UNIVERSITY OF MINNESOTA

Office of Information Technology

Information Technology
Newsletter

August 1998
Vol. 3 No. 5

HAVE YOU TRIED 852-5252, the U's expanding 56k modem pool? To permanently change the dial-in number, Win95 users need to right-click on their U of M PPP connection and select *Properties.* This and other tips are available from the ADCS web page: www.umn.edu/adcs
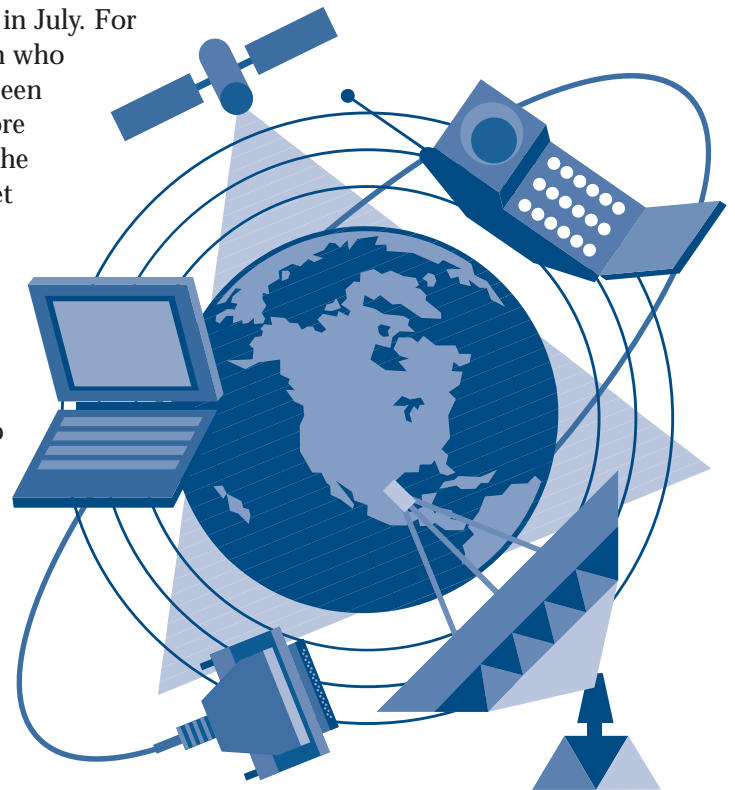
WELCOME TO THE UNIVERSITY! HERE'S YOUR INTERNET AND E-MAIL ACCOUNT

This was the message that went out in July. For the first time, all incoming freshmen who have paid their admission fee have been given an Internet account even before they arrive on campus. Along with the account come two CDs: the Internet Welcome CD and the Internet Toolkit CD.

The Internet Toolkit is the familiar CD that Academic and Distributed Computing Services (ADCS) has been distributing for several years to University faculty, staff, and students. It contains all the software necessary to use the University's Internet services.

Get Online
The Welcome CD gives a lively, multi-media presentation of necessary, useful, and fun informa-

tion. The section titled *Get Online* provides animated training modules that explain the Internet, steps students through the process of initializing their accounts, and outlines the Internet services available at the University. Web and phone-based initialization services are available during the summer. If a student is already on the web (e.g., through AOL), they just go to a special web address. Student who are not on the web, can call a special telephone number that ADCS provides to establish their account and password.

Get Ready

The *Get Ready* section provides practical information students and parents want to know before coming to the University. They can take video and virtual-reality tours of campus, find out about financial aid and employment opportunities, health care and hospitalization insurance, residence halls and neighborhoods, how to get information about classes and where to buy their books.

Get Involved

The *Get Involved* section gives the students a picture of life outside the classroom and a jump-start for arriving on campus. A full schedule of Campus Kick-Off days helps students become familiar with the University campus with lots of opportunities to meet new friends. In this section they'll find information about the Rec Center, student groups, campus traditions, varsity sports, cultural centers, museums, and the Twin Cities.

Get Up-to-Date

While the Welcome CD contains a great deal of information about the University, almost all of it gleaned from existing brochures and websites, it's only the tip of the iceberg. A great deal more information is available to students using their new Internet access. To simplify the process, ADCS has set up a special website — **http://www.umn.edu/welcome** — which provides the URLs for all the information mentioned in the CD. This way, students can go to a single website and from there get all the latest information about the University. This makes it even more important that departments keep their websites up-to-date.

■ Joanne Bergman, Academic and Distributed Computing Services (ADCS)

ADCS HELPLINE CHANGES

Walk-in West Bank Helpline's Moved

On July 15th ADCS' West Bank walk-in Computer Helpline moved to a new location: Hubert H. Humphrey 50. The West Bank Computer Helpline hours have remained unchanged; this Helpline is staffed Monday through Friday, 1 to 5 pm.

