



Support for faculty development in technology

by Linda Deneen

ITSS will be responsible for more of the technology development support for faculty this year, freeing up the Instructional Development Service (IDS) to do some new things.

Technology consultants are available to provide individualized training and support to assist faculty with their technology needs at no charge. Call on any of the following people:

- Tom Pollock, Technology Consultant, UC (*tpollock*, x7980)
- Helen Rallis, Faculty Technology Consultant, Educ (*hrallis*, x6272)
- Bruce Reeves, Technology Consultant, ITSS (x6831)
- Al Roline, Faculty Technology Consultant, Acct (x8550)

We are planning to continue Tech Camp, Tech Fest, and the Student Web Contest again this year, so watch for future announcements about these exciting events. Watch our **Training** web page for new seminars being developed with faculty in mind. If you have some new ideas about how we may assist you with your technology needs, please let us know.

Training
www.d.umn.edu/Training

Learning Technology Resource Guide
www.d.umn.edu/ltcenter/



The Learning Technology Center, in MonH 239A, and the web-based Learning Technology Resource Guide are also available to faculty and staff. Sheri Pihlaja (*spihlaja*, x6975) of IDS will provide half-time support to this initiative. If you have a question or need some assistance, feel free to contact Sheri.

Changes made in network access rates

by Steve Patterson

Beginning with fiscal year 2000, each campus network connection will be charged a network access rate which will include an Internet Access Fee and an InterCampus Network Fee. The two new additional fees have been instituted by Networking and Telecommunications Services (NTS) at the Twin Cities campus. These fees are used to support the central infrastructure and access to the Internet for all campuses. During the present fiscal year, campus central funds were appropriated to pay for UMD's share of these charges. We anticipate that next year these central funds may no longer be allocated.

For FY 2000, UMD ITSS will collect the new fees monthly and then transfer the campus funds to NTS. Departments will be provided a copy of all charges on the monthly detail billing reports sent to each unit. The report will list: the number of connections the unit uses, the UMD network access charges, the NTS Internet access charges and the NTS InterCampus access charges, the monthly campus subsidy, and the net monthly charge to the department.

Sample monthly report	
UMD Access	\$ 2.25
NTS Internet Access	\$ 2.36
NTS InterCampus Access	\$ 2.87
Monthly Total	\$ 7.48
UMD Campus Subsidy	- \$ 2.33
FY 2000 Cost	\$ 5.15

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Mulberry 1.4 now available

by Joel Ness

The latest version of Mulberry (v1.4.4) is now available from the ITSS web pages, the UMD Internet Software Library CD at the Computer Corner, or on the AppleShare Guest Software server in the UMD-MWAH zone. You'll find version 1.4 just as easy to use and with a few new features.

Preferences: You can now choose between Simple and Advanced preferences. The Simple preferences screen allows you to set most preferences you're likely to need, including your "Real Name" and your Signature.

Printing: Mulberry 1.4 allows you to customize the information that appears on the header and footer of messages you print. This is called "Print Captions" under the Message tab in Advanced preferences.

Search and Replace: You can now find text within a message and find and replace text in message drafts. You can also search your inbox and/or saved mailboxes for messages to or from a particular individual or messages containing certain text in the subject line or body of the message.

Text processing: Mulberry 1.4 adds a number of text manipulation options for message drafts including wrapping, unwrapping, quoting, and unquoting selected text.

Address books: If you're a new Mulberry user, you'll automatically get a remote address book created for you when you first launch Mulberry 1.4. Remote address books are stored on the mail server along with your Mulberry preferences and are available to you on any computer you run Mulberry.

Using Mulberry from other ISPs: If you use an Internet Service Provider other than UMD (CPIInternet or Bresnanlink, for example) you can now change the SMTP (outgoing) mail server address in Mulberry's preferences to that of your ISP's SMTP server. This allows you to use Mulberry to send email to non-UMD addresses. For details, see our **Configuring Mulberry** web page.

