Review of

COLLEGES' AND SCHOOLS' 2000-2001 VISION PLANS FOR INFORMATION TECHNOLOGY

Prepared by
Academic Computing and Instructional Technology Services
The University of Texas at Austin
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EXECUTIVE SUMMARY

The vision plans prepared annually by each college or school on campus provide information essential to both short and long-term planning for information technology for The University. The vision plans describe changes in information technology and how these changes affect every school, college, and department on campus; they also offer proposals to fund projects to accommodate the information technology needs of the students and faculty.

Many projects span multiple years and can have an impact on college annual operating budgets. The colleges and school have proposed projects whose costs total more than fifteen million dollars.

The college vision plans are available on line at:

http://www.utexas.edu/computer/itac/

SUMMARY OF COLLEGE VISION PLANS 2000-2001

Academic Computing and Instructional Technology Services

Executive Summary

Academic Computing and Instructional Technology Services (ACITS) provides information technology services to University students, faculty, and staff. In keeping with the mission of The University, ACITS shares the responsibility of providing campus-wide information technology services with Administrative Computing Services and the General Libraries. ACITS' mission is to support The University's academic and research programs by providing an information-technology-based environment, technological capabilities, and able staff who can assist students, faculty, and staff in their learning, teaching, research, and outreach activities. ACITS has three major divisions: Academic Computing, Instructional Technologies, and Telecommunication and Network Services. This service model aligns services with the needs of students, faculty, and staff. The ACITS' vision plan described here includes projects from each of these three major divisions.

ACITS receives an annual recurring allocation that provides funding for a portion of the costs to operate the Student Microcomputer Facility and the Center for Instructional Technologies (CIT), and to provide some support for the Help Desk and Training Services. That allocation for 1999-2000 is $1,496,274. Of this total, $846,274 will be allocated to the operation of the SMF, supporting the Help Desk and Training Services, $360,000 will be used to pay the last installment on the three-year loan from UT System to replace all the SMF computers (summer 1997), and $290,000 for support of the CIT. For the 2000-2001 academic year, ACITS requests an increment to this recurring funding to accommodate increased minimum pay and fringe benefits for SMF proctors and professional staff ($39,800), increased costs for salaries and fringe benefits for the CIT ($30,000), expansion of Help Desk services by adding weekend hours ($60,000), implementation of a student computer user survey ($20,000), and implementation of an electronic thesis/dissertation project ($42,460). The total additional recurrent funds requested are $192,260.

For 1999-2000, ACITS also received a one-time allocation of $652,070. For the new vision plan, ACITS has identified one-time projects totaling $2,904,708 for implementation over the next three years. These special projects, if funded and implemented, will provide significant enhancements to the campus network, the campus cable system, and the University Mail Box Service and will provide seed money for some investigative efforts in ATM-based technology and Internet multicast technology. We need to begin a new three-year life cycle for the SMF ($835,000) by 9/1/2000. Funding is also requested for other major projects: the Campus Web infrastructure, directory and authentication services, integrated messaging and office services, database support, investigations involving e-commerce, enterprise backup and enterprise management, upgrading an upgrade of Web Central. CIT enhancements include: upgrading the CIT lab with new equipment and a new physical layout, a courseware production studio, and matching funds for the FAS-TEX program.

This report covers the following items:

- Vision, goals, and progress (Section 2.0)
- Facilities and services (Section 3.0)
- Project with recurrent costs (Section 4.0)
- Projects with one-time costs (Section 5.0)
- Technology funding of ACITS (Section 6.0)

In addition, three Appendices are included:
· summary of ACITS funding (all accounts)
· IT Infrastructure at UT-Austin
· CITS facilities, services, and staffing

Reviewer Comments

The Academic Computing and Instructional Technology Services Vision Plan, 2000-2001, is a clearly articulated information technology plan for UT Austin, with specific deliverables and recurring expenditures identified. Additional projects are described, with cost estimates.

The priority areas of concentration for the next five years indicate the challenges ahead. A sea change has occurred in the expectations of current and incoming students as well as faculty members. Ubiquitous and rock-solid information technology infrastructure and services are expected anytime, anywhere. This is the fundamental base upon which the success of technology enhanced learning, research programs, eUniversity initiatives, and digital libraries rests. We can do no less than meet this expectation.

I fully endorse this ACITS Vision Plan, 2000-2001. It is a prudent proposal, carefully prepared with an understanding of the fiscal reality facing the campus. It must be acknowledged, however, that this is a modest proposal indeed. For this campus to fully achieve the goals identified by President Faulkner, w must be prepared to do much more.

The School of Architecture

Executive Summary

School Overall Goals:

Our continuing goal is to provide our students with practical and challenging training in the use of information technology that reflects the state-of-the-art architecture and planning practice and establishes a foundation for their practice in the future. This goal is being achieved. Our challenge has become the maintenance of high standard and quality in the effort.

Academic Instructional Goals:

The current Ethernet network is based on old technology that is increasingly insufficient. A network upgrade is proposed that will carry the School into the next decade.

The Digital Image Collection project is continuing. The goal of the project is to complete the cataloging and creation of a digital archive containing a sizable portion of the 200,000 images in the School's 35mm slide library in the Audio Visual Resource Collection by the year 2002.

Reviewer Comments

2001-2002 are in line with their mission and goals and with the request from prior years.

Their plans to upgrade the network, to buy equipment for their design studios and teaching facilities, as well as pay for personnel to work on the digital archiving project are consistent with their efforts to enhance the teaching and learning environments within the college. The equipment used for the digital archiving project is obtained from the pool of equipment resources within the college.

Equipment in the design studios and teaching facilities upgraded cyclically. "The general approach to the upgrade of equipment uses a “trickle-down” system where “top line” facilities such as the Technical Communications studio receive some new replacement equipment every year. The equipment displaced by these new acquisitions is then reused by relocating it in “lower line” facilities. Funds for new equipment are requested for the new equipment for the "top line" facilities only.

It is clear that Architecture has taken a careful review of the their needs and made a conservative and realistic requests for ITAC funds to realize their goals.

The College of Graduate School of Business

Executive Summary

This vision plan establishes the strategic goals for information technology improvements for the College and Graduate School of Business for academic year 2000/2001 and beyond. In view of recent history, the change in computer technologies has been so rapid that strategy extending more than a year is certain to be obsolete before it can be brought to fruition. The anticipated technical operational framework over the next few years can be envisioned and serves as a planning tool.

As a statement of policy, we will adopt the most relevant business -related hardware and software technology for the business school as soon as it is commercially available. We will accomplish this through strategic alignments with out corporate information technology partners and judicious use of ITAC fees, the business school's information technology fees, course fees, multimedia fees, state allocated funds, grants, and donations from industry and government.

Our present program to convert our college LAN to 100MB switched Ethernet and to rapidly deploy high performance Windows 2000 Enterprise Servers will position the business school very favorably for the coming migration to high bandwidth networking. Conversion of the college to 100 MB switched Ethernet will be completed in 2000/2001 as rewiring of faculty/staff offices and classrooms in CBA are completed. Rapid deployment of Windows 2000 will also allow us to lay a leading role in the soon to be implemented "smart card" authorization scheme to provide one-stop authentication for all campus technology services.

Review 1

Aside from the technology classrooms, the vision plan seems insular. There is no mention of distance learning, collaborative computing, extended learning, or community outreach.
The vision plan shows an emphasis on a single computing architecture. While on the desktop a single platform predominates in the business community, handheld computers and wireless networks are technologies that can be anticipated to have an impact in the near future.

· Projects of significant importance to student computing and worthy of special consideration

The Millennium Lab, reading room, and technology enhanced classrooms should have a significant impact on student computing

· Opportunities for leverage w/other campus units

The classrooms are used by units outside the CoB. Improving their technology capabilities will benefit the delivery of multimedia and networked services for lecturers, student organizations and others. The improvements to these classrooms could be leveraged by the CIT and other groups working with distance learning.

The Terminal Server is a technology that ACITS and other campus units are exploring. Issues of campus-wide utilization of this technology and its scalability should be investigated. The laptop initiative has allowed individuals and units outside the Cob to purchase well-tested, consistently configured computers at a reasonable cost. The work done by the Cob in developing "smart card" authentication could serve as a foundation for development of the technology for the rest of the University.

· Impact on campus infrastructure (staff, network, computing resources, etc.)

Windows 2000 Active Directory will have an impact on UTnet. What that impact will be remains to be seen. The network upgrades have the potential to affect UTnet by increasing the volume of data both originating in the Cob and destined for it.

· Significant trend features, if any (move away from or toward certain uses, changes in platforms of software, acquisition of unique computing capabilities, etc.);

Mention is made of "strategic alliances with corporate information technology partners." These alliances have the potential to constrain the University, locking us into technologies beyond the initial salutary inducement. Life-cycle planning is a trend that should be encouraged throughout the system. The Cob continues to pioneer the deployment of network access in common areas. The surveillance system proposed is a somewhat Orwellian trend.

