

# Information Technology

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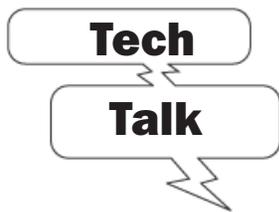
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University and local experts discuss the digital technology we encounter in our daily lives on Tech Talk, which is in its third season. Tech Talk airs Sunday nights at 9 p.m. on Twin Cities Public TV channel 17. Details at: <http://techalk.umn.edu>

The shows in the March and April schedules are • copyright • digital literacies • new ways to learn • 3-D graphics • home automation

## HIPAA Compliance

### What is HIPAA?

The Health Insurance Portability and Accountability Act of 1996, better known as HIPAA, is a piece of federal law that affects the way health care information is shared and stored. HIPAA is the first federal legislation to address private health care information. Before HIPAA the systems used in Minnesota could be radically different from the ones used in California or even South Dakota.

The policies contained in HIPAA are aimed at standardizing the way healthcare information is stored and shared. In order to do this, the information needs to be secure, and it needs to maintain its integrity. This article looks at the steps that must be taken at the University to ensure the privacy and security of health care information.

**The number of places at the University where private health care information pops up can almost boggle the mind.**

### Private health care information at the U

The number of places at the University where private health care information pops up can almost boggle the mind. For starters, almost 35,000 University employees and dependents are insured under the UPlan Medical Program. The University also shares network resources with several health care facilities, including Boynton Health Services, University of Minnesota Physicians, and Fairview University Medical Center. Health care information is also kept by many University scientists, who compile it in the course of their research. Private information can even show up in unexpected places, such as the Music Therapy program in the College of Liberal Arts.

Some people see HIPAA as another layer of regulations designed to make their jobs harder. But Ross Janssen, the HIPAA Privacy and Security Officer at the Academic Health Center, says most people realize the importance of the rules. He adds that everyone needs to understand that patients have a right to know that their health care information will be handled properly at the University.

## HIPPA is the law

That said, HIPAA is also the law; and there can be stiff penalties for not following it. So it is important that University employees understand what they need to do to comply with it.

## Training and the myU portal

You probably already know if you have to comply with HIPAA. The University has been working to identify which departments have protected health information (PHI), and most of the employees who need to have already gone through the training course. That training material is being distributed through the myU portal: <https://www.myu.umn.edu>.

If you think you may be covered, but this is the first you've heard about HIPAA, you can find your privacy coordinator at <http://www.privacysecurity.umn.edu>.

If you do need to go through the training, you will find that it is relatively short and painless. Much of the training material can be applied to keeping all of the information on your computer more private and secure. And when it comes down to it, your computer is the part of the system that you are responsible for.

## Securing a staff computer

Network and Telecommunications Services will be installing network firewalls and other features to help secure the campus network, but each individual computer on the network also must follow a set of security policies; and users need to have a better understanding of the technology they are using and how secure it is — especially when dealing with protected health information.

You can find more information on how to secure your computer by selecting *Secure a Staff Computer* at <http://www.safecomputing.umn.edu>.

One of the simplest and most effective things users can do to keep information secure is to access only the information they need and no more. Also, if you deal with any kind of health care information, think about whether it might be affected by HIPAA. The security standards in HIPAA address any technology that creates, stores, or maintains electronic private health care information. So, any time you are considering a new tool for your job — for example, new USB flash drives to store and share medical images — you may want to contact your privacy coordinator.

All in all, complying with HIPAA probably *will* make your job a little more complicated. But Ken Hanna with OIT Security says most of the measures come down to common sense. None of them are designed to make it impossible to get work done, and all of them will help employees and patients know that private health care data is being properly secured.

## Compliant by April 21, 2005

The big day for HIPAA compliance is April 21, 2005. Ross Janssen says that's the day that HIPAA compliance begins, not the day that all of this work and preparation is done.

There will be continuous auditing and monitoring built in to the HIPAA standards and policies at the University. These processes will also help ensure that security standards keep up with developing technology. Janssen says that by and large, the transition to HIPAA compliance has gone smoothly and on time. He adds that most people recognize the importance of keeping private data secure and are willing to do what needs to be done to make that happen.

