ANTICIPATING THE FUTURE: THE UNIVERSITY OF MICHIGAN'S MEDIA UNION

Michael Miller

with a sidebar by **James J. Duderstadt**

Overview

The Media Union is a new facility that brings together information resources, information technology, and media production studios. It is unique in the blending of those resources into an integrated program serving the entire University of Michigan and supporting interdisciplinary collaboration. The Media Union anticipates the future not only by the proximity of its informational resources but by bringing together different types of information specialists to work collaboratively. The article provides a thorough description of the facility, its administrative structure, and examples of how pre-existing organizational units made the transition into the new environment.

Dedicated in June 1996, the Media Union is a new 250,000-square-foot, \$45 million facility located on the North Campus of the University of Michigan. It brings together the resources of the Engineering Library and the Art and Architecture Library; audio, video, electronic music, and multimedia production studios; an advanced visualization and virtual reality lab; design labs; gallery; video conferencing suite; computer training rooms; and over 500 networked student computer stations.

The University of Michigan (UM) envisions the Media Union as a force for change that will promote the development of new ideas, methodologies, and modes of producing and imparting knowledge through advances in technology. The Media Union fosters interdisciplinary collaboration and opportunities for faculty and students to interact in a facility that is available to the entire campus. Library and technical staff from different service units are mutually supportive and collaborate on all operational functions. The Media Union is a place to dream, invent, and share the process of learning and creativity.

Background

Over the past 180 years, the University of Michigan (UM) and the city of Ann Arbor have grown up together to create what may be the quintessential urban campus set in a mid-sized, midwestern town. For those who have visited UM, they will recall that the heart

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of the university and the downtown area of Ann Arbor are one and the same, and is referred to as the Central Campus. It is here that the majority of schools, dormitories, and administrative offices are conveniently located in proximity to each other and to the amenities of the city.

The North Campus by contrast is approximately 800 acres of rolling, wooded hillside and is decidedly suburban in feel. The land was farm pasture when purchased by the UM regents shortly after the end of World War II. The prevailing sentiment within the university at the time was that this acquisition for future growth was folly and a waste of the taxpayers' money. However, within a few years schools and colleges that wished to consolidate departments or expand facilities began to move to the North Campus site. The School of Music was the first to make the move in 1964, followed later by the School of Art and the Colleges of Architecture and Engineering. The North Campus now has its own recreation center, dormitories, and extensive family housing.

Origin of the Project

The origins of the Media Union project are rooted in this academic migration. In particular, it was the College of Engineering (COE) that eventually found itself in the awkward situation of having moved most of its departments, hundreds of faculty, and thousands of students to the North Campus only to realize that the Engineering Library, with its extensive holdings, was still located on the Central Campus. Thus discussions began within the college concerning the need for a new Engineering Library on the North Campus.

Also during this period, the dean of the College of Engineering, James Duderstadt, was promoted first to provost and then to president of the university. His tenure as president was notable for its massive effort to rebuild the campus and for creating one of the best computing infrastructures in the country. The

growth of the Information Technology Division (ITD) during this period, under the guidance of Douglas Van Houweling, vice provost for information and technology, was spectacular. Because of its size and special needs, COE developed its own technical support division called the Computer Aided Engineering Network (CAEN). It is CAEN that now provides the basic technological support for the Media Union.

James Duderstadt, along with Dan Atkins, former interim dean of the College of Engineering and now dean of the School of Information, realized early the potential of information technology to affect the academic process. They saw the development of a new North Campus library building as a golden opportunity to integrate the library's information resources with CAEN's information technology. It was their opinion that the functions of units providing information resources and information technology would eventually merge. They decided that if their ideas were valid they did not want to build a traditional library. The campus needed a facility where those resources and staffs could come together to work more closely and to learn from each other.

The project languished for a few years, lacking state funding to break ground. This hiatus, however, allowed thinking about the project to evolve and mature. It could become a place where production, computing, and information could reinforce and enrich each other. The new building would become more than just a library. It would have the potential to become a focus for the growing North Campus, a place where all departments could find community and share in the process of creation. It could be a gathering place, or union, for students to learn together and collaborate with faculty.

Eventually, but somewhat unexpectedly, the North Campus project came to the top of the state's funding list. Duderstadt and Atkins hastily drove to Lansing to sell the idea to the legislature and local legend has it that it was on this trip that they

named the project for the first time, the Integrated Technology Instruction Center (ITIC). Later, just before opening in January 1996, ITIC was renamed the Media Union. The choice was a deliberate bow to MIT's Media Lab but also echoed the name of a historic University of Michigan landmark on Central Campus, the Michigan Union. More directly, the choice of "media" in the title was the most ambiguous, and therefore most liberating, term possible to refer to the wide variety of information resources and technologies that it would house; and "union" because it refers to the bringing together of many different types of technologies and varied types of information professionals, all under one roof.