Review 2

· Projects of significant importance to student computing and worthy of special consideration:
- The groundwork, infrastructure planning and I/T staff training which has been pioneered by the COB in support of Windows 2000 deployment needs to be acknowledged and leveraged for the benefit of the entire campus. The Active Directory structure needs to be embraced and nurtured throughout campus as the predominant and overarching strategy which will permit campus-wide accounts to be established for academic, administrative and research constituents.
- Closely related to this is the progressive deployment of Microsoft Exchange services to enhance collaborative activities throughout the college. Although other efforts emerged on campus, I am not sure we are effectively harvesting the knowledge and experiences gained by the pioneering efforts within the COB to optimally engineer and deploy these services.
- [In these situations (W2K, ADS and Exchange), resources should have been contributed to their efforts in the form of personnel, equipment and other resources to act as a catalyst for evolving these services to other campus constituents. The next frontiers of the COB should be closely observed in order to enhance rapid deployment opportunities throughout campus.]
- Honorable mentions: Early investigations into Smartcard technology by the COB have certainly contributed to the formation and investigations of the "credential task force" which strives to unify and transcend the historically disjoint efforts in this arena. Early training on the capabilities of MS-FrontPage also offered wide scale web-publishing capabilities to the non-technical personnel.

· Opportunities for leverage w/other campus units: (items 1.1 and 1.2 are also relevant here)
- Engineering and Business already have joined forces with respect to their laptop initiatives and ACITS needs to determine a strategy for adding value to these offerings and expanding the program to benefit the entire campus without inordinately increasing the price. Initial efforts via the Campus Store have been of limited impact/benefit.
- The multimedia services offered to classes by the COB are unmatched (to my knowledge) across campus and fortunately Joerg Becker is already engaged the campus Technology Classroom Committee to lend expertise.

· Impact on campus infrastructure (staff, network, computing resources, etc.):
- Staffing: The COB is setting the standard in this area by developing adequate manpower within the College; providing progressive training; attempting to compensate staff as best as possible; and providing staff with suitable office, work and meeting space.
- Networking: The COB networking concerns are somewhat self-contained since they largely reside within a single, huge structure, compared to many other campus challenges, which may be widely distributed among various buildings. But, the response is nominally the same, - a Cisco switching infrastructure currently capable of 100 MB.
- Computing Resources: The COB model seems to be largely self-contained, from desktop through servers and all related support. I'm curious, what resources are provided to the COB and at what cost and if the ROI for Level of Service (LoS) and Quality of Service (QoS) is optimal in both directions? Are there economies of scale that can be realized or does accountability/responsiveness falter?

· Significant trend features, if any (move away from or toward certain uses, changes in platforms of software, acquisition of unique computing capabilities, etc.): (This is largely redundant, but I'll just list them for clarity)
- Intel platforms, Windows 2000 OS within ADS, Outlook/Exchange based email, switched 100 MB Cisco Networking, Common Operating Environment software images
- Refresh lab hardware every 2 to 3 years with reallocation to student organizations, faculty and staff

- Data warehousing for instruction, data mining, research and multimedia.
- Technology deployment into "community" areas (such as the Technology Enhanced Reading Room)
- College Help Desk providing comprehensive services to College to include maintenance and hot-spares.
- Public surveillance video security for labs and common areas
- Further deployment of Windows Terminal Server support

· Noteworthy items
- The I/T themes of the COB seem to be very consistent and synergistic and I think I have integrated comments relative to this category throughout this document, so after the round of applause dies down for all the wonderful things the COB is doing right, I'm curious about a few notable omissions, so these are nominally inquiries:
- Distributed Learning efforts seem to be unmentioned.
- I am interested in how printing is handled with the academic labs, I assume it is a continuing resource challenge.
- Where is wireless computing on the horizon, especially regarding the laptops? Will Palmtops be integrated?
- What Enterprise Systems Management Strategies are actually being employed and what are future aspirations?
- I/T support of Administrative and Research efforts aren't really addressed within the Vision Plan, is there another mechanism?

College of Communication

Executive Summary

The College of Communication seeks to ensure that what we teach and how we teach is relevant and competitive in a fluid and changing technological environment. To do this, the College has established several technology goals:

· Achieve digital literacy with faculty, staff and students.
· Deploy instructional technologies to improve students' experiences and to optimize the time and capabilities of faculty and staff.
· Give students experience and skills with state-of-practice technologies.
· Understand and define the requirements for new communication technologies.
· Collaborate with non-academics to benchmark/test new communication technologies.
· Help set the national research agenda for communication technologies.

Across the fields of communication represented in the College's departments, several important intellectual, research and production frontiers have begun to take shape:

· Optimizing linear and nonlinear content and communications for a converged media environment in which the audience can control how and when they access what is offered.
· Collaborating and exchanging digital information among people working and playing together in an anytime, anywhere environment.
· Applying the science and technology of human communication to develop protocols, device requirements and content to improve human communication and the technologies that support it.

Fast moving technology trends in information storage, retrieval and dissemination require that the College of Communication provide its faculty and students with a digital infrastructure for instruction and research. It requires timely upgrades of hardware and software for faculty, staff and students. Space constraints in the College are intense, and technology resources that mitigate space constraints must be a priority. Existing resources in the Communication Computer Center (C3 Lab) and the Instructional Media Center must be maintained; development of The Digital Archive must be continued; and three new initiatives are foreseen: The Collaboratory, the Networked Media Lab, and Research TV.

The College seeks $365,000 from ITAC for FY00-01 – $165,000 for continued management and maintenance of the C3Lab, $185,000 for the next phase of development for the Digital Archive, $30,000 for Wireless Collaboratory, and $10,000 for ResearchTV. The capabilities enabled by these resources will help the College meet the fundamental levels of technology required in the academic fields comprised by the College's departments and required for graduates of the College of Communication. The availability of these capabilities will also provide vehicles for interdisciplinary collaboration at UT and internationally. Thirty faculty members in the College are currently pursuing course-related curriculum developments that require these new capabilities; and half of these have also defined research projects that

We anticipate that wireless technologies will become important to the College's programs. Two initiatives are target for early exploration. The instructional and research activities of the Collaboratory require computer-mediated communication from distant locations. A wireless LAN for the laptop PCs in the Collaboratory will allow assessment of wireless technologies, as well as experimentation in distant communications. Additionally, experimental use of wireless LANs in classrooms would enable evaluation of wireless alternatives to hard wiring the many UT buildings in which Communication courses are taught and to which faculty members currently have to transport multimedia equipment.

In addition, the College plans FY99-00 expenditures of approximately $850,000 from the Communication Learning Equipment Fee (CLEF) funds for technologies supporting specific College course needs. CLEF funds will be allocated in FY00-01 on the basis of departmental requests (spring 00) and college-wide resource planning (spring00.) Through faculty and student interaction with hardware and software vendors – and resulting definition of requirements for new communication technologies – supplementary equipment gift and grant requests will be integrated into appeals made as a part of the Capital Campaign.

Reviewer Comments

The goals of the College of Communications vision plan are to assure that their graduates are well prepared to use current as well as future generations of digital technologies and for the college to be a national leader in research in communications technologies. The plan proposes to build upon and accelerate the progress they have made during recent years in providing updated technologies. A strength of the plan is the recognition that, coupled with the infusion of technology, they also need to reflect on what and how they teach in the context of a fluid and changing technological environment.

The plan requests $365,000 from ITAC for FY00-01. This includes a requested allocation of $165,000 to provide continuing support for the C3Lab (available to all UT students after 5:00 PM) and $185,000 for the next phase of the Digital Archive project. In addition, the plan requests $40,00 for two new projects including $30,000 for the Wireless Collaboratory, and $10,000 for ResearchTV. Four of the five projects are clearly of significant importance to student computing and are worthy of funding. The Cl3 Lab is an important resource for CoC as well as for other UT students that may access this facility after 5:00 PM. The expansion of the Digital Archive may also have significant benefits beyond CoC in providing access to digital materials. The archive may provide opportunities for collaboration with the UT Library in the indexing, storage and retrieval of digital video, images, and other resources. The move of the College toward high bandwidth networks to support high quality video is important and may also have implications for bandwidth needs of the University infrastructure.

The proposed wireless enhancement to the Collaboratory appears important and useful to the College and may yield useful information to other colleges also considering wireless facilities. More information would be helpful, however, related to the request for funding for the ResearchTV project ($10,000). The project description notes that the funding is for hardware to support the project but does not indicate the type of hardware requested. Based on other statements in the project description, it appears that the requested hardware may be used to support video production.

Overall, the proposed projects are consistent with the vision of the College and will help it achieve it's stated goals of enabling their students to be well-prepared to use current as well as future generations of technology.

Project: C3 Lab
The operation and maintenance of this lab is clearly a valuable resource for the College, and a laudable enterprise. I note that the lab is restricted to the College's students Monday through Friday from eight to five. I suggest that the percentage of time that the lab is open to all students be evaluated relative to the lab's proportionate funding from University-wide resources.

Project: The Digital Archive and Networked Multimedia Lab
This is a very attractive project in that it furthers several campus-wide initiatives related to the dissemination of digital material to students, faculty, staff, and the community. Furthermore, the project makes good use of existing College resources.

Project: The Wireless Collaboratory
The College's distance learning facility is already one of the best on campus, and using the facility to study the use of wireless LANs is an excellent idea.

Project: Research TV
Although it was not stated explicitly that the ITAC funds requested for this project are to cover production costs

expendables, staff and faculty time, and associated expenses related to program production. The potential audience for Research TV is very large; the funding requested is minimal. This project deserves support.

College of Education

Executive Summary

The College of Education enters the new millennium having realized significant progress toward the goal of integrating computing and telecommunication technologies into all phases of its teaching, research, and service functions. The College envisions that all components of the undergraduate and graduate student preparation programs, including field experiences, academic courses, and research activities, will utilize the latest computing technologies to enable collaboration between faculty and students, thereby maximizing educational benefits, professional preparation, and research quality.

