

**The University of Texas Libraries**  
**Information Technology Vision Plan**  
**2008-2009**

**A. Summary of Requests**

We request funding for: 1) maintenance of essential components (desktop computers) of the PCL information technology infrastructure used by University students in the course of their research and studies, and 2) continued operation of the extremely popular laptop computer loan service utilized by students in PCL.

Desktop computers	\$111,200
Laptop computers	\$47,600
<u>Total Requested Amount</u>	\$158,800

**B. Overview of Current IT Programs, Budget, and Infrastructure**

The programs provided by the Libraries in support of students and faculty are best characterized as information services. The Libraries provides a broad array of electronic information services that directly support student learning. All of these services require ongoing resources from many different funding sources, as shown below.

**1. University of Texas Libraries Vision, Mission, and Goals**

**Vision**

The University of Texas Libraries is the preeminent public university library in the country, providing

- campus information resources (the raw materials of University research and learning) that sustain the intellectual environment required to be a preeminent research institution;
- an evolving technology environment with effective tools and services for the discovery and delivery of information to campus scholars and the citizenry alike;

- an inviting and comfortable space for individual or group study and learning, equipped with appropriate infrastructure;
- the University community with skills to master information strategies appropriate to the classroom, laboratory, and lifelong learning;
- staff expertise that strengthens state and national collaborations focused on improving the preservation and dissemination of scholarship and creative works; and
- a talented and diverse staff that fully embraces University values.

## **Mission**

The University of Texas Libraries collects, organizes, preserves, and provides access to recorded knowledge and human creativity in support of the teaching and research mission of the University.

## **Goals**

ITAC funding has been critical to the Libraries success in achieving goals for the use of information technology in support of UT's mission. Those information technology related goals are:

Ensure intellectual and physical access to all collections in campus libraries.

Advance current information literacy program to develop user competencies in information seeking and critical inquiry, emphasizing point-of-need instruction in online environments as appropriate to various academic disciplines and departmental cultures.

Develop and maintain a robust digital infrastructure capable of providing multi-channel access to our electronic information at the point-of-need, supported by adequate staff and resources.

Implement a new suite of digital services that addresses evolving user behavior, improves users' access and control of their digital environments, leverages the Libraries investment in content and existing infrastructure, provides compatibility with campus systems and can adapt to new and evolving digital environments.

## **2. Current IT Programs**

### **Commercial Web-based Resources**

Our licensed electronic information includes approximately 490 online databases and 30,000 electronic journals. We subscribe to these resources remotely and our students access them over the web on the computers in our libraries and on their own computers through wired and wireless networks. Users off-campus use our proxy servers so that they can access these information resources in their apartments and homes—in truth, wherever they can connect to the web with their laptops—just as if they were in a library.

In addition, we serve, host, or link to many other electronic resources including electronic books, electronic theses and dissertations, music, art, data sets and several other resources. Indeed, one of our goals is to purchase information in electronic format in preference to paper and other traditional formats. It is necessary to have usable web pages, servers, networks, and other pieces of infrastructure so that students can best avail themselves of these resources. Spending millions of dollars on electronic resources but not providing adequate infrastructure to the UT community to use those resources would be a vast waste of resources. ITAC funds help support this effort for students.

### **Desktop Computer Hardware/Software**

The Libraries provides over 1,000 devices in support of student research and instruction through its thirteen branches including Electronic Information Centers in the Perry-Castañeda Library and the science libraries. Through these computers and networks the Libraries provides access to its owned and licensed electronic resources as well as to the open web so students can review their finances at UT, register for classes, handle other administrative chores, or just check email, read the news, or surf the web.

### **Laptop Checkout**

With a valid UT ID students may check out laptops from Perry-Castañeda Library and the Fine Arts Library.

### **Ethernet Connections**

Ethernet laptop connections are available in the Perry-Castañeda Library and the Engineering Library.

