

UNIVERSITY OF MINNESOTA

BOARD OF REGENTS

Educational Planning & Policy Committee

Thursday, June 7, 2007

1:45 p.m. - 3:15 p.m.

600 McNamara Alumni Center, West Committee Room

Committee Members

David Larson, Chair
Dallas Bohnsack
Maureen Cisneros
Linda Cohen
David Metzen
Patricia Simmons

Student Representatives

A G E N D A

1. Resolution Related to Contract for Management of Library Resources - T. Sullivan/M. Rotenberg/W. Lougee (p. 2-6) - REVISED
2. Information Management & Distribution in the 21st Century Research University - T. Sullivan/W. Lougee/B. Wahlstrom (pp. 7-21)
3. Consent Report - Review/Action - T. Sullivan (p. 22)
4. Information Items - T. Sullivan (p. 23)



**UNIVERSITY OF MINNESOTA
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Educational Planning and Policy Committee

June 7, 2007

Agenda Item: Resolution Related to Contract for Management of Library Resources

review review/action action discussion

Presenters: Senior Vice President/Provost Thomas Sullivan
General Counsel Mark Rotenberg
University Librarian Wendy Lougee

Purpose:

policy background/context oversight strategic positioning

Outline of Key Points/Policy Issues:

The proposed contract provides substantial benefits to enhance broader utilization of University library resources within and beyond the University community. The resolution approves the contract and authorizes the administration to implement its terms.

The resolution will be forwarded prior to the meeting.

Background Information:

Background information will be provided at the Board of Regents meeting.

President's Recommendation for Action:

The President recommends that the Board approve the resolution.

**SUMMARY OF
THE UNIVERSITY OF MINNESOTA'S
LIBRARY DIGITIZATION AGREEMENT WITH GOOGLE AND THE CIC**

E. Thomas Sullivan, Senior Vice President/Provost
Mark B. Rotenberg, General Counsel
Wendy P. Lougee, University Librarian

June 7, 2007

The Committee on Institutional Cooperation (CIC) has negotiated an agreement with Google giving Google the right to digitize significant portions of the 12 member universities' library collections in connection with Google's Book Project. The CIC is an academic consortium comprised of the Big 10 Conference universities and the University of Chicago. The goal of the Google Book Project is to digitize hundreds of millions of books and make them available, to the fullest extent permitted by copyright law, through Google's online search service. Harvard University, the University of Michigan, the University of California, Oxford University, Princeton University, Stanford University, the University of Virginia and other major libraries and universities in the United States and Europe already have joined the project.

Terms of the Agreement

Under the proposed agreement, Google may digitize up to 10 million volumes from the CIC libraries' collections. Google will focus on works that are not already in its database and "collections of distinction," which will be digitized in their entirety. Collections of distinction represent areas of significant, long-term depth of collecting that sets a library's collection apart from others. Minnesota's collections of distinction include, for example, its Scandinavian history, politics and language collections; its forestry collection; and its bee keeping and bee science collections. Minnesota will contribute approximately 1 million volumes to the project.

Google will fund the digitization of the books provided by the CIC member libraries. Were the University of Minnesota to digitize the 1 million volumes itself, the value could exceed \$60 million. The CIC libraries will have to cover only the costs of retrieving and preparing the books for digitization. Google intends to make the books it digitizes under this agreement available to the general public, free of charge, through its globally accessible search site. In addition, Google will create and host a separate, "private label" online service for the CIC member universities to access the materials digitized from their collections. If a book is in the public domain, users will be able to view the entire work. If a book is in-copyright, users will have access only to short excerpts, but they will be provided with the information they need to locate a physical copy of the book.

Google will provide a free digital copy of each book it digitizes to the CIC university that supplied the book. If the book is in the public domain, Google will make the universities' digital copies available for immediate use; if the work is in-copyright, the universities' digital copies will be held in escrow until certain conditions are satisfied; for example, when the book comes into the public domain or the copyright owner consents to its release.

Each university will have the right, subject to copyright laws, to make its digital copies available for academic purposes through its own library Web site. Each university also may contribute digital copies of public domain works to a central repository maintained by the CIC.

Benefits of the Agreement

Providing worldwide access to the rich library holdings developed within the CIC universities over time represents an enormous potential public benefit. The agreement also directly supports the University's land grant mission and the interests of the State of Minnesota, since the University of Minnesota Libraries' collections include strengths particularly relevant to many Minnesotans.

Digitization also will preserve the intellectual content of significant portions of the University's library collection. Given the deterioration of book paper over time, digitization will help sustain access to these titles for generations to come. Worldwide on-line ability to search and retrieve the content of these volumes will enable scholarship not otherwise possible.

The University will receive digital copies of the books it contributes to the project in a format that will permit the books to be searched and made available through the University library's Web site. This ensures that these works will remain available and readily accessible within the non-profit sector for use for educational and scholarly purposes. Finally, the University's participation in Google's Book Project puts the University in the front lines of the "digital revolution" with other leading universities around the world.

