

Annual IT Update – Major Accomplishments



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MEMORANDUM

To: WPI Trustees
From: Tom Lynch, Vice President for Information Technology and CIO
Date: September 23, 2005
Subject: IT Division Major Initiative Update—October 2004-2005

This document provides an overview and status report on Information Technology Division key initiatives undertaken during the past year. WPI was ranked 53rd out of 248 national, doctoral universities by U.S. News & World Report in the category of Best National Universities. WPI was also honored with the Massachusetts Innovation & Technology Exchange (MITX) 2004 award for Best Educational Institution Web site for WPI's Undergraduate Admissions Web site. Over the past year a poll by the Princeton Review noted WPI students believe, "WPI's greatest strength is its ability to stay ahead of the curve with respect to technology." We continue to receive strong, positive, national recognition which validates our work and infrastructure. The staff took advantage of restricted opportunities for external visibility—we made presentations at local conferences, received a number of awards, and were recognized nationally and locally through a number of press releases, quotations and invitations to speak at events and conferences. We won over \$223k of external grant funding through competitive federal and state grant programs. The division also procured over \$1.3M of corporate gifts for hardware, software, fiber/wire, and installation services and another \$8k of grants to the Gordon Library's archives collection. The IT Division returned \$556k to the university's operating budget through savings and Advanced Distance Learning Network (ADLN) net return.

Overall, the IT management team came in under budget again, with each department returning funds to the university at year end, helping the university meet its financial commitments. The Advanced Distance Learning Network which has exceeded projections each year, returned \$435k to the university this year, as well. The scalable business plan that is employed to manage this program provides operational flexibility sufficient to adjust to market and program fluctuations.

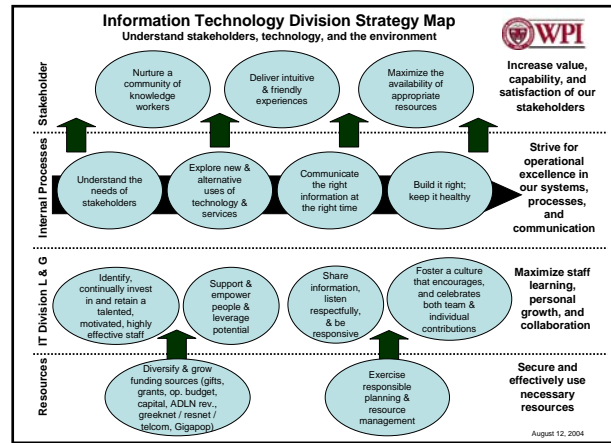
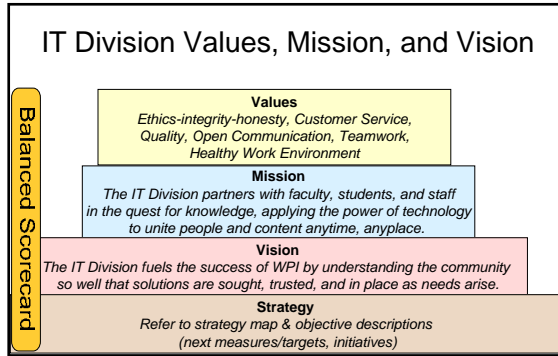
This report highlights scores of successful capital and operational project implementations and the creation of new capabilities in important areas—disaster recovery, network and data security, federal compliance, academic technology and distributed learning environments, new e-classrooms, information literacy training, new library materials and services, new websites, high performance computing and data visualization, SCT/Banner administrative and academic process improvements, video and web conferencing, faculty technology fellowships, and much more. The entire IT Division continues the Balanced Scorecard BSC strategic planning process. Through this process we have further honed our value statement, mission, vision, and strategy to make sure that we are aligned to support the academic and administrative thrusts of the university.

We experienced a smooth new student orientation and school startup this fall amid the threat of the Zotob virus which was spreading the globe at the time negatively impacting many organizations. I look forward to another great year. I hope you enjoy reading about our accomplishments and I welcome your suggestions and feedback.

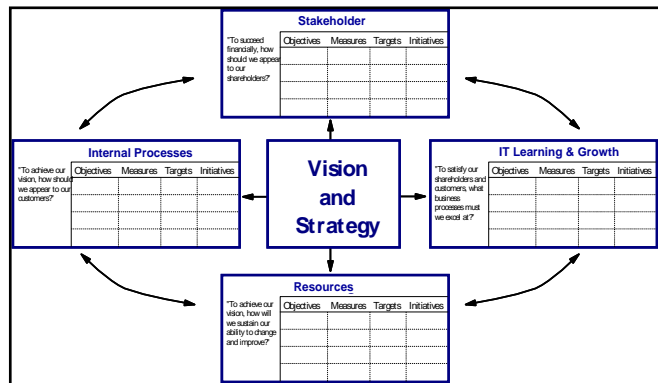
Office for Information Technology (OIT) Division-Wide Projects

IT Strategic Planning Project

IT strategic planning and performance measurement is one of our most important division-wide initiatives.