The 2000-2001 version of the College of Education Technology Vision Plan builds on the progress achieved in prior-year plans, and sets forth new goals. Projects proposed for 2000-2001 include additional technology-enhanced classrooms, continued expansion and staff support for the CoE Preservice Technology Integration Program (providing student teachers with special training and laptop computers), support staff for faculty who are working to integrate technology into their curriculum plans, wireless networking hardware for the CoE Model Technology Classroom, and portable videoconferencing equipment to be used during student teaching activities at Austin ISD Professional Development Schools.

Previous CoE Technology Vision Plans have been notably successful in addressing the mission and technology goals of the College. New initiatives have greatly increased the extent to which technology is involved in the activities of the students, faculty, and staff of the College. Long-term funding has been allocated to sustain the staff support for most of these initiatives. Maintenance and upgrades, however, are essential to the continued usefulness of all information technology systems. Equally essential are the development of new projects that address needs which were not evident in previous years. In order to continue the progress that has already been made, the College must balance the upkeep of established facilities with the creation of new ones that address perceived needs, provide competent staffing for all facilities, and improve the technical competence and awareness of the faculty, thus enabling them to integrate modern instructional technology into a diverse curriculum.

This document updates the continual, substantial progress the College has achieved during FY1998-1999, and outlines future directions and necessary resources, projects, and staffing. The budget requested for 2000-2001 is **$695,900**.

Review 1

· Projects of significant importance to student computing and worthy of special consideration.

- Multimedia Research and Development Lab ($206,000)
- Faculty Technology Integration/Web-based Course Support ($160,000)
- Preservice Technology Integration Program ($119,275)
- Student Field Experience Research Computing ($45,000)
- CoE Technology Classrooms ($43,000)
- Model Technology Classroom Computing - wireless ($41,725)
- Videoconferencing from Professional Development Sites ($12,000)

· Opportunities for leverage with other campus units.

- CoE Technology Classrooms, Videoconferencing from Professional Development Sites, and the Multimedia Research and Development Lab are goals shared by other colleges. Coordinating these efforts along with input from CIT could streamline design and development.
- CIT could assist and advise with Faculty Technology Integration/Web-based Course Support.
- Other colleges have rolled out large laptop programs and could advise on maintaining the 79 proposed new laptops.

· Impact on campus infrastructure (staff, network, computing resources, etc.).

- A new multi media lab (Multimedia Research and Development Lab) could have impact on network traffic and hardware compatibility issues. ACITS Networking Services could advise.
- Model Technology Classroom Computing will use the AirPort technology. Scalability and even security issues might arise. ACITS Networking Services could advise as they are actively researching wireless technology.

· Significant trend features, if any (move away from or toward certain uses, changes in platforms of software, acquisition of unique computing capabilities, etc.).

- Continued development of Distance Education facilities and technologies.
- Mobile computing/conferencing. There are some proposals for iBooks (45) and others for Powerbooks (34). Consideration might be given toward finding a single laptop model which could satisfy all needs. This would help in supporting and maintaining systems as well build in flexibility. iBooks are difficult to expand and therefore will have a shorter life-cycle than a full Powerbook.
- Faculty Technology Integration/Web-based Course Support will benefit Student Portal project.

Review 2

· Projects of significant importance to student computing and worthy of special consideration: (in priority order)
- Preservice Technology Integration Program ($119,275)
- Improvements to Digital Video Editing System ($14,000)
- Assistive and Instructional Technology Field Experience Applications ($18,500)
- Advanced Applications Laboratory Video Camera System ($24,000)
- Multimedia Research and Development Lab ($206,000)
- Videoconferencing from Professional Development Sites ($12,000)
- Model Technology Classroom Computing - wireless ($41,725)
- Faculty Technology Integration/Web-based Course Support ($160,000)
- Student Field Experience Research Computing ($45,000)
- Student Field Experience Feedback on Teaching ($12,400)

· Opportunities for leverage w/other campus units:
- Technology Classrooms (perhaps reduced prices could be negotiated if others "retrofitting classrooms" joined in the effort.)
- Faculty Technology Integration/Web-based Course Support (develop models for integrating Web-based course support and share with GSLIS and other distance learning programs such as Pharmacy, Engineering)
- Advanced Applications Laboratory Video Camera System (hopefully, this classroom would be available for use by others offering interactive Video-teleconferencing classes.)

· Impact on campus infrastructure (staff, network, computing resources, etc.):
I didn't note anything that would significantly impact the campus network and computing resources. Obviously, each new project will have an impact on CoE staffing to install and support new technology configurations as well as track the "loan" of computing hardware.

· Significant trend features, if any (move away from or toward certain uses, changes in platforms of software, acquisition of unique computing capabilities, etc.):
The CoE continues to be stalwart Macintosh users. While I am a devoted Mac user myself, I wonder how their facilities reflect technology now going into Schools around the state.

· Noteworthy items
Despite the lack of designated funding for technology classroom enhancements, CoE as have other Colleges has forged onward to retrofit select classrooms to facilitate a "technology-friendly and technology-convenient" environment for teaching.

This seems to be a balanced proposal benefiting targeted groups (special ed, kinesiology) as well as broader (distance education, tech classrooms). Despite the lack of designated funding for technology classroom enhancements, CoE as have other Colleges has forged onward to retrofit select classrooms to facilitate a "technology-friendly and technology-convenient" environment for teaching.

College of Engineering

Executive Summary

A matured vision and experience with distributed learning initiatives are the focal point and impetus for this year's College of Engineering Vision Plan for Information Technology. The insight generated by acknowledging the roles of Information Technology (I/T) to enable Life Long Learning through conventional academic curriculum, continuing education, and K-14 outreach have been invaluable in working toward developing an infrastructure that also aptly supports research and administrative operations and facilitates corporate relationships.

Empirical understanding of the role of I/T in each of these venues is helping us to determine an optimal future and to align progress toward these goals purposefully with a Total Cost of Ownership (TCO) mindset. The Laptops for Learning Initiative, a voluntary laptop computer purchase program promoted through the College of Engineering, is but one of the tactics used to implement the spectrum of I/T computing solutions which range from enabling distance education to providing a robust set of application, instructional, web and file services.

Recent I/T efforts such as the campus license for National Instruments LabVIEW, multi-college AutoCAD license, UT System Microsoft licensing agreement, the Multimedia Enhancement Task Force (METF), Y2K readiness and the Network Master Plan committee are greatly appreciated as they tangibly contribute to and align with College priorities. University service organizations such as the Center for Instructional Technologies (CIT) contribute needed guidance, collaboration, and training in support of faculty teaching in partnership with the College of Engineering's Instructional Media Lab (IML). Documents such as the "Information Technology and the Future of the University" prepared for the SACS accreditation provide far-reaching and insightful perspective for internal strategic planning. Groundbreaking forums, such as the Technology Dean's Working Group, have acted as a catalyst to identify key issues and forge I/T futures. These collective efforts provide an invaluable virtual infrastructure that sustains the front-line I/T efforts pursued from within the Engineering College.

The College of Engineering Vision Plan for Information Technology reflects, in the attached table, the priority projects desired for funding as a result of internal strategic planning and alignment with the University vision. The individual entries relate total budget requests and relevance to the overall mission along with numerous fundamental campus issues that should be addressed through collective efforts to fully implement the UT vision recommendations. As available, College funding will be committed to fulfilling the depicted projects. Alternate funding sources will be aggressively pursued to supplement the fee-based revenue and further progress toward achieving the identified goals. Any funding which ITAC could provide toward this objective will be greatly appreciated, and it is hoped that at least the top priorities will be adequately funded.

Review 1

The plan is comprehensive and well written. It addresses all areas of IT operations in Engineering including academic, research, and administrative functions. It was particularly encouraging to read that Engineering plans innovation in the areas of wireless networking and VoIP, two areas that could provide significant benefit to the college's students, faculty, and staff given the spatial diversity of its departments and imperatives for operating efficiencies. The general emphasis on employing technology in the instructional process, whether through technology enhanced learning, LRC support, or various asynchronous learning projects seems both appropriate and well considered.

In several places, the plan broaches a subject of strategic importance to Engineering whose overall status merits greater discussion: Engineering support for operation/maintenance of its IT infrastructure. Clearly, this infrastructure is strategically important to the college and it is becoming increasingly richer and more complex. Quotes from the plan such as:

> *The current feast/famine/scrounge network sustenance process;*
> *The ad hoc and reactive heritage of I/T acquisitions has reflected a best-efforts mentality by the individual units and has inadvertently created a managed chaos environment whereby even seemingly trivial tasks may be complex and inordinately expensive from a labor requirement perspective;*
> *Too often they may hobble together networks, operating systems, and applications for which there is little or no campus knowledge-base, then their overworked staff get better offers from industry and leave.*

Imply that the operation/maintenance of this infrastructure is potentially at risk. Therefore, it might be useful if this situation and plans to improve it were considered in greater detail within the plan. In particular, an analysis of the situation within the various departments of the CoE might be helpful is assessing where resources could be most effectively employed.

