and view the effects in real time.

The result of extensive collaboration between the School of Medicine, UCDMC, and Information and Educational Technology (IET), the remote human patient simulation proved extremely popular among students.

### Breaking New Ground

Mindful of the significant distance students must routinely travel between UCDMC (in Sacramento) and the campus, the School of Medicine began searching for innovative ways to allow for easier collaboration. Space for these kinds of demonstrations at the Medical Center is another challenge that school officials were eager to overcome.

"In the past, sessions like these have been limited to 5-10 people who could manage to squeeze into the demonstration space," shared Paul Ver Wey, head of the IET Mediaworks Video Group involved in the project. "Instructional videos were helpful, but did not allow for any real-time interaction between the viewers and those involved in the procedure."

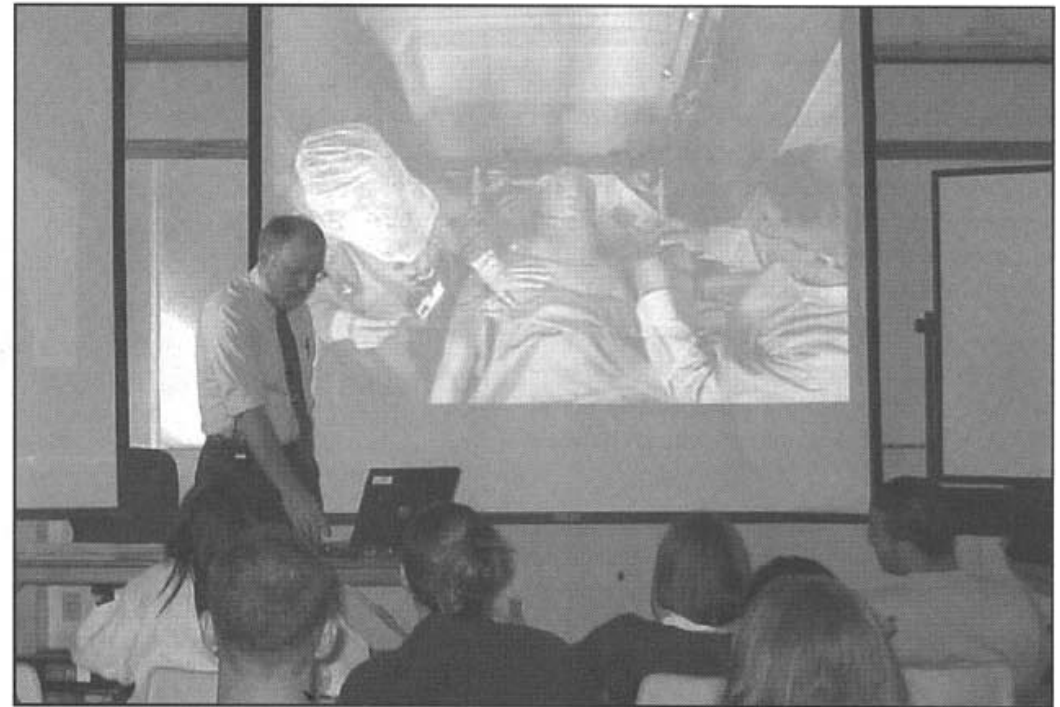
To overcome these challenges, the School of Medicine

worked extensively with the UC Davis Health System (UCDHS) Network Operations Group and two IET departments, Communications Resources (CR) and Mediaworks. Collectively, they developed a two-way real-time video link between the campus and the Medical Center.

This type of link between the two facilities had never before been attempted over an IP network. "We never have done a large video stream to and from campus, so we had to continually monitor bandwidth usage to ensure a smooth image and sound," said Daniel Keister, a Senior Network Engineer with UCDHS Network Operations. "I worked with the video encoder/decoders to compress video and audio and sent it across our IP network to the other encoder/decoder on campus."

At the Medical Center, an IET Mediaworks video crew provided three different views of the remote operating room: side and overhead views of Stan, along with a full-screen view of the machine hooked up to Stan that displayed his vital signs. An IET Mediaworks video crew also set up cameras in Dr. Fleming's classroom in Tupper Hall, where two projector screens displayed Dr. Fleming's PowerPoint lecture and the live images of Stan.

