



the university of texas at austin
School of Information

**IT Vision Plan
2008-2009**

**Prepared For:
Information Technology Advisory Committee**

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Summary of Requests

Infrastructure Projects	Estimated Cost
IT Staff Salaries	\$65,000
Student Computer Lab Life-cycle	\$20,000
Software Upgrades	\$12,500
Total Infrastructure	\$97,500
One-time Projects	
Webcasting Improvements	\$5,500
Plotter Printer	\$10,000
Colorimeter	\$7,000
Assistive Technology Workstation	\$3,000
Technology Workshop Developer	\$9,000
Total One-time	\$34,500
Innovative Support of Student Learning	
Second Life – iSchool Island	\$14,000
Multitouch Displays	\$12,000
Portable Network	\$12,000
Total Innovative Support	\$38,000
Total Vision Plan Request	\$170,000

Current IT Programs and Infrastructure

Vision/Mission/Goals

The School of Information seeks to engage those best and brightest people who thrive on challenges such as exploring and understanding the extraordinary complexity of information and to discover principles and processes that will manage its immense volume and tap its promise for enhancing our lives. The School of Information aims to making a difference in the lives of citizens by shaping information realities that are accessible, useful, usable and sustainable.

Our mission is to shape information realities for human and social benefit by:

- Discovering new and vital knowledge about information through research;

- Educating the next generation of information researchers, scholars and practitioners;
- Fostering leaders at the top echelons of national and local information organizations and agencies;
- Facilitating information literacy among the UT student community;
- Providing continuing education and expert advice on information issues through collaborative relationships.

IT Programs

Information Technology Lab

The Information Technology (IT) Lab serves as the general service computer lab for School of Information students. Staffed by School of Information graduate students, the IT Lab provides 32 PCs running Windows XP and 18 Apple computers running Mac OS X, as well as access to a variety of specialized software, network resources and hardware items (both for in-lab use and check out). Due to limited physical space at the School of Information, the IT Lab also serves as the primary space for student work, with access to information technology, reference works and other teaching tools. The staff provides one-on-one instruction for students, faculty and staff as well as short courses on many topics throughout the semester. As part of this teaching effort, the lab staff also produce a variety of instructional materials, ranging from pamphlet-style handouts to streaming video tutorials.

Digitization Classroom

Our digitization classroom in the Sánchez Building offers 29 switchable Mac/Windows stations for student use. An IMLS grant has made it possible to supply each of these stations with a variety of audio and video equipment (analog and digital) to support our expanding digitization curriculum. The instructor station, which also provides both Mac and PC platforms, includes a document camera, VCR, and DVD player, any of which can be projected in high resolution for instructional purposes.

Advanced Digitization Lab

The advanced digitization lab in the Perry-Castañeda Library (PCL) has six high-end Windows XP workstations. Each has a specialized sound card to interface with professional turntables, reel-to-reel decks, cassette decks, and other audio equipment in conjunction with specialized audio digitization software. The PCL lab also has video digitization and editing capabilities, including conversion equipment from VHS, SVHS, 8mm, and Umatic tape formats, as well as 16mm and 8mm film to digital conversion. A number of digitization courses meet in this lab, and students enrolled in those courses have access to the lab through a swipe-card lock during regular library hours.

Kilgarlin Center

The Kilgarlin Center for Preservation of the Cultural Record, housed in the Collections Deposit Library (CDL), is the nation's leading program in archives and preservation. The Center has two teaching labs dedicated to treatment of books, paper, and other delicate artifacts, each equipped

with a Mac OSX station, a flatbed scanner and a printer. In addition to standard IT equipment, the Center provides students access to specialized equipment supporting more advanced conservation and preservation techniques such as fiber analysis via polarizing microscopy or digitization of vinyl recordings assisted by microscopic analysis of the record's surface.