Management of Potential Risks

Google and the CIC universities believe that the proposed digitization, indexing, and use of the books provided by the CIC universities is "fair use" under the copyright law, and, therefore, fully lawful. We recognize, however, that this particular area of copyright law is evolving rapidly in response to new technologies, and the scope of the "fair use" exception in this context is not settled. Indeed, there is litigation pending that may clarify this area of law. Meanwhile, the CIC agreement takes significant steps to minimize risk; notably, the escrow of digital copies that are in-copyright.

The University of Minnesota has the right to assert sovereign immunity if it is sued for copyright infringement. In addition, Google has agreed to indemnify the CIC and its member universities against infringement claims relating to the digitization phase of the project or Google's subsequent use of the digital copies. In return, each CIC university has agreed to indemnify Google against infringement claims based on its use of any digital copies released from escrow. The agreement provides that the University may not assert sovereign immunity to avoid this obligation of indemnification. The CIC universities intend to enter into a separate agreement among themselves to clarify each party's rights and obligations with respect to the project, allocate legal risk, and provide a process for resolving disputes.

We believe that any legal and financial risks entailed by this agreement are far outweighed by the significant benefits for the University and the public that may be realized by this new arrangement.



REGENTS OF THE UNIVERSITY OF MINNESOTA

RESOLUTION RELATED TO LIBRARY DIGITIZATION AGREEMENT WITH GOOGLE AND THE CIC

WHEREAS, the Committee on Institutional Cooperation (CIC) is an academic consortium comprised of the Big 10 Conference universities and the University of Chicago, and includes the University of Minnesota (University); and

WHEREAS, the CIC has negotiated an agreement (Agreement) with Google, Inc. (Google), a Delaware corporation, giving Google the right to digitize significant portions of the CIC universities' library collections in connection with the Google Book Project (Project); and

WHEREAS, under the Agreement, Google may digitize up to 10 million volumes from the CIC universities' libraries, focusing on works not already in Google's database and on collections of distinction; and

WHEREAS, the University of Minnesota Libraries will offer approximately one million volumes to the Project, and will include collections of distinction; and

WHEREAS, Google will fund the digitization of the books provided by the CIC university libraries, while the CIC universities will have to cover only the costs of retrieving and preparing their books for digitization, thereby providing potential significant value to the CIC universities, including the University; and

WHEREAS, providing worldwide access to the rich library holdings of the CIC universities represents an enormous potential public benefit; and

WHEREAS, given the deterioration of book paper over time, digitization will preserve the intellectual content of significant portions of the CIC universities' library collections; and

WHEREAS, the Board of Regents (Board) has been duly apprised of the terms of the Agreement, a copy of which is on file in the Office of the Board of Regents, and evaluated the legal and financial risks related to this transaction; and

WHEREAS, it is the understanding and intention of the Board that, except as expressly set forth in section 10.3 of the Agreement, with respect to each CIC Indemnitor's obligation to indemnify Google against certain third-party claims, nothing in the Agreement shall be construed to constitute any waiver or abrogation by the University of its sovereign immunity from suit in any state or federal court; and

WHEREAS, the Board understands that the CIC universities intend to enter into a separate agreement among themselves to clarify each party's rights and obligations regarding the Agreement, allocate legal risk, and provide a process for resolving disputes; and

WHEREAS, the President has recommended that the Board authorize the University administration to carry out the terms of the Agreement;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby determines that the Agreement provides significant benefits for the University, the people of Minnesota, and the public generally, and hereby authorizes the University administration to take all necessary and appropriate steps to carry out the terms of the Agreement.



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Educational Planning and Policy Committee

June 7, 2007

Agenda Item: Information Management & Distribution in the 21st Century Research University

review review/action action discussion

Presenters: Senior Vice President/Provost Thomas Sullivan
University Librarian Wendy Lougee
Vice Provost for Distributed Education and Instructional Technology Billie Wahlstrom

Purpose:

policy background/context oversight strategic positioning

This presentation will highlight the strategies used by the University of Minnesota Libraries to balance the traditional role of the library in the digital age. The presentation also will articulate how students learn in the digital age, addressing how the University is maximizing its information management and distribution capabilities to position itself as a world-class leader in these areas.

Outline of Key Points/Policy Issues:

1. Summarize the challenges facing libraries in the digital age (Librarian Lougee). The discussion will include:
 - New forms and models of publishing, specifically digital publications
 - Changes in learning and research, such as information discovery, information management, information creation and use, and information sharing
 - Managing and distributing intellectual property
 - Library infrastructure and services, including customized content on the myU Portal and programs to support information use
 - Major questions facing the University Libraries
2. Describe how teaching, learning, and research at the University are responding to changes in technology vis-à-vis information access and new educational models (Vice Provost Wahlstrom). The discussion will address:
 - Meeting the needs of the 'Millennial student'
 - Maximizing world-class technology to benefit the University, with examples of myU Portal and the Learning Platform
 - Creating 'Millennial faculty'

Background Information:

The Board of Regents has endorsed the University's strategic plan to become one of the top three public research universities in the world. The focus of this briefing is how the University, both in its bricks and mortar and in its digital identity, is responding to changes in information management and distribution in the 21st century to meet its goal of becoming a top research university.

The attached article entitled "E-Learning at a Crossroads—What Price Quality," (*Educause Quarterly*, Number 2, 2007) by Stephen R. Ruth, Martha Sammons, and Lindsey Polin, provides background information for the discussion. Copies of the article are available in the Board Office.