Review 2

The College of Engineering 1999-2000 Vision Plan emphasizes the need for a Distributed Learning environment. The academic projects given highest priority are the establishment of three new Distributed Learning classrooms and the refurbishment of an existing facility. Specifications for the new classrooms are not given but reference the Distributed Learning report's recommendations for auditoria. I have not see this report and do not know what components are included but the cost of $250,000 per installation appears high. More specific information or a link to the cited report would aid in analysis of these projects. Other projects in the academic area include increasing deployment of Multimedia Teaching Podiums and a courseware server.

If implemented these projects will further push bandwidth requirements. The report details both the immediate

network is upgraded and maintained.

Opportunities for leverage with ACITS units exist in several of the listed projects. The function and mission of the Faculty Innovation in Instruction (FIIC) matches that of the CIT. The need for IT training is listed under Administrative projects. ACITS' training services, the TSC program, and the CIT all have potential involvement in this area. Calendaring, email and collaboration tool requirements are also emphasized and relate to the portal project. The ongoing Laptops for Learning Initiative ties into the large scale technology acquisition efforts underway within ACITS.

Other trends and objectives in this vision plan include a shift to managed systems, life cycle planning and total cost of ownership models.

The General Libraries

Executive Summary

The General Libraries long-term goals for information technology are:

· Pursue a vigorous program of teaching essential information skills required for success in the electronic environment to the entire UT Austin community.
· Establish the information and computing technology infrastructure critical to support UT Austin digital library services.
· Enhance UT Library Online with significant electronic information resources and services for UT scholars.
· Promote resource sharing and continue collaborative programs at the national, regional, state, and campus level in support of distance information-based services.

In support of the first goal, a vigorous program of teaching essential information skills, and to better serve the needs of University students, the General Libraries proposes a project to replace the Perry-Castañeda Library Electronic Information Center (PCL EIC) user workstations, proctor stations, and servers with equipment comparable to that found in the similar facilities on campus and create a hands-on training facility as an integral part of the facility. The proposed project budget is $122,000.

Review 1

With the growing demand for performance that the Internet and new operating systems like Windows 2000 and Windows Millennium place on computers, budgeting and buying for future growth is essential. The cost per unit for the 40 user workstations is affected by several factors. Funding, initial performance demands/expectations and life cycle. Without a life cycle methodology, it is prudent to invest in a slightly higher performance workstation to adequately prepare for the useful life of these workstations. An increase of at least $300.00 per unit would be the added insurance against this future demand.

40 user workstations	$ 80,000
Server, Cabling, technical infrastructure	$ 46,000
Projector and other training equipment	$ 7,000
Total	$133,000

Review 2

The four goals are all important and the major initiative is essential to the UT campus.

The emphases on digital format and online access are critical to maintaining the services needed to obtain synergy from units in Austin, UT System entities, and community visibility and outreach. The staffing component is critical to optimization of hardware and software resources.

I strongly recommend funding for the Perry-Castañeda Library Electronic Information Center Enhancement. It is and will continue to be an important resource for on-campus availability of digital resources.

The UT Austin Library Online Digital Library, the UT System Digital Library, and the TexShare Technical Information initiatives are also important. A sustainable funding mechanism to provide consistent life-cycle funding for information technology infrastructure needs to be identified. The need for these services will only grow in the future. Without adequate digital library infrastructure, UT will fall farther behind peer institutions.

The Graduate School of Library and Information Sciences

Executive Summary

The FY 2000-2001 Information Technology Vision Plan builds on previous IT projects, as well as begins new innovations in instruction and information services. The projects aim to prepare students to experience and to meet the challenges of the information age in the 2000's. The seven projects proposed here can be grouped into three general areas -- all in line with the School's goals and objectives. These areas and the projects within the areas include:

· Infrastructure
- Telephone and Web-based Help Desk/Assets Management System ($81,000)
- Hard drive upgrade to Sun UltraSPARC's supporting Internet services ($15,000)

· Instruction
- Information Technology Boot Camp ($45,000)
- Linux box enhancement of multimedia classroom ($60,000)
- Web-based new course development ($62,000)

· Digitization
- Digital Library Production Lab for Preservation of Multimedia Materials ($129,660)
- High-Volume Digitization of Textual Materials ($48,926)

Reviewer Comments

General observation

The document is concise and coherent, and was a pleasure to read. I'd appreciate a statement in the Executive Summary pointing up whatever continuity exists between past activities and expenditures (Sections II and III) and the proposed projects (Section IV).

Specific issues in Section IV, C: "Proposed Projects"

Information Technology Boot Camp – A common perception is that most undergraduates and an increasing proportion of high school graduates already have basic computing and Internet skills. To strengthen the case for funding the Boot Camp, the author may wish to indicate specific areas where the need for remediation has actually been observed, and/or indicate that competent students will be exempt, and/or indicate LIS-specific knowledge imparted at the Boot Camp which can't be gotten elsewhere. Small point: the second bullet should read "identification of…" rather than "identifying.."

Linux Boxes Enhancement – GSLIS should consider adopting rigid procedures (see http://www.sans.org/) for hardening the security of all GSLIS Linux systems to avoid the chaos and mayhem that arises when systems are hacked and used as staging areas for attacks elsewhere. Then prominently advertise such intentions in the description of this project and request supporting funds if that makes sense. This may well increase the project's credibility in the eyes of those who commit ITAC funds.

Web-based Core Classes – The author may want to indicate that there will be coordination with the UT Webmaster as well as due observance of the State of Texas Standards Review and Recommendation Publication: World Wide Web Design Standards and Coding Guidelines (http://www.state.tx.us/Standards/srrpub11.htm). This should lend additional credibility to the project and will also demonstrate prudent use of existing related resources and expertise.

Telephone and Web-based Help Desk/Assets Management System – The author should stress that this project is not just an internal service to GSLIS, but also embodies a critical area of instruction in any LIS program. Mainstream helpdesk services (e.g. ACITS, local corporate call centers, etc) might benefit from this project if GSLIS makes project reports, system evaluation, operational stats and anecdotes, etc., publicly available. Mention of any/all of these points in the project description may strengthen the case for funding the project.

Upgrade to Sun UltraSPARC Workstations – The author should indicate which, if any, of the other projects this upgrade will support.

Digital Library Production Lab – This is a super project and indeed the new campus network (100Mbps from the departments to a Gigabit core) may well support the transport of audio and video content. However, bandwidth to the broader Internet is actually a relatively scarce and ***very expensive*** commodity. Some notion of piloting or gradual 'phase in' should be introduced into this project and included in the project description. This may enhance the project's 'achievability' in the eyes of at least some of the ITAC members.

College of Liberal Arts

Executive Summary

The 2000-2001 Vision Plan for the College of Liberal Arts is distinguished by having the broadest participation ever from across the College; over twenty units responded to calls for unit level Vision Plans and requests for ITF funded projects. This level of participation reflects a universal understanding of the essential role of technology in every facet – teaching, research, and administration -- of university life and the need to plan carefully for its effective use.

To attract this impressive range of participation the College has committed and will continue to commit significant resources to key information technology infrastructure. This past year witnessed the addition of an exciting component to this infrastructure – Liberal Arts Instructional Technology Services (http://www.lamc.utexas.edu/), under the direction of Joe TenBarge – that has already proven a catalyst for a significant broadening of interest among faculty in the classroom use of digital media. Instructional Technology Services (ITS) is staffed to provide comprehensive design and technical support for faculty seeking to provide their students with a technology enhanced learning environment. Among the exciting projects completed this year is a comprehensive online French grammar "text" (http://www2.lamc.utexas.edu/frgr/).

This year also marked the inaugural classes taught in the Technology, Literacy, and Culture (TLC) concentration, which is described as follows (http://www.tlc.utexas.edu/): "TLC is an interdisciplinary concentration in Technology, Literacy, and Culture. Digital information technologies are rapidly transforming traditional ways of working, learning, and living. Just as the invention of writing transformed ancient cultures, digital communication will transform ours. TLC will prepare you for the challenges and possibilities posed by these dynamic technologies. TLC applies the modes of inquiry and intellectual practices of the liberal arts to help you become a creative and effective citizen of this emerging digital world."

The College is looking to refine and expand the TLC concentration in the years to come as Liberal Arts graduates earn their rightful place in today's technology and knowledge-based economy. The Vision Plans submitted by the myriad units in Liberal Arts are broad in their scope but do suggest a number of themes. The most obvious is the trend toward digital libraries -- the maintenance of digital material for server-based retrieval by faulty and students. The College is exploring the feasibility and desirability of centralizing the database management of these unit-level initiatives. Infrastructure for such central support does not yet exist within the College.

A second trend to be found in the Vision Plans is the demand for broader staff support for unit-level IT initiatives. This trend appears to be a function of grander and more mature proposals that do not lend themselves to the "design-and-forget" nature of one-time projects. That have typically populated past vision plans. This worthy trend poses a significant financial challenge for the College but, given its manifest value, is not one that will be ignored.

Review 1

The College of Liberal Arts continues its strong influence toward incorporating technology into the instructional process. Twenty-two departments or organizational units have submitted plans totaling almost 2 million dollars in request funds. These requests range from $243,810 for the Division of Rhetoric and Composition to expand the Computer Writing and Research Lab's hardware, software and personnel to $16,450 for the Department of Government to upgrade the department's Web site. The second largest request is $150,000 for the college's Instructional Technology Services support facility for development of instructional technology materials.