- We identified one or two performance measures for each objective.
- For six objectives, a team is developing a measurement process and most are ready to provide a measure. For example we developed and administered a survey of IT staff to measure two of the Learning & Growth objectives: employee support and empowerment, and employee perception of communication environment. We are reviewing those results.



- We continued to implement our five-point communication plan to improve communication within the IT Division and instituted most of the initiatives with good success.

Data Protection & System Recovery Projects

The annual publication cycle (version 2) of the *Data Protection and System Recovery for IT-Supported Systems* manual was published in December 2004. In May 2005, we published the *Data Protection and Systems for Academic-Supported Systems in Computer Science, Electrical & Computer Engineering, Extended Education, and Mathematical Sciences Mechanical Engineering*.

Program for Compliance on Information Technology Security Acts

Our PMI-certified project manager is coordinating the university-wide program to address due diligence with regard to seven federal compliance regulations. The *IT Security for Higher Education, A Legal Perspective* (<http://www.educause.edu/ir/library/pdf/CSD2746.pdf>) published by EDUCAUSE briefly describes university issues relating to these seven acts.

- **Nine project teams**, each headed by a Project Sponsor and Project Leader responsible for one legal statute or one aspect of **HIPAA**, developed and/or enhanced university policies. The policies developed this year were approved by legal counsel and posted on the web in appropriate areas and on <http://www.wpi.edu/Pubs/Policies/>.
- For all but **FERPA** and **Patriot Act**, department-specific training is complete. The **Communication and Instruction Team**, in concert with the Project Teams and with a comprehensive effort by the Communication Division, developed **communication and instruction plans** for faculty, staff, students, and parents.
- Network Operations developed and the faculty and Trustees approved the **Network Security Policy**. We are also reexamining the currency of related policies such as our **Acceptable Use Policy (AUP)**.
- The **Data Security Project (DSP)** is underway to develop and/or enhance university policies and procedures to ensure we are current with new and emerging data-security-related technologies, business processes, and threats. A **Project Initiation document** and **Responsibility and Assignment Matrix** was drafted and membership on the Steering Committee, Project Team, and Technical Administrators Team's are in place, except for a few faculty representatives.
- Next steps:
 - Post the tutorial and online quiz after final attorney approval of **FERPA**.
 - Complete departmental-specific training for **FERPA** and **Patriot Act**.
 - Execute communication plans.
 - Develop and implement a **university data security policy**.
 - Provide proper **data handling processes** to university employees who have access to confidential data.
 - Manage all IT systems at recently raised security standards (multilevel firewall, appropriate isolation).
 - Develop a common information request and approval process.
 - Develop a university catalog of confidential data storage locations.
 - Support and develop non-IT staff responsible for systems containing confidential data.
 - Develop **common incident response process**.
 - Investigate expanding project scope to include **protection of data** beyond WPI-community personally-identifiable data (for example sensitive research data).

Grants, Contracts and Collaboration

The **Academic Technology Center (ATC)**, **Gordon Library**, and **Web Development Office** continue to participate in the NSF "**Fire Science Multimedia Library**" grant along with faculty in the Fire Protection Engineering Department. The grant was awarded to WPI in January 2004 (\$149,960 for one year). New metadata for new collections have been developed, the **Fire and Building Educational Resource Collection (FABERC)** digital library was populated with close to 4,000 digital objects, a unique web portal was created, and an end user survey was administered. The results of this survey are being tabulated.



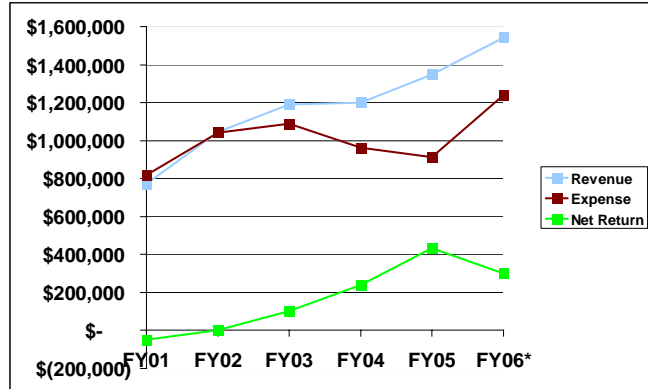
Advanced Distance Learning Network (ADLN)

Revenue/Expenses

A strong year in **FPE and Management enrollments**, accompanied by accurate enrollment projections, tight controls on expenses, and externally funded activities, has resulted in another successful year for **ADLN**. **ADLN** closed FY05 at 106% of budgeted revenue and at 90% of budgeted expenses. This allowed **ADLN** to contribute a net return of \$435,222 vs. the budgeted projection of \$253,944.