Need a map to find the new location? Look at this website: http://lighthouse.micro.umn.edu/WBStaff/map.html

Phone in Help on Weekends

The weekend of July 25-26 ADCS begin offering phone-in help on Saturday and Sunday. Now members of the University community can call 626-4276 and talk to a consultant on *Saturday* from noon to 5 pm and on *Sunday* from 5 to 11 pm.

RESIDENCE HALLS GET WIRED

The Latest: Comstock and Bailey

Upon returning to the University in September, students living in Comstock Hall and Bailey Hall will have an ethernet network connection in their residence hall rooms.

Comstock Hall will have approximately 588 etherjacks while Bailey Hall will have 543 etherjack connections.

Goal: One Etherjack per Student

The industry standard that the University is following is to provide one etherjack connection per student.
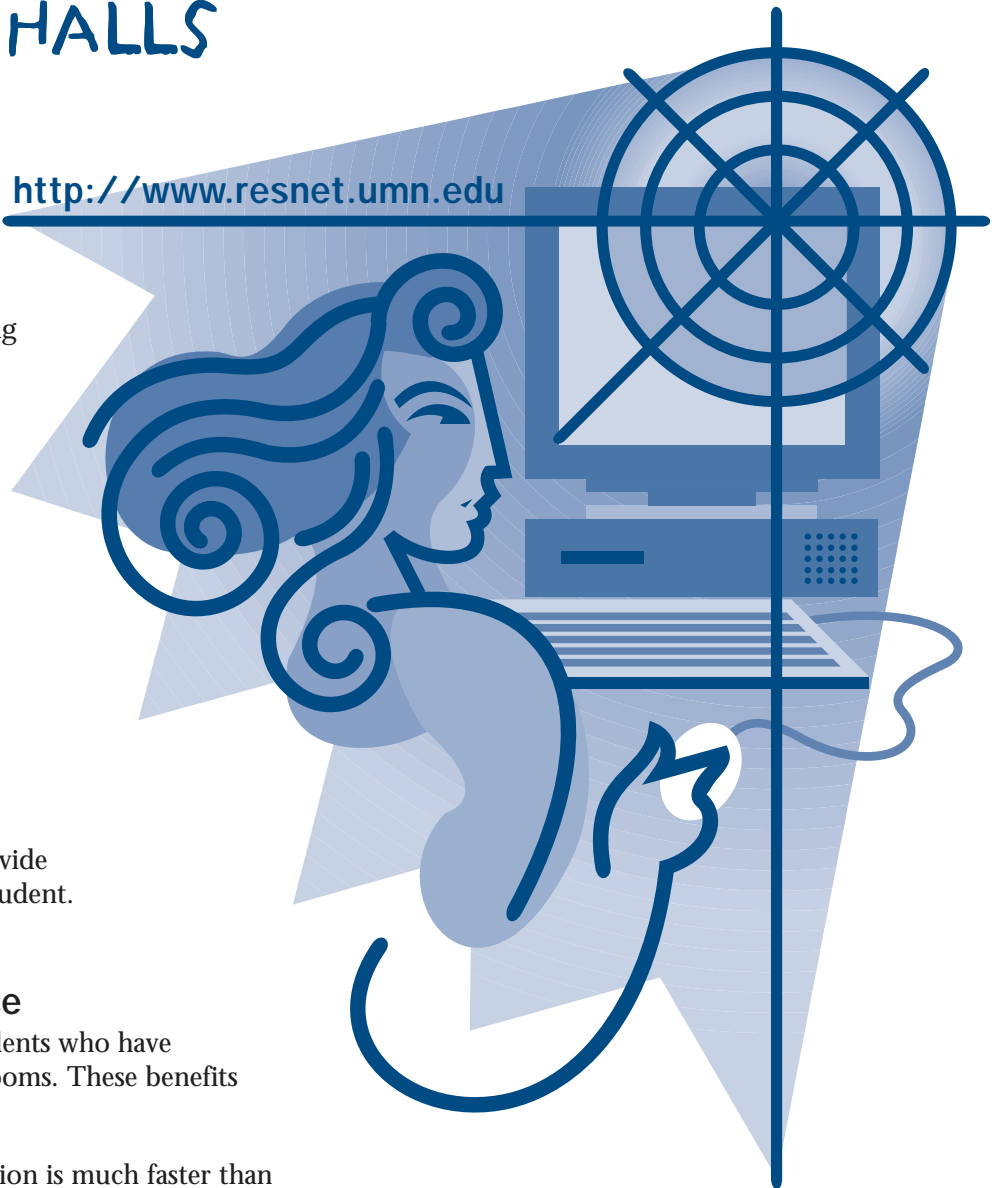
Speed and Convenience

There are many benefits to students who have ethernet connections in their rooms. These benefits include the following:

- Speed: an ethernet connection is much faster than a modem.