Mulberry:

www.d.umn.edu/itss/software/mulberry/

Configuring for other ISPs

www.d.umn.edu/itss/software/mulberry/docs/



Access your UMD email from the web - anywhere

by Joel Ness

When away from campus, faculty, staff, and students often want to access their email using a computer that doesn't have Mulberry (or their favorite email program) installed on it—or they may not want to dial long-distance into UMD from their laptop computer when out of town.

ITSS has introduced a web-based email client called IMP that allows access to your UMD email from any computer on the Internet that has Netscape or Internet Explorer 3.0 or greater. This could be a friend or colleague's computer, public or library computer, etc.

You can use IMP to access both your UMD email INBOX and any email mailboxes you may have saved using Mulberry or Pine. IMP uses the IMAP protocol and, unlike email clients that use the POP protocol, will not download your email messages or save any special settings files to the hard disk of the computer you are using.

IMP is a full-featured email client that can send and receive mail and work with attachments. However, web-based clients such as IMP are slower than our other email clients (Mulberry or Pine) and it doesn't have all of the features, such as signatures or address books. We recommend that you use Mulberry for regular email use on your home or office computer and use IMP while away from these computers.

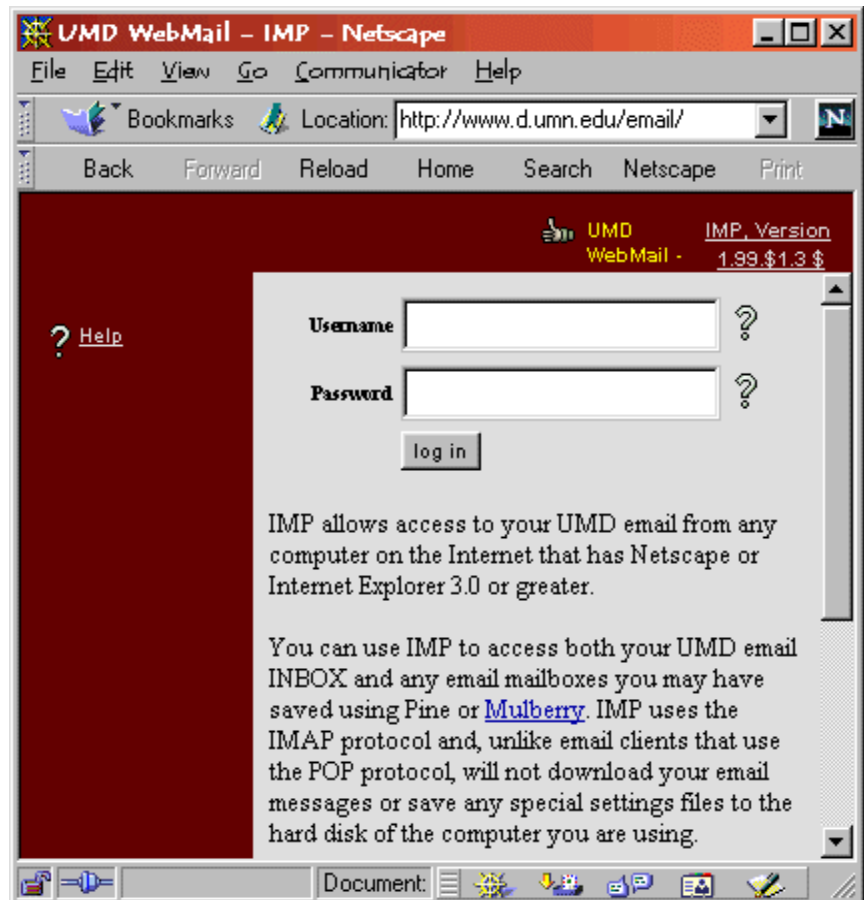
You may be interested in visiting ITSS's **Guide to UMD Internet/email accounts** web page, where you'll find information on using email at UMD as well as links that allow you to initialize or change your UofM Internet password and forward your email to another account.

IMP email web client:

www.d.umn.edu/email/

Guide to UMD Internet/email accounts:

www.d.umn.edu/itss/email/



Network and main servers upgraded

by Dan Burrows

During the summer ITSS staff upgraded the network and several of the main servers on campus, including "ub" and the Novell office server.