IT Infrastructure

Facilities

The iSchool is housed in approximately 10,000 square feet of the fourth and fifth floors of the Sánchez building and 6,000 square feet of the Collection Deposits Library, as well as limited space in PCL and FAC. In these four buildings we have five classrooms, one computer lab and two conservation labs that serve nearly 300 graduate students and approximately 700 undergraduate students. iSchool IT staff support computing and networking services for faculty and staff, including nearly 100 desktop and laptop computers (Macs and PCs). All classrooms, offices, and conference space in the iSchool have high-bandwidth wired network connectivity, as well as wireless capability. The classrooms and Dean's conference room include computers (Apple and PC), projectors, VCRs, sound systems, and document cameras.

Personnel

Four full-time and one part-time employees support a wide spectrum of iSchool IT services. This team includes the coordinator for IT / senior system administrator (network and server administrator); an instructional technology specialist (classroom and online course support, digitization); a computer operations specialist (faculty, staff and lab IT support); a system administrator (server administration and user support); and a part-time Web manager. Currently, resources from ITAC, as well as iSchool IT and Distance Education fees and classified budget lines fund these critical positions.

Servers

With the acquisition of a VMWare virtualization infrastructure (partly funded by previous ITAC allocations), the iSchool now supports numerous physical and virtual servers, primarily running versions of the Linux operating systems. Our two primary servers provide email, virus and spam filtering, both static and dynamic web publishing, MySQL database access, and numerous other applications of general use by students, faculty and staff. Other servers, many of which are now virtualized, provide more specific functions to the School, such as streaming media in various formats, LabMan lab management software, license provisioning, network-based intrusion detection and digital archivy. Moreover, virtualization has allowed us to quickly and easily deploy course-specific servers without having to acquire new hardware. INF 312, an online undergraduate course with roughly 200 students per semester, operates on a virtual server (cyberspace.ischool.utexas.edu) that provides web publishing space for students, a course management tool for instructors, as well as secure chat functionality for virtual office hours and discussion rooms during live webcasts.

Networking and Security

The Sánchez building, where the majority of the iSchool is housed, has a gigabit connection to Utnet via the College of Education. While not all of our computers are new enough to operate at such speeds, roughly 90% of the networking equipment within our local network at Sánchez supports gigabit speeds as well, with the rest providing 10/100 megabit connections. Network connections at the Collection Deposits Library and the Flawn Academic Center are supported by iSchool-owned network equipment that provides 10/100 megabit connectivity. All spaces are also covered by UT's wireless networking. In addition to software firewalls on all individual computers in the department, the School of Information continues to use bridging or "transparent" network firewalls to protect most workstations and servers from potentially dangerous network traffic. Finally, we employ several network-based intrusion detection systems that allow us to identify and analyze potential threats that make it past our firewalls and other defensive systems.

Current and Proposed Funding Sources

The School of Information gains IT funding primarily from two sources: the percentage of Flat Fee money that replaced our previous IT Fee and money from the ITAC funding process. These primary sources are supplemented by partial funding from other accounts, such as the School's Distance Education Fee (from web-based courses), state funds for portions of classified salary and special equipment, and the remaining portion of a three year IMLS Digitization grant, which ends this year. The School of Information has received initial agreement for a tuition increase, and while the exact increase amount depends on several factors, it is possible that the resulting increase in funding could go into effect in Fall 2008.

Best Practices

Since the last Vision Plan, the School of Information has implemented the following practices that may be of interest to other academic IT programs. IT Services staff (including full-time and student support staff) have:

- Extended the warranty on lab PCs from three years to four, allowing us to lengthen, our replacement life-cycle from 18 to 24 months. This longer life-cycle not only costs less in the long run, it simplifies budgeting so that we are purchasing lab PCs every other fiscal year, instead of two out of every three.
- Used the existing helpdesk / ticketing system to improve the workflow of IT-related purchases. The new workflow will decrease time from initial request to final purchase, ease reporting and accounting processes, and provide a single point of documentation for every step of a given purchase.
- Deployed and evaluated a wide array of open-source software packages that provide important functionality without licensing fees, including course management systems, secure instant messaging (IM), digital asset management, and online collaboration tools.
- Established and implemented a curriculum for teaching iSchool students technology-related skills needed for success at the school. These "boot camps" were a collaboration of student staff in our IT Lab and the local student chapter of the American Society for

Information Science & Technology (ASIS&T), and included instruction on iSchool and UT resources, common office applications, creating Web portfolios and addressing usability and accessibility.