ADLN Detail for FY05

Credit Hours	1,514
Revenue	\$1,348,952
Expenses	\$913,730
Net Return	\$435,222



Program Momentum

- With a **Fire Protection Engineering (FPE)** enrollment increase of 22% in FY05, WPI continues to be thought of as the global leader in fire protection engineering education. The highly successful relationship with **Seoul National University**, which was instituted in 2002, is now winding down. At its peak, this program contributed up to a dozen new FPE students per year and is now contributing several per year. A memorandum of understanding was recently signed with the **Israel Fire Protection Association**. This will increase WPI's visibility in the Middle East and act as a conduit for new students from Israel.
- The **online MBA** market remains highly competitive with **more MBA programs online** than in any other single academic area. Despite this difficult environment, we are pleased to report that the **MBA** program closed FY05 slightly higher than projection with enrollments anticipated to be flat for FY06.
- The **Environmental Engineering** program, which focuses on water and waste-water treatment, continues to draw from a very small, niche market.
- In May 2005, **ADLN** assumed responsibility for the marketing and administration of the graduate certificate program in **System Dynamics**. Unlike the other **ADLN programs**, **System Dynamics** does not currently offer a masters degree, has no campus-based courses, uses a high proportion of adjunct faculty, and has a separate business plan structure which is now part of **ADLN's operating budget**. **ADLN** is currently determining the market for this certificate.

Major Grants

ADLN was one of the principal departments in the **Massachusetts Department of Education** "*Distance Learning Communities for Middle School Math Teachers*" grant awarded to WPI in Feb 2004 (\$620,938 over three years). The project is to establish a partnership among WPI and school districts to deliver graduate level math content to geographically disparate middle school teachers, thus allowing them to be professionally licensed and giving them the knowledge to better teach their students. Year 1 was successfully completed with 58 enrollments. Year 2 was highly successful with 100 enrollments (the maximum allowed under the grant) and a waitlist for the next round of course offerings. Year 3 funding has been committed.

Student Resources

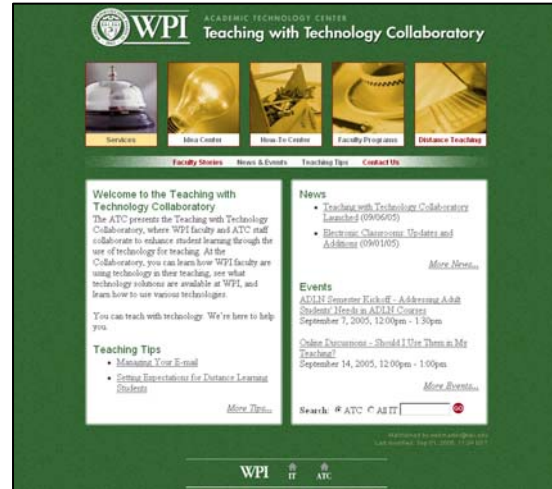
An **ADLN student resource website** was launched this year. This allows prospective and current students to access all the information they need to be a **distance student at WPI**. Included in this website are video clips, Power Point slides, audio files, and textual materials which provide a dynamic presentation of "need to know" information.

Academic Technology Center (ATC)

Teaching and Learning

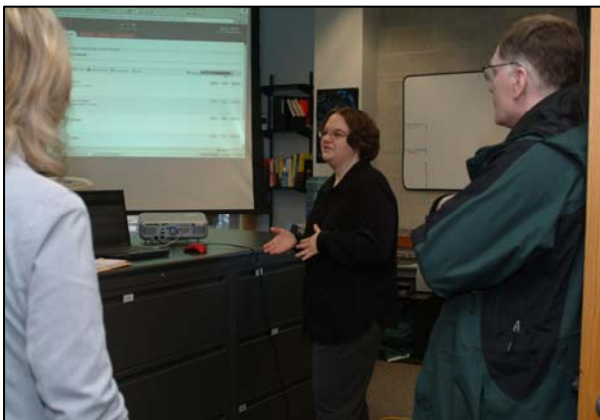
- *myWPI* continues to serve the campus well as the **university learning and information portal**, growing to 681 courses, 264 unique instructors of courses, 156 organizations in FY05 (~32% increase in the number of hosted-course sites over FY04). Improvements to *myWPI* over the past year included a change in the extract from Banner to account for varying course start/end times and an automatic archival of course content.