Planning

State funding in hand, planning for the Media Union, still known as ITIC, was begun in earnest in 1989. Albert Kahn Associates of Detroit, which has worked on many University of Michigan projects, was retained and oversaw all phases of planning and design. Randy Frank, director of CAEN, was assigned the role of project director. In an effort to have broader university support, an executive committee was put together composed of the four North Campus deans—Allen Samuels (art), Robert Beckley (architecture), Paul Boylan (music) and Peter Banks (engineering); plus Edie Goldenberg, dean of literature, science and the arts; Donald Riggs, dean of the library; Daniel Atkins, dean of the School of Information; and Douglas van Houweling, vice provost for information and technology and dean of academic outreach. Chaired by Paul Boylan, vice provost for the arts and dean of the School of Music, this group helped to establish the broad programmatic direction and oversaw the many small planning groups.

Support for the project was broadly based but did not originate within the University Library. The idea of a shared facility that included library resources and staff integrated

with technology supported by other units created some concern for the library administration. How to proceed with a planning process that was not centered in the library was unusual and challenging for those involved. Having the dean of the University Library and the dean of the School of Information on the executive committee provided an important psychological benefit and assured a vehicle for direct discussion of library concerns.

Library Merger

One of the more controversial aspects of the Media Union project was the merger of the Art and Architecture Library with the Engineering Library. The Engineering Library had always been envisioned as part of the project. Later, during the ITIC planning process, the deans of the School of Art and the College of Architecture requested additional space for their library, which was located in a shared building directly across the street from the ITIC building site. The provost, Gilbert Whitaker, elaborating on the emerging interdisciplinary role of the Media Union, decided to move the Art and Architecture Library into the new building.

The art and architecture deans and faculty were all a bit taken aback by this decision and, as with the loss of any departmental library, they were quick to express themselves about the loss of convenient library access. Engineering faculty too were surprised by the move but being approximately five times the size of art and architecture, they felt more secure and better able to absorb the changes being proposed. Time has eventually helped to assuage initial fears and most faculty have come to see the advantages of a substantially larger, better equipped facility.

Staff, however, were faced with much more immediate issues concerning facility design and reconciliation of policy and procedures. The two different staffs, while known to each other and part of the larger University Library structure,

had very different styles of operation. It should not be surprising that engineer-librarians and artist-librarians tend to take on the characteristics of their respective fields: the engineers being more action-oriented and long on problem-solving skills; the artists being more people-oriented and thoughtful about communication.

To complicate matters, UM Library's cluster grouping of branch libraries had the two libraries reporting through different managers. In what had become a politically sensitive situation, neither cluster manager felt empowered to give overall guidance to the library portion of the project. Planning's move toward designing two separate library units within the same building was out of sync with the overall mission. Not until the position of director of information services was created and filled could the staffs finally and fully come together to finish planning an integrated library.

Through the use of five task groups composed of mixed art and architecture and engineering staffs working on common issues, previously existing anxiety dissipated and the staff began functioning as a single unit. The five task groups were

- *circulation/reserves*, worked on unifying collection policies and practices, and recommendations for additional staffing;
- *move planning*, oversaw the tasks associated with the library moves and delegated subgroups to pack and prepare collections;
- *public services*, reviewed reference desk, instructional, and liaison services;
- *technical processing*, made recommendations concerning the merging of the staffs and functions within the technical processing area; and

- *staff development*, organized a staff retreat, which included the dean of the libraries, the vice provost for information technology, and all three Media Union directors. Additionally, this group organized a joint CAEN/library workshop series on customer service to diverse clients. They also developed a technical training curriculum for library staff.

This was a positive experience for most staff, but not painless. Adjustments were necessary as the two staffs came together to work on common goals. Better understanding of each others' operations helped to relieve stress and build commonality. In the end, it was not an engineering culture or an art culture that dominated but rather the emergence of a new Media Union culture, one that draws on the strengths of its predecessors and is collaborative in its dealings with technology staff.