Positioning the University Libraries in a Digital Age

Information fuels the work of the academy. Whether it is a text used in a classroom, survey data that inform policy, works of art or poetry that inspire, or a medical journal that aids diagnosis, information is the lifeblood of learning and discovery. Interacting with, analyzing, processing, and creating new information are foundational activities for furthering knowledge.

Traditionally, libraries have supported the critical functions of *collecting*, *preserving*, and *organizing* information resources, focused largely on print formats. Library facilities were a go-to-place to access and use these collections. Yet in the last decade emerging technologies have fundamentally changed these core activities and broadened the reach and roles libraries play. At the same time, the volume of traditional publications (the ink-on-paper variety) has not diminished, nor has the imperative of preserving these valuable resources for future generations. As the 21st century unfolds, the library must sustain its print collections, while simultaneously dealing with the often chaotic and rapidly changing world of online, digital resources.

The focus of this briefing is on the challenges of the digital age. Specifically, it will explore three forces in the information landscape that are significantly reshaping the library and its centuries-old roles. These forces are:

- changes in information, particularly in scholarly publishing,
- changes in research and learning processes, and
- the emergence of new models for managing and distributing intellectual property.

As digital information has become pervasive and prompted change within the core activities of the academy, the challenge for libraries is to create meaningful and useful information services that align with the core mission and emerging priorities of the university community.

New Forms and Models of Publishing

All major publishers are creating digital publications, although many distribute their products in both print and digital forms. While publishers of digital content have focused initially on replicating the look and feel of print publications, more recently there has been significant development of new functionality and new features that enable uses of the content previously not possible with print publications.

Consider these capabilities of current digital publications:

- **Current Awareness:** The Royal Society of Chemistry journals allow users to sign up for email alerts of new content added to any of their 20 journals (a common feature).
- **Personalization/Customization:** The Institute of Physics journals have a “filing cabinet” feature that enables users to mark favorite articles and store personal annotations for future reference.
- **New Tools for Discovery:** The 71 society/university press journals distributed by HighWire Press (a division of the Stanford University Libraries) include *topic maps* that enable the user to navigate and visualize subjects in a graphical form.
- **New Tools for Collaboration:** *Signal Transduction Knowledge Environment* (published by the American Association for the Advancement of Science) provides tools for scientists dealing with cell signaling to collaboratively document and create maps of signal connections.
- **Connections to primary sources/data:** *The Valley of the Shadow* provides both historical text and interactive data about two communities during the Civil War, allowing the user to

experience history through primary sources such as diaries, maps, government documents, and speeches. Similarly, an emerging function in science journals is the ability to link between the article and the underlying data set (e.g., *The Astrophysical Journal* and associated NASA data).

- **Digitized collections of analog materials:** Digital services such as *ArtStor* (over 500,000 art/architecture images from museum collections) and *Early English Books Online* (125,000 English texts from 1400-1700) provide scholars access to a critical mass of classic resources with tools for discovery and analysis.

This highly selective list of new genre of digital publishing suggests some of the challenges that the library faces in acquiring, organizing and enabling access to information sources. The majority of these digital publications requires a license, a formal contract with the publisher that stipulates the authorized audience and conditions of use. Often the price of these products is higher than comparable print (if there is such a comparison). Past library practices for cataloging are stretched to now require the development of systems of metadata (details about the content and functions) and computer code to sustain connections with publisher servers.

Not surprisingly, services to help students and faculty *use* these products have changed dramatically as well, particularly since access to digital content can occur from any location with access to the network and at any time of day or night.

Changes in Learning and Research

The impact of these new publishing capabilities on the teaching, learning, and research functions of the university is profound. To better understand the changes underway, the University Libraries have undertaken a series of assessments of various campus communities, analyzing behaviors and the tasks that students and faculty undertake. This research provides critical insight into the challenges students and faculty experience in using digital information and in adopting new methods of inquiry. A brief synopsis of these assessments follows below.

The Networked Undergraduate:

The behaviors and interests of the “millennial” generation have been chronicled in the popular press. Social websites such as MySpace and Facebook provide an alluring one-stop service to communicate and store/share photos and other personal content. This generation has grown up with experience in using the Internet and web, and our survey and interviews have revealed their preferences for the “simplicity” of Google and the functionality of interactive and social tools.

Despite students’ significant interaction with digital information, there is also strong evidence that they are ill-prepared to evaluate the quality and sources of information and lack experience in using scholarly resources. The University has recognized the importance of these inquiry skills with its recent adoption of student learning outcomes. Notably, these outcomes include the *information literacy* skills necessary to find, evaluate, and use information sources. The Libraries’ longstanding programs to develop these competencies will be more important than ever as the new learning outcomes are incorporated broadly in the curriculum.

Teaching with Digital Resources:

The trends toward more collaborative and experiential learning are well documented. The traditional norms of lecture formats and textbook-based education are giving way to new strategies for disseminating course content. Shaped by changes within disciplines and informed by the university’s new student learning outcomes, curricula campus-wide reflect changes in both substance and structure.