■ Joshua Welsh, Network and Telecommunications Services (NTS)

▼ Find your privacy coordinator:  
<http://www.privacysecurity.umn.edu>

▼ Visit Safe computing:  
<http://www.safecomputing.umn.edu>

# Loose lips poison passwords

**S**ome University of Minnesota information is available to anyone; it is public. To access non-public University data you need two things: a University Internet ID (sometimes still referred to as your X.500 username) and a password. Your Internet ID can have two centrally managed passwords: an Internet Password and an Enterprise Password. Everyone who has an active Internet Account also has an Internet Password; it's a personal password. Fewer people have an active Enterprise Password (more information below).

University Internet Passwords protect more than your paycheck, grades, direct deposit, and other personal information; they give anyone who knows them access to the wide array of personal and professional systems and resources you've been authorized to use.

Creative minds could turn your access into their gold mine and wreck mischief or a serious disaster for you and the University. So, guard your password; change it if you suspect it's been compromised.

## **Enterprise Passwords, too**

To actually use an Enterprise Password to access enterprise/institutional data, you must have been granted access to the data, systems, or resources that require an Enterprise Password — examples include PeopleSoft, Financial Forms Nirvana (FFN), and the Electronic Grants Management System (EGMS). Access is restricted; it does not follow you from job to job. To request access you typically submit the required form(s) to OIT Data Security. The forms are available online at <http://www.umn.edu/datasec/security/Requestingaccess.htm>.

The additional security requirements of the Enterprise Password mean that you must change it every 100 days; the expiration includes a time as well as a date. This "timestamp" sometimes means that people who used their Enterprise Password in the morning cannot reauthenticate in the afternoon because the "timestamp" has expired.

## **You are the weakest link**

It's a challenge to pick a secure password that you can actually remember. That's why many people used a pet or child's name and their street numbers or the date of a family milestone, such as someone's birthday, to create a password. These weak passwords leave the door open to malicious hackers, smug snoopers, or determined hooligans who can use easily obtained password cracking programs to zip through the dictionaries of any language, appending some numbers, looking for your password.

We are cracking down on weak passwords. Many who have changed their Internet (x.500) or Enterprise Passwords recently learned that new passwords are being strength tested when their first attempt to select a password resulted in an error because they used a weak password.

To increase online security, we have also begun strength testing existing Internet Passwords. If you have a weak password and have not change it in a long time, you will get e-mail from us. Figure 1 has a sample letter.

## **Passwords can be longer**

Another recent change is that passwords can be longer. Internet Passwords can be up to 125 characters long. Enterprise Passwords can be up to 128 characters long. Some client software will not support passwords that are extremely long. If you are unsure of your software's limitations, we recommend that you limit your password to 32 characters in length.

We are testing and documenting acceptable password lengths for some servers and client software. See our results so far at <http://www.umn.edu/adcs/accounts/passwordlength.html>.

## **Pick a safe password**

Internet and Enterprise and Passwords cannot be the same.

The other very basic rules are:

- Internet and Enterprise Passwords must contain both letters and numbers.
- Internet Passwords must be at least 6 characters.
- Enterprise Passwords must be at least 8 characters.
- Although both passwords can be 125 characters long, you may want to limit password length to 32 characters (see “Passwords can be longer” section).

The expanded guidelines are:

- Avoid any four sequential characters that make a word or proper name.
- Include some uppercase (capital) letters for additional security.
- Use at least two numbers in your password but not numbers that are easily associated with you.
- Include some special characters, such as # > \$.

These steps will foil the readily available password-cracking programs or take a long time to break, thus discouraging concentrating on your ID and password. For some, creating good passwords can be fun (Figure 2). More password tips are on OIT Security’s website: <http://www.umn.edu/oit/security/passwordguide.html>.

## Temporary passwords

Since secure, secret passwords are vital to computing safety, we now limit 1-HELP consultants access to passwords. Now when you call 1-HELP to set a new Internet or Enterprise Password, you get an automatically generated password that is good only for 24 hours; that password is the only one 1-HELP is allowed to set for customers. You must use that temporary password to set up your own password. It’s easy.

1. Log into <http://www.umn.edu/validate> using your Internet ID and password (Figure A).
2. You should see a personalized Internet Account Options page (Figure B). To change your password, select the “Password/Security” section.

If you cannot see the Internet Accounts Options page, click on the **Update Account** button, shown in Figure C, to get your personalized page.