- Access to e-mail.
- Access to the Internet and World-Wide Web.
- Access to University of Minnesota library on-line resources.
- Access to on-line registration.

- Convenience: ready access to **all** of the above services without having to leave their room.

Since 1996, the following residence halls have been wired for etherjack connectivity: Centennial, Middlebrook, Frontier, Territorial and Wilkins.

The student Etherjack use rate, as of Spring Term, is as follows:

http://www.resnet.umn.edu

Residence Hall	Spring Term %
Centennial	36
Frontier	41
Middlebrook	46
Territorial	51
Wilkins	31

Sanford and Pioneer

Plans are already in place for Sanford and Pioneer to be wired for ethernet connections during the Summer of 1999. This final phase will bring all campus residence halls on-line by fall term 1999.

■ Vivian Skordahl, Networking and Telecommunications Services

A BETTER JOB OF TEACHING

*University Professor Develops Computer Tutorials
To Do a Better Job of Teaching*

DEVELOPING COMPUTER TUTORIALS is "the most challenging project I've ever worked on," according to Karen Lofsness, Associate Professor in the Department of Laboratory Medicine and Pathology at the University of Minnesota. Five years ago she started developing a tutorial to help her hematology students identify blood cells, and she has since published two commercial tutorials on CD-ROM. Although computer tutorials are by no means easier to develop than other instructional materials, she is convinced that they help educators "do a better job of teaching, and they save us time."

An Odyssey in Computer-Aided Instruction

At the recent national Clinical Laboratory Educators Conference, Lofsness traced the path she has followed as a developer of educational software. "Developing an effective computer-aided instructional program has to start with a good idea, but that's just the first stage in the process," she said.

Her own process began five years ago when she was using a simple computer graphics program to draw abnormal blood cells for a workshop handout. It occurred to her that the computer could be used to teach blood cell identification and simulate the laboratory procedure known as the "differential" or blood smear examination. In this frequently performed test, a drop of the patient's blood is spread on a glass slide and examined under the microscope at high magnification. All cell types are examined for abnormalities, and 100 consecutive white blood cells are classified— "differentiated"—by tracking back-and-forth across the slide.

In her 20-plus years of teaching, Lofsness has found the differential to be the most difficult laboratory test for students to learn, and the most challenging and time-consuming to teach. No two white blood cells are exactly alike, and unless the teacher is actually looking in the microscope with the student, there is no way to tell if individual cells are being identified correctly.

Lofsness envisioned that on a computer, "Students could scroll through fields of cells just like under the microscope. As they identified the cells they would get immediate feedback on whether they were right or wrong, and they could keep repeating the process until they had mastered the cells."

That one idea started her off on what she has called an odyssey: the circuitous route that took her from developing an internally-distributed computer tutorial into the complex, but rewarding, world of commercial CD-ROM publishing.

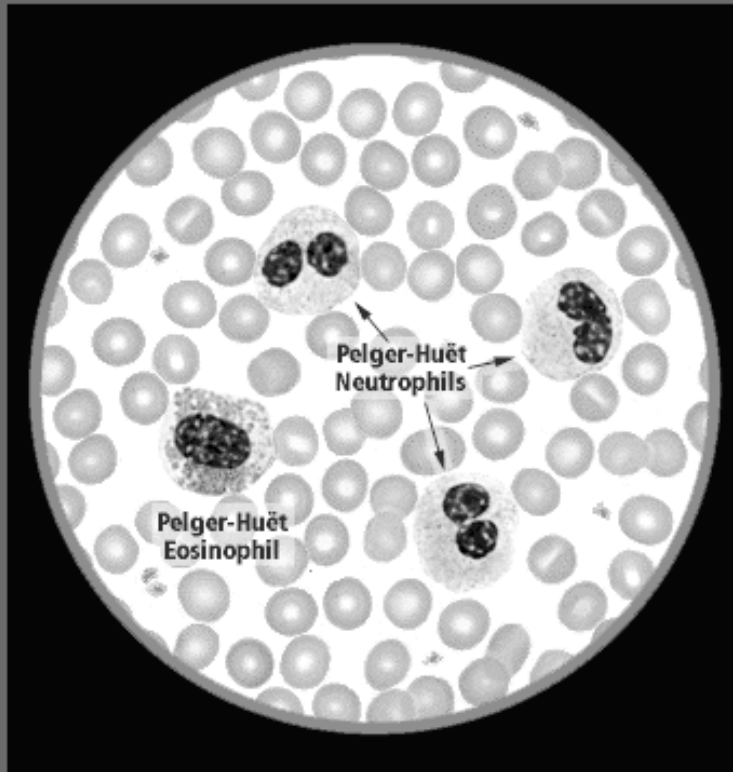### *Hematography*:
First internally-distributed tutorial
Lofsness first took several short computer courses from the University's Academic and Distributed Computing Services, then applied for and won a Health Science Instructional Computing Award that enabled her to hire a graphic designer from the University's Biomedical Graphic Communications unit. Together, they devised a procedure for photographing and scanning actual blood cells to produce realistic computer images.