### **Wireless Access**

UTNet wireless access is available to students, faculty, and staff throughout the Chemistry Library, Classics Library, Engineering Library, Fine Arts Library, Physics Mathematics Astronomy Library, Public Affairs Library and the Tarlton Law Library; and in selected areas of

the Architecture and Planning Library, Collections Deposit Library, Fine Arts Library, Geology Library, Life Science Library, Perry-Castañeda Library, and the Harry Ransom Center.

### **Ask a Librarian**

Online help is provided through the Libraries website and provides a virtual help desk for students doing research. "Ask a Librarian" not only provides a way for students to connect with librarians through email, chat, or telephone, but also offers an FAQ and a way to make an appointment with a subject specialist for more advanced, face-to-face research assistance.

### **Electronic Reserves**

Our electronic reserves program provides students with materials faculty members place on reserve for their classes. Again, providing reserves electronically enables students to use the materials when and where they wish without having to wait in line, without having to check them out, and without having to return them in two hours or face fines. And, unlike traditional reserves, multiple students can use one resource simultaneously. The program handles rights management issues, interacts with Blackboard, and enables faculty to basically make their course materials available online over the web with its attendant benefits for students.

### **Training and Instruction**

The Libraries provides 149 computers in seven training rooms for hands-on instruction in the use of online resources. Classes taught are most often offered in conjunction with students' assignments in their academic classes. Online tutorials are available as well so that students can take advantage of instruction sessions at the time and place of need. And UT Libraries works with faculty and TAs to integrate learning modules and information resources (including electronic reserves) into Blackboard portals for classes, securely password protected for members of the class.

### **3. Infrastructure**

The human and technology resources required to support the digital library have grown with the increase in the use of electronic, web-based resources and services by our students and faculty. We have found that while there is still demand for our printed materials there is an ever-increasing demand for information that can be delivered to the student or faculty member anytime, anywhere.

The technology platform outlined below is redundant and failsafe and can recover from hardware failure without downtime or reduced availability of systems. Following is an outline of the resources required to deliver digital library services:

### **Production Web Servers**

- 16 Sun Microsystems CPUs running Solaris w/ 64 GB of memory
- Apache web server
- EZ Proxy server (for remote access to licensed resources; EID required)
- Helix streaming media server (for audio and video delivered over the web)
- Sun One application server
- SFX open url server
- Metalib federated search server

### **Production Library Management Servers**

- 16 Sun CPUs running Solaris w/ 64 GB of memory
- 2 TB of online storage

### **Production Database Servers**

- 4 Sun Microsystems CPUs running Solaris w/ 8 GB memory
- 12 Windows servers for application hosting
- MySQL DB server
- Z39.50 DB server
- LDAP Directory Server

### **Production Search Servers**

- 2 Sun Microsystems CPUs running Solaris
- Verity K2 Enterprise Server search engine

### **Network Attached Storage**

- 20 Terabytes of online storage; backed up, secure, highly available

### **Tape Backup/Archiving Library**

- Backup system located in main campus data center
- This system enables us to move very large files to tape for long-term archival preservation
- Tapes are tested and the content migrated to new tape at regular intervals
- Independent of proprietary software

### **Development Servers**

These servers are the staging area for work that is copied into production

- 6 Sun Microsystems CPUs running Solaris w/ 3 GB memory
- Apache web server
- Helix streaming media server
- Sun One application server

### **Digitization Center**

We produce digital image/text/audio/video from original files. We scan rare and fragile materials (such as the Gutenberg Bible).

- I2S Digibook bound-book scanner
- Epson 1640XL large format flatbed scanner
- Xerox Digipath duplexing document scanner
- Contex Chroma TX wide format scanner
- Nikon coolscan 4/5/9000 slide/transparencies scanner
- Kodak DCS Pro 14N digital camera

## **4. Current and Proposed Funding Sources for IT Programs and Infrastructure**

Primary sources of funding for library information technology initiatives are the UT Libraries budget, UT System funds (LERR and UT System Digital Library programs), and other funds (UTOPIA funds, grants and contracts, and other miscellaneous funds). The UT Libraries regular budgets and various revolving funds (including library fines, lost book charges, and printer revenue) fund electronic information resources.