3. When you’ve entered your new password, click on the **Submit** button. After a short pause, you should get a confirmation message like this: “Password changed to <not shown>”.

## Figure 1:

Sample e-mail sent to Internet account holders from the University’s OIT Security Office.

From: cisadm@umn.edu

Subject: ‘Your UMN Internet ID’

As part of an ongoing University-wide effort to increase online security, OIT Security is evaluating the security of central systems passwords. The University goes to great lengths to prevent unauthorized access to information such as your e-mail and personal records, but ultimately, the best security measure is that each user have a strong password that is changed on a regular basis.

To ensure secure passwords on campus, we ran an automated program to test each password for security and strength. The password on your U of M account xxxxxxxx was tested and found unacceptable because xxxxxxxx.

Additionally, your password has not been changed for an extended period of time.

For the security of the entire University, it is extremely important that passwords be both strong and changed regularly. For these reasons, we recommend that you change your internet password immediately and on a regular basis. For more information on picking a strong password, visit <http://www.umn.edu/oit/security/passwordguide.html>.

To reset your password, go to <https://www.umn.edu/validate>

- \* Click on the link labeled “Change your Internet Password”.
- \* Enter your new password in both boxes (to prevent typing errors).
- \* Press the ‘Submit’ button.
- \* You should see the message: “Password changed to <not shown>” for confirmation.

If you have any questions or need assistance with this, please call 1-HELP at (612) 301-4357.

Thank you,  
OIT Security Office

Figure A: Log onto <http://www.umn.edu/validate>

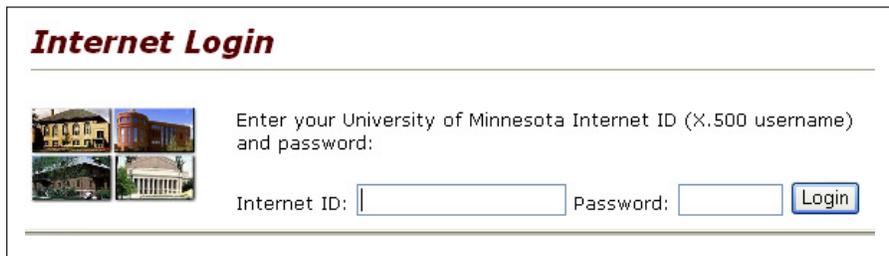


Figure B: Look for the Passwords section. Select the appropriate change password option.

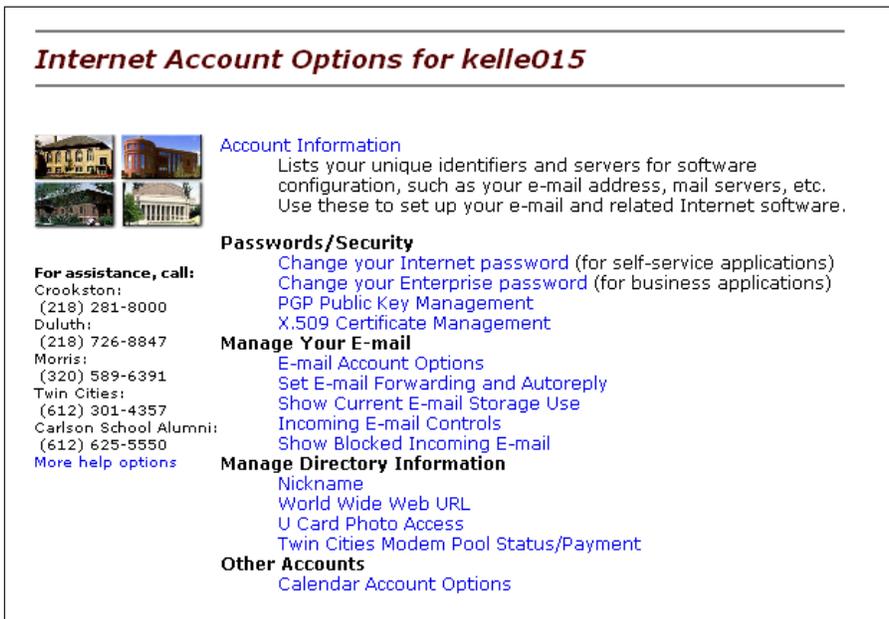
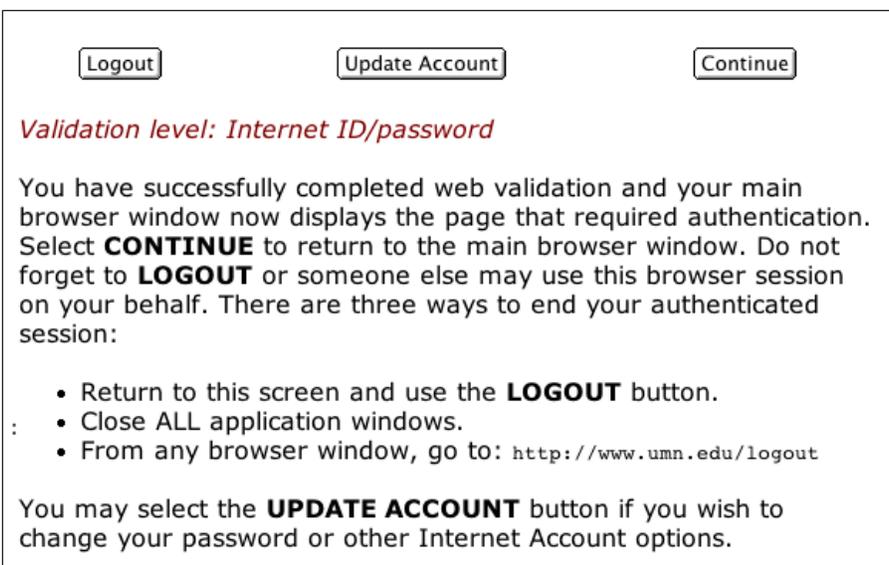