"With everything in place, Dr. Fleming and his students were able to switch between the views as needed, and converse with Dr. Wong, who oversaw the anesthesia administration on-site," shared Ver Wey.



Dr. Fleming, M.D., Associate Professor in the department of Anesthesiology, leads his students through an online anesthesia administration to their virtual patient, 'Stan.' Photo by Jeff van de Pol.

*Anesthesia Online continues on page 4*

## Campus Digests More Spam Workgroup Seeking Solutions

Remember when spam was just a (relatively) harmless meat product? Recently the campus has been getting many annoying reminders that the potted pink stuff shares its moniker with something far more insidious. Recently, the amount of unsolicited commercial email, (also known as "spam") has increased in private and campus email accounts.

Information and Educational Technology has initiated a project to deal with spam since the sudden surge began this past October. In September, the campus counted 1.8 million incoming spam messages. By October, the number had soared to 2.5 million. Universities across the United States reported similar increases of spam with the same characteristics reported at UC Davis.

For many, the solution to this spam has become the "delete" key. While it is easy enough to strike the delete key to eradicate the unwanted email, this simple approach doesn't address the larger nuisances: spam continues to consume network services, space on servers, and email inboxes. It wastes a lot of time for the people who have to process it, not to mention that sometimes the content can be particularly offensive.

Equally discouraging are the limited ways in existence for combating spam. Sending a nasty email response to the apparent spam sender may just confirm your email address to the spammer or be sent to someone whose email address was simply forged in the first place. Organizations and individuals attempting to use the court system for spam

relief will likely be tied up in the legal system for some time, according to Deborah Allison, Associate Campus Counsel. Since laws governing the criminality of spamming vary from state to state, and since the crime of spamming often crosses state lines, ambiguities arise in prosecuting the offenders. It is also very time consuming to press charges on offenders who are overseas. Finally, broadly deleting all email from a likely spam source may result in the accidental deletion of legitimate and important messages (not to mention an eventual wearing-out of the delete key).

### No Silver Bullet Solution

Though there are many ways of dealing with spam, almost all methods can only reduce it. At this point, it has become nearly impossible to rid systems of spam altogether.

The first step in reducing spam is learning to identify and filter it. But it can be difficult to anticipate the exact word variations that occur in any given spam email and thus designate a filtering of those words. Another filtering method has been to ban any messages sent from known spam addresses at either the email server level or at the desktop level.

Ironically, this kind of careful filtering of spam can often harm the victims of spam rather than the spammers themselves. As this practice of spam filtering spreads, remember that your email message could fail to reach the intended recipient if it contains phrases common in spam messages. In such cases, you as the originator will have no idea that the message has been tagged as spam and, possibly, deleted. So, it might be a good idea to take another look at your outbound email messages and remove any phrases that are common to spam (hopefully you aren't prone to using phrases about hair loss and mortgage reductions in your subject lines). Also avoid using spam techniques such as all upper case letters or non-alphabet characters in the subject or message body, or an empty subject line.

A campus workgroup has recently formed to focus on putting a fork in the spam problem. Log on to <http://ittimes.ucdavis.edu/dec2002/spam.html/> to find out more about the workgroup.

### How To Deal with Spam

- Do not respond directly to the spam message since the sender name is almost always forged.
- Do send a complaint to the postmaster at the sending site and each site that relayed the mail.
- Do copy your complaint to: [ucdabuse@ucdavis.edu](mailto:ucdabuse@ucdavis.edu) when you send the complaint to the originating or relaying site.
- Do find out how to set up a filter in the email browser that you use. Filter out known spam addresses.

## MyUCDAVIS UPDATES

The latest scoop on MyUCDavis, the campus Web portal, consists of a long list of improvements. Read on, or check them out for yourself at <http://my.ucdavis.edu/>.