Description of Facilities

When the Media Union finally opened its doors for partial operation in January 1996, it actually created a complex of three buildings. A wide connector hall ties together the pre-existing structures of the Pierpont Commons and the Chrysler Center with the Media Union (see figure 1). Since the Media Union is a 24-hour facility during the academic year, access to food and convenience stores in the Commons is an important feature. Access to the conference rooms in the Chrysler Center is also important to support a wider range of programs and events. The Chrysler Center has large lecture halls and smaller breakout rooms, which the Media Union does not have. The connector hall includes a gallery and conference center and can itself be used to support exhibits and displays. Power and networking are ubiquitously available throughout the building to facilitate such use.

The gallery is flexible space intended to display the broadest

Figure 1: MediaU Floor 1.

range of creative talent found in the university. It supports art shows, interactive museum-style exhibits, and special events. The outer glass walls of the gallery and the walls of the connector hallway can be opened to allow entry of large works. The gallery has already provided space for Master's of Fine Arts (MFA) sculpture exhibits, virtual reality demonstrations, and even Michigan's solar boat project.

The conference center features a teleconferencing suite, which provides large rear-screen projection for video and computer display. The suite can be configured as either one large room or two smaller rooms. V-Tel/Picture Tel technology provides the capability to transmit or receive signals from remote locations. A wide variety of presentation technology is installed including both Intel and Macintosh computers, a visualizer, and VCRs. Movable, trapezoidal

tables give the room considerable flexibility. The conference center also includes three additional rooms for seminars and special meetings. These rooms seat from eight to 16 people. They are equipped with power and networking, overhead projectors, whiteboards, projection screens, and teleconferencing equipment. Other technology is available as needed.

Walking from the connector, or coming in through the main door, one enters the atrium, a wonderful airy space that brings seasonal light into the building. The atrium opens up from the first floor lobby area to provide light and space for the two upper floors. The lobby itself has interactive kiosks with a building information system, and is a wired open space for displays and "hands-on" exhibits. The information desk is located in the lobby. It is staffed 24 hours a day as an additional information source and functions as a circulation point to check out library materials any time of the day or night. The staff at the information desk also serve an important security function since they monitor the library's book-detection security system, observe the main doors during the night, and supervise the closed-circuit cameras and emergency stair alarms. The building is locked at 10 p.m. each night but any university ID will permit entry to the building. The main outer doors of the building all have card-key scanners.

The central collaboration area is full of movable comfortable chairs, with whiteboards on the side walls. This area is intended for spur-of-the-moment meetings and huddles. It also can be cleared for technology demonstrations or special displays.

Nearby are two design labs, with movable glass walls. These studios are available for innovative projects using a review process involving the Media Union directors and the executive committee. Projects can be proposed by faculty, university groups, or corporate partners. Successful applicants get the equivalent of a "programmatic lease" for months or a year. The design lab

is then designated for their exclusive use during this time with one major obligation. Periodically, the doors must open and the project team must share their work with the rest of the university community through presentations or open houses. At the end of the "lease" the project must make way for the next group.

Initial use of the design lab was a joint project of the art and architecture programs and the Herman Miller Furniture Co. The project, called "designed for learning," studies furniture designed with integrated technology for collaborative learning and small-group tutoring. In one room students are taking existing furniture modules and arranging them experimentally, and in the other they are building modules from their own designs. In both cases, they brought in groups of students to test the designs in order to collect data on movement, use, and satisfaction.

Near the design labs is an area that houses the advanced visualization (Viz) and virtual reality (VR) labs. The Viz lab provides students with walk-in access to high-end computing stations, which support a wide range of visually based applications—from animation and graphics to CAD/CAM and engineering simulations. The VR lab is used by an interesting mix of research teams representing the entire campus. The VR lab includes a second room called the "Cave." The Cave provides an immersion-style VR environment using four rear-screen projectors to simulate a more realistic, literally "moving" experience. The Cave is a primitive version of Star Trek's "holodeck."

The video studio is a large production and performance area for dance, drama, or large-scale creations from architecture or engineering. The studio has a CYC screen, which can be "blue screened" for enhancing backgrounds digitally after production. The studio also has a sprung wood floor, which can be assembled and is suitable for dancers. The studio uses all digital equipment to capture images for further editing and enhancement, and to

Figure 2: MediaU Lower Level.

facilitate the integration of images into computer-based multimedia productions.

A large audio studio and its control room offer similar facilities for the auditory domain. Sounds are captured digitally for later editing and incorporation into video and multimedia programs. Nearby are two electronic music studios. Michigan's School of Music has moved most of its state-of-the-art equipment into these specially designed studios. They now offer their electronic music classes in this new setting.

While most computer workstations in the building offer some level of access to multimedia development, there are four specially

designed acoustically sealed multimedia production studios for high-end development work. These have the best and broadest access to special media equipment, including Avid digital video editing systems networked to video servers located elsewhere in the building.