Lofsness prepared cell fields and wrote the instructional text, the graphic designer created the interface, and an instructional designer was consulted to help optimize navigation and interactivity for the tutorial.

It soon became apparent that computer programming for the differential procedure was beyond their expertise, so a free-lancer programmer was hired to author the tutorial in Alligiant SuperCard. Within a year, the 5.5 MB program called *Hematography™*—a word Lofsness invented by combining "hematology" and "photography"—was installed on Macintosh computers in the Bio-Medical Library's Learning Resources Center. She asked colleagues and students to evaluate it, made a few adjustments and began using it in her hematology courses.

Hereditary Leukocyte Anomalies

Pelger-Huët Anomaly

The most common inherited leukocyte alteration is the Pelger-Huët anomaly. In this autosomal dominant condition, the nuclei of mature granulocytes are incompletely segmented. Most neutrophils have symmetrical bilobed nuclei with a characteristic spectacle or "pince-nez" shape, and coarsely clumped chromatin. Peanut-shaped unlobulated nuclei are also seen – in eosinophils as well as neutrophils. The cytoplasm is normal in color and granulation.

Pelger-Huët neutrophils seem to function normally, and there are no associated clinical findings.

Acquired or pseudo-Pelger-Huët changes may occur in hematologic malignancies or following drug therapy. These neutrophils have bilobed or single rounded nuclei, and are often hypogranular.

Pelger-Huët Neutrophils

Pelger-Huët Eosinophil

Program Help · Morph Guidelines · Maturation Chart · Neut Precursors · Reactive Neuts · Reactive Lymphs · WBC Anomalies · Nucleated RBCs · WBC Count Correction · Compare & Contrast · DIFF Exams · Quit Program

RETURN

Hematography I:
First commercially-published CD-ROM
Students liked the program. Colleagues in hematology and staff from the Office of Research and Technology Transfer Administration encouraged Lofsness to seek commercial distribution, so she contacted potential vendors and chose a medical book publisher with an established marketing plan. The publisher agreed to provide additional funding and technical support, but in return asked for several program modifications, as well as a Windows version (so that the tutorial could be published as a hybrid CD-ROM), and both Windows and Macintosh demonstration disks to use in marketing.

The SuperCard software was unavailable in a Microsoft Windows version, so the entire tutorial had to first be reauthored on the Macintosh—Macromedia Director was used—then ported to Windows. The publisher also stipulated that Lofsness would perform and document all necessary alpha and beta testing for the revised program, now called *Hematography I* and would furnish printed installation and operating instructions for the CD-ROM.

"The publisher was in a hurry, so I signed an agreement saying we would do all these things in 150 days. We were well intended, but terribly naive—the tasks were much more complicated than I ever imagined," she admitted. "Only the demo disks were ready in 150 days. Getting the full program to CD-ROM on both platforms took almost twice as long."

Still, Lofsness was pleased with the results.

"Hematology is an ideal subject for adaptation to the computer because it is so visually oriented. To me, the most important feature of a tutorial that teaches blood cell identification is the quality of the images. Students often look at the cells in the tutorial over and over again, and these are the mental images they will retain."