- **Teaching with Technology Collaboratory**
In May 2005, the ATC conducted a survey of WPI faculty to better understand their level of IT expertise, usage, and needs related to using technology in their teaching. In response to the results of the survey, the ATC rolled out several new resources & professional development opportunities for faculty. In September 2005, a new resource for faculty, the **Teaching with Technology Collaboratory**, was launched in response to feedback on the survey that indicated faculty prefers to learn about technology on their own. The **Collaboratory** contains self-serve



resources on topics related to **teaching with technology** such as ideas on how to use technology to address teaching challenges; how-to topics on the use of specific technologies; information on effectively teaching distance learning courses; news and information on **professional development programs** for faculty; news about technology updates; tips for using technology in teaching; and best practices highlighting WPI faculty who have successfully used **technology in their teaching**. The Collaboratory will be updated throughout the year with new content based on needs and suggestions expressed by faculty. Use of the Collaboratory will be promoted primarily through monthly e-newsletters which will be emailed to faculty, providing tips and information about using technology with references to content in the **Collaboratory**.

- The **Faculty First-Year Technology Experience** was launched in August 2005 as a revised version of the **New Faculty Technology Cohort program** which was piloted in 2004-05. The program aims to introduce new faculty to the technology resources available to them on campus and the technology they will need to use during their employment at WPI. **Monthly e-newsletters** provide new faculty with timely **technology information** and face-to-face sessions offered each term introduce new faculty to a variety of technology topics as well as the support professionals responsible for various functions at the University. The program is managed by the **ATC**, but includes participation by all departments in the **IT Division**.



- In May 2005, the **Teaching Technology Fellowship (TTF)** program celebrated the accomplishments of **six graduating fellows**. Projects ranged in scope from virtual field trips in a fire protection engineering course, to video-based tutorials of project planning software in a civil and environmental engineering course, to self-paced laboratory modules in a biomedical engineering course. The 2005 call for nominations generated a smaller pool of applicants than expected, but yielded four very strong proposals which were accepted – six new faculty in total. In 2006, the **ATC** will look at ways to generate more proposals for the **TTF program**.

Operations

Day-to-day event support continues to be a challenge. The **ATC** supported over 360 campus events and processed 2740 equipment reservations in FY05. The technical complexity required to support events and the increase in end-user expectations, coupled with the reduction in the **ATC's** office hours necessitated to bring the FY05 budget into balance, further complicate support in this area.

Infrastructure, System Support and Security

The systems engineering staff of the **ATC** has been extremely busy with routine e-classroom and e-conference room upgrades, and system maintenance. They have also been busy designing the **audio/visual systems** that are integral to building of the **Bartlett Center** and **Gateway Park**. A brief summary of the work performed in various classrooms and meeting spaces is as follows:

- **New e-Classroom Installation:** OH223 - single projection, a dedicated PC, DVD player, VCR, CATV, and a laptop connection.
- **Upgrades to e-Classrooms:** KH202, KH207, OH107, HL114, SH308 and Anderson Training Labs A and B - upgraded control system and relocated end-user equipment to a mobile podium to allow more flexibility in presenting and consistency across campus.
- **Other AV installs:** Campus Center Info Plasma, IT Labs in the Gordon Library (2); new video bulletin board system; new TV Studio lighting system.



The **ATC** also completed a number of **internal system updates** and **security projects**:

- Installed power conditioning and battery backup to support TV Studio and CATV head end.
- Located **myWPI hot backup system** to Higgins Labs (additional space downtown was recently purchased so this system will move downtown in FY06).
- **Upgrade existing myWPI, WPI Media Server, and ATC shares SAN** to allow for host independent backups and improved data protection – project currently in progress.
- Near line backups for **ATC managed systems** (myWPI test/production, WPI Media Server, Interwise, Equipment Reservation system, ATC file shares, ATC server/equipment monitoring server).
- Implemented **virus protection** on all ATC servers – firewalls are installed and configured on all **Service Pack 1 supported servers**.
- All **ATC laptops, desktops, Movie Lab, and e-classroom PCs** employ a location-independent, virus and threat protection solution, domain policy enforced firewall, and patch service.
- **Server upgrades** (Upgrade Win2K servers to Win2003).
- **Upgraded ATC Reservation system** so as to use the new campus ID as unique identifier and removed all traces of SSNs in the system.
- Implemented **monitoring hardware/software solution** that detects equipment failures/thefts for e-classroom/e-conference room projectors and room controller – new classrooms only
- Installed security cameras, motion detection, glass break detection and door contact security system for **ATC office areas**.