Also located on the first floor is the machine room and computer repair shop. The machine room houses over 50 computer servers of various types for the Media Union as well as COE's Center for Parallel Computing (CPC) and the UM's Digital Library Project. Hardware for the CPC includes parallel systems from IBM (P12) and Hewlett Packard (Convex Exemplar 1600). Storage

Figure 3: MediaU Floor 2.

for the digital library includes well over a dozen projects including PEAK/Elsevier and JSTOR. JSTOR alone provides access to over a million pages of history and economics journals dating back to their first year of publication. The computer repair shop offers authorized factory repair for most of the major computer brands represented in the building.

Moving downstairs (see figure 2), the lower level houses the entire monographic collection for art, architecture, and engineering. They are stored on SpaceSaver compact shelving configured with extra-wide aisles

that will allow ten years' growth. A special effort has been put into making the compact shelving feel user-friendly. A student typically moves only one range when opening an aisle. This and extra-wide aisles mean that at some future time new shelving carriages and ranges could be inserted into the existing grid. Ranges that are stationary now can be reprogrammed to be movable later.

The shelving grid is interspersed with both flat table seating and computer workstation areas similar to those on the second and

third floors. Special care has been taken with the lighting levels to simulate daylight conditions and avoid the feel of a "basement."

Also located on the lower level are the visual resources lab and the special materials collection. The visual resources lab is the new home for the slide collection that was previously housed in an oversized closet in the art and architecture building. This spacious new room will permit a reinvigoration of this service and planning for image resources in a digital environment. Increased space also will mean easier access to video collections and viewing stations. The visual resources lab also provides student and faculty access to close-up photographic equipment and a digital scanning station for images. The special materials collection includes paper, rare books, and drawings that also have been transferred to the Media Union's lower level.

Moving up past the first floor to the second floor (see figure 3), the main atrium area offers access to several library and user services. A large, centrally located desk provides access to circulation services and the reserve collections for engineering, art, and architecture. CAEN's "hotline" technical assistance also offers service at this desk. Behind the desk are library staff offices and technical processing rooms.

Reference service and access to over 2,500 current journal subscriptions are also provided within the central area of the second floor. The combined holdings of the library are approximately 600,000 volumes fairly evenly divided between monographs and journals. The library has over a million technical reports in various microforms.

The main hotline office, student study rooms, computer workstation areas, and the media conversion facility also are located on the second floor. The media conversion facility offers students and faculty access to a broad range of electronic and digital equipment to support teaching and learning projects. An 8mm student video project can be trans-

ferred to VHS for easy classroom playback; a microfilm-based patent diagram can be converted to digital form and downloaded into an engineering term paper; or an architectural photograph can be scanned for use in a Web-based presentation. A variety of equipment is available to facilitate academic projects.

The second floor is home to the Millennium Project. Headed by President Emeritus James Duderstadt, the Millennium Project is intended as a mechanism to study the forces of change in higher education and to explore possible paradigms for future universities. Lastly, the administrative suite is also located on the second floor. The most important feature of the suite is that it is the home of all of the chief administrative staff regardless of unit. The space is shared by people from the library, CAEN, academic outreach, and the Office of Instructional Technology. It is a simple configuration but the informal collaborative environment of the Media Union starts here.

On the third floor (see figure 4), a variety of computers are available for students (Macintosh, HP, Pentiums, and Suns). Rather than being overwhelmingly large, impersonal spaces, these workstation areas are broken into smaller triangular zones that are on more human scale and that lend themselves to programming opportunities. Book stacks help to break up the space and also act as acoustic barriers. Not every "station" has a computer installed. The density of computers varies to insure that student teams have enough room around an individual computer screen to be able to work on shared projects. Additionally, every area has stations without computers to be sure that there is still plenty of desk space for non-technology-based study. Some whole areas are without computers to create quiet zones. In every case, however, workstations have power and networking installed so that students with their own laptop computers can plug in anywhere. There are 3,000 network connections available to students throughout the

Figure 4: MediaU Floor 3.

building.

Between workstation zones, there are relaxation areas with couches and coffee tables and wonderful views of the North Campus. Large windows and different acoustic characteristics help to create a more isolated environment. They are important for both student collaboration and rest from intense computer-based work. Power and networking are accessible in these areas.