Figure C: If necessary, select the **Update Account** button to get your customized Internet Account Options page.



## What's new with passwords?



Internet and Enterprise Passwords:

- are strength tested, so dictionary words and proper names are unacceptable.
- can be much longer.

And now when you call 1-HELP to get a new password, you're given an automatically generated password that expires in 24 hours.

## Figure 2: Fun with passwords



To type is to mistype. If you can type using the full keyboard, words that require changing hands while typing them (fuchsia, laugh) are considered easier to type. However, that claim does not include keys in the number row, and numbers are a requirement for University Internet and Enterprise Passwords.

To create a password you could use your left hand to type left-handed words and put your right hand on the number pad to select numbers. Left-handed words include swear, steward, and grease; they can be used to create secure passwords such as sw8e52ar, ste7w8ard, and gre159ase.

### Typing test

Wonder if you're a good two-handed typist?

Take the typing test at <http://www.typingtest.com/>.

## You are a gatekeeper

Everyone who has a University of Minnesota Internet account is a gatekeeper and should be aware of the Acceptable Use of Information Technology Resources Policy 2.8.1, [http://www.fpd.finop.umn.edu/groups/ppd/documents/policy/acceptable\\_use.cfm](http://www.fpd.finop.umn.edu/groups/ppd/documents/policy/acceptable_use.cfm).

Here is an excerpt:

These resources are a valuable community asset to be used and managed responsibly to ensure their integrity, security, and availability for appropriate educational and business activities. All authorized users of these resources are required to use them in an effective, efficient, and responsible manner.

The “Privacy and Security Awareness” section of the policy emphasizes that the University safeguards individual’s accounts and personal communications.

### Privacy and Security Awareness

The University assigns responsibility for protecting its resources and data to system administrators and data custodians, who treat the contents of individually assigned accounts and personal communications as private and does not examine or disclose the contents except:

1. as required for system maintenance including security measures;
2. when there exists reason to believe an individual is violating the law or University policy

## Don’t share your password

■ Example: excerpt from Financial FormsNirvana (FFN) Access Agreement, [http://www.fss.umn.edu/sys\\_ffn\\_access.htm](http://www.fss.umn.edu/sys_ffn_access.htm)

Financial Systems Support (FSS) is responsible for ensuring the integrity of the financial data at the University. To do that, access to systems is limited to those who have been authorized. ... USERS WILL NEVER SHARE THEIR INTERNET ID AND PASSWORDS. Sharing of IDs and passwords will result in revocation of access.