New Services

In 2005 the **ATC** continued to work towards campus-wide deployment of **Interwise ECP Connect**, a **web conferencing solution**. The rollout of this tool was halted in early 2005 while the Interwise contract was renegotiated to make the tool more flexible and able to meet the unique needs of WPI. Pilots are currently being conducted a number of faculty and project center advisors. A general release of Interwise to the campus is planned for January, 2006. The **ATC** also announced the availability of a new **DVD mastering and duplication** service as well as a **large format scanning** service.

Computing and Communications Center (CCC)

Windows Group

The Windows Group performed several major **service and security upgrades** on **desktops and servers** over the past year. Consequently, the **WPI Windows enterprise** continues to grow with the academic environment while simultaneously providing enhanced protection and recovery ability. Some of the projects completed this year are:

- **Exchange mail environment** is now fault-tolerant and has increased storage
- File server on a dedicated medium with increased storage
- All servers running **Windows 2003** with software firewalls and virus protection
- Upgrading staff & faculty PCs to **Windows XP SP2** with software firewall enabled
- **Domain machines** proactively patched
- Exploring the use of **virtual servers** to reduce hardware costs

Support Services and Training

- Four popular **computer labs**, and **Gordon Library PC lab** were upgraded to include PCs with Pentium 4 3.2GHz processors with 1GB of RAM, 80GB hard drives and 19" flat panel monitors.
- **UNIX terminals** in a Stratton Hall computer lab were replaced with new **Dell PCs**.
- The **PC technicians** in the **CCC Computer Shop** deployed over 300 new desktop PCs and 60+ printers to faculty and staff. They also re-deployed over 100 rebuilt systems for use in academic and administrative offices.
- **36 end-of-life systems** were donated to a local high school. Both the **Helpdesk** and **Computer Shop** obtained **Macintosh** systems for staff learning.
- The **Helpdesk** added another **kiosk** and **laptop counter** to better support a growing population of mobile users. Record numbers of incidents (2,228) were logged by the **Helpdesk** in the month August 2005. Average monthly incident volume for the year was about 1,035 incidents per month.



Computer Literacy Initiatives and Outreach programs

- Throughout the year, the CCC Helpdesk offered information sessions for staff and faculty on **Spyware prevention**, **SPAM management** and **Technology Orientation** programs, and contributed regular **Computing Tips** for inclusion in @WPI, community newsletter. The Office Operations Support staff provided one-on-one training to University Administrators in the use of the new **Emergency Broadcast** web system. Recently, the CCC Helpdesk and Software Applications Instructor teamed up to deliver **Strong Passwords for Chocolate** sessions which are designed to combat password sharing, access to written password information and the use insecure passwords.
- In June, the CCC joined in welcoming approximately 250 incoming freshman to campus through its involvement in **Academic Advising Open House** days. The CCC staff introduced the students to WPI technology resources, assisted them in creating computer accounts and utilizing the Web Registration System. We provided similar support for the *Camp Reach* program as well. Record numbers of new students attended our **Computing @WPI** sessions during **New Student Orientation '05**. 64 MB USB flash drives given to over 630 attendees facilitated the delivery of Windows Security patches to help prevent widespread virus infections on the residential network. This past August, 154 students attended our first **Wireless Setup Clinic** where *Network Operations*, the *CCC Helpdesk* and *Computer Shop* staff were on hand to assist students with registering and configuring their laptops for use on the wireless network.

Staffing and professional development

- As part of the cost-reduction efforts, **3rd shift operations** were eliminated with the removal of the 3rd shift position of **Information Desk Clerk** at the end of the fiscal year. 24x7 support is no longer available. 24x7 access to two computer labs is now available via secure key-card access to Kaven Hall.
- **Support Services** staff continued to grow professionally by taking advantage of various professional development opportunities. The **Assistant Director of Desktop Services** completed a management certification program entitled, “Tomorrow’s Skills for Today’s Managers”. The **Helpdesk Support Coordinator** attended **Remedy Administrator** courses to develop skills necessary to maintain and customize the call tracking system. The technicians in the **PC Shop** renewed their Dell support certifications. Personnel in the **Helpdesk, Shop** and **Information Desk** attended various locally offered training programs to include: Exceptional Customer Service, Telephone Customer Service, Exceptional Communications Skills, and Building Your Team for Success. **Helpdesk** and **Instruction** personnel also delivered several presentations at local events and conferences to highlight our successful Back to School and Technology Orientation programs.
- Through aggressive marketing initiatives and the addition of a successful **Work Study IT Job Fair** we were able turn around the problems we faced last year with student staff shortages. These efforts allowed us to generate a good applicant pool from which we hired some very qualified new student staff.

Banner


Banner is the university’s administrative information system. We collaborate with our campus administrators and staff to help them transform data into information and learn how to develop additional functionality.