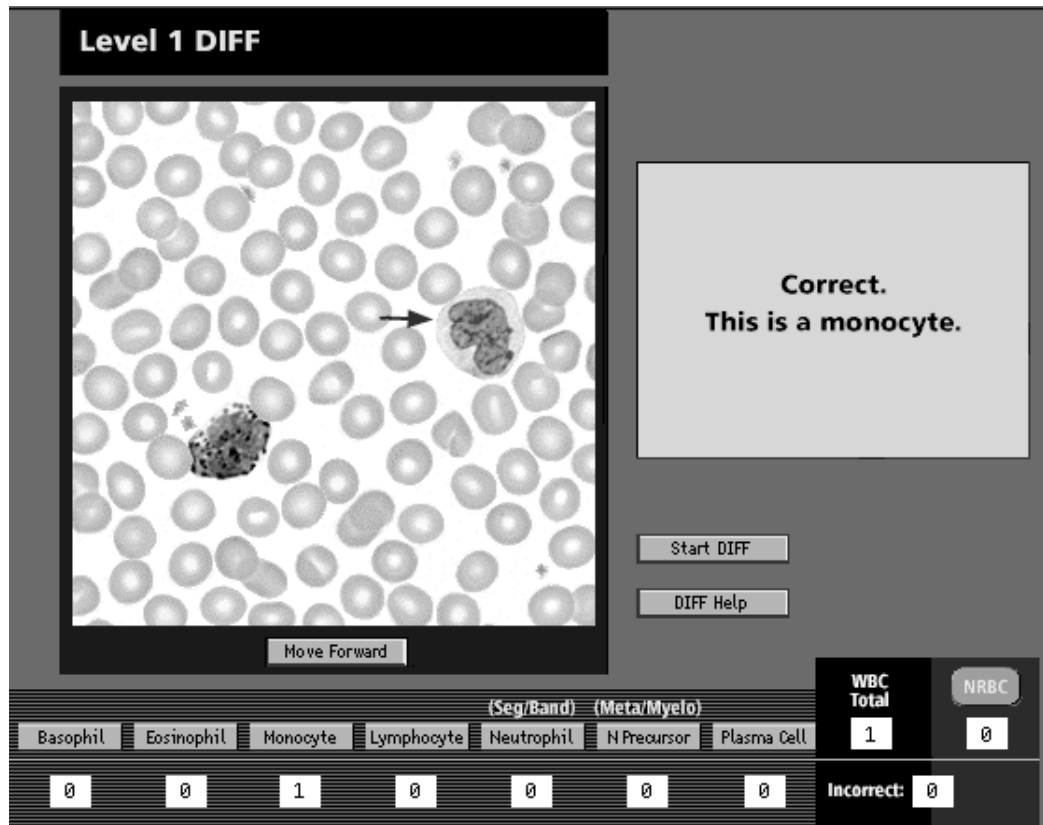Her students liked the CD-ROM tutorial as well, according to course evaluations. One wrote: "I think I learned more from this program than I could have from a lecture because: 1) I could go at my own pace. 2) The quiz questions tested my understanding right then and there. 3) The novelty of learning via computer hasn't worn off, so it still seems more fun."

Hematography II:
Second commercially-published CD-ROM

Since *Hematography I* covers only normal white blood cells, Lofsness and her team decided to go through the entire process again and create a second CD-ROM, *Hematography II*, to teach the identification of abnormal and immature cells.

Even though the new tutorial is larger and more complex, she said that the process went a lot smoother the second time. "There's a big difference between developing for internal use only and developing commercial CAI (computer-aided instruction), and you're much better off knowing which way you're going very early in the game."

Because the external publisher's marketing did not meet expectations, Lofsness decided to publish and distribute Hematography II directly through the University. She has taken her odyssey one step further by designing and carrying out an advertising and marketing plan for the new CD-ROM. A key element has been the development of a *Hematography* website <http://www.umn.edu/hema> that not only promotes the new tutorial, but also features interactive "Case Studies" that illustrate various hematologic diseases. The addition of a new Case Study every month encourages visitors to keep returning to the site.

The Hematography CD-ROMs are now being used by educational institutions throughout the country. Lofsness attributes part of their success to the fact that they fill a need.

"Today's students are busy people. They spend many hours in classrooms and laboratories, and most of them also have family responsibilities and part-time jobs. Computer enhanced learning is ideal for them, because they can decide when, where, and how to fit it into their own schedule."

Advice to Other Faculty

As a veteran of the tutorial development process, Lofsness has advice to offer colleagues interested in creating computer-aided instructional materials. "Take advantage of the resources offered through the Univer-

sity. Sign up for computer classes, visit the Digital Media Center, investigate in-house designers, programmers, and consultants. Be persistent in applying for grants, loans, and other sources of funding. Keep networking. If they won't give you money, maybe they'll help you in some other way. Look long and hard at copyright issues, and make sure an attorney looks at all contracts, license agreements, and other 'entanglements.'" And finally, "Collaborate with other professionals. As faculty, too often we think 'we can do it all.' Audiences are sophisticated now—they expect a professional interface. If you try to do everything yourself, it will show. Professional designers and programmers are well worth the cost."

Multimedia Support Services

Lofsness took advantage of many of the multimedia support services available to campus faculty developers; some are free; some are fee-based. In addition to the computer courses and consultation offered by the Digital Media Center and Academic and Distributed Computing Services, she worked extensively with Biomedical Graphics. Her department chair provided support and equipment funds, and she received contract and copyright assistance from the Office of Research and Technology Transfer Administration.

For more information about these University services, call the telephone numbers or visit the websites listed here.