■ Example: excerpt from ResNet (Residential Network in the “dorms”) Policies, <http://www.resnet.umn.edu/html/policy.html>

### Use of IDs and Passwords

- Do not share the account name or password assigned to you.
- Select an obscure password and change it frequently.
- Understand that you are responsible for all activities on your username/account ID.
- Ensure that others cannot learn your username/account ID or password.
- If you have reason to believe that your username/account ID or password has been compromised, contact the HelpLine at 612-301-4357 (1-HELP) immediately.

## Never leave your password “lying” around

- Never leave it on your desk. If you must write it down, write hints, not the password.
- Never disclose your password to others, including system administrators. If you do share it, change your password immediately.
- Never use the “save my password” feature for important passwords.
- Never send a password by e-mail, unless encrypted.
- Never leave a public computer (such as a Kiosk or public lab), without quitting the application and logging off.

## Beyond passwords

When you leave your computer, be sure any secure systems you have accessed cannot be accessed by a passerby.

■ Mary Kelleher, tips from 1-HELP

## Acceptable Use of Information Technology Resources:

[http://www.fpd.finop.umn.edu/groupse/ppd/documents/policy/acceptable\\_use.cfm](http://www.fpd.finop.umn.edu/groupse/ppd/documents/policy/acceptable_use.cfm)

# TEL Faculty Development and Support

## Dizzying array of skills

To create and teach in a technology-enhanced learning environment requires a dizzying array of skills (see the Peter Goodyear, et. al., article cited in the bibliography below for a merely partial list that extends over several pages). Indeed, in a 2004 Twin Cities campus technology survey conducted by staff from several colleges and our center (see <http://dmc.umn.edu/surveys/>), faculty identified a lack of necessary technical and online teaching skills as among the most significant barriers to the integration of technology into their teaching practices. While faculty also indicated a desire for help in overcoming these barriers, another major barrier they identified was the limited time faculty members have to devote to integrating technology into their teaching.

## April 7 seminar

At the University of Minnesota, we are fortunate that members of the campus community have developed a variety of strategies at the central, collegiate, and departmental levels to help faculty members overcome these barriers. Moderator Brad Cohen, a DMC consultant, and the following panelists from the Twin Cities campus will discuss some of them at the next TEL seminar:

- Paul Brady and Tonu Mikk, agricultural, food, and environmental sciences;
- David Ernst, education/human development;
- Brad Hokanson, design/housing/apparel;
- Jen Mein, liberal arts; and
- Carl Rosen and Jenni Swenson, soil/water/climate.

Specifically, they will consider questions such:

- How can we efficiently help faculty members develop the teaching with technology skills they need?

- Should faculty members be expected to learn all the skills needed to create TEL environments, or should support staff members play a more significant role? If the latter, how will members of the team get and maintain the skills they need? How will the teams be constituted?
- Can technology be used to create efficiencies in the development of TEL environments?

## Please join the discussion

April 7, 2005, noon–1:30 p.m., 274 McNeal Hall, St. Paul, Twin Cities campus

## Campus projects

Information about TEL support services offered by some of the panelists' colleges is available

- on the COAFES Instructional Computing page at [http://is.coafes.umn.edu/COAFES\\_Instructional\\_Computing.html](http://is.coafes.umn.edu/COAFES_Instructional_Computing.html)
- and on the Instructional Technology Fellowship Program page at <http://www.cla.umn.edu/itfp/index.shtml>.

Several panelists also have been awarded TEL grants for projects that support faculty members' TEL efforts. See their proposals linked from the Award Winners page at <http://dmc.umn.edu/grants/2004/awards04.shtml>.

## Bibliography

The articles below may help you research TEL faculty development and support issues and strategies.

- Eison, Jim. "Resources on Faculty Development: Classic and Current Texts." University of South Florida Center for 21st Century Teaching Excellence, 1999. [http://www.cte.usf.edu/bibs/faculty\\_development.html](http://www.cte.usf.edu/bibs/faculty_development.html).