USE OF PREVIOUS ACADEMIC YEAR ALLOCATIONS (2006-2007)

Infrastructure Projects Proposed

Infrastructure Projects	Estimated Cost
New IT Positions	\$29,650
VMware	\$50,000
Classroom Teaching Station Upgrades	\$33,500
Student computer lab life-cycle upgrade	\$20,250
Software upgrades	\$12,500
Total Proposed Infrastructure	\$145,900

Actual Infrastructure Allocation

The School of Information's actual infrastructure allocation from ITAC for fiscal year 2006-2007 was \$71,996. With this money, we were able to partially fund several new IT employees, bringing the total amount of ITAC infrastructure funding that goes toward staff salaries to roughly \$60,000. While this figure represents a significant portion of our annual infrastructure funding, we believe that our IT staff allows the School to maintain a high quality of service and drives innovative uses of technology. The majority of investment in the VMWare project was made in fiscal year 2005-2006, with roughly \$6,000 of \$10,000 carried over into the 2006-2007 fiscal year for software licensing of various VMWare products. The remaining money from infrastructure was spent on annual software/hardware support and maintenance renewals, leaving just over \$9,500 for the 2008-2009 fiscal year.

Proposed One-time Projects

One-time Projects	Estimated Cost
Living Textbook	\$20,000
Digital Video Library	\$42,500
Digitization in the Round: Teaching Theatre HD Video Conferencing	\$30,000
E-paper information architecture and usability project	\$9,000
Total Proposed One-time Projects	\$101,500

Actual One-time Allocation

The School of Information received \$28,501 from ITAC for one-time projects in fiscal year 2006-2007. Significant portions of the Digital Video Library and Digitization in the Round projects were funded from an existing IMLS digitization grant, and just under \$11,500 from ITAC was spent to provide audio digitization equipment as part of the cost-share for this grant. Results from phase one of our VMWare deployment strongly indicated a need to complete phase two of the project, and \$16,500 was spent to acquire a storage area network (SAN) device, allowing us to take full advantage of VMWare's capabilities. Less than \$1,000 remains for fiscal year 2008-2009.

NEEDS AND PROPOSED USE OF FUNDS

Infrastructure

IT Staff Salaries

As the School of Information continues to attract increasingly tech-savvy faculty and students, finding and retaining highly-skilled IT employees continues to be a critical need. While the School is searching for other sources of funding for salaries, some of which may become available in the next fiscal year, we cannot presume that significant portions of salaries will immediately be moved away from ITAC funds. **(\$65,000)**

Student Computer Lab Life-cycle

As mentioned in the Best Practices section, the iSchool has moved from an 18 month cycle for computer lab PCs to a 24 month cycle. Given this change, the next life-cycle purchase of PCs will occur in Summer 2009. Additional funding for this purpose comes from the IT portion of our Flat Fee. **(\$20,000)**

Software Upgrades

School of Information courses require both general use and domain-specific software, which drive ongoing licensing costs. **(\$12,500)**

One-time Projects

Webcasting improvements

As mentioned above, the School of Information provides the online, undergraduate course INF 312 Information in Cyberspace. In the course of a semester, instructors hold six to seven live webcasts streamed over both Real and Quicktime media, with content ranging from interviews with guest speakers to content review sessions prior to mid-term and final exams. Recently, these webcasts have evolved to include richer use of multiple video and audio sources, such as guided web "tours" and demonstrations of software, as well as feedback mechanisms such as polling and audience participation. In order to improve the quality of these webcasts and make webcasting a more attractive option to other courses, various equipment upgrades, primarily focusing on

audio/video acquisition, mixing, and output are required. **(\$5,500)**

Plotter printer

All masters candidates at the School of Information must complete a capstone project that serves to integrate professional education with other experiences. The culmination of this project involves a school-wide poster session. Additionally, other graduate courses, both within and outside the iSchool, regularly require the creation of similar works. Acquisition of a poster-size plotter lists highly among requested equipment by our students. **(\$10,000)**