The third floor also provides two large computer training rooms, one that is Pentium-based, the other that is Macintosh-based. Each training room holds 44 computers with the CPU and screen recessed below the desktop in order to open sight-

lines between the instructor and students. These rooms are flexible, and can be used as "quarter" rooms (11 workstations, 22 seats), as half rooms (22, 44) or in full (44, 88). The instructor, when the room is fully open, is teaching in the round. Using "Link System" hardware and software, the instructor's station has the ability to blank out student screens, forcing attention to the front of the room. The instructor can also take output from any computer and send it to all student stations simultaneously or monitor student work from the front of the room. Each quarter of the room also has an LCD projector for large-screen demonstrations.

Internal Relationships

The administrative structure of the Media Union is unique. There is not one director but three; the director for information services, the director for information technology, and the executive director. All three work as a team reporting to the executive committee.

The position of director of information services (see figure 5) is filled by the author and reports jointly to the executive director of the Media Union and the director of the UM Libraries. The original position title, director of library services, was changed to reflect a broader vision for the position within the Media Union, one that supports traditional formats but constantly strives to find opportunities offered by digital technologies. Its role is one that tries to weave a closer working relationship with the other information professionals within the Media Union. The director of information services takes the lead in many of the internal collaborative efforts. Library and CAEN staff frequently work together on new projects just as the three directors work together. This position also assumes responsibility for scheduling, studio spaces, and the gallery program.

The director of information technology is Randall Frank. Frank is also the chief information officer for the College of Engineering and head of CAEN. He has a second reporting line to the new dean of COE, Stephen Director. Frank has been with the project for the longest period; because he oversaw the entire planning and construction process, he remains responsible for facilities. Frank is also a major contributor to the UM Digital Library Project. The role of the director of information technology is to design and maintain the operation of technological systems in the Media Union.

The executive director is a position that, as of this writing, is still evolving. The original position was called director of programs and

was filled by Judy Olson on an interim basis. Olson is a psychologist specializing in collaborative work environments. She is a long-time UM faculty member with appointments in the School of Business, department of psychology, and the new School of Information. The role of the director of programs was seen as working directly with faculty to initiate, develop, and disseminate the results of programs and projects supported by the Media Union. The position involved outreach to faculty and helped to make the right connections for the imaginative use of production facilities, performance, and gallery space. The position is currently vacant and the provost has recently indicated a preference for the position to become the executive director of the whole Media Union. The other two directors would thereby report directly to this position. This scenario would have the executive director providing more of a guiding vision for the Media Union and looking to establish a firm fundraising presence.

The original administrative structure, the three Media Union directors and the vice provost for I&T/dean of academic outreach constituted the leadership team of the Media Union. Before the opening of the building in January 1996, the leadership had a series of short retreats to work through functional relationships. By design, the directors have overlapping responsibilities and work together to define and promote the Media Union program. The original executive committee structure has been retained and the Media Union directors are participants in its proceedings and are guided by its programmatic vision.

Currently six advisory committees play roles in shaping the Media Union program. In each case a Media Union director acts as a liaison to the committee. Two of the committees focus on specific program areas and have active faculty involvement.

The virtual reality faculty advisory committee is chaired by Klaus-Peter Beier, director of the College

of Engineering's virtual reality laboratory, and has over 20 faculty representing a variety of UM schools and colleges. This committee helped to shape equipment configurations and program choices. It also has organized the first cross-listed UM course on virtual reality offered in Media Union facilities. The other faculty group is the creative art faculty advisory committee chaired by Mary Simoni, director of the Center for Performing Arts and Technology. This group has been instrumental in shaping the technology directions for the video, audio, electronic music, and multimedia studios.

A third group is the student advisory committee. Composed of a small but growing group of student representatives, this group advises on a diverse range of issues that largely affect students. Priority on use of study rooms, administration of lockers, cost of printing, fire evacuation procedures, lighting levels—almost anything is fair game for this group. Having a student-based vehicle for information input and feedback has been extraordinarily useful in correcting or avoiding problems. The students even have begun to involve themselves in how to do a better job of getting more accurate information out to student groups across campus.

The Media Union Library has three faculty advisory committees, one from each of its primary constituencies—art, architecture, and engineering. These committees share much in common with departmental library committees everywhere. They provide a forum for faculty input about research and instructional needs, and are a way of informing faculty of library concerns. These committees form the beginning of an invaluable network into the departments that can help the library avoid policy mistakes and provide valuable information about faculty and student needs and preferences.