- Epper, Rhonda M., and A. W. (Tony) Bates. *Teaching Faculty How to Use Technology: Best Practices from Leading Institutions*. Westport, CT: American Council on Education and the Oryx Press, 2001.
- Gillespie, Kay Herr, ed. *A Guide to Faculty Development: Practical Advice, Examples, and Resources*. Boston, MA: Anker Publishing Company, Inc., 2002.
- Goodyear, Peter, Gilly Salmon, J. Michael Spector, Christine Steeples, and Sue Tickner. "Competences for Online Teaching: A Special Report." *Educational Technology Research and Development* 49, no. 1 (2001): 65-72.
- The Center for Teaching and Learning Services (CTL) also provides a variety of teaching support services, programs, and resources. See the CTL site at <http://www.umn.edu/ohr/teachlearn/>.
- The University Libraries provides support services and resources to help instructors teach students research skills. See the Libraries Course Support for Classroom Instructors page at <http://www.lib.umn.edu/research/instruction/CourseSupport.phtml> and the Distance Learning Consultation and Library Instruction page at <http://www.lib.umn.edu/dist/faculty/instruct.phtml>.

## Campus resources

The following may help you find campus TEL faculty development and support resources and identify related issues.

- See our "TEL Faculty Development and Support" Spotlight Issues page at <http://dmc.umn.edu/spotlight/faculty-development.shtml> a few weeks after the seminar for annotations to the citations and other information related to the seminar.
- We provide a wide array of services, administer several programs, participate in many projects, and publish online resources to help faculty members teach with technology. See our web site at <http://dmc.umn.edu/>.

- Faculty members can learn to use computer technology by taking short courses and accessing other training resources provide by the University Technology Training Center (UTTC). See the UTTC site at <http://uttc.umn.edu>.
- Links to a variety of campus teaching resources are available on the One Stop Teaching page at <http://onestop.umn.edu/onestop/faculty/Teaching.html>.
- For information about computer support available at the collegiate level, contact the coordinators listed on our College Computer Services page at <http://dmc.umn.edu/campus/>.

■ Brad Cohen and Christina Goodland,  
Digital Media Center

# Overnight Computer Checkout

## ▼ A UCS service

University Computer Services (UCS) offers current University of Minnesota students, faculty, and staff the flexibility to check out laptops for a day, overnight, or an extended period of time. Due to an increase in requests, UCS has increased the number of laptops available for this program.

## Check out a Dell or an IBook

The Dell Inspiron 5100 laptops include the following options:

### Hardware

- 2.4 GHz Pentium processor
- 256 MB RAM, 30 GB hard drive

- CD-RW and DVD drive and a USB floppy drive
- Internal modem and Ethernet
- Internal wireless network card (For wireless on-campus access to the Internet, base stations are located in most of Communication Kiosks located throughout the Twin Cities campus.)

### Software

- Microsoft Windows XP Pro Operating System
- Microsoft Office XP Pro (includes Word, EXCEL, Access, and PowerPoint)

Apple IBooks are also available. For more information, contact UCS at

612-624-4800 or visit the UCS website at <http://www.umn.edu/ucs/>.

## ADCS has a 1-day service

Academic and Distributed Computing Services (ADCS) offers a day only rental service. Computers can be checked out as early as 8:00 a.m., but must be returned by 5:00 p.m. the same day. This ADCS service is offered at a lower cost. Similarly configured computers are available. For more details, visit <http://laptoprental.umn.edu>.

■ Renee Rivers, University Computer Services

# Google Scholar

Jody Gray and Caroline Crouse, University Libraries, <http://www.lib.umn.edu>

**I**n November 2004, Google introduced Google Scholar, a search engine in Beta phase that searches scholarly literature; see <http://scholar.google.com>.

This new tool combines the ease of using the Google search box and getting scholarly sources from your search, unlike most searches in the regular Google. But wait! While Google Scholar can be a great way to start your searching, for any in-depth research, you should still use a library database to have a comprehensive and refined search.

## What is Google Scholar?

Google Scholar searches scholarly literature (such as peer-reviewed articles, books, technical reports, and dissertations) in the same type of Google search box used for general Internet searching. Google Scholar provides the University with additional access to many of the scholarly resources selected and managed by the University Libraries.

The materials you find using Google Scholar come from a wide variety of content providers, including:

- Selected academic publishers
- Selected professional society publishers
- Preprint repositories
- Universities
- Scholarly articles available across the open web

Many of the sources found through Google Scholar will have full-text available online. To access the information you may be directed straight to the resource, or you may be routed through an information provider's interface. For books, Google Scholar uses *OCLC's Open WorldCat* to determine if libraries in the area own a particular title. So, while you will not find the full-text of the book (although Google is working on that, too), you will find a link to let you know if the University of Minnesota owns the title. If the University Libraries do own the title, it will link you into MNCAT so you can see where the book is located. Note: if the Libraries do not own the book, you can request it through the Libraries' Interlibrary

Loan service; see ILL information at <http://www.lib.umn.edu/ordering/ill/>.