The Libraries provide a range of services, content, and technology support for courses. Licensed digital content is linked to the campus course-management system (WebCT), enabling ready access to assigned readings. Course-specific websites are created by librarians to provide targeted content appropriate to the topic. The Libraries manage the university blog service, *UThink*, which currently has over 4500 blogs. In a recent semester, some 55-60% of *UThink's* use was for course-related purposes.

Research and Scholarship in Transition:

With initial funding from the Andrew W. Mellon Foundation, the Libraries have conducted extensive interviews and surveys of graduate students and faculty representing disciplines across campus. These in-depth assessments have provided a close look at what types of infrastructure and resources the community is using for scholarship. The process has explored information-seeking behaviors and practices, use of libraries and other related services on campus, and the challenges of scholarship in a hybrid world of traditional and digital resources.

Our analysis has focused on four core behaviors that cut across disciplines. These include the process of *discovery* (finding information and data), *gathering* (collecting resources for scholarship), *creating* (using information to generate new knowledge), and *sharing* (collaborating with and disseminating information to other scholars).

Key findings of our assessments include:

Information Discovery:

- Across all disciplines, there is tremendous demand for digital content. For humanists, this is an emerging desire for digital versions of classic resources that enable analysis of text and images not previously possible. For the scientist, the digital version is the version.
- There is increasing demand for media in digital form – images, video, audio – particularly for instructional purposes.
- There is heightened interest in interdisciplinary scholarship. For the humanist or social scientist, this may mean access to the literature of another discipline. For the scientist, the need is for more precise mechanisms to identify individuals or research (outside their home discipline) that utilize specific methodologies, materials, or perspectives.
- Discovery takes place in countless locations, on and off-campus.

Information Gathering and Management:

- Scholars in all disciplines are struggling with managing the content they use for research. Individuals describe less-than-effective techniques to organize the array of resources that fill offices and computer hard drives (e.g., printouts, boxes of data and photocopies, and *pdfs* and digital images).

Information Creation and Use

- Scholars report the need for greater support and instruction in using new technology tools.
- There is interest in tapping the digital content and tools currently managed by individual departments and colleges on campus, but these distributed resources have diverse capabilities and varying levels of access. A coherent and well-integrated presentation of campus digital resources is lacking.

Information Sharing:

- Collaboration is common in the sciences and growing in the humanities/social sciences, yet the primary mechanisms for sharing and group-work are technologically primitive (e.g., phone, email).

- Researchers have difficulty identifying others on campus who might have similar or complementary interests in order to pursue collaboration.

In their Own Words¹

“Compartmentalization of knowledge based on discipline can be problematic in libraries.”

"Picture a diagram with overlapping circles. You have to do research that bridges between 2 and 4 disciplines. And you can't just contribute in one specific area. You have to take the disciplines and integrate them somehow to create something new... It's hard to keep up to date, be fluent in different vocabularies, and to coordinate all the different efforts. There is motivation to do this—from NIH, USDA—not just to be multi-disciplinary but interdisciplinary."

"If it's not online, it's not visible." "I notice from the references in students' papers that there's nothing that's not online, as if nothing happened before 1975."

"In my office I employ the basic floor system of organizing things. But if someone moves something, I can't find it." [My colleagues] "have zillions of *pdf's* on [computer] desktops. I don't know how they find anything."

"If I died, the data would die with me... I try to teach my students that they have to leave their lab books in such a state that if they were to walk out the door and never come back, we would still know what they were working on and how they did it... Students don't know why it's important to keep a lasting record of everything."

"The Library has become successful by becoming invisible."

Managing and Distributing Intellectual Property

Too often the debate over creative control tends to the extremes. At one pole is a vision of total control — a world in which every last use of a work is regulated and in which "all rights reserved" (and then some) is the norm. At the other end is a vision of anarchy — a world in which creators enjoy a wide range of freedom but are left vulnerable to exploitation. Balance, compromise, and moderation — once the driving forces of a copyright system that valued innovation and protection equally — have become endangered species.

From the Creative Commons²

Academic publishing has sometimes been called a “gift economy.” First and foremost, scholars produce the intellectual content for publishers. In the case of journals, scholars also typically provide the editorial functions and peer review without compensation. Copyright ownership of the contributed content is often signed away to publishers, who then distribute the intellectual property to individuals and libraries for a fee. Since copyright conveys the right to distribute, reproduce,

¹ Quotes from interviews with graduate students and faculty.

² The Creative Commons is a non-profit organization dedicated to understanding and promoting open strategies for sharing intellectual property. See: <http://creativecommons.org/about/history>

and create a derivative work, it is not uncommon for an author to have to “buy back” the right to use his/her work for a class or in another context.

Several factors converged in the late 20th century to prompt changes in the ways in which intellectual property – copyrighted works – might be shared. Within the arena of journal publishing, some disciplines began to share unpublished manuscripts and published pre-prints freely on the Internet (sometimes referred to as *e-prints*), offering the community the ability to use the intellectual property liberally. A movement called “open access” took shape employing online models in which content is freely available and the creator explicitly authorizes use of the content without requesting permission or paying royalties. Not surprisingly, these models have challenged traditional publishers and traditional publishing economics.