The Media Union does not have a unified organizational chart for staff. Rather, the staff belong to established units which share the same facilities and, of necessity,

SIDEBAR: THE MEDIA UNION

James J. Duderstadt

What is the Media Union? Is it the core facility providing the library, study space, computer clusters, design laboratories, and performance studios to meet the needs of the roughly 10,000 students enrolled in the schools of engineering, art, architecture, and music on the University of Michigan's North Campus? Or is it an electronic vision of the future, a digital library, the computer tools for collaboration, design, and performance? Perhaps it is the gateway to the world, the hub of the Internet and the World Wide Web. Perhaps it is a "Trojan Horse," designed to link together the creative disciplines of music, art, architecture, and engineering in such a way as to transform the entire nature of education from the intellectual activity of analyzing what currently exists to creating what has never existed before. Or perhaps it is the "new university," a laboratory for exploring the impact of information technology—computers and networks, virtual reality and multimedia, ubiquitous computing on the very nature of education, breaking the bonds of space and time and reconnecting education to the society it serves.

The Media Union is all of these ...and probably many more conceptions that only time and experience will reveal in the years ahead. The original plan for a library to serve the North Campus began in the 1950s, as the first of the university's academic programs moved to the new site. But, because of budget limitations, this facility was never built. In the early 1980s, as the College of Engineering completed its move, this plan was reactivated, but within a more ambitious vision to build a library of the future. The early planning was done by creative faculty including Dan Atkins, Lynn Conway, and Maurita Holland, working closely with the engineering dean's office. Once again, however, raising the necessary funding proved

difficult, and these plans were shelved. Toward the end of the decade, the concept broadened significantly, led by the deans of the North Campus schools—Paul Boylan, Peter Banks, Bob Beckley, and Allen Samuels—working with creative faculty, staff, and administration, including Randy Frank, Doug Van Houweling, Don Riggs, and Wendy Lougee.

In the early 1990s, as president of the university, I worked closely with the governor and the state legislature to obtain state funding for the project. Beyond the opportunity to fund the project from state sources, we were provided the flexibility to develop the project along the more ambitious visions of the deans. Since names are sometimes important, I simply stapled together key buzzwords such as "technology," "instructional," and "integrated" to arrive at the phrase "The Integrated Technology Instructional Center," or ITIC—a name that really meant nothing, but sounded impressive enough to sustain state support. The deans soon developed a far more appropriate name, the Media Union, and this eventually was adopted during the last phases of the project. It should be noted that this latter name not only reflects the role of the facility in joining the various "media" characterizing the North Cam-

pus schools while developing the new media for human interaction and collaboration enabled by information technology. It also suggested that the Media Union would play the same role as the center of community activity on the North Campus as the Michigan Union did on the university's Central Campus.

Even though the Media Union has been open for only a few months, it already is clearly fulfilling our dreams and visions. It rapidly has become the most popular facility for studying and learning for our students, with thousands of students using the facility every day—and night! It has provided students and faculty with the ability to create new art forms, new modes of knowledge capture, new design paradigms, new ways of interacting with people, and enabling major advances in human thought and knowledge. It has become one of the university's most exciting adventures, expanding rapidly beyond the campus to link our students and faculty to the world. It has become one of the best examples of the unusual "go for it" spirit that has characterized Michigan as "leaders and best" over the years.

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Media Union Library Reporting & Communication

Figure 5: Media Union Library Reporting and Communication.

work together to serve faculty and students. Staff are, therefore, encouraged to seek solutions to day-to-day issues through direct contact and with a minimum of hierarchical negotiation. While staff typically deal with issues that fall into their primary fields of expertise, collaborative solutions are encouraged as new projects emerge. One method for fostering such collaboration is SWAT—the Shared Work Assignment Team. Composed of representatives from the major staff groups, SWAT assigns mixed staff teams appropriate to new projects. It is not unusual for a librarian, user services staff, and an Office of Instructional Technology consultant to form a team to analyze and recommend a

project solution, and then oversee its implementation. New venues for staff communication and collaboration are being discussed to help grow beyond historical meeting structures and stimulate staff interaction around common projects and areas of concern.

Library Relationships

The library within the Media Union is an administrative anomaly. It is considered part of the UM system of libraries while, at the same time, being a full collaborative partner with non-library administrative units within the Media Union. Having a structure that reports through the non-library Media Union execu-

tive committee makes it unique. This is one of the reasons why the director of the University Library is a member of the executive committee and why the director for information services shares a reporting line to that director.

The vision of the Media Union helps to shape the scope and direction of its library collections and services but it also is influenced by the direction of other UM libraries. The director for information services participates in the Collection Management and Development Council (CMDC), sits ex-officio on the Public Services Council (PSC), attends the Senior Managers Group (an interdivisional assembly), and contributes to the Digital Library on a

project basis. Media Union librarians are members of the Librarian's Forum and are full collegial partners with other librarians while retaining their ability to create a unique vision of the future. Library staff participate on intralibrary committees in order to share training opportunities and information on common issues.