## How do I access the full text of an article without an added fee?

Not everything on Google Scholar is free. Many times, publishing companies will ask you to pay them for the article once you find your resources. **Don't do it!** The University of Minnesota Libraries already subscribes to many of these articles, and you can get them **free** by showing that you are a student, staff, or faculty at the University.

### On campus access

If you are on campus (in your office, in a computer lab, at the library, dialing-in to the University modem pool or connected to the wireless network), you will automatically be recognized as an affiliate of the University of Minnesota. To perform your searches go straight to <http://scholar.google.com>.

### Off campus access

If you are not on campus, follow these steps:

1. Go to the Libraries website:  
<http://www.lib.umn.edu/>
2. Click on Articles and More>Indexes.
3. Click on "G" for Google Scholar. Scroll to Google Scholar and click on the link
4. When prompted, enter your Internet ID (x500 username) and password and click Login.
5. You can then search Google Scholar and have access to full-text articles provided by the University of Minnesota Libraries.

If you still aren't getting the full-text of some articles, you can find it using MNCAT, the University Libraries Catalog:

1. Go to the library homepage:  
<http://www.lib.umn.edu>
2. Click on MNCAT under Books and More
3. Search by the **journal** title

To locate books that are listed on Google Scholar, choose the “**library search link**” within Google Scholar. If you are on campus or using a proxy server, it will list the University of Minnesota Libraries on the upper right hand portion of the results page. You can click on the “**Search the catalog at University of Minnesota Libraries**” to connect directly to MNCAT, the University Libraries catalog. Alternatively, you can search MNCAT directly to see if the libraries own a book.

## How does Google Scholar work?

### Searching

Google Scholar uses the same Googlebots as the full Google search engine. These Googlebots are Google’s web-crawling robots that collect documents from the web by following hyperlinks through web pages to locate documents available on the free Internet, as well as through publisher’s databases. Google then indexes the pages, filters out the scholarly sources, and makes them searchable via the Google Scholar interface. For more information on Googlebots see <http://www.google.com/bot.html>.

### Ranking

Google Scholar ranks sources and lists them according to relevance to your search terms. Google Scholar does not make this ranking algorithm clear. According to their website, the relevance ranking “takes into account the full text of each article as well as the article’s author, the publication in which the article appeared, and how often it has been cited in scholarly literature.”

When it comes to ranking:

- Google Scholar may offer several versions of the same article. Thus, the ranking for the same article could be very different depending on which content provider is offering the information.
- The Googlebots that are used to locate articles do not hit each website each day, and websites can change addresses or simply disappear. This means that something that was ranked highly today by the Googlebots may not be available next week.

### Citation searching

Google Scholar automatically analyzes and extracts citations and presents them as separate results, even if

the documents they refer to are not online. Since most scholarly literature is not yet available through Google Scholar, your search results may include citations of older works and seminal articles that appear only in print journals, books, or other offline publications.

Google Scholar also cross-references the citations, so that you can see how many people have cited the article that you’re looking at. If the Google search engine has not found an article that cites the article, it will not include it in the “cited by” link, even if it does exist. This tool can be useful; however, Google Scholar has not indexed large portions of the literature in most fields. If you must perform a comprehensive citation search, you are best off using ISI Web of Science instead of Google Scholar. (See <http://www.lib.umn.edu/articles/citation.phtml> and look for ISI in parenthesis.)

## A couple of things to be aware of when using Google Scholar

■ Google Scholar does not provide a complete list of publishers, professional societies, or other organizations whose content they are indexing. This means that we are not sure how much information is available on Google Scholar or how comprehensive your searches are. Currently, Google Scholar seems to be concentrated in science and engineering fields rather than humanities and social sciences. This will probably change as Google Scholar improves.

Here’s a list of known Google Scholar partners:

- IEEE (Institute of Electrical and Electronics Engineers)
- ACM (Association of Computing Machinery)
- OCLC’s (Online Computer Library Center) Open WorldCat

■ Google is not releasing the parameters it considers when determining if a resource is scholarly. You will need to look at the resource and decide if it is scholarly or not. You should always critically look at the resources that you get on Google Scholar Searches to determine their academic rigour.