Across the college, strong focus is directed toward greatly increasing the number of Web-based course deliveries and digital libraries. Concomitant to this will be increased networking, storage and streaming media capabilities, which in turn will require additional support systems and personnel. Specific reference is made to the need for sufficient bandwidth to the dorms.

The College of Liberal Arts is a leader in recognizing, soliciting and supporting information technology initiatives that are "…grander and more mature proposals that do not lend themselves to the 'design-and-forget' nature of one-time projects…." The question is will the infrastructure of the college—and the University—be present to handle them?

The introduction to the vision is quite to the point, broad ranging usage of Web-based instruction. The plan reveals heavy requirements in Internet and network requirements to provide a wide range of interactive content to students. To backup the rapid move to web based coursework and teaching materials, requirements to centralize the some of the basic services required across the college are in order. The services most noticeable are high-speed networks as well as file and web services used in support of the instructors teaching and class materials. These systems will require trained

Other service requirements appear to be in consultation, training, and development services in the web space. Many of the instructors may not have all the technical knowledge necessary to fulfill their goals without some additional support from trained systems, web and multimedia developers. In order to move these projects forward a basic support infrastructure for those services needs to be established within the college as a primary objective.

In summary, in order for the college to make more data available to the students the requirements will be more network, more disk space, more skills, and more support.

Review 2

The introduction to the vision is quite to the point, broad ranging usage of web-based instruction. The plan reveals heavy requirements in Internet and network requirements to provide a wide range of interactive content to students. To backup the rapid move to web based coursework and teaching materials, requirements to centralize the some of the basic services required across the college are in order. The services most noticeable are high-speed networks as well as file and web services used in support of the instructors teaching and class materials. These systems will require trained administrators and analysts to maintain proper operational characteristics. Other service requirements appear to be in consultation, training, and development services in the web space. Many of the instructors may not have all the technical knowledge necessary to fulfill their goals without some additional support from trained systems, web and multimedia developers. In order to move these projects forward a basic support infrastructure for those services needs to be established within the college as a primary objective.

In summary, in order for the college to make more data available to the students the requirements will be more network, more disk space, more skills, and more support.

The LBJ School of Public Affairs

Executive Summary

The Lyndon B. Johnson School of Public Affairs is a graduate component of The University of Texas at Austin. The mission of the School is to prepare graduates to shape and manage the public's business. From its inception, the LBJ School has offered an academically progressive program aimed at raising the level of preparedness for careers in government by integrating public policy theory and practice. As the student body has grown, the School has expanded the program options. Master's-level program options now include a regular master of public affairs program (full-time and part-time); a mid-career program; and eight joint degree programs with other departments and professional schools (the School of Law, Graduate School of Business, College of Engineering, Institute of Latin American Studies, Center for Middle Eastern Studies, Center for Asian Studies, Center for Russian, East European, and Eurasian Studies, and College of Communication). The School offers a Ph.D. program that provides interdisciplinary, doctoral-level training in policy research, analysis, and practice.

Our goal is to convert the School from a successful, highly respected school into a "national leader with an international reach." The School currently is establishing the Center for Ethical Leadership and the Southwest Center for Philanthropy, Volunteerism and Nonprofit Management. These two centers will strengthen curriculum offerings and professional opportunities in leadership and nonprofit management, benefiting current students and fostering continuous lifetime learning for LBJ School alumni.

Along with the rest of The University, the School is facing a future where external forces are constricting available funding at the same time as the demand for information technology resources is increasing. This situation demands innovation both for exploiting our current information technology resources and for identifying better methods for planning, acquiring and managing those resources.

Reviewer Comments

· Projects of significant importance to student computing and worthy of special consideration

Project 1 (upgrade existing 10baseT Ethernet network to 10/100 switched Ethernet network) will allow the School to take advantage of upgraded network service to the building and improve student and faculty computer connectivity. Project 2 includes numerous improvements in technology classroom resources (continuing upgrades to a media room, mobile computer carts, a classroom, and student microcomputer lab).

Project 3 (establish a technology classroom) is intended to create a 25-workstation facility for training students, staff, faculty, and alumni on the use of equipment, software, and the Internet. The proposal for this project does not

their Student MicroLab for technology training, but no specific needs assessment data are provided. In the absence of such data, and given the School's limited resources, this reviewer wonders whether the School might be able to meet its additional needs through use of existing or planned centralized campus training facilities (including the training classrooms proposed for the new OHR building).

· Opportunities for leverage with other campus units

Perhaps a new videoconferencing facility within the LBJ School might be made available to other campus units. The proposed technology classroom space project is described as "cross-departmental," and said to benefit students, faculty, and staff from units on the East Campus.

· Impact on campus infrastructure (staff, network, computing resources, etc.)

The LBJ School IT Committee and/or the LBJ School Computation Center staff should consult with ACITS regarding the videoconferencing capability plan as well as the proposed addition of a technology classroom.

· Significant trends

The LBJ School plan notes increased demand for use of computers in classrooms, for use of videoconferencing, and for technology training.

· Noteworthy

The LBJ School's Information Technology Committee involves faculty, staff, and students in technology decisions and planning, and presents an informative plan with clear priorities. It is to be commended for recognizing the need for long-term planning, including life-cycle funding.

School of Law

Executive Summary

The School of Law aims to incorporate the appropriate information technologies into its teaching and research missions by pursuing the following long-term goals:

- Improve student access to computing resources.
- Develop and deploy local online resources in support of the School of Law's instructional programs and student services.
- Provide the computing infrastructure to take advantage of new information technologies.
- Provide instructional support in the effective use of information technology by students, faculty, and staff.
- Enhance access to information resources available in and through the Jamail Center for Legal Research.

Fulfillment of these goals will be advanced through the following proposed projects:

- Establish the Center for Technology, Teaching, and Learning.
- Upgrade the Computer Learning Center network's data transmission rate from 10BASE-T to 100BASE-T.
- Extend the installation of public Ethernet ports for laptop use.
- Upgrade projection facilities in the Computer Learning Center.
- Improve the computing resources available in the student-edited law review offices.

The proposed budget for these projects totals $200,910.

Reviewer Comments

· Projects of significant importance to student computing and worthy of special consideration

The 1999-2000 ITAC Vision Plan (the Plan) essentially proposes two things: 1) Development of local online resources that support the School of Law's teaching and research missions, and 2) Improving student access to those resources. The School wishes to increase its online resources and it wants to have the bandwidth available for students to access those resources. Special consideration should therefore be directed toward funding for the Center for Technology, Teaching and Learning (the Center), as well as those components of the Plan that involve expansion

continuing the School's evolution toward a 100mb switched network.

· Opportunities for leverage w/ other campus units

The proposed Center can certainly leverage its resources, both in terms of staffing issues and technical expertise, by working together with the Center for Instruction Technologies (CIT). No mention is made in the Plan of staffing costs, and one would assume that, given the stated mission of the Center and the growing pervasiveness of multimedia being used in classrooms, more than one FTE will be required to make the Center a success. Working together with the CIT could help mitigate issues pertaining to staff availability, as well as technical expertise. The staff of the CIT have been assisting faculty with the task of putting course materials online for some years, and the Center could greatly benefit from those years of experience.

Additionally, the Center could certainly leverage its resources with those already in existence within the School of Law itself. For example, Media Services will soon have a state of the art AVID digital video editing system. It should be possible for the Center to work with Media Services to accomplish many of the Center's stated goals using Media Services' equipment and expertise. Additionally, Continuing Legal Education (CLE) has also made a successful foray into offering streaming audio and video over the web for its course offerings. The opportunity exists here for a very productive symbiotic relationship to take place between the Center, Media Services, and CLE. Beyond that, the Computer Information Center (CIC) is already providing network, application, and operating system support for the School of Law. The CIC should continue to expand its role in providing state of the art network resources for these specialized, multimedia-oriented efforts within Townes and Jones Halls.

· Impact on campus infrastructure (staff, network, computing resources, etc.)

- Public ports -- The Network Operations Center (NOC), will most assuredly be involved in implementation of DHCP/VLAN -related issues stemming from availability of public ports.
- The Center -- Staffing issues may or may not be an issue. More information is required.
- Significant trend features, if any (move away from or toward certain uses, changes in platforms of software, acquisition of unique computing capabilities, etc.)

These have been mentioned above, but to summarize:

- Continued expansion of the use of multimedia and online resources in the classroom
- Public port access (access outside the classroom), as well as wired classrooms
- Continued movement toward a 100mb switched network environment. The NOC has stated that this is all they will recommend and support in the future; so, this is keeping with their stated intentions for evolution of UTnet.

· Noteworthy items

With regard to Item #5 in the Plan (*Upgrade hardware in student-edited law review offices*) -- Much has been done toward this end, already. But many machines remain to be upgraded, and, there is certainly a demand for more machines, overall, for some of the student journals. It should be noted, however, that the Plan does not include costing for additional ports for additional systems, and those costs (approx. $150/each) should also be factored in to the expense of Item #5. The CIC can provide an estimate of the number of new ports that would be required if the proposed 35 systems were to be purchased.

College of Natural Sciences

Executive Summary

The College of Natural Sciences is dedicated to using information technology to enrich the educational experience both of our majors and of the thousands of students throughout the university who take our courses.

We believe information technology should impact our students in the lecture halls, in our science labs, and in their dorm rooms. To this end, we must provide state-of-the-art networks,
instructional computer labs, powerful server machines, and technology rich classrooms and laboratories. We must have a professional staff to support and maintain these facilities, and we must be constantly upgrading our hardware and software to keep it current. And, most importantly, w must give our faculty the support they need to revise and enhance their courses to take advantage of information technology.