There is some difficulty with this approach, however. Library culture in large academic institutions is such that being different is not always easy. For the Media Union Library to be a full collaborative partner with the other units within the building and a fully integrated part of the Media Union vision, it must rely on local partners for as many of the day-to-day operations as possible. This sometimes calls for rethinking standard library policies and procedures. It is, however, an ideal opportunity for library administration to try alternative solutions because the scale is manageable, many of the risks are minimized through Media Union investment, and the technology is a step ahead of the University Library standard. In several areas, including budgeting, human resources, and computer support, the Media Union Library is gradually developing practices that differ from that of other University Libraries.

An interesting example of building an opportunity out of what could have been an irreconcilable difference is the collaborative relationship between the University Library systems office and CAEN in order to support the library computers within the Media Union.

It had been decided fairly early that because of the integrated nature of technology and service in the building, all public stations would be purchased and maintained by the Media Union. The Media Union Library and CAEN, therefore, collaborate daily about how best to make public technology available to students and faculty. Because the University Library needed to be vested in Media Union operations, too, library staff stations continue to be supported by the library budget.

For most of the first year of operation, staff machines continued to be supported by the library systems office. From the Media Union perspective, the ideal approach to maintaining library staff stations should be to have them supported by CAEN. In this way all Media Union computers could be handled in essentially the same way.

A problem arose, however, in that the University Library computer budget is currently not as aggressive as Media Union equipment standards. Having two different tiers of equipment in the building, one for library and another for everybody else, was clearly undesirable. This, therefore, became the rationale whereby the Media Union Library requested a separate computer budget to support its staff. The line was intended to acquire equipment that conforms to Media Union standards. This arrangement allows the Media Union Library to have a budget that is on a par with other university libraries but takes advantage of local development efforts, Media Union administrative support staff, and CAEN operations and system staff.

This rationale is further strengthened by the fact that CAEN is authorized to inventory directly into the university's property control system. Such entries clearly indicate that machines acquired in this way are library property and are viewable by the library systems office. CAEN also has onsite factory-authorized repair of all the major computer brands used in the Media Union. Because Media Union configurations can be expected to vary from library configurations, the systems office could not be expected to stock parts or service staff machines. For this same reason, the Media Union has agreed to absorb the cost of replacement parts and repairs.

But another problem could arise if Media Union equipment or operating systems are not compatible with MIRLYN, UM's NOTIS-based online public access catalog, or other library systems. The Media Union, for example, is an experienced Microsoft NT 4.0 shop for Intel-based

equipment while the library system only recently has begun to support that operating system when used in conjunction with NOTIS. This was a clear indication of why the library systems office needed to remain a full partner with the Media Union. Local maintenance of hardware is reasonably straightforward but operating system and library-specific software compatibility must be done in collaboration with the systems office for smooth integration with larger library systems. Full communication and cooperation between the library systems office and CAEN are, therefore, essential to close the loop in maintaining service and compatibility for Media Union Library staff computers.

It took almost a year to work through these new relationships among CAEN, the library systems office, and the Media Union. While the arrangement is unusual, it gives the University Library valuable experience in dealing with hybrid support arrangements. It is to the University Library's advantage to experiment and develop flexible models for dealing with the fast-changing computing environment.

University Relationships

As an interdisciplinary campus facility, the Media Union is constantly looking for collaborative relationships with other UM units (see figure 6). At a university like Michigan, the expertise is likely to already exist somewhere on campus so it is not necessary to invent it over and over. It is better to form alliances that can be mutually beneficial.

In moving into the building, the merged Media Union staffing was strong on computing and information expertise but weaker in audio-video areas. In order to bring those areas of the building up to a comparably high level but before budget permitted the hiring of expert staff, the Media Union contracted with the Office of Instructional Technology (OIT) to hire one of their consultants on a full-time basis to assist in specifying equipment and making recom-

Media Union Collaborations

Figure 6: Media Union Collaborations.

mentations concerning program. OIT is a unit within the campus Information Technology Division specializing in "New Media" curricular development. This relationship led to a greater appreciation between the Media Union and OIT and as a result OIT staff now have a permanent presence within the Media Union. This makes OIT's curricular development services more conveniently available for North Campus faculty.

Another example of collaboration is the Media Union's adoption of the campus printing strategy developed by the Information Technology Division (ITD). Rather than creating its own printing plan, printers in the Media Union are provided by ITD. Students using the Media Union thereby have access to the same printing allocation accounting system that is available across campus. ITD administers the program and retains the revenue; the Media Union devotes far less time and energy to supervising printing.