Campus moving to "switched" network

The network upgrade is done mostly in the basements or closets on each floor of a building. The general upgrade is to replace a "hub" with a "switch". The switch handles network congestion better than a hub and also allows for a faster connection to the main backbone of the network.

In several buildings we installed a 100 Megabit connection from the main backbone to the building, which is 10 times faster than what was in place last academic year. Eventually nearly all building connections to the main backbone will be converted to 100 Megabit.

Main time-sharing server (ub) upgraded

Our main time-sharing server (ub) was on a Sparc Center 2000 installed during the summer of 1994. Ub was fast for the time it was installed, and we eventually upgraded it to 40 megahertz computer chips and 512 megabytes of main memory.

Over the next few years we grew the disk storage on this system so that it was providing home and distributed binary service for most of the UMD campus. About three years ago it was no longer cost effective to upgrade ub, and we also distributed the services ub was providing to several servers (mail, News, web, NFS file service, etc).

This summer we replaced ub with an Enterprise 3100, with 400 Megahertz computer chips and 1 Gigabyte of main memory. This system is primarily used by those needing special packages for large data sets or data bases, compiler access, X-window services, and researchers who need larger memory and fast cpu for their projects.

Novell office server (UMD_IS3) upgraded

We replaced the hardware that our Novell office server (known as UMD_IS3) was running on. This server provides print services, application software, and file storage for 700+ users on campus.

UMD_IS3 now resides on a server-style Dell computer, with two computer CPUs running at 500 Megahertz, 512 Megabytes of main memory, and a disk array (RAID) that contains 64 Gigabytes of storage. This system is considerably faster and will be more reliable than the old desktop style computer that previously housed the server (200 Megahertz single CPU, 256 Megabytes of memory, and 42 Gigabytes of disk storage).



The new UMD_IS3 server, with dual CPUs and a 64Gigobyte RAID disk array.

Long distance rates on the web

by Steve Patterson

We have recently expanded our web site to include the current UMD international long distance call rates.

Rates & Services:
www.d.umn.edu/itss/rates/



To view the long distance rates for fiscal year 1999-2000, please select "Telephone Rates" on our **Rates and Services** web page.

Modem service upgraded

by Dan Burrows

On September 3, 1999 we upgraded our modem service from a mixture of 33.6 and 28.8 baud modems to the latest modem standard, known as "V.90" (often referred to as "56K"). The results so far have been very positive, many customers are reporting connect speeds well above 33.6. Another benefit from the upgrade appears to be higher reliability for the modems in the pool. In our prior pool we sometimes had a modem that would get confused, which could cause either fewer modems to be available or a ring-no answer condition.

As with all conversions, not everything has gone completely smoothly. Some customers have reported reduced speeds, and a few have been unable to connect. We are encouraging those in the latter category to upgrade the drivers related to their modem. Several of those who have done this can now connect again, and the process involved is usually straightforward (usually down-load a file from your modem vendor site and install it on your computer).

Our current configuration has 24 modems for on-campus use (x7831), and 168 modems for off-campus use (728-7300). We had 48 modems for on-campus use last year; however, since all on-campus residences now have Ethernet connections for each resident we anticipate reduced usage of our on-campus pool.

Please report problems with our modem pool to our Help Desk at 726-8847, or email *consult*.

Samba file and print services available for Windows users

by Dan Burrows

ITSS has installed a Microsoft network-compatible server system called Samba that provides file sharing and network printing to anyone running Windows 95, 98 or NT. There are no additional costs associated with this service as it is covered under the monthly Internet/email account fee.

Samba services run on our Unix file server.

Because our Unix server is backed up daily, files stored here are backed up daily also. Lost

or damaged files can be retrieved from backup as needed.

Samba vs Novell

While the Samba service is similar to our Novell service, some features of Novell are missing or somewhat limited under Samba. Samba services might be especially appropriate if you have Novell "print only" service at this time. Samba can also be used from home via the dialup modem pool for either printing or file sharing. Additionally, Samba provides a nice tool for web development in your personal www directory (for ex: /~jdoe) since you can access the files directly from any Windows program, such as PageMill.