Colorimeter

Accurate color measurement provides critical information to conservationists working on paper and other artifacts. A colorimeter provides these measurements, allowing insight into the effectiveness of a conservation treatment, such as washing paper, or monitoring rates of deterioration of organic materials by detecting darkening paper or fading colorants. With this tool at their disposal, students in our conservation program will be able to actively investigate important issues like the stability of modern media, such as digital prints. **(\$7,000)**

Assistive Technology Workstation

Assistive technologies ameliorate barriers to users' ability to carry out actions with a given information resource. Reducing these impediments is often a focus of School of Information curriculum and an important requirement for our school-run labs and shared information spaces. The iSchool proposes to assemble an Assistive Technology Workstation using an array of different assistive technologies, including screen readers, screen magnifiers, speech recognition software, and an assortment of modified hardware and peripherals so that students can keep pace with design changes in this area and learn how to use assistive technologies more effectively. **(\$3,000)**

Technology Workshop Developer

The School of Information's IT Lab offers a variety of educational services to students attending courses at the School of Information, as well as other students attending the University of Texas at Austin. One such service is the workshop series covering technology-related topics including the use of a Linux, Apache, MySQL and PHP (LAMP) framework, which was well attended and well received by students. In order to expand such offerings and create materials that would be available online, the School of Information would like to hire a graduate assistant for two long semesters. This student would work on further developing the curricula and finalizing materials to be made available through the iSchool Web site. The material would be shared using an educational Creative Commons license, so other departments could reuse the material and create their own works based on it. **(\$9,000)**

Innovative Support of Student Learning

Second Life - iSchool Island

Second Life (SL) is a 3-D virtual world in which its "residents" create, maintain and manage nearly every aspect of the environment, including buildings, vehicles, other usable items, and multimedia

content. Many universities have established some presence in SL, particularly among schools of information or library and information science. In fact, the iSchool offers an undergraduate course which makes significant use of SL. A number of our instructors, both at the graduate and undergraduate levels, have expressed interest in integrating the use of Second Life in their own courses, as appropriate. In fact, professor Lorienne Roy, current president of the American Library Association, presented a speech in SL in the summer of 2007. Given the increased interest and expertise currently available within our own ranks, now is the ideal opportunity for the School of Information to purchase and develop its own "island" in Second Life. While leasing of virtual space carries an annual fee, there are several organizations (including the New Media Consortium, of which UT Austin is a member) through which the iSchool could pre-pay for several years. In addition to the purchase of virtual real estate, the iSchool requests funds to hire a student for two long semesters who can assist with the initial set up of our space and provide training and advice to students and faculty interested in the educational opportunities that Second Life presents.

(\$14,000)

Multitouch Displays

Multitouch displays, unlike traditional touch-screen technology, allow users to interact with a computer display using more than one input. Current examples of multitouch displays include Apple's iPhone (which is limited to two inputs) and Microsoft's Surface product. Because these interfaces represent a significant change in the way people interact with computers, practitioners of such fields as user interface design, usability testing, and information architecture will need to adjust to a variety of first- and second-order effects brought on by this change. The technology required to produce multitouch devices is becoming increasingly affordable, and a number of groups have developed reasonably inexpensive techniques for building, rather than buying, these systems. The building of two multitouch displays would provide individual study or practical opportunities for several students, and the resulting systems would be available for use in our interface design and usability courses. **(\$12,000)**

Portable Network

Several of the classes taught through the School of Information directly address issues of network technologies like packet-switching, routing, addressing, network security and specific network protocols such as the IP or HTTP. Tools that are useful and legitimate in demonstrating these concepts, for instance network scanners, packet sniffers, and vulnerability scanners are inappropriate when used on a production network like UTNet. Nonetheless, the teaching of network technologies and the use of both network analysis and security tools are increasingly important to a student body seeking practical skills and knowledge applicable to lives and jobs in a highly networked society. In order to safely demonstrate such tools and concepts, the iSchool seeks to develop a "network in a bag" toolkit loosely based on systems utilized by Cisco for customer site demonstrations. Using VMWare to provide virtualization of servers and clients, a relatively complex and realistic network can be deployed using only two laptop computers and one small-office router or switch, thereby isolating all network traffic within the system, eliminating risk to any production network. **(\$12,000)**