- For more information, check out our tutorial on **Evaluating Sources** at: <http://tutorial.lib.umn.edu/infomachine.asp?moduleID=9>.

■ Google Scholar currently lacks the ability to easily focus your search with features that are specifically designed for a given discipline. Some examples of limiting your search to the specific subjects includes:

- Human subjects in PsychInfo
- Class of organism in Biological Abstracts
- Chemical properties in SciFinder Scholar
- Treatment in Medline

Comprehensive, highly developed subject databases are a much better choice when you need both reliable access and sophisticated search techniques. To access these, go to the Libraries' Article Indexes page at: <http://www.lib.umn.edu/articles/indexes.phtml>.

## Easier access through a Mozilla Firefox extension

To get quick access to what the Libraries have available for you, the Mozilla Firefox web browser offers an extension you can download for free: <http://www.firefox.com/>.

This plug-in adds the library's "Find It" button to your Google Scholar results. The "Find It" button leads you directly to the full text or local holdings of the University of Minnesota Libraries.

To download the plug-in follow these steps:

1. Use the Firefox web browser, to go to <http://www.lib.umn.edu/san/sfx/>.
2. Click on the Google Scholar XPI Install link.
3. It should ask you to install. If you receive a message that "this site does not have permission," click on "Edit Options" and "Allow [www.lib.umn.edu](http://www.lib.umn.edu)."
4. Let the install run.
5. Exit the browser.
6. Re-launch Firefox. Go to Google Scholar and perform a search. The University Libraries' "Find It" button will appear next to each item found.

## Not a comprehensive tool

These are just a few tips for searching Google Scholar. While Google Scholar provides a convenient way to start your research, it is not a comprehensive tool. For access to a more complete array of scholarly materials, use Google Scholar in conjunction with library databases and the library catalog. If you have more questions about Google Scholar, consult the Google Scholar FAQ at: <http://scholar.google.com/scholar/about.html> or ask a University librarian at: <http://infopoint.lib.umn.edu/>. ■



# UMSAN: Pilot to Production

*Secure, fast, reliable, scalable, and flexible computer data storage*

## SAN (Storage Area Network)

In 2004, the Central Computing Operations (CCO) managed UMSAN moved from a pilot phase to production-ready. During that time, about 25 production hosts servicing Peoplesoft, UMN e-mail, and WebCT applications were attached to the SAN storage arrays.

To address SAN expansion needs, offer additional availability and redundancy, and in recognition of the critical

applications which require SAN resources, additional hardware was purchased in late 2004.

## 100% availability

Production availability was in excess of 99.98% (April 2004–February 2005). Target availability for 2005 is to exceed 99.999%. So far in 2005, outside of network outages, CCO has had 100% system availability of all production Enterprise systems it is responsible for.

## Related article

See "New Service. New Department" in the November 2004 issue of this newsletter for more detailed information about this service.

■ Nick Choban, Central Computing Operations

▼ **Help**

- Computer Misuse or Abuse (also see Procedure 2.8.1.1)
  - Emergency Network Help Line ..... 612-625-0006
  - Non-emergency, e.g., spamming ..... abuse@umn.edu

**1-HELP ..... 612-301-4357**

Dial 1-HELP. Listen to the voice menu list of options.

Press the number of your desired option.

- Technology Help ..... www.umn.edu/adcs/help

▼ **Modem pool for active UM accounts**

Internet/PPP: up to 53kps if v.90 ..... 612-627-4250

▼ **Quick Guide**

- Internet/Email account options .... www.umn.edu/validate
- Office of Information Technology ..... www.umn.edu/oit
- One Stop Services ..... onestop.umn.edu
- Techmart ..... www.techmart.umn.edu
- Computer Accommodation Program ..... cap.umn.edu
- University Computer Services ..... www.umn.edu/ucs
- U Libraries (MNCAT/LUMINA) ..... www.lib.umn.edu
- UM News Server ..... news.umn.edu

Associate Vice President and  
Chief Information Officer, Steve Cawley ..... 612-625-8855

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*Twin Cities campus address label trivia: 1st # is record #: 2nd # is your Campus Mail delivery code, http://umn.edu/lookup*

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