Review 1

Projects of significant importance to student computing and worthy of special consideration:

The request of $300,000 for "replacement of Aging Computers in Our Instructional Labs" should be given careful consideration. In particular, current multimedia oriented software runs much more efficiently on newer, faster, more powerful machines. Funding this component also has the added benefit of providing computers to secondary labs, and instructors or lecturers for teaching support in the College of Natural Sciences (CNS).

Although it is not specifically itemized in the Special Purpose Computers request in the Vision Plan, an important portion of the request ($60,000) is to replace aging network equipment in 4 buildings, which should also be given careful consideration. Networking plays a vital role in the usefulness of technology rich classrooms and labs. CNS has switched 100Mbps ports throughout the College in its Vision Plan to realize the full potential of newer computers with the added benefit of additional security.

The proposal for a "Distance Education Facility" ($200,000) should receive consideration. This facility will provide the opportunity for the Dept. of Marine Sciences to expand its distance education course offering but will also permit other departments to realistically consider the option of offering courses at a distance.

The request for portable multimedia equipment ($50,000) to be checked out by faculty in classrooms is of direct benefit to students and faculty and adds functionality to more classrooms at a minimal cost.

While there is some question as to how the money will be allocated, consideration should be given to funding the "Faculty Curriculum Development Projects" ($250,000) as well. Many materials, typically difficult to distribute to CNS students by other means, lend themselves to distribution over the Web or by utilizing multimedia (e.g., High-resolution X-ray Computed Tomography by the Dept. of Geology).

· Opportunities for leverage with other campus units.

The Center for Instructional Technologies (CIT) may be able to assist departments within the College in putting course materials online. CIT staff, working in conjunction with faculty and staff at the College of Natural Sciences (CNS), could utilize WebCT to develop course websites. Given that Academic Computing currently pays $3,000 for an unlimited license for WebCT use University-wide, cost for developing websites for CNS courses could be reduced significantly.

The Vision Plan notes that each department "maintains its own servers for web, files, and email access." It may be that some consolidation of these departmental-based servers could effectively reduce hardware and personnel costs. The campus-wide student portal project may be able to incorporate some of the email services currently maintained by departments between students and faculty.

Due to the high cost per seat involved in technology rich auditoriums and distance education classrooms, there may be some opportunity for sharing costs for such facilities university wide in strategic locations. CNS is a clearly a leader in technology rich auditoriums. They have equipped general use classrooms and have plans to do more in the next 5 years.

· Impact on campus infrastructure (staff, network, computing resources, etc.)

Campus infrastructure is most likely to be affected by the proposal for a "Distance Education Facility." Wiring and networking concerns relative to delivering instruction at a distance will have to be fully considered by the Telecommunications and the Networking Services division of ACITS.
CNS has increased the staff support to maintain the level of expertise required for the proposals.

· Significant trend features

The "Distance Education Facility" proposal coupled with the "Faculty Curriculum Development Projects" are significant trend features of the CNS Vision Plan. The College clearly recognizes the importance of using information technology for both teaching and learning. Funding both of these components should give the College an opportunity to both deliver quality education at a distance and potentially provide local students access to a richer selection of online and multimedia-based resources. CNS clearly focuses on a technology rich experience for all students taking their courses.

Review 2

Three components of the College of Natural Sciences plan are *worthy of special consideration*. First, it is essential that the request of $300,000 for "replacement of Aging Computers in Our Instructional Labs" be given careful consideration. In particular, current multimedia oriented software runs much more efficiently on newer, faster, more powerful machines. Funding this component also has the added benefit of providing computers to secondary labs, and instructors or lecturers for teaching support. Second, although there is some question as to how the money

($250,000) as well. Many materials, typically difficult to distribute to College of Natural Sciences students by other means, lend themselves to distribution over the Web or by utilizing multimedia (e.g., High-resolution X-ray Computed Tomography by the Dept. of Geology). Third, the proposal for a "Distance Education Facility" should receive special consideration. This facility will provide the opportunity for the Dept. of Marine Sciences to expand its distance education course offering, but will also permit other departments to realistically consider the option of offering courses at a distance.

There are two obvious *possibilities for leveraging with other campus units*. First, it is possible that the Center for Instructional Technologies may be able to assist departments within the College in putting course materials online. CIT staff, working in conjunction with faculty and staff at the College of Natural Sciences (CNS), could utilize WebCT to develop course websites. Given that Academic Computing currently pays $3,000 for an unlimited license for WebCT use University-wide, cost for developing websites for CNS courses could be reduced significantly. Second, it is noted in the Vision Plan that each department "maintains its own servers for web, files, and email access." It may be that some consolidation of these departmental-based servers could effectively reduce hardware and personnel costs.

Campus infrastructure is most likely to be affected by the proposal for a "Distance Education Facility." Wiring concerns relative to delivering instruction at a distance will have to be fully considered by the Telecommunications & Networking Services division of ACITS.

The "Distance Education Facility" proposal coupled with the "Faculty Curriculum Development Projects" make up the *significant trend features* of the CNS Vision Plan. The College clearly recognizes the importance of using information technology for both teaching and learning. Funding both of these components should give the College an opportunity to both deliver quality education at a distance and potentially provide local students access to a richer selection of online and multimedia-based resources.

School of Nursing

Executive Summary

The focus of the School's instructional technology goals and objectives is to encourage and facilitate the competent use of technology in faculty and students' professional and scholarly tasks, preparing them to teach and practice nursing in the future healthcare system. Primary among our objectives is to provide state-of-the-science technology for faculty and student, to improve the teaching and learning activities through the innovative use of technology, and to assist faculty and student to see technology as yet another tool to improve nursing practice, teaching, and research.

The School has made steady progress in meeting our information technology objectives. For example, approximately half of the faculty and all students have ready access to computers with adequate power. This is not where we want to be, but the situation is improving over the years. Although power at their desk is often less than desired, faculty do have access to talented staff with state-of the-science equipment to help them create and produce instructional materials. New resources such as catechism (VR instructional tool) and Nightingale Tracker (Community Health student/faculty communication and charting system) have been acquired for use with students.

These projects were identified for the next academic year: 1) network augmentation, 2) large classroom audiovisual control system redesign, and 3) bedside charting simulation upgrade.

Project #1: Network Augmentation Project
The vision, mission, and goals of the School of Nursing focus on providing users resources and support to become full-fledged members of the electronic community. Fundamental to achieving these goals is providing faculty, staff, and students with a dependable, up-to-date infrastructure. Project #1 includes equipment and software needed to complete next stage of upgrades.

This project will serve the entire School: students, faculty, and staff. Instructional activities as well as administrative functions will benefit from a secure, efficient network

Upgrading the School's infrastructure with the needed components will cost approximately $12,600.

Project #2: Large classroom audiovisual control system redesign.
The audiovisual control systems in the large, tiered classrooms and the multipurpose room are at present collections of hardware, software, and electronics of various vintages. In addition to being difficult if not impossible to service the system, the system presents users with multiple problems: 1) complex controls, 2) poor control of lighting, 3) feed back, and 4) safety hazards due to poor storage of cables. The limitations of these classrooms do not facilitate faculty and

We wish to undertake a major redesign of these classrooms. $209,100.00 is needed to upgrade the sound and audiovisual control system of these six teaching spaces.

Project #3: Bedside Charting Simulation Upgrade

The charting systems in the Simulation Lab are in need of upgrade. The original system, BedCom®, was installed in the early 90's. This system was connected by modem to a training module in Grand Prairie, TX. As the software was upgraded we moved to an independent system that was served by a 486 to six bedside terminals in two of our three individual simulation classrooms. This system has served our purposes over the decade. Now, the BedCom® system is in grave need of upgrading.

The third simulation laboratory is equipped with Meditec® charting system. Over the last academic year, South Austin Hospital has changed the method by which they wish us to access the training module. We will no longer access the system by an ISDN line; instead, we will use phone lines and modems. New equipment is necessary in order to continue to have this charting system available for students.

Total costs for updating and/or changing to the necessary equipment is $16,987.00

Review 1

The SON's Vision Plan emphasizes integrating appropriate technology into their ongoing teaching and research with a special emphasis on providing state-of-the-art technology, using technology to improve teaching and learning, and making sure faculty and students can use technology for practice, teaching and research. The SON has made significant strides in developing their infrastructure (e.g., networking) and employing instructional technology (e.g., catechism—a VR instructional tool and Nightingale Tracker-- Community Health student/faculty communication and charting system). The SON continues to face challenges in ensuring faculty have appropriate hardware to accomplish the SON's ambitious goals for faculty integration of technology in instruction and research.

· Significant student computing projects

All three projects will benefit SON students' education. The Network Augmentation project ($12,600) provides an important step in further upgrading the SON's network infrastructure. The Bedside Charting Simulation Upgrade project ($16,987) is necessary to keep pace with one of the School's key training partners. Both build on recent, similar successful efforts from prior ITAC funded projects.

The Large Classroom Audiovisual Control System Redesign project ($209,100) is a larger, more ambitious project that will provide students with more technology-enhanced learning opportunities. This project involves the redesign of five similar technology classrooms and one larger multipurpose room. I agree with the other reviewer this project will benefit from a single bulk purchase to provide uniform equipment, and that these classrooms will be useful outside of normal teaching operations (e.g., UT Extension could benefit significantly).