You might ask "Why keep on using Novell?" Our experience comparing Samba and Novell indicates that Novell provides a more reliable networking service. Novell printing uses drivers that provide improved services for more complicated outputs or special printer handling. Novell is also the only place where we provide shared licensing for software packages for the campus. Novell is our "premium" Windows networking service, and likely will remain so for the near future.

Configuring your desktop

Once your desktop is configured for network access, you use the Microsoft utilities to set up network printing and file sharing thru Samba.

For detailed instructions on how to configure your computer, please see our **Samba Services** web page.

Samba Services

www.d.umn.edu/itss/computing/samba/

Samba Web development

www.d.umn.edu/itss/webdev/



Administrative reporting from enterprise systems

by Linda Deneen and Bruce Gildseth

Now that the enterprise systems (PeopleSoft) are partially implemented, it seems an opportune time to provide an update on administrative reporting for this campus.

Both ASSL and ITSS have staff who can provide administrative reports. Within ASSL, the Systems Operation and Control Unit (SOCU), managed by Scott Schweikert, will provide reports for the other units within ASSL. Within ITSS, the Administrative Data Processing Center (ADPC), managed by Steve Patterson, will provide reports for the rest of the campus. This is how we have divided the work in the past and we plan to continue in the same mode.

Staff members within SOCU and ADPC are still heavily involved with

further implementation of the enterprise systems. For this reason, we do not expect to be able to produce reports as quickly as we have in the past. We will need to assess the needs and prioritize the requests as they come in. We ask your continued patience and willingness to make do as we complete implementation and move back to standard production mode. This will likely take another year.

In the meantime, there is some good news. The data warehouse is being updated nightly, and more information is being stored there for your use. The data warehouse group is developing some new, web-based methods for looking at data that vastly improve the ease of use and accessibility of information. ITSS will continue to provide training for the campus in using these new tools. We encourage you and members of your unit to take advantage of this.

ResNet: Residence halls switched to port-per-pillow

by Dan Burrows

Major network upgrades were made to ResNet (residence hall networking services) during the summer. The last two residence apartments (Stadium

and Junction Apartments) were added to the network this fall, and all residences were converted to live "port-per-pillow" connections.

To prepare for port-per-pillow, ITSS staff installed network equipment so that each connection in each bedroom in every residence hall is "live" and ready for use. Students who connect to the network must register their connections within three days of use. ITSS will be monitoring the connections and those that are in use and not properly registered will be shut off.

In prior years, students had to complete a service request for a connection, and ITSS staff had to physically complete the connection for each request. Although this process worked well during the first few years of ResNet, with relatively few connections, we were faced with a predicted installation of 1,200 residence hall connections this Fall. And, of course, each student wants to be online the first day of class! Using the new process, we already have over 1000 connections registered, and expect this to grow quite a bit more over the next few weeks.

ITSS ResNet:

www.d.umn.edu/itss/resnet/



Why call the ITSS Help Desk?

by Tom Nylen

This morning you left voice mail and e-mail with your favorite ITSS staff member asking for help, but you haven't heard from them yet. You're not an impatient person, but it's taking longer than you expected to get help. What can you do?

Call our Help Desk at 726-8847 or send e-mail to helpdesk@d.umn.edu. We recommend that you make our Help Desk your first contact when you need help with your technology applications. Why?

- The desk is staffed Monday through Friday from 8:00AM until 4:30PM, and staff are able to either answer your questions immediately or promptly redirect the problem to other staff who are available and likely to be able to provide the help you need. Be sure to leave a message if you don't get an answer right away, because we're probably on another line. We'll return your call as quickly as we can, generally within 30 minutes.
- Although ITSS doesn't provide around-the-clock support for most services, we often have staff monitoring our systems and Help Desk voice mail during off hours. That means if you leave a message during these times, there is a chance that we can solve your problem before the next working day. At the very least, a problem reported during off hours will get prompt response the next time the Help Desk is staffed.
- If your call is referred to another ITSS staff member, it is logged in our Help Desk database and tracked to be sure it doesn't slip through the cracks. Difficult problems, especially those that involve several ITSS staff, can sometimes get stalled, and our tracking system helps us keep focused on solving your problem as quickly as possible.
- Calling the Help Desk before trying to get help from a particular ITSS staff member helps us spot patterns of trouble. For example, we may be able to quickly determine that printing service is failing or that the network is down in a particular part of the campus. When we receive multiple calls reporting what appear to be related problems, Help Desk staff will escalate problem resolution immediately so that the service can be restored with minimal impact on our customers.