■ Christina Goodman, Digital Media Center

- **Digital Media Center**
  www.umn.edu/dmc/
  • 625-5055

- **Academic and Distributed Computing Services**
  www.umn.edu/adcs/
  • 625-1300

- **Office of Research and Technology Transfer Administration**
  www.ortta.umn.edu/
  • 624-0327

- **Biomedical Graphic Communications**
  www.biomedgraphics.umn.edu/
  • 626-3939

KEEPING UP WITH TRENDS IN TECHNOLOGY AND INFORMATION

Nancy K. Herther, University Libraries, http://www.lib.umn.edu

TECHNOLOGY IS now the driving force in our economy and trends in web technology, software pricing and hardware tools are front page news. Keeping up-to-date may be as simple as looking through current issues of local papers, magazines or the *Chronicle of Higher Education*. You may also have some favorite websites or listservs that you use to keep up-to-date.

Another source of information and perspective on these events are the collections of the University Libraries. Yes, even the lowly printed book is a good source of discussion and perspective on high tech. Here in the Libraries we have some of the best books currently being published in this area. To find some materials, here are a few subject headings you can try • computers and civilization • information society • computer networks — social aspects • technology — psychological aspects. Or you can use the keyword function and search free-text.

Consider These

Based on some of my summertime reading, here is a brief look at just a few that you may want to look at for some lazy summer reading before the beginning of Fall Quarter. If the Libraries' copies are out, check out the local public libraries, which should also have copies of most of these titles.

▼ Looking for insight into the minds that shape our information society? John Brockman's *Digerati: Encounters with the Cyber Elite* is a look at some of the major players in the industry. The profiles are very interesting and many seem quite on-target. As a former editor, I've had an opportunity to meet many of those profiled here.

Brockman sees our information society – and our future – as being driven by these individuals. Some profiled here clearly have that power either by money and clout (Bill Gates) or by the influence of their personality (Esther Dyson and Bob Stein). However, there are too many people left out – Oracle's Larry Ellison, Microsoft co-founder Paul Allen, Microsoft heir-apparent Steve Ballmer, venture capitalist Ann Winblad, Apple's Steve Jobs, to name a few – to be a definitive guide. Still, it is a good read.

▼ Esther Dyson has released her own book on where we are at, called *Release 2.0: A Design for Living in the Digital Age.* It is an interesting perspective from someone who, especially in the early days of the industry, was pivotal in helping connect people and companies as they plotted out the future design of computers, multimedia and the Internet. Her newsletter *Release 1.0* is standard reading throughout the software industry. She is shrewd and shares her common sense in these pages. Some examples:

"The Net won't change people's innate preferences...but it will enable those who prefer variety to achieve it much more easily. Indeed, the Net will support people all along the spectrum, whether they are looking for the job of a lifetime or for a week's work." Or this one: "The greatest structural impact of the Net is decentralization; things and people no longer depend on a center to be connected. People often confuse that with democracy, but democracy is where the majority rules...whereas decentralization is where the masses separate into small groups."

▼ How long will technology control our budgets and dominate our discussions? Paul Strassmann's *Squandered Computer* provides a collection of essays in which he argues that business (and other organizations) need to align their information technology with business goals and net cash flow. Trends and fashion come and go, but does it make sense at the bottom-line?

▼ Or does it make sense in terms of organizational goals? Two books deserve mention: Henry Rosovsky, former dean of the Faculty of Arts and Sciences at Harvard has written a very important statement about the current and future directions of academe and its administration called *The University: An Owner's Manual.* This work looks at the way universities are run today, and Rosovsky finds plenty of fault and problems for all quarters. For example, "It is my distinct impression – 'firm belief' would perhaps be a better expression – that there has been a secular decline of professorial civic virtue in the Faculty of Arts and Sciences."

▼ Donald Kennedy's *Academic Duty* is a stern warning and careful assessment of where higher education is today; and the picture he paints isn't very rosy. Faculty need to rededicate themselves to the central mission of the university — teaching. Major "institutional redesign" is needed to reclaim the central mission of higher education in our culture. "And those who manage and lead the institution will need to summon both a readier willingness to assert vigorously, and if necessary defend, the university's values to the public, and the capacity to envision opportunity and welcome change." This former Stanford Uni-

versity president deserves a reading by any academic or administrator.

▼ In *Data Smog: Surviving the Information Glut*, David Shenk argues (amongst other things) that we need to keep in mind the differences between information and education: "It's important to realize that education is not the same as accessing information. We don't have a problem accessing information easily and cheaply in this country. We've had great libraries and even adequate school libraries for a long time. Education is actually the limiting of information. You have a teacher who lets in a little information each day in each class that fits in with what you already know and puts it in context. A child adds a building block per class to help formulate knowledge and wisdom. Then they're able to go out and access information and learn more themselves. Let's be very skeptical when people like the president and vice president say this is going to revolutionize education. I think that is absolute hogwash."