The SON received $23,740 in the previous ITAC funding cycle to upgrade the SON multipurpose room which is one of the six rooms to be upgraded as part of the Large Classroom Audiovisual Control System Redesign project. Based on a conversation with Dr. Betty Skaggs, the upgrade for this room is currently on hold due to the potential structural changes needed to make it useful (e.g., dealing with low ceiling) and the $23,740 was reallocated for other important projects. Without a clear picture of how the room might change structurally, it might be better to focus the large Redesign project on the five classrooms where it will have the most immediate impact on improving students education experience. This would reduce the overall cost of the project to $174,250.

· Opportunities for leverage

The SON should consider sending someone to the UT technology classrooms committee meetings chaired by Dr. Tom Edgar to learn more about what standards are developing across campus. To learn more about the meetings, contact Maria Cruz at 475-9338.

· Impact on campus infrastructure

Minimal impact is expected and the network upgrade uses CISCO switches and router, which are the campus networking standard.

· Significant trend features:

The SON continues to work hard on staying current with technology, particularly in classroom audiovisual upgrades and providing faculty with desktop hardware that will make it possible for the faculty to employ new technology as

Review 2

The focus of the School of Nursing's IT objectives is to encourage and facilitate use of technology for faculty and students. The SON has made steady progress toward this goal--building a network infrastructure, support staff, and student computer labs. The current plan, network augmentation ($12,000), IT classroom renovation ($209,100), and simulation lab upgrade ($16,987), is a logical extension of previous priorities with emphasis on teaching and presentation facilities.

All three projects are of significant importance to students and worthy of special consideration. The request for network augmentation is modest, well-defined, and builds on prior requests. It is an integral building block in the SON infrastructure and needs no supporting documentation to recommend it.

The request for renovation of six classrooms to IT capacity is also well-defined and modest at a per classroom cost. This request has the most direct benefit to students and is critical for the SON to remain both an effective and competitive teaching institution. Unfortunately, small schools generally exhaust their resources in maintenance and upgrade of network infrastructure and student computer labs and providing limited staff support with no funds left for projects such as classroom overhaul. Therefore, this project should be considered for special funding initiatives in addition to current allocations. While it may be necessary to adopt an incremental approach to funding the six classrooms, the significant savings of uniform implementation and bulk purchasing should not be discounted. It is noteworthy that the location of the SON, with access to ample after-hours parking, makes it an ideal place to invest in IT classrooms for use by The University outside of normal operations.

The third project, simulation lab upgrade, appears to be contingent on procedural choices made by the School's partners. It also could be considered a step back to use modem technology. This project is worthy of consideration for its overall impact on student instruction. Like the request for classroom upgrades, the SON needs these improvements to provide the best education possible.

There are no significant opportunities for leverage with other campus units nor should the requests have an appreciable impact on campus infrastructure.

The need for IT classrooms, as requested in the SON, plan underscores the importance of recent trends to include audio/visual content in the classroom. In the past The University put resources into creating large joint use facilities. However, with the relative ease of use of html editors, WebCT, PowerPoint, etc., the familiarity of incoming students with the Web, and their orientation to visual learning, it is now critical that audio/visual content be integrated into all classroom instruction. A shared use facility between departments can no longer keep up with demand, each school needs their own IT classrooms. In addition, the 'Field of Dreams' scenario, "if you build it, they will come," may still be debatable. However, clearly the opposite is true, without departmental presentation facilities, there is no incentive for faculty or students to create and integrate IT materials into their curricula or coursework.

Also included in the plan was a request for non-itac funding for faculty workstations. This is noteworthy because it goes hand in hand with the request for IT classrooms. Faculty cannot create IT content with outdated equipment on their desktops. Recent advances in both Mac and PC platforms make trickle down an ineffective strategy for redistribution. The windfall computers distributed in the original FCI, 486's and 68040's, are currently obsolete so that schools, such as the SON, do not have adequate resources to trickle down. All departments could benefit from a revisit to the original FCI to distribute computers to faculty.

College of Pharmacy

Executive Summary

The College of Pharmacy has been engaged in writing comprehensive technology Vision Plans since the idea was first promoted at UT-Austin in 1991. In that year, two faculty members proposed an ambitious plan to bring four new computing facilities to the College of Pharmacy. The Vision Plan was awarded enough university and matching funds to bring Pharmacy into state-of-the-art computing for research and curriculum support.

The challenge for the College of Pharmacy has been to maintain, upgrade and expand our facilities and services at this high level *at two locations* while assessing ITAC and other fees from a very small student population. Regular, recurring ITAC fees (approximately $27,000) mainly cover hardware maintenance agreements. The Pharmacy-assessed Instructional Technology Fee funds four of eight technical personnel titles and Learning Resource Center M & O. All other expenses for upgrades, new hardware and software, maintenance agreements,

distance learning support, etc., must come from non-fee sources. Most years, the College receives a lump sum of capital equipment support from the ITAC committee. This support, when received, has been a critical element in the quest to meet our annual technology goals. Other revenue sources required to implement our technology plan include University funds, College funds, external funds and equipment grants, and allowable revenue-generating endeavors.

Reviewer Comments

The plan includes initiatives that are focused on campus-based students and others that serve off-campus professional education students. Both are important for the College of Pharmacy. The opportunities for endowments and course fees to cover recurring needs that are specific to pharmacy students should be considered.

A number of initiatives deserve special attention from ITAC. These include those projects with the potential to provide proof-of-concept for programs potentially undertaken by other units, as well as initiatives that promise to deliver benefits to several collegiate units.

The results of the Teaching Academy and the video-on-demand access of pre-recorded courses and training pilot could provide models for similar initiatives in other colleges. By funding these initiatives, ITAC may be able to catalyze such initiatives in other units. For example, as the College of Communication's prototype for a Digital Archive provides a roadmap for archival and retrieval of video content, we would be very happy to partner with the College of Pharmacy in a scale up of the prototype that would demonstrate fully searchable video-on-demand archives of lectures – particularly those used in distance learning initiatives. Funding of these programs is recommended.

On the other hand, classroom renovations, upgrade of multimedia carts, computer hardware and software for the laboratories, network expansion, molecular modeling laboratory maintenance support initiatives, multimedia and web-based courses material support, and staff expansion for computing, web and network support are focused either at campus-wide initiatives for which global solutions have been proposed or are very college-specific needs that may be better addressed with funding from special donations or course fees.

The School of Social Work

Executive Summary

Social work is a multi-faceted cross discipline profession. Our students need both specialized knowledge and a broad perspective on all issues affecting the human condition. The study of social work requires enormous complex information about people, society, and service. With information technology we can improve the educational experience for both students and faculty by providing better access to content. There are vast information resources available to us. We need the technology and support to incorporate them into curricula and deliver them to students. Our vision is to provide the information and technology necessary for faculty and students by providing the resources for information access and presentation technologies. We seek a learning experience that emphasizes mastery of content and analytical ability. We can provide complete information support to faculty and students, while making it easy for them to access and use, by providing appropriate resources for development and delivery. This requires equipment resources, information resources, and personnel resources.

The School has a strong vision of what it could do given the resources. It understands the potential and utility of information technology in the classroom and the profession. However, small schools face formidable challenges in attaining and maintaining technology resources and support staff necessary to operate at a level consistent with other departments. We can easily exhaust our annual allocation simply providing equipment, software, and maintenance for a network, a computer lab, and an IT classroom. At current funding, we must proceed incrementally with little left for contingency or life cycle budgeting. The School of Social Work greatly appreciates every effort by The University to improve the disparity of resources between schools. Each implementation has a dramatic effect on our ability to improve and provide technological resources. The FCI, BBP, and recent Microsoft agreement have made significant contributions to offset our operating expenses. The special project and multimedia allocation we received from The University allowed us to open our first IT classroom.

We are committed to our students and will continue to utilize our ITAC funds to provide them with the best possible technology and support for education and training. However, we need financial support that goes beyond our current allocation, to upgrade our facility, and provide us with renewable funding for support staff and equipment for ITAC eligible projects, as well as, faculty, staff, administration, and research. Our proposal is to improve our ability to produce and deliver information resources in our classrooms.

The 1999-2000 Vision Plan funding requests for the School of Social Work appear to be in line with their proposed plans. Their plans should improve student computing in several ways. By providing additional and better computing resources, students will have greater access to information and communication with others in their fields of study. Greater access will enhance their ability to learn and perform research, which will allow them to expand their knowledge and ultimately contribute more and be more competitive after graduation.

It is important to note that innovative features in web technology are not supported by older hardware and software and are evolving so rapidly that budgeting for life cycle upgrading of systems is essential if students are to have the advantages they need to progress and compete.

It is equally important to provide faculty with the technology needed to better deliver information to students and to provide administrative support that allows faculty to focus on the most essential aspects of their work.

There are two University-wide projects going on at this time that could have an impact on the proposed Vision Plan. One is the "E-University," a comprehensive student web portal currently being designed by ACITS, ACS, and others. The School of Social Work Web Resource Portal should be considered in this larger context in order to avoid duplication and to take advantage of any resources that might be shared.

The second is an effort to improve coordination of computer training and sharing of computer training resources on campus. A recent study of computer training on campus found that individual units often duplicate efforts, wasting resources and isolating them from each other. Construction of additional technology facilities should be evaluated from this perspective.