The open access movement has taken shape in several ways. The National Institutes of Health took a bold step in 2005 and strongly encouraged all investigators to make their NIH-funded, peer-reviewed papers available to other researchers and to the public through the National Library of Medicine's *PubMed Central* web service after publication. Legislation has also been introduced to make nearly all federally funded research available through an open access venue at some point after publication. Twenty-three provosts have endorsed this legislation, including those of the Committee on Institutional Cooperation (CIC). More recently the University of Minnesota senate endorsed a statement on *authors' rights* developed by the CIC, recommending that authors consider options when they publish and, where possible, retain sufficient rights to allow individual or institutional use of their copyrighted works.

Services to support more “open” models of access to copyrighted works are gaining ground. These services create a place for authors to deposit a copy of their works in a digital archive where the content can be made freely accessible and preserved for the future. The majority of research libraries now support instances of these digital archives (called *repositories*) for their institutions; the University of Minnesota's repository, *the Digital Conservancy*, will premier this summer.

Copyright & Digital Media

The interpretation of copyright law in a digital age is far from straightforward. As the above quote from the *Creative Commons* website suggests, copyright involves a balance between the rights of the creator to protect their intellectual property and the value of sharing these works to further the creation of new knowledge. The law includes the important principle of *fair use* that permits some educational uses of copyrighted information without prior permission and also special exemptions for library activities to preserve and share copyrighted works.

Copyright questions are, not surprisingly, becoming more frequent and more complex. Can an image on the web be used in class? Can an article from a licensed electronic journal be shared with a colleague? Can a copy of a faculty member's own journal article be used for his/her class? Can a student modify an image found online and use it in a paper? Who owns an online work created collaboratively by multiple authors?

The demands and complexities of copyright law and license conditions challenge the Libraries to develop new expertise and expand the types of support provided to the university community. Working with the Office of the General Counsel, the Libraries have developed educational tools and programs on copyright to increase awareness and understanding of the law and principles of fair use.

Library Infrastructure and Services

The University Libraries responses to the forces described – changes in publishing, in teaching/learning/research, and in intellectual property – have focused on infrastructure and services to support access to digital content. The expertise of the Libraries’ professionals is also obviously a key ingredient. The significant twist to the Libraries’ classic roles of collecting, preserving, and organizing information is that the information is no longer centralized within the Libraries’ facilities. Rather, the Libraries are challenged to create and sustain long-term access to digital resources that are managed by creators and publishers distributed around campus and around the world.

Infrastructure for Information Services

The Libraries’ technology infrastructure has evolved considerably in the last five years. From an early focus on the online “card” catalog, infrastructure capacities now embrace software programming, digitization, interface design, and usability testing. Simply described, this infrastructure builds on campus infrastructure and provides mechanisms to support licensed digital content and the necessary logical relationships *between* digital content services. The goal is to create a well-integrated and coherent online environment for the University community.

The infrastructure necessary to ensure that the University community can access licensed content is now well developed. On campus, this access appears seamless; the user simply clicks on the appropriate link on the Libraries’ website. Off campus, users must enter their Internet ID (“**user**”@umn.edu) to verify they are entitled to access the licensed content. Not surprisingly, those unaffiliated with the university often desire access to these resources. Although remote access is not possible within the terms of University licenses, nearly all of our licenses permit unaffiliated individuals to use these electronic publications within a University Libraries facility, thus allowing the Libraries to sustain its public service role to the broader community.³

Infrastructure that makes logical connections between content services also appears seamless. So, for example, users are led from a citation to the full text of the cited title through a locally-maintained database (the *FindIt* service) that contains the vital linking information. Coming this summer, the Libraries will release a more robust version of its catalog system that will bring many of the features of Google (simplicity), Amazon (recommendations and review), and other popular “social” sites to the campus (e.g., ability for commentary).

These foundation investments have enabled the Libraries to build on the infrastructure and introduce a variety of customized online services with content and tools designed for particular communities. Examples include:

- **Undergraduate Virtual Library (UGVL):** in response to known needs of this large constituency, the UGVL has gained national recognition for its Google-like simplicity, links to core sources in all subjects, and embedded learning tools. An example of the latter, the *Assignment Calculator*, provides a step-by-step guide to conducting research for a class project (including staged email reminders in tune with the student’s deadline!).
- **myLibrary Tab on University Portal:** Based on information about a user’s status (e.g., PhD student) and discipline affiliation (e.g., Chemistry), the myLibrary service presents the user with a custom configuration of library resources. This presentation includes links to relevant Libraries staff, content resources, and tools.

³ The Libraries’ MINITEX division also supports the *Electronic Library of Minnesota* (ELM) which makes a large selection of licensed content available to all citizens of Minnesota, from anywhere in the state. See: <http://www.elm4you.org>

- ***UThink blog service:*** The Libraries manage the University’s blog service. Over time the system has been exploited for an array of instructional uses, content distribution, and communication (e.g., University Relations *Minnesota Moments*). *UThink* enables dialogue among participants as well as services to disseminate information to targeted groups.
- ***University Digital Conservancy:*** This service (under development) will address the Libraries’ responsibilities as the University Archive—that is, the campus organization that preserves the record of the institution and its faculty. The Conservancy is a digital archive that will preserve and make accessible digital content created by units and individuals on campus.