ITSS Help Desk

726-8847

helpdesk@d.umn.edu

What other options do I have?

Our ITSS web pages provide information and help for many aspects of our services, and you might be able to find what you need without contacting the Help Desk. Take a look at our **ITSS home page** to get an overview of our services and to locate the information you need.

ITSS home page:
www.d.umn.edu/itss/

Service Requests:
www.d.umn.edu/itss/requests/



To do a quick search for information on a specific topic, try the search feature at the bottom of each ITSS web page.

Routine services such as network connections or desktop computer software installation can be initiated without calling the Help Desk by using our ITSS **Service Requests** web page. Using the online service requests ensures that your request gets properly scheduled and that we have all the information that we'll need to do the work for you.

If you have comments or suggestions for how we can improve our Help Desk service, please call us.

Laptop pilot project underway

by Linda Deneen

Students in three academic programs at UMD are using laptop computers this year as part of the laptop pilot project. Each student has a laptop to use for the academic year, and faculty in the programs have integrated laptop usage into the curriculum.

The Theatre Design program in the Department of Theatre has eleven students using Macintosh computers. Students use the computers to design sets, plan lighting and display images. According to Theatre Professor Mark Harvey, students began making use of their laptops immediately after they received them.

According to Mark, "The week before a show opens is called Tech Week because all the technical elements are coordinated. Last night I had a crew of four working with me and every single one had figured out a way to use their laptop to execute their job more efficiently. Tech week is notorious for being extremely stressful for all involved, but we were actually having fun."

The Early Childhood Education program in the Department of Education

has thirty-nine students using Gateway

Laptop Pilot Project:
www.d.umn.edu/itss/laptop



Windows 98 computers. Students plan activities appropriate for children using the software tools installed on their computers. The department has already surveyed these students to gather baseline information about their computer skills. Further assessment will be done during the year and compared to this baseline data to determine the impact of the laptops on student learning.

The Accounting program in the Accounting Department has fifty-six students using Gateway Windows 98 computers. Spreadsheets and other office-productivity tools are of fundamental use in these classes.

Faculty in all three programs attended Tech Camp last year, either in March or in June. All have produced web sites, presentation, or other technology-enhanced materials for use in their courses.

UMD web site redesigned, campus templates updated

by Linda Deneen

Our newly redesigned campus web site went live on Monday, August 30, 1999. In addition to updating the look and feel of the home page, we made usability changes based on feedback we've been collecting from users over the past several months.

Some of you have used the campus templates on your unit pages, and if things worked right, those pages should have changed automatically to the new templates. We encourage those of you who are using campus templates to check your pages if you have not yet done so. If your pages did not change with the conversion as expected, please contact Andy Manteuffel at amanteuf or x6927 for assistance.

For detailed information on using templates and virtual includes, check our online Web Development Guide.

Web Development Guide:
www.d.umn.edu/itss/webdev/



Many thanks to everyone on campus who gave their time and energy to review the new design and to provide feedback. A special thanks to the Campus Web Committee (Sue Bosell, Linda Deneen, John Hamlin, Bob Krumwiede, Andy Manteuffel, Cheryl Reitan and Paul Treuer) and the ITSS Web Team (Sally Bradt, Laura Carlson, Jason Davis, Scott Hollatz, Joel Ness, Bruce Reeves, and Frank Simmons). An extra special thanks to Andy Manteuffel, who did most of the development work with many people giving him suggestions.

We intend to redesign our campus web site on an every-other-year schedule, so the next redesign should take place during summer 2001.

Checklist of classroom technology updates

by Judy Kurschner

Many updates and improvements were made to the classrooms during the summer months. Following is a brief listing.