- Over the summer, **Banner** was **upgraded** to the latest version, moving us into a web-only deployment, and incorporating a new **API implementation** which allowed us the necessary flexibility to implement the ID recoding with minimal coding changes. This also keeps us current with **Oracle** security patches and regulatory updates in the **Banner application**.
- **Banner** was modified to allow login to both the maintenance forms and the self service web application using our **Windows domain** accounts. This reduces the number of passwords by 1 for our community members.
- **Oracle database** was moved to a new **64bit Windows computer** giving a 33% increase in **database performance** while allowing for greater stability due to the additional memory available with the 64bit architecture.
- We have begun rolling out access to the **Operational Data Store** that was licensed from **SCT** last summer to smaller departments; this allows us to evaluate reporting and data mining tools, and analyzes the types of training needed by the staff. This small project helps us bring the user community up to speed with the new technologies and concepts.
- Every entity in the **Banner database** with a **nine digit ID** number received a new, random ID to replace SSN as ID’s. The code in the **Banner application** was modified to prevent use of SSN, adding an additional layer of protection over this sensitive piece of data. As a result ID cards no longer have SSN printed on them, and printed reports are more secure.
- A **web based application** was added on to **Banner**, allowing our faculty to record publications and grants received. In addition, a **web based registration** system for our **Alumni Reunion** was implemented; allowing attendees to register and make payments on-line for events.
- The **Banner application** also now contains several web pages that can be accessible while traveling by our **development officers** to research information about our **Alumni** based on attributes such as geographic location, or membership in clubs. Once located, a profile can display useful for our staff when making an alumni contact.
- We have hired **two replacement staff** for the people we lost last fall; both have made great progress in learning our business and the complexities of the **Banner ERP**.

UNIX

- Six years ago, we adapted **software developed** at Virginia Tech to manage the **on-line submission** of **theses** and **dissertations**. **On-line submission** has been mandated by the faculty. Since projects are a substantial aspect of a **WPI education**, we have begun adapting this same software to handle electronic submission of **Major Qualifying Projects (MQP)** and **Interactive Qualifying Projects (IQP)**. Last year, with the cooperation of **CAP (the Committee on Academic Policy)**, some volunteer faculty had students submit projects electronically. So far, 126 projects have been submitted this way. We feel that this project is a success, but we await faculty endorsement of the concept of mandatory on-line submission of projects.
- We are moving to an **Enterprise Linux operating system** platform. User access is managed by **LDAP directory servers**. We have developed our **Linux computer cluster** for researchers. We assisted the Math department in their selection of a **SGI supercomputer** which was acquired with the assistance of an NSF grant to that department. We installed and are managing this computer for the researchers. We upgraded our file server and have increased the default disk quota from 200MB to 500MB and have planned for future expansion.

Communications

- Last year, we installed a **Juniper router** at 1 Summer Street in Boston, MA. We have switched our **Internet2** feed from Qwest in Worcester to the **Northern Crossroads Internet2 GigaPoP (NoX)** in Boston. There, we have peered with Harvard, MIT, BU, Tufts, and the other **NoX** members. We also peer with Comcast Cable, greatly expanding the area of homes which can connect to WPI without touching the public Internet. This new route has reduced our annual Internet2 expenses by \$65,000 and allows us to offer **Internet2** services in the Boston area. For example, the Museum of Science has already been sponsored by us for a connection to **Internet2**
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- We installed networking in the new **Extended Education** location on Prescott Street, the new **OASIS house**, and reengineered the networking in the **president's and provost's houses** to meet their requirements.
 - We replaced the wiring in all the residences to bring the wiring up to current specification and to cure intermittent connectivity in some residences due to the wear and tear on the old wiring.
 - Last year, we replaced the **fiber backbone** of the campus, which runs in conduits between the 47 campus buildings. The 17 miles of **single-mode and multi-mode fiber**, giving us room for expansion and flexibility of options, was a trustee gift to WPI. The old fiber, installed in 1988, had started to deteriorate and had become unreliable. This upgrade, plus the more recent wiring and wireless upgrades, has brought the campus up to **top-notch networking infrastructure**.
 - We have been working with the architects on the **Bartlett and Gateway Park developments** to provide the communications in the buildings and to integrate them into the **campus network**.

Research Computing and Academic Department Support

- We expanded the **backup and recovery plan** for the protection of **research data** on campus with the purchase of **additional storage** from EMC Corporation; bringing the total capacity up to 10 TB of secure storage. These storage arrays have also been used to provide additional protection to the major academic Departments by storing a live image of their most important data in a secure location.
- The **High Performance Computing** initiative has been very well received with the **2 Linux clusters** and the **SGI Altix**, purchased by the Math Department has seen very heavy usage. However, we experienced a set back with the loss of support personnel in this rapidly growing area and hope to be able to remedy this as soon as the financial environment permits.