▼ Michael Dertouzos, director of the MIT Laboratory for Computer Science and author of the important *What Will Be: How the New World of Information Will Change Our Lives*, provides down-to-earth, yet provocative insights on how he sees our lives in the coming century. Education will change, as technology finds ways to improve learning; however, the classroom is not an endangered species: "Education is much more than the transfer of knowledge from teachers to learners. As an educator myself, I can say firsthand that lighting the fire of learning in the hearts of students, providing role models, and building student-teacher bonds are the most critical factors for successful learning.

These cardinal necessities will not be imparted by information technology."

▼ In *Growing Up Digital*, Dan Tapscott looks at the changing nature of our nation and workforce as the first generation to truly grow up with computers and the Internet is reaching adulthood. Who are they? Because they grew up able to initiate communication and information-handling, they are independent and autonomous, intellectually open, expecting an open, collaboratory environment and willing to express strong views: "N-Gen culture is based on the free expression of strong views — that is, the internetworking of knowledge. It is not simply about the networking of technology but about the networking of humans through technology." And he has a lot more to say about today's college generation as well.

▼ Philip Agre and Marc Rotenberg, two well-respected experts on privacy and technology have edited a very insightful and probing look at how privacy is becoming one of the most urgent issues facing the information age. *Technology and Privacy: The New Landscape* looks at technological changes which are most affecting privacy today: increasing communications bandwidths, wide use of networks and public-key cryptography, new digital media, the rise of 'digital pirates' and the lagging legal environment in terms of providing protection. However, we are not without hope, which technology also helps to bring: "Tectonic shifts in the technical, economic, and policy domains have brought us to a new landscape that is more variegated, more dangerous, and more hopeful than before." Technology issues are secondary to the broader policy issues in this volume,

making it very readable as well as informative.

▼ Feeling stressed? Perhaps this title will help. *TechnoStress* by psychologists Michelle Weil and Larry Rosen offers some very interesting insights into some of the downsides of all this technology in our daily lives. The authors note that, for example, trying to learn technology in short, immersive workshops is not the best way to teach technical skills: "you must have time to explore and play." "Some people become so immersed in technology that they risk losing their own identity," a syndrome they call technosis. For more analysis and advice, check out the book.

If you have heard enough about technology already and want a more relaxing get-away, remember that the Libraries' collections include millions of volumes on everything from abalone to zoology. That includes an excellent collection of the world's finest literature, art, music and other 'softer' materials to soothe you as you prepare for another, final Fall quarter here on campus!

If we can help you with any of your information needs – from summer reading to class preparation – just stop at any reference desk and let us know.

ENJOY!

■ Communications about this column can be sent to: Nancy K. Herther, Ed/Psych Reference Service, University of Minnesota Libraries, 108 Walter Library, East Campus; 4-2020; n-hert@tc.umn.edu

LIBRARY JOURNAL'S LIST OF TOP REFERENCE WEBSITES FOR 1997

LIBRARY JOURNAL recently published their picks for best reference web sites for 1997; they're listed below.

☐ **Edmund's Automobile Buyer's Guides**
http://www.edmunds.com

Information on car pricing, road tests, etc.

☐ **Endangered Species Home Page**
http://www.fws.gov/r9endspp/endspp.html

This U.S. Fish and Wildlife Service site offers information about threatened and endangered animal and plant species in the United States.

☐ **FedStats**
http://www.fedstats.gov/

Federal Interagency Council on Statistical Policy site provides access to statistical data from over 70 federal agencies.

☐ **Governments on the WWW**
http://www.gksoft.com/govt/

Information on foreign governments: this database of governmental institutions on the web includes parliaments, ministries, offices, law courts, embassies, and city councils from 200 countries.

☐ **InfoNation**
http://www.un.org/Pubs/CyberSchoolBus/infonation/e_infonation.htm

Based on UN databases used to create the Statistical Yearbook and World Statistics Pocketbook, this site allows users to generate customized statistical and comparative tables (e.g., on illiteracy rates, population growth, and energy consumption), using the most current information, on any of the 185 UN member countries.

☐ **NASA Homepage**
http://www.nasa.gov/

This website is gateway to the largest repository of space-related information on the Internet.

☐ **POTUS: Presidents of the United States**
http://www.ipl.org/ref/POTUS/

This project of the Internet Public Library provides information on Presidents and candidates, cabinet members, election results, administration highlights, and presidential trivia. Many good links lead to historical documents, inaugural addresses, biographies, First Ladies, and other Internet resources.

☐ **The Perry-Castaneda Library Map Collection**
http://www.lib.utexas.edu/

This University of Texas at Austin collection of over 230,000 maps has made 2100 map images available on the web.

☐ **Telephone Directories on the Web**
http://www.contractjobs.com/tel/

Considered the best links to domestic and international electronic telephone directories.

☐ **NewsWorks**
http://www.newsworks.com/

This site offered links to the websites of some 140 U.S. newspapers and provided a simultaneous search of many newspapers with free full-text results. (Websites change. In 1998 New Century Network shelved newsworks.)