Virtually all equipment (desktop, servers, and connectivity) is funded by one-time capital funds that are requested annually. The Libraries are in the process of building a sustainable funding mechanism to provide consistent life cycle funding for information technology infrastructure, at least at the desktop level. There is no sustainable budget for replacement of servers and other high-cost equipment and networking. Following is a summary of local expenditures in support of Libraries IT infrastructure (excluding the millions of dollars the Libraries pays for the electronic information itself).

### Budgeted Funding for Digital Initiatives, 2007-2008

Funding Sources	Salaries	Fringe <sup>1</sup>	MO&E	Total
UT Libraries Budget	\$2,026,120		\$516,851	\$2,542,971
ITAC Funds			\$101,871	\$101,871
UT System Funds			\$300,000	\$300,000
TDL Funds	\$211,370	\$48,745	\$283,484	\$543,600
Total				\$3,488,442

#### C. Use of 2007-2008 Academic Year ITAC Allocations

##### Network Upgrades: \$101,871.

In 2007-2008, we received funding to upgrade and expand the core PCL network in order to maintain our current infrastructure capability at a level commensurate with the growing load on the system.

With last year's funds we upgraded and expanded the core network in PCL, our largest and most heavily used facility. Working with ITS, we identified, purchased and replaced critical network hardware in order to maintain our current capability at a level commensurate with the growing load on the system. This included replacing a major building switch and numerous smaller switches.

All of the ITAC funds were spent to support information services for students.

#### D. Needs and Proposed Use of Funds, 2008-2009

Thanks in part to past ITAC funding, our efforts to develop and maintain a robust infrastructure for delivering digital information to students via web-based resources has reached a sufficient level of maturity for the Libraries to move those costs to base funding.

Our current needs are directly related to successfully leveraging this investment to meet the changing needs of our students as they adopt and adapt to emerging technologies. As online resources increase and expand (both content and services such as email and instant messaging based reference assistance), we observe that students are heavily dependent on library-based access to these resources. Increasingly, they are using portable technology, especially laptop computers, to access these resources and to collaborate with each other. Students working individually and in groups throughout the library expect to access web-based resources without leaving their work space or breaking away from their study group. Similarly, if they need to communicate with librarians, through such services as Ask a Librarian, with faculty, or with

colleagues in another location, students expect to be able to do these things from portable devices. With the increased study space and connectivity provided through the renovation of PCL 2.500, there has been a marked increase in the number of students using electronic resources and working collaboratively in that space.

Consequently, our first priority for ITAC funding is maintaining access to library resources through the existing desktop computers in PCL. Overall, the Libraries maintains 680 desktop computers that are used by students for a full range of library and productivity applications and need to be fully capable and reliable. The machines in PCL are especially heavily used, often with long waiting queues. These machines are on a four year replacement cycle with about 170 of these machines scheduled for replacement in the 2008-2009 fiscal year. We request \$111,200 in funding to support the costs of replacing the most dated of these desktop machines and maintaining this critical component of the information technology infrastructure so heavily used by students.

Our second priority for ITAC funding is the replacement and extension of the aging laptop inventory in PCL in order to continue providing flexible, portable access to Libraries resources and services for students. The current laptop inventory in PCL routinely circulates at 100% capacity, and the Libraries often receives student comments requesting additional capacity. Since PCL is the most heavily used library building on campus, and has emerged as one of the primary research and study spaces on campus, it is important that we upgrade and extend the laptop computer inventory available to students to meet current expectations for modern, flexible technology. Without continuing ITAC support, the Libraries will have to consider ending this very popular service, given the wear on the current laptop inventory. We request \$47,600 in funding to support the acquisition of laptop computers to extend the availability of portable computer technology for student use in PCL.

The total request for 2008-2009 is \$158,800.