- **Sun 64 bit Linux systems** were purchased to expand computational capabilities on campus and test possible future roadmaps in computing. Many **academic software applications** were consolidated in order to save resources as well as provide greater availability and a **Labview** site license was acquired.
- The **Access Grid videoconferencing facility** has seen greater and wider usage. Faculty and staff have participated in a number of **virtual conferences, seminars and meetings**. As the technology has improved many personal nodes have come online allowing faculty and staff to participate from any location on campus.
- The **power wall, a high resolution display wall** was reconfigured and will be a cornerstone of research support by displaying large data sets resulting from large scale scientific simulations.

George C. Gordon Library

Library Building

- Library renovation continues to be an urgent need. **President Berkey**, in his inaugural address in May, 2005 stated that library renovation would be included in the next **Capital Campaign**. Consultancies during the past several years, in particular Shepley, Bulfinch, Richardson and Abbot in 2000, have made valuable suggestions to reconfigure a 40 year old building to meet the current and future needs of students and faculty. Engineers working with the architects in 2000 reviewed and concluded that the roof, fire protection equipment, plumbing, HVAC, and electrical systems are well beyond their life expectancy and should be replaced.



- **Renovation of the lobby entrance** area was approved in 2005 for a two year funding cycle. Funds to complete a detailed plan for this renovation will be available in 2006 and the renovation will be funded in 2007. Currently the configuration of the entry level of the library, and the locations of the Circulation and Reference desks, reflect an outdated, inefficient service model. The identified goal is to create inviting spaces that work well for both users and staff. The vision produced last year is for a space which places all User Services staff in closer proximity to one another, behind a single, visible service desk and improves sight lines to activities on the floor.
- **Two new IT labs**, each with 50" plasma displays, and the ability to communicate media-rich information in the digital world. These labs were created from former group study rooms in collaboration with the Academic Technology Center. This gives the library a total of four such spaces which are designed for groups of six or less to work together on joint projects.

Grants - Gordon Library received two separate grants this past year

- The **WPI Archives & Special Collections** received a \$5,000 **Documentary Heritage Program (DHP)** grant from the **Massachusetts Historical Records Advisory Board (MHRAB)**. The grant will fund a survey of available archival records that document Worcester's printing industry history from the 1700s to 1900s. The survey will include the Archives' Woodbury & Company Collection, a collection of records of Worcester's premier commercial engraver. The results of the survey will be compiled into a comprehensive guide that will be published in print and electronically. The WPI Archives will host a public symposium to present the project's findings. The project will begin in September of 2005 and end in the fall of 2006. Heading the project will be the WPI Archivist & Curator of Special Collections, and the Assistant Archivist. An advisory committee will be organized consisting of representatives from the American Antiquarian Society, Worcester Public Library, Worcester Telegram & Gazette Library, the Archives of the College of the Holy Cross, and the WPI Humanities and Arts department.
- Gordon Library is the recipient of a **Massachusetts Board of Library Commissioners grant** to participate in a national standardized assessment survey called LibQual+. The LibQual+ tool was developed by the **Association of Research Libraries** and is used in approximately 250 academic libraries each year. The LibQual+ program is fostering a culture of excellence in library service, helping libraries better understand user perceptions of library service quality, providing libraries with comparable assessment information from peer institutions, and identifying best practices in library service. Reference Librarians, led by Pat Flanagan, Director of User Services and Assistant Librarian, will be responsible for administering the survey to the WPI community and for following up on the results.

Digital Collections

- The pilot program to submit and **archive students' IQPs and MQPs** had a successful first year. A total of 131 archived projects were submitted; 77 IQPs and 54 MQPs. These projects can be viewed at <http://www.wpi.edu/+eprojects>. Staff from the Library, Web Development Office, Computing & Communication Center, and Registrar's Office continues to be involved in developing revised procedures and mechanisms around the electronic submission to ensure a streamlined, effective process. Specific librarian concerns are that people searching for both the print projects, as well as the electronic are able to find either format as easily as possible and seamlessly request the print from the same one-stop-shopping solution. To this end, much work is being done to identify and evaluate the best software tool for our community to use.
- Library staffs are changing the balance of the **reference collection** to include a greater proportion of **electronic reference books** and other reference resources. Many reference e-books already exist within larger database packages. Ensuring that these titles are findable through the library catalog, plus the additional conversion of other reference titles to electronic format will permit a greater portion of this research material to be available anytime and anyplace. The project involves help from the Computing & Communications Center, in adapting an add-on search piece to the library catalog, specifically for reference collection items. This will help group reference sources, whether they are print, electronic, Web site, abstracting and indexing, or other reference type material.
- The **Woodbury digital collection** consists of the graphic archives of Woodbury & Co., one of the premier commercial stationery manufacturers in the United States. The library selected approximately 1,000 items to be captured digitally, including a series of large bird's-eye view drawings, photographs, letterhead stationery, and the company newsletter. Each of the 1,000 items were individually scanned and downloaded onto the library ENCompass server. A web portal was finalized this past year; the site can be accessed at <http://www.wpi.edu/+library/Archives/Woodbury>.
 - In Spring 2005, **WPI Archivist** Rodney Obien and Professors Jim Hanlan and Kent Ljunquist began editing for publication "Notes on the History of Woodbury and Company Incorporated", a company history by Harold S. Woodbury. The unpublished manuscript documents the history, from the 1880s to 1970s, of Worcester's premier commercial engraving company. The history is part of the Woodbury & Company Collection which was donated by the Woodbury family to the **WPI Archives** in 2002. Peter Lang Publishers has agreed to publish the history which will also include scholarly essays by Hanlan, Ljunquist, and Obien. The book is due out in the fall of 2006.