▬ Nancy Herther, University Libraries

LIBRARY NEWS BRIEFS

▼ Emailing Citations from Eureka Databases

The web version of the Eureka databases were enhanced recently to allow users to email the results of their searches (bibliographic citations; and, if available in the databases, abstracts or full-text) to their email accounts. This change allows users to take the information and print it in their offices or labs or download the files to their word processing files.

To use this feature, do a search; and once you have results you wish to save, choose the *Export* option, identify the range of records and the formats you want to be sent, and then request "mail" as the delivery method. For more information or help, check out their Help screens. Try it!

▼ New E-Journal: SIAM Journal on Numerical Analysis

SIAM Journal on Numerical Analysis (v. 1-29, 1964-1992) is now available as one of the growing electronic journals available through LUMINA and our MNCAT web version. If you access the title through MNCAT, web version, you will be able to link directly to this and other electronic journals available through the University Libraries.

▼ New Databases

Using the INDEXES option in LUMINA you now have three new databases available for your use. They appear as options in the alphabetical and subject listings of our databases.

☐ *Cochrane Database of Systematic Reviews* (regularly updated systematic reviews of the effects of health care). To use this database you must stop in the BioMedical Library Reference Service to get the userid and password. Use of the database is strictly limited to current students, staff and faculty of the University.

☐ Health & Psychosocial Instruments/HAPI (access to information on measurement instruments in health fields, psychosocial sciences, organizational behavior, and library and information sciences).

☐ Poem Finder (available only at Wilson Library LUMINA terminals — database provides indexing and full text of poetry; covers over 1.5 million poems, 30,000 in full text).

▼ The Changing Face of Scholarly Publishing

For a good discussion of the current trends in scholarly publishing, check out this paper from the University of Michigan: http://www.press.umich.edu/jep/03-04/ciao.html

■ Nancy Herther, University Libraries

▼ Help — Monday–Friday

CCO (BASIS/AIS/CCS), 7 am–4:30 pm 624-0555
- central systems: IBM, EPX, UZ, VX, VZ
- web: http://www.umn.edu/cco

Internet, E-mail and
Microcomputers and Distributed Systems 626-4276
- call-in: 8 am–11 pm, Mon–Thurs
- call-in: 8 am–5 pm, Friday
- walk-in 152 Shepherd Labs: 8 am–5 pm, M–F
- walk-in 50 Coffey Hall, St. Paul: 8 am–5 pm, M–F
- walk-in 50 HHH, West Bank: 1-5 pm, M-F ← *new*
- web: http://www.umn.edu/adcs/
- by e-mail for U of M: help@tc.umn.edu

Password: Forgot it?
- Call the ADCS helpline 626-4276
- Students go, in person, to any Microcomputer helpline.

NTS: 24-hour Repair Desk 625-0006
- web: http://www.nts.umn.edu

ADCS Hands-on Training and Seminars 625-1300
- self-paced training: audio, video, CD-ROM, CBT
- customized training
- web: http://training.micro.umn.edu/

▼ Dial-in Computer Access

Internet/SLIP: up to 56,000 bps at v.90 ..... 612 852-5252
Internet/SLIP: up to 28,800 bps (v.34) 7-4250
Internet/SLIP: ADI and ITE (with MKO) 3-0291
SecurID Access High Speed (V.32) 19200-N81 6-1061
   2400-N81 (no parity/8 data bits/1 stop bit) 6-7770

▼ Web and Internet Addresses .... Quick Guide

- Modem Usage (current activity on your account)
http://www.nts.umn.edu/services/modemusage.html
- Internet/E-mail account management/validation
http://www.umn.edu/validate
- Information Technology Newsletter
http://www.umn.edu/oit/newsletter
- LUMINA (Library) – http://www.lib.umn.edu
via Telnet/TN3270: admin.ais.umn.edu
- OIT – http://www.umn.edu/oit
- Students (manage your academic program)
http://www.umn.edu/tc/students/academic.html
- UM Bookstores – http://www.bookstore.umn.edu
- UM News Server: news.tc.umn.edu
- UM Twin Cities – http://www.umn.edu/tc

t General — Phone

Computer Accommodation Program | voice/tty ... 626-0365
Computer Repair Services/Engineering Services 7-4525
Computer Store, Williamson Hall 5-3854
Digital Media Center 5-5055
Data Custodians • Data Warehouse Databases .... varies
   IDEA web: http://notes.ais.umn.edu
NTS (Networking & Telecom Services) Helpline 6-7800
Statistical Software Support:
   including SAS and SPSS 4-3330

Interim Associate Vice President and
Chief Information Officer, Steve Cawley 625-8855

Information Technology Newsletter
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Minneapolis, MN 55455-0421