Planned future developments include options within the myLibrary tab for an individual to shape their preferred view of the Libraries content and services. The Libraries also plan to respond to the growing need for digital video and images with the development, in partnership with several colleges and the Office of Information Technology, of a campuswide service to support access to and management of these media. Given the significant user comment about the personal challenges of managing the raw materials of scholarship, the Libraries anticipate developing *Personal Information Management* tools.

Programs to Support Information Use

Given the complexity of the environment, programs of user support are essential. The Libraries departmental liaison librarians provide an ongoing connection to each discipline. In addition, the Libraries have increased investment in publications (magazine, e-newsletters) to inform the campus about new content features and programs.

The newly created SMART Learning Commons (located in Magrath and Wilson Libraries, with a third planned for Walter Library) brings together academic support services in a one-stop site. Peer counselors and staff assist students in the research and writing processes, including instruction in using information technologies. The Commons supplement the Libraries' ongoing programs of information literacy instruction within the curriculum.

Formal programs to educate the campus about copyright and the use of information have also grown considerably in the past years. A program of workshops about copyright will be expanded in the coming year to cover publisher options and authors’ rights.

Positioning the Libraries: Questions for Discussion

The so-called digital age presents new paradigms and new strategies for managing and disseminating information. Given the rapid developments in technology and dynamic nature of the Internet, the University and its libraries face critical questions about future directions and investments.

“Will all information be digital?” While the general trends in publishing are heavily digital, traditional formats remain prevalent and important. Online access may be preferred by many, but often the preferred technique is to print the resource for offline reading. Use of the Libraries' print collections remains strong in many disciplines. Clearly, a hybrid information world – encompassing print and digital—will be a part of the academy for the foreseeable future.

“Won’t digital publication be less expensive?” The current landscape of publishing often introduces additional costs for licenses and requires costly technology infrastructure and specialized expertise. However, the new capabilities of digital sources do enable significant enhancements for productivity and scholarship not heretofore possible.

“Can the information deluge be managed?” The chaos of the Internet is all too familiar—a typical search returns a flood of information of varying quality from diverse sources. The Libraries play a vital role in acquiring quality content through licenses and filtering available resources for the campus community. The role is relevant with respect to campus information sources and services as well. The distributed nature of digital information and tools on campus makes collaboration essential in developing a well-articulated and coherent whole from the sum of the parts. Since the creation and management of digital information are represented in nearly every unit on campus, questions arise about how this “coherent whole” can be sustained. A critical institutional challenge for the future is the coordination of technology architecture and digital services at the University as well as between the University and other institutions.

“Will libraries still preserve information sources for the future?” A transition is underway in libraries from a role of centralized collecting, organizing, and preserving information to one which requires coordination and education of distributed players. The value of sustaining information for the long-haul is not commonly appreciated, and the technologies not well understood. While there are standards to be employed to ensure the longevity of information for future generations, these are not uniformly used by all who create digital content. The Libraries’ investments in the *Digital Conservancy* and in publisher archives represent important steps, but will require ongoing support and campus education to ensure viability.

“How can libraries facilitate interdisciplinary and collaborative research?” There is evidence that disciplines and interdisciplinary groups are capitalizing on digital capabilities to create online communities that enable collaboration across institutional boundaries. Often an archive of relevant digital publishing or data is an important component in these collaborations. Who will manage these multi-institutional, online communities and their archives? One potential model suggests individual institutions will bear the costs of “hosting” and sustaining these services on behalf of discipline communities. Ultimately, we may experience a distributed model with individual institutions sharing in the overall costs of supporting the management and distribution of scholarly content within a particular discipline.

“How will the academy sustain the necessary balance in dealing with intellectual property?” Every institution is grappling with the challenges of copyright and the balance of the rights of content creators and users. On the one hand, it is all too easy to simply pay royalties and avoid risk. On the other hand, the law provides exemptions for fair use. Further, the principles embodied in copyright are critical elements to be learned as part of an education, enabling an informed citizenry about the rights and responsibilities associated with intellectual property.

“Has the Library become successful by becoming invisible?” There’s no question that some aspects of the digital information environment are most effective when seamless, elegant in their simplicity and robust in their functionality. Yet these successes are the result of significant interaction with faculty and students to understand and support their needs. The Libraries leadership in information literacy – including an educational role related to publishing and copyright – is more critical than ever before. While the technologies may suggest an “invisible hand,” the Libraries are clearly and visibly engaged with the academic agenda.

Learning and Teaching in the 21st Century: Minnesota in the Lead

When classes begin this fall at the University of Minnesota, we will have five generations on campus, generations separated by years and by technological changes with tremendous and unanticipated social and cultural effects. World events have shaped each generation, certainly, but as Thomas Friedman has pointed out, increasingly, world events are shaped by technology. Cell phones and the Internet are as integral to the terrorist attacks in London and Spain as they are to our daily activities.

The University is home to the G.I Generation (born 1901-1924), Silent Generation (1925-1942), Baby Boomers (1943-1960), Generation X (1961-1981), and the Millennials (the high school class of 2000 and beyond). Each approaches life and learning differently, and each poses unique problems and opportunities for our wise use of academic technologies to support their learning, teaching, and research goals.