•**Modem Accommodation:** Now, when you log in to MyUCDavis, the portal will be able to detect whether you are on a modem (as opposed to a faster Ethernet connection) and will present the opportunity to use a "lighter" faster-downloading version.

•**Speed Indicator:** A redesigned customize page (select *My Pages* --> *Main*--> *Customize this Page*) shows ways you can speed up portal download time by determining which channels load slowly.

•**Faster Channel Editing:** Channels (those editable blocks of information on the front page) can now be immediately moved up, down, or removed altogether without reloading the entire page by clicking on the "Edit" link to the right of the channel.

•**See More, Faster:** Without sacrificing loading time, MyUCDavis now expands to the full size of your browser. This will also enable you to add a third column to your main page of channels.

•**Icons You Can't Miss:** You'll now find larger icons for email, messages, planner, and tasks in the top navigation bar so you won't miss the important scheduling and mailing features the portal offers.

•**Channel Improvements:** The MyUCDavis channels now have an optional border and background color: select *My Options* --> *Change Themes* to remove the border, change background colors, and customize the look of your page to your liking.

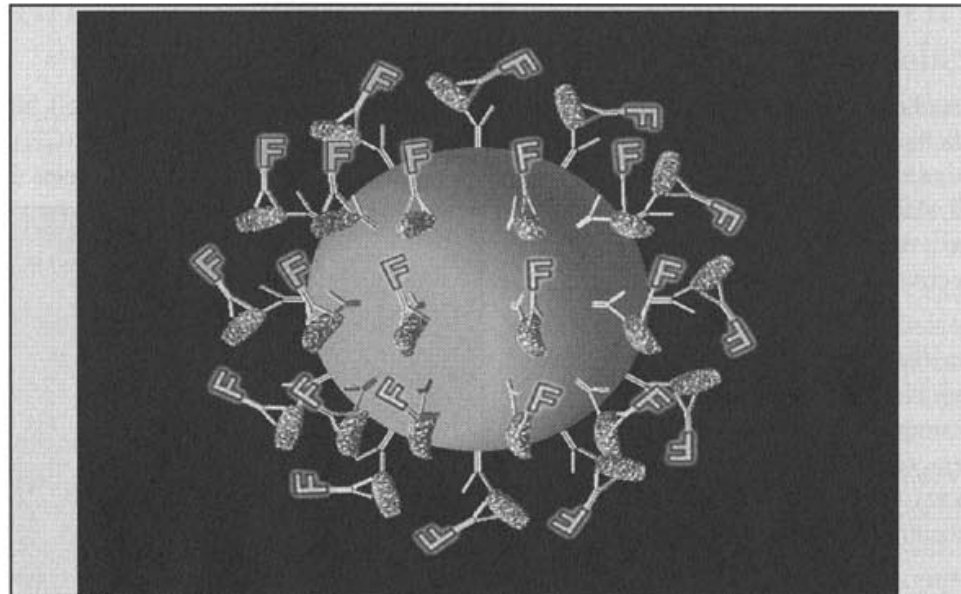
•**Design Your Own Look:** You can choose the color schemes and font sizes on your portal pages: select *My Options* --> *Change Themes*.

•**For the Curious:** The statistics page has been redesigned and made faster so you can easily find details on all kinds of interesting facts and numbers about MyUCDavis use. (Select *Stats* in the top right corner in MyUCDavis.)

If you have questions or suggestions about the portal performance enhancements or any other feature in MyUCDavis, please contact the MyUCDavis Development Team by using the *Contact Us* link at the top of MyUCDavis. You can also access online help from the portal by clicking the *MyUCDavis Help* link. □

### IET Holiday Hours

Happy Holidays! Information and Educational Technology (IET) will provide services during the holiday season on a slightly modified schedule. For contact information and a comprehensive holiday schedule of IET services, you should visit <http://iet.ucdavis.edu/holiday2002.html/>.