- A new sound system has been installed in BohH 90. Documentation for operating this equipment is on the web.
- Chemistry 200 has a new, longer projection screen which has been centered in the front of the room.
- Engineering 290, Cina 202 and Cina 224 each have a projector and VCR with closed-captioning installed, and a teaching podium with the appropriate connections for technical equipment.
- A new teaching workstation has been installed in MonH 108 with semi-recessed monitors and more work/laptop space between computers.
- Chem 150, Chem 200 and MonH 108 will have new, upgraded computers installed. New PCs have also been ordered for the AV equipment checkout pool. All will have DVD drives, which can also play CDs.
- Closed-captioning boxes have been standardized on all VCR equipment in the classrooms and we are working on completing this on the AV checkout pool of equipment also.
- Four classrooms (MonH 111, MonH 108, SBE 20 and MPAC 51) have been wired for student laptop use for the laptop pilot project.
- A slide projector has been added to the equipment in Cina 316.
- Hum 403 has been totally remodeled and now has a home theater type sound system, projector and VCR, DVD player, teaching podium with access to Ethernet connection, audio cassette player, new lighting and a larger projection screen.
- File holders have been installed in all high-tech classrooms for documentation of equipment operation and for user feedback. We encourage faculty to use the feedback forms to let us know how things are working for you in the rooms.
- Documentation for operation of equipment in Cina 316 and Engr 290 is available on the web, and will be available soon for LSci 175 and 185.
- ITSS will begin installing telephones in the large lecture rooms. This may take as long as two years to complete, as the window of opportunity to work in these rooms is very limited while classes are in session. Phones will be for on-campus calls only, with the capability of dialing 911 for emergencies.

Thank you!

A big thank you to all who participated in our Classroom Technology survey last year. The results of the survey are posted on the web, as well as responses to some of the questions and requests from participants.

Survey comments:

www.d.umn.edu/itss/classroom/99Survey.htm

Survey data:

www.d.umn.edu/itss/classroom/99SurveySum.htm

Classroom resources:

www.d.umn.edu/itss/classroom/Resource.htm



Changes made to student labs in response to surveys

by Jason Davis

During spring quarter 1999, ITSS again conducted a survey to ascertain what students like about the computer labs and what they'd like to see changed. There were many positive comments on the surveys and we appreciate the feedback. Of course, there were also a number of negative comments. Following are the most often-cited concerns as well as what we have or haven't done to address these concerns, and why.

Lab Environment

The majority of responses were about the temperature in Lib 165. Many students wondered why we have not implemented air conditioning in this lab. ITSS has requested cost-estimates for air conditioning in Lib 165, with the latest estimate over \$80,000. Air conditioning is just not a cost-effective way to use computer lab funds. The new chiller, which has been installed in the Lund building, may offer a much cheaper solution at some point in the future. We will continue to re-examine this issue. In the mean time, we have increased the number of fans in the labs.

Upgrades - Hardware & Software

There were many requests for faster / better hardware. Upgrades to monitors, CPUs and/or scanners were made in most of the labs.

There were some requests to upgrade the lab operating system to Windows 98. Given the cost per license and the relatively minor advantages to that upgrade, we decided to stay with Windows 95 for one more year.

Hours

There were some requests for later hours, earlier hours, and more weekend hours. Security concerns and operating costs rule out twenty-four-hour labs as a viable option. Last year we extended hours in Lib 165 to 1 am Sunday - Thursday by mid quarter, and to 2 am by the 8th week. This Fall Semester we will extend hours earlier and longer. We have already begun later hours on Friday and Saturday nights (Lib 165 is open until 9:00 pm).

We also started the semester with early hours (Lib 165 opens at 7:00 am Monday - Friday). Beginning the 5th week of the semester we will keep Library 165 open until 1:00 am Sunday - Thursday. Finally, by the 10th week of the semester we will extend those hours to 2:00 am. Because of the costs of these extended hours and the quality of hardware now available in Library 165, we have decided not to offer extended hours in any other labs at this time.