The focus of this briefing is on ways in which the University, both in its bricks and mortar and in its digital identity, is responding to the changes brought about by the academic tools, changing pressures, and changing roles of this age. These changes include the following:

- Changes in the roles technology plays in teaching and learning and research,
- Changes in expectations for the availability of and access to information,
- The development of new educational models that challenge traditional roles and encourage new partnership configurations.

Meeting the Needs of the Millennial Students

How the Millennial student differs from the kinds of students we were and the ones we are most familiar with in our classes has been well documented. For the Millennial, information is ubiquitous, precise, and accessible almost everywhere without delay. For other generations, patience was a virtue—whether waiting in line for information or expecting information only during the business day. For older students, electronic equipment was discrete. The phone was one thing, and the television, computer games, and music systems were other things. For Millennials, they are all the same thing. Phones take pictures, have text and games; refrigerators have Internet access, and cars have DVD players and GPS.

Compare an earlier generation's pleasure at leisurely browsing in the stacks with our digital students' demand for immediate answers to all questions from a Google search. Educause's *The Key to Competitiveness* summarizes these differences: "Whereas the older peers and siblings of [older students] may regard technology as important, this generation regards it as oxygen. They see no other way to work, form and maintain relationships, or pursue their education."

"It's all about 'you'" is the most evident trend of the Millennials. *Time* magazine named "You" as its person of the year because community and collaboration, made possible by the Internet, are happening on a scale like never before. YouTube, eBay, MySpace, Digg, Wikipedia, the iPod and other personalization phenomena are examples of how users are participating in and taking control of technologies and content from those who create them (cited in *Star Tribune*).

Maximize World-Class Technology to Serve & Delight

At the University of Minnesota, we have an abundance of resources. Our challenge is to make these resources readily available to students, faculty, and visitors to the University, in ways that are easy to use and that are highly personalized.

Our consistent goal has been to

- Bring technologies together to meet student and teacher needs.
- Respect learning and teaching differences and provide suites of tools.
- Instantiate best practices in technology choices and uses.
- Provide tools that are easy, playful, useful, and flexible.

The myU Portal as an Example

The myU Portal was designed to be a first step toward managing information abundance. It was designed to provide students with information “just in time and just for you.” In this it was one of several approaches to managing information:

- Libraries
- Search appliance: tagging and tuning
- Analysis and data gathering tools—Sawmill

With the portal, our goal was to aggregate data in a single place that was available through a single sign-on, customizable, personalized, transportable, secure, and collaborative. The portal, with its dozen views, provides highly customized windows into the University’s resources designed for a specific individual. Views are available for first-year students, graduate students, students in each coordinate campus, students in the different colleges of the Academic Health Center, for example. The level of specificity that we have achieved with the portal lets us identify and send specialized information to a second year pharmacy student in Duluth, for instance.

The portal currently has more than 144,000 registered users and more than 100 people across the University feeding specialized content to audiences using the portal. Because it is an aggregating tool, the portal is able to bring in information specialized for each audience. For example, the Library tab on the graduate portal provides links to library resources specific to graduates as well as individual information specific to a given student’s major. Additionally, the portal aggregates information for Web Vista, the registrar’s office, HIPAA, email, calendar and conferencing tools, and One Stop.

The question you might ask is does it work? Our data, included in the handout from the PowerPoint presentation, shows that the portal is successful. The first reason for our success is the commitment of the offices around the University—First Year Experience, the Graduate School, the AHC—to provide highly relevant content and links to specific audiences. The second reason for our success has been to meet regularly with our constituents seeing what they want, and figuring out ways to provide it. Frequent focus groups and wide consultation is critical for technology to serve those it is intended to serve.

On the Horizon

The Portal serves as the foundation of many of the initiatives that are underway because we are using it as the basis of the Learning Platform, which will support our online and academic outreach initiatives. When we say "platform," we don't want users to think static web page but to think launching pad for delivering the University around the world. Our goal is to put the right tools, in the right hands, with the right content, at the right time to get the optimum success and learner outcomes we need.

The Learning Platform is a highly robust, personalized, and customized Web-accessible platform that combines new and existing educational technologies, media-rich course content, and student services in a seamless, efficient, and enjoyable environment. The learning platform attributes are the following:

- **Personalized:** The technologies, content, and services are pushed to each user based on the user's identity.
- **Customized:** Users have the ability to modify which content to display and where to display it based on their needs and preferences.
- **Convenient and Comprehensive:** Tools and information are aggregated so users have everything they need in a single place with a single sign-on.
- **Up-to-date:** Information is available in real or close to real time.
- **Mobile:** Content is portable worldwide, and it is available through a variety of devices and modes.
- **Collaborative:** Technologies are available for building and strengthening communities of learners, including students, faculty, and staff.

The Learning Platform will be used to deliver the Center for Allied Health initiative in Rochester in partnership with Winona State University and to deliver health care education at UMR. It will also serve as the basis of the University of Minnesota's Digital Commons, which is being developed and will serve as a gateway to the University's online and hybrid offerings. Many of the intellectual property issues and infrastructure issues raised by the University Libraries affect our ability to use technology successfully in these new initiatives and partnerships.