Library Instruction Services

- During the past year we have drafted a **Vision for Information Literacy at WPI** and incorporated ABET, revised NEASC and other standards. The vision states "the information literate WPI graduate is an efficient, effective user and producer of information." Goals include helping students gain awareness of the overall information space & sources; concepts & tools; formats and quality. We have begun to share this vision with key stakeholders, including various Commissions, faculty and Department Heads. Via partnerships with faculty, we hope to move from random inclusion of information literacy concepts to a more systematic approach built into the curriculum. This **faculty-library partnership** will help assure that graduates of WPI are efficient, effective users and producers of information. Over 2,000 students attended a wide variety of sessions this past year.



- The library subscribes to **100+ online databases**, many providing full text articles which are currently used by faculty for course readings. Many vendors do allow direct linking to full text from *myWPI* course sites. **Published faculty research** can also be linked for use by **WPI community** members with valid network accounts, so faculty professional pages of the WPI web site can be updated with direct links to subscribed content. **Library staff** training on **e-linked readings** occurred in January and a workshop was developed and offered to faculty.
- In recent months, the library has developed a **digital audio program** of MP3 content. Recently, this program has been expanded and coordinated under the name **Library Audio to Go**. The program includes use of library-owned iPod Shuffles with digital audio books and other content downloaded and checked out to users. The content has been expanded beyond a popular fiction collection to include more literature and non-fiction, NPR programming and journal content. In addition, library tours were developed in digital form and are loaded on devices for checkout. Most recently, a series of podcasts has been developed offering updates and tips on library collections, services and events. Information on the program can be found at: <http://www.wpi.edu/+library/Borrowing/eaudio.html>.
- Three librarians were chosen to participate on three separate **Presidential Commissions** – **Commission on the First Year Experience** and General Education, **Commission on the IQP** and Global Programs, and **Commission on Research and Graduate Education**. The focus of these Commissions has important areas of impact for the library and librarians have worked closely with members of the Commissions helping to include library goals and concerns into the discussions and assisting significantly in writing the reports which are currently being drafted.

Web Site Improvements

- Working in collaboration with departments throughout the university and the new Division of Marketing & Communications, the **Web Development Office** continues to improve the university's Web presence. Most noticeably, a **new homepage design** premiered in February 2005. Designed to direct first-time visitors to specific content geared toward them, the new design features more photography, subtle animations, and a new marketing message. The new look has been well received by external visitors, and efforts are underway to provide members of the community with better paths to the information they use on a daily basis via the *myWPI* portal.
- In addition to the homepage redesign, **several department sites** were **restructured** and **redesigned**, both for aesthetic and updating purposes. Sites include **Financial Aid, Center for Educational Development & Assessment, Mathematical Sciences, Venture Forum, the Office of the President, and Campus Police**. Major structural changes were made to accommodate the formation of the Division of Marketing & Communication, and more changes are underway the Division of University Advancement as things solidify in that area.
- New sites were constructed for specific events, such as the construction of the **Bartlett Center, President's Inauguration, Parents Weekend**, and several conferences.
- Thanks to a generous gift from a WPI alumnus, the **Web Development Office** implemented a new search tool, **Endeca ProFind**. The new search engine indexes the entire university site, as well as individual departments and areas for searching on those sites, this has greatly improved the search ability of the WPI Web site for all constituents. Future plans for this software include making use of its innovative "guided navigation" features, and adding a WPI-specific glossary to provide helpful information to searchers.

A complete list of academic department redesigns in progress is available at www.wpi.edu/+webpolicies/compliance.html. We are working to redesign the second level of the site to be more appealing to site visitors, while improving site navigation overall.