### Shedding Light on Pathogens

Biophotonics, the science of generating and harnessing light photons to image, detect, and manipulate biological materials, allows scientists at the new UC Davis Center for Biophotonics to detect and monitor disease in a matter of minutes. One of the high profile projects for the Center is the development of a portable pathogen detector that can identify potentially deadly viruses and other biological agents in an unknown sample within 15 minutes. Inside the handheld device, the antigen bead shown above (from an animated demonstration created by Steve Oerding of IET's Mediaworks) works to emit a specialized light coated with an antibody that will attach to harmful pathogens, tagging and identifying them. For more information on the new Center for Biophotonics, visit *IT Times* online and read a full story at: <http://ittimes.ucdavis.edu/dec2002/biophotonics.html/>.

### Anesthesia Online

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#### Students Like Their Virtual Patient

The students as a whole seemed to enjoy the interactive aspects of the two-way video link. "This is a good way to see the practical use of the material we're learning," said Ravjeet Kullar, a second-year medical student. "We're more likely to remember when we're taught in an interactive way."

The class members were also big fans of the advanced human patient mannequin (nicknamed 'Stan'), which accurately simulated the effects the students' anesthetic choices would have on a live patient. "It was nice seeing the connection between what we were learning and real medicine," said Kullar. "We felt more engaged since we could immediately see the results of our anesthetic choice." The students watched on as Stan's vital signs changed, his breathing rate fluctuated, or his muscles twitched in response to the anesthetic the students chose to administer to him.

#### The Future Looks Bright

Future plans bode well for collaborative projects like this, as Communications Resources, working with CENIC (Corporation for Education Network Initiatives in California, <http://www.cenic.org/>), is now installing equipment for the Optical Network Infrastructure (ONI) initiative, a project that will greatly enhance the networking speed available to higher education on the West Coast. Once completed (the second phase will take approximately one year), both the Medical Center and UC Davis will have direct access to each other and to the high speed ONI infrastructure. "This will enable the campus and the UC Davis Health System to use HDTV (High Definition TV) and other advanced technologies between us without impacting the IP data network," shared Keister. "I think it has great potential, as it gives students the ability to see and hear real world medical procedures without having to travel."

One other suggestion for future distance learning medical education is an unexpected but enlightening one: the students actually want longer classes. "I would've appreciated having a two-hour lecture rather than just one hour," said Kullar. □



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### Labs

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mainframe the students had to telnet into. "The lab users had to understand command-line interface, since most of the software was DOS-based back then," Blando recalls.

Next, Blando witnessed lab use become especially popular among English majors who, "tired of working with typewriters," needed programs like Mac Write and WordPerfect for word processing. "The terminals didn't have hard drives then, so students would have to ask the lab employee for a disk that had Word on it," he recounts.

Indeed, many things have changed; not only does Computer Lab Management host a number of its own servers and specialized software for student use, it also oversees other media services such as the audio and video production facilities in the Meyer Media Labs and the multimedia library in 1101 Hart Hall, where instructors can make various forms of media available for their students who drop in to watch videos or listen to CDs and cassettes.

The layout of the labs has also adjusted over time to accommodate student use of the facilities. For instance, the new lab layouts accommodate student needs for collaborative working, wheelchair access, and stand-only (chairless) "Quick Stations" that are used by students who want to drop in quickly to check email or print.

Though the cost of computers has significantly dropped over the past ten years (a personal computer in 1991 averaged about \$6,000, Blando says), the cost of supporting software, providing labor, technical support, and networking more than makes up the difference.

What hasn't changed, however, is the high demand for the labs. Even 10 years ago, Blando remembers students waiting in line to use computers.

Meanwhile, Computer Lab Management has stepped up its support services to keep up with the variety of technical support scenarios that can occur in computer labs stocked with all kinds of software and patronized by people with various skill levels. The diverse student staff employed as lab consultants are made up of many academic majors, from computer science to english to agriculture. Each summer, the diverse group undergoes a special week of training (more affectionately known as "boot camp") to prepare them for the busy academic year in the labs. (For more details on this tradition, visit *IT Times* on the Web and read: <http://ittimes.ucdavis.edu/oct2001/lm.html/>.)

Looking ahead, Blando explains, "We will continue to focus on meeting faculty and student instructional computing needs on campus. That is our top priority." □

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