Millennial Faculty?

Some faculty are already well into the "Millennial" mode. The "Alcohol and Campus Life" course developed by Academy of Distinguished Teachers member, Jim Rothenberg, is a prime example of what's underway. This course, which is unique in the state to the U of M and which research has shown to be successful in changing behavior, is now being offered to students at all the UM campuses and is required at several MnSCU institutions as well. The course, fully online, is media rich and meets the needs of a variety of learners with its MP3 files, video and audio, and flexible layout. The course now enrolls about 2,000 students across the state, pointing to collaborations with MnSCU and innovative uses of technology designed to increase student learning.

Students and faculty may not always be in the same place when it comes to using academic technologies, however. The key effort over the next 18 months has to focus on faculty development. Although students may be more familiar with technologies, they are not always

able to make qualitative judgments about their effectiveness or about the quality of data they obtain through online searches, for example. Faculty must play a significant role in modeling good uses of academic technologies, and they cannot do so if they remain unfamiliar with them. To raise faculty involvement, two approaches are needed:

- First, faculty development opportunities need to be abundant so that faculty can learn to enrich their classes as appropriate for their disciplines.
- Secondly, research on the pedagogies of teaching with technologies needs to be widely distributed throughout the University and faculty who are successful with developing best practices for technologies need to be sought out and asked to mentor others.

The whole University community needs to be literate, moreover, realizing that how we see the world and the tools we prefer to navigate it may differ from others. Faculty have to take their students' learning patterns and preferences into consideration as they develop classroom materials. Students have to understand how different generations' views of the world are shaped and what they mean in day-to-day interactions. Administrators have to provide professional development for faculty. In *The Quiet Crisis* Peter Smith points out that our "educational model . . . has been in place since the 14th century" (xvii), and as he argues, if we fail to take advantage of the opportunities afforded to higher education by technology, we will retain "a system of education that is outdated, outmoded, and outlandish as an ox cart plodding down Interstate 405" (xviii).

We have an opportunity to consider how we might better position our use of technologies so that they support the strategic goals of the University with respect to teaching, research, and civic engagement in a way that we have not considered in the past. We can use a model more widely consultative, and we can engage faculty—as we have students—in planning and thinking about what they want to do as they rethink their courses. It's also a chance to engage larger groups of people in interdisciplinary efforts, such as the Institute on the Environment, in thinking about ways they can use technology to support their research and engagement. Maturing technologies and clear goals have given us the opportunity to use the positive energy created by strategic positioning to polish the U's digital footprint.

Questions to Consider

Will academic technologies reduce the number of faculty needed?

No, but they may alter how faculty spend their time and their roles in developing course materials. The University provides teams of information and course designers to help faculty develop some materials for their classes. Faculty remain the content experts, but they don't need to master the ins and outs of podcasting, for example, if they choose not to.

Will the University be offering more of its material online?

The trend already underway at the University suggests that more of its offerings will be online or in hybrid (part online and part on site) courses. The University plays a very significant role in continuing education for professionals, and many want more offerings online. Additionally, University-wide initiatives in health care and with UMR suggest that online courses drawn from throughout our system will be critical to our success.

Who will own this new online material?

A very good and complicated question, ownership is being addressed by a variety of copyright efforts on campus and is complicated by new forms of publishing.

Does developing more online courses mean we need fewer classrooms?

Maybe. Not all classes will be online. Many more courses will have a hybrid structure, which means they will not meet physically every day or three times a week. In those cases, we should see less pressure on certain multi-use classrooms. The key will be effective scheduling software that allows us to schedule more variety in meeting times and places.

Can we create a sense of institutional loyalty in students who come to us online?

Yes, definitely. By offering our resources in multiple formats and flexible schedules, we can gain the loyalty of students because we are meeting their needs and recognizing the particular circumstances of their lives. We have the advantage over fully online institutions in that we can bring people together here if appropriate or at various U of M sites around the state for things like graduation or a special orientation or cohort meeting. Moreover, we have places and activities here that can speak to students at a distance—this might be sports, Great Conversations, or a concert, and if they cannot come to campus, we can bring campus to them.

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**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Educational Planning and Policy Committee

June 7, 2007

Agenda Item: Consent Report

review review/action action discussion

Presenters: Senior Vice President/Provost Thomas Sullivan

Purpose:

policy background/context oversight strategic positioning

To seek Board approval of new academic programs and program additions, program deletions and discontinuations, and/or program changes, as outlined below.

Outline of Key Points/Policy Issues:

There are no consent items to report.

Background Information:

This report appears as a regular item on the Educational Planning and Policy Committee agenda.



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Educational Planning and Policy Committee

June 7, 2007

Agenda Item: Information Items

review review/action action discussion

Presenters: Senior Vice President/Provost Thomas Sullivan

Purpose:

policy background/context oversight strategic positioning

To inform members of the Educational Planning and Policy Committee of noteworthy items and policy-related issues affecting University units and departments.

To provide the committee with background information related to issues of regional, national, and international policy affecting higher education.

Outline of Key Points/Policy Issues:

There are no information items to report.

Background Information:

This report appears as a regular item on the Educational Planning and Policy Committee agenda.