Consultants

There were many comments, both positive and negative, about the consultants in the labs. It is impossible for our consultants to know everything about every application. It is more realistic to expect consultants to know something about most of the software and hardware in the lab where they are working. Consultants will also know where to look for more answers. We are committed to offering the best customer service we possibly can in the labs. Helping the lab consultants to be in a position to help you remains a top priority within ITSS.

Printing

The survey elicited many responses on printing. Some comments were about the cost, while others were about the system we use to charge for printing.

There are real dollar costs associated with each page printed (paper, toner, printer wear and tear, etc.). Separating printing fees from lab fees distributes printing costs more fairly, eliminates excessive/wasteful printing, and allows access fees to be used for other computer related services such as longer lab hours, more access, more powerful hardware, new versions of software, etc.

ITSS Fall workshops

ITSS is offering a wide range of free workshops open to faculty and staff.

Because workshops are added throughout the term, be sure to bookmark the ITSS

Training:

www.d.umn.edu/Training/



Training web site.

Check often for the latest information and to sign up. Seating is limited and our workshops are popular, so be sure to sign up early.

Don't miss the last ITSS computer sale of the millennium

by Dan Ellis

Summer is over, and so are our usual computer lab upgrades. If you are looking for a computer at a reasonable cost, please remember that the annual computer sale will be held in mid October. We will have several variations of Macintosh (IICx, 6100, and 7500's) and some low end Pentiums and 486 computers.

While the Macintoshes should be Y2K friendly, the PC's may have minor issues (manually adjust the date), but would certainly make great computers for kids or those just getting into computing.

Also remember that we will have a few occasional select computers or other equipment offered through our **Equipment Sale** web page.

Equipment sale:

[www.d.umn.edu/itss/
support/Maintenance/sale.html](http://www.d.umn.edu/itss/support/Maintenance/sale.html)



Information Technology Systems & Services

Main office
176 MWAH
x7587

Help Desk
x8847

Web site
www.d.umn.edu/itss/

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Please direct them to the newsletter editor by phone at (726) 8856 or by electronic mail to sbradt@d.umn.edu.

The University of Minnesota, Duluth is an equal opportunity educator and employer.

Digital Imaging Lab fall report

by Jim Bredeck

Do you walk past the Digital Imaging Lab (DIL), admiring the A/C or the chairs and wonder, "What is going on in there?" Relax. Soon all will be made clear.

The summer has been a busy one for 154 MPAC's lone occupant, Jim, who has been preparing equipment lists, visiting off-campus sites, meeting with faculty and even attending SIGGRAPH in Los Angeles during August. All of this effort has been focused towards clarifying the types of computers needed, which applications are in demand and, finally, what peripherals will be useful.

If you can imagine a room with Suns, SGIs and Macintoshes you are visualizing the DIL with your monitor calibrated correctly. One could describe the DIL as the United Nations of computing, a place where all operating systems have a place, a vote and will be heard from.

We are all looking forward to receiving the equipment that is, even now, being ordered and decided upon. Soon we will feature a professional-level digital video editing suite, a wide-format color art printer, a range of exciting display devices, scanners, cameras, and . . . the list goes on.

The workstations in the DIL are unprecedented in their graphics capabilities at UMD and permit unrivalled high resolution, large-display interactivity. SGI's Octane, Sun's Ultra60 and Power Macintosh's G3 will all rub shoulders in the lab and keep in touch with each other through the Lab's unique network design that brings 100MB/sec fiber bandwidth to each and every desktop.

If all of this sounds like lots of sizzle without much steak, we can only request your continued patience. We are still heating up the grill! Remember that new trails are being blazed and old limits to research are being rapidly reevaluated.

What's up first?

Our first users will be faculty from the Art Department and from the Large Lakes Observatory, Catherine Ishino and Elise Ralph, respectively.

Catherine's work will focus on her father's diaries, transcribed to video, and his first-hand account of what the internment experience felt like to a Japanese-American during the 1940's.

Elise's research plunges us beneath Lake Superior, inviting us to explore the mysteries of this Great Lake whose shores we call home.



Digital Imaging Lab technician Jim Bredeck works at the Audio/Video Editing station in the lab.