Despite being in an interdisciplinary building, there is no doubt for the library staff about who its primary constituencies are—art, architecture and engineering. Library staffing continues to stress the need for high levels of subject expertise to develop collections and services best suited for these disciplines. New for the library is the support of hybrid and emerging collections and non-traditional service areas. As an outgrowth of activity in the virtual reality lab, for example, the library expects to collect and make available VR projects developed by students and faculty alike.

Union of Traditional and Digital

The Media Union Library, like all academic libraries, is at an awkward stage in its transformation into becoming the all-digital library of the future. We still rely heavily on paper- and microform-based information resources. Sometimes the mate-

rials we need the most are not available in digital form from publishers; in other cases the digital version is not mature enough to supplant the bound version. But as part of our charge we actively seek to explore ways that move us further into the digital domain. This is true for both collections and services.

Sometimes those explorations allow us to apply readily available technologies to make traditional services better. For instance, converting the telephone at the reference desk into a cordless model frees the librarian from being "tethered" to the desk and enables him or her to answer telephone inquiries while walking to the stacks. An optional headset even allows "hands-free" reference. Another has placed second computer displays at the reference desk in order to allow clients the opportunity to see the same information as library staff—a much better basis for a conversation than endless

explanations about the computer system.

Sometimes our explorations are about what we would like to see happen, such as having our selectors list the journals and reference tools they would like to acquire in digital form rather than those that are currently available. Working with the UM's Digital Library Project, we may actually be able to persuade publishers to move in that direction.

Sometimes our explorations only await funding to create new service environments. For example, rather than dilute reference-selector expertise, the library staff strive to find ways to draw upon the expertise of their colleagues at other libraries. To this end, and to do a better job of supporting students at hundreds of locations spread over four floors of the Media Union, we are experimenting with point-to-point, two-way voice and video. Eventually, we hope to combine this with Timbutu-like screen capture and control. The ultimate goal will be to provide assistance from desktop to desktop for both library reference and technical hotline help. A student sitting at a Media Union workstation would be able to click the "Librarian" icon and speak directly with a reference librarian about search strategies or navigational assistance using a database. Any librarian needing more than just verbal cues would be able to "see" the user's screen and if necessary take control of the screen to demonstrate the correct way to proceed. If the expertise does not exist on the Media Union staff, then electronic links to other locations—offices or service desks—would provide direct access to the right people at the right time.

Future Directions

The Media Union now has been open two years. The lessons learned are many. They relate to administrative structure, facility design, emerging patterns of client use, adapting a new facility to better serve those clients, and helping staff relearn their jobs in ways that free them from old constraints so they can envision new ways of serving. Most of what needs to be done in the short term is to open a few remaining services that are behind schedule and get the rest to work effectively and predictably. Any new concept or facility needs to go through a shakedown period that sorts out what works and what does not. It is not unreasonable for students and staff to expect that everything in a new facility will work, but that is rarely the case. Adjustments need to be made to lights, missing furniture eventually arrives, network printers that originally had intermittent problems gradually stabilize, and subscriptions finally get delivered to the right address. Through the perseverance of many dedicated people, these and many more issues are gradually being resolved.

Then the next phase begins. That will be the phase that allows the many dedicated people involved in the Media Union to create "new stuff." The state of Michigan has funded a first-class building that brims over with program potential. To make it more than just old services in a new package, the Media Union must be the kind of place where imaginative people want to come to explore and create new knowledge. The environment must

be such, both culturally and administratively, that the process of creation can be facilitated. The environment must be perceived by faculty and students as one that "works"; that is easy to use; where assistance is readily available and respectful; and where the "pieces" can be put together to encourage project teams, both big and small, to learn and develop new ideas.

In order to create "new stuff," the Media Union will need to establish access to a continually renewed equipment base, flexibility in the use of space over time, access to an enthusiastic and knowledgeable staff, and funding to seed project ideas.

Knowledge in Motion

At the time of the building's dedication, there were many brochures, guides, and the like that were drafted to explain to the university community just what the Media Union was about. From one of those written by the staff came the phrase, "Knowledge in Motion." It has become something of an unofficial motto for the place. It immediately creates a mental image of learning and the creation of knowledge as an active endeavor. As our motto, it implies that our work is never done. Change is constant and a program that wants to be on the leading edge must always be evolving, adapting to new technologies and resources, teaching methods, and research demands. The motto is well chosen, because for the Media Union to maintain its forward momentum and realize its aspirations, its programs and people must always be "in motion."