The additional resources, such as the Utopia Theater and special technology classrooms could be shared, on a limited basis, with other campus units, providing them similar benefits as those potentially enjoyed by the School of Social Work. If this is impractical, perhaps the Vision Plan of the School of Social Work could serve as a model for other units.

Review 2

Upgrade of the Utopia Theater (Section 4 of ITAC eligible Project 1) is worthy of special consideration because it represents a joint-use facility due to its use by Social Work and other units on campus, because it currently has been approved for remodeling by The University, and because it has significant importance to student computing. Particular attention should be paid at this time to use whatever standards are recommended by the campus wide "Technology Classroom" committee to insure that equipment that is installed is in line and compatible with that being installed in other locations on campus.

The School of Social Work Web Resource Portal (ITAC eligible Project 3) seems to have implications for The University's E-University initiative. It would seem there might be some benefit in leveraging activities toward this project with the student services portal activities taking place during the summer of 2000.

ITAC eligible Project 4, Video Production talks about utilization of a half-time RTF graduate assistant. Is it possible that some sort of formalized internship / process could be put into place with the College of Communications to provide technical staffing of this nature not just to the School of Social Work but to other units facing the same lack of expertise in the area of video production?

It is also worth noting that Social Work, along with most of the rest of this campus, needs guidance to develop a method of accruing technology funds to be used for non-ITAC eligible items, most specifically faculty and staff technology upgrades. We cannot expect faculty to infuse technology into the curriculum without technology access equivalent to that of students.

TABLE 1
Budget Requests by Academic Units
2000-2001

Academic Unit	Costs
Academic Computing and Instructional Technology Services	$2,904,708
School of Architecture	$300,000
The College and Graduate School of Business	$2,118,885

College of Communication	$365,000
College of Education	$695,900
College of Engineering	$4,020,000
General Libraries	$122,000
Graduate School of Library and Information Science	$441,527
College of Liberal Arts	$2,100,107
The School of Law	$200,910
LBJ School of Public Affairs	$155,628
College of Natural Sciences	$1,250,000
School of Nursing	$238,687
College of Pharmacy	$403,000
School of Social Work	$268,300
Total all Requests for ITAC Funding for 2000-2001	**$15,594,652**

TABLE 2
Summary of Total Project Costs by Academic Unit
2000-2001

Academic Unit	Costs
Academic Computing and Instructional Technology Services	
Telecommunications and Networking	
Upgrade of Campus Cable Systems	$70,000
Internet Telephony Infrastructure	$150,000
Core Router/Switch Upgrades	$250,000
Mail Server Upgrade	$50,000
ATM Investigation	$50,000
Multicast Investigation	
Network Authentication	$50,000
Video Conferencing Equipment	$50,000
Upgrade Switch in Student Microcomputer Facility	$70,000
Wireless Technology Evaluation	$30,000
Total for Telecommunications and Networking	**$770,000**
Academic Computing	
SMF Refit	$835,000
Help Desk Services	$150,000
Campus Web Services	$306,000
Directory and Authentication Services	$30,000
Integrated Messaging and Offices Services	$135,000
Mailing Lists	$30,000
USENET News	$90,000
Database Support	$57,600
Investigations	$60,000
Continuing Publication	$6,065
World Lecture Hall	$10,000
Training Services Upgrades	$51,000

Microcomputer Testing Facility	$100,000
Statistical/Mathematical Services	$31,043
Web Central Services	$65,000
Total for Academic Computing	**$1,956,708**
Instructional Technologies	
Purchase an MPEG Encoder	$20,000
Upgrade Visualization Lab with 100baseT Networking	$4,000
Funds for FAST Tex	$50,000
TA Support Funds for Web Page Development	$25,000
Improving the Facilities in the CIT Lab	$79,000
Total for Center for Instructional Technologies	**$178,000**
Academic Computing and Instructional Technology Services	**$2,904,708**

School of Architecture	
Network Upgrade	$200,000
Digital Archive Project	$20,000
Cyclical Upgrade of Equipment	$80,000
School of Architecture	**$300,000**

The College and Graduate School of Business	
Deployment of Windows 2000	$70,580
Help Desk Improvements	$220,635
Mailboxes for all Business School Students	$42,852
Student Lab Improvements	$596,462
Multimedia Upgrades	
Classrooms/Lecture Halls	$555,800
Video Security	$44,800
Network Upgrades in CBA	$300,000
Expand Windows Terminal Server Support	$52,998
Data Warehousing Project	$234,758
The College and Graduate School of Business	**$2,118,885**

College of Communication	
C3 Lab	$165,000
Digital Archive	$160,000
Wireless Collaboratory	$30,000
Research TV	$10,000
College of Communication	**$365,000**

College of Education	
Technology Classrooms	$43,000
Multimedia Research and Development Laboratory/Classroom Construction	$206,000
Preservice Technology Integration Program	$119,275
Model Technology Classroom Computing	$41,725
Faculty Technology Integration/Web-based Course Support	$160,000
Assistive and Instructional Technology Field Experience Applications	$18,500
Student Field Experience Research Computing	$45,000
Improvements to Digital Video Editing System	$14,000
Videoconferencing from Professional Development Sites	$12,000
Advanced Applications Laboratory Video Camera System	$24,000
Student Field Experience Feedback on Teaching	$12,400
College of Education	**$695,900**

College of Engineering	
Distributed Learning Classroom (new)	$750,000

Distributed Learning Classroom (upgrade)	$75,000
Multimedia Teaching Podiums	$285,000
Courseware Server Infrastructure	$350,000
Faculty Innovation in Instruction	$180,000
Engineering Building Bandwidth	$240,000
Studio Classroom	$230,000
TEAM Focus Center	$80,000
Application Server	$90,000
Enterprise Infrastructure*	$465,000
Universal File & Web Services*	$500,000
Wireless Pilot	$25,000
Campus classroom connectivity*	$750,000
College of Engineering	**$4,020,000**

*Projects that could be funded with dollars other than ITAC

General Libraries	
Perry-Castañeda Library Electronic Information Center Enhancement	$122,000
General Libraries	**$122,000**

Graduate School of Library and Information Science	
Information Technology Boot Camp	$45,000
Linux Boxes Enhancement to Multimedia Instruction Classroom	$60,000
Web-based Core Classes	$62,000
Telephone and Web-based Help Desk	$81,000
Upgrade to Sun Ultra SPARC Workstations	$15,000
Digital Library Production Lab for Preservation of Multimedia Materials	$129,600
High-Volume Digitization of Textual Materials	$48,927
Graduate School of Library and Information Science	**$441,527**

College of Liberal Arts	
Geography/New Equipment	$39,535
Technology, Literature & Culture/Upgrade computer equipment	$39,670
Germanic Studies/Software and Hardware Upgrades	$72,310
French and Italian/New Projects and Upgrading of Equipment	$75,154
Asian Studies/Gateway to China: New Teaching and Learning Technology Resources & Upgrade of the Computer Lab	$27,479
Spanish and Portuguese/ Convert pedagogical materials to digital formats	$121,400
Psychology/Facilities Upgrade and Expansion	$92,000
Anthropology	
Continued Web-based Course Support in Anthropology	$43,700
Portable Computer Projection System	$10,820
Land Rights and Identity Politics in the Americas	$24,720
Web-based archive of the indigenous languages of Latin America	$49,542
Web Based Exercise and Content Modules for Introduction to Archaeology Classes (continuation from 1999-2000	$17,787
A Digital Atlas of the Baboon	$29,404
Technology, Folklore and Folk Art for the Undergraduate Curriculum	$26,900
Upgrades to the Linguistic Anthropology Lab	$25,873
Archaeology Computer Laboratory upgrade.	$13,840
Physical Anthropology Computer Laboratory upgrade	$27,000
Anthropology	$269,586
American Studies/Multimedia Teaching, Web Development	$42,215
Linguistics/Linguistic corpora site & Phonetics Lab Update	$68,325
Rhetoric and Composition/Computer Writing and Research Lab	$243,810
African and African-American Studies Interactive CD-ROM Series	$98,000
Air Force ROTC/Multi-Media Projection Systems	$33,240
History/Digital Images in History Courses	$86,000
Population Research Center/New UNIX Server Project	$56,000

Latin American Studies/LANCE	$58,767
Military Science/Computer Lab Stage II	$35,000
Texas Archeology Research Lab/Advanced Research	$99,720
Government/Web courses	$16,450
Classics/Instructional Technology Vision for Waggener Hall	$328,809
English/Apple AirPorts	$56,637
Instructional Technology Services/Web delivered course materials	$150,000
College of Liberal Arts	**$2,110,1007**
LBJ School of Public Affairs	
Academic Instructional Projects (ITAC Eligible)	$45,250
Upgrade classroom and lab facilities	$15,078
Establish an instructional, joint-use technology classroom	$95,300
LBJ School of Public Affairs	**$155,628**
School of Law	
Establish Teaching/Learning Center	$41,060
Upgrade Computer Learning Center	$10,000
Extend installation of public Ethernet ports	$51,650
Upgrade projection facilities	$20,000
Upgrade hardware in law review offices	$78,2000
School of Law	**$200,910**
College of Natural Sciences	
Auditorium Modernization	$300,000
Portable Multimedia Equipment	$50,000
Faculty Curriculum Development Projects	$250,000
Replacement of Aging Computers in CoNS Instructional Labs	$300,000
Distance Education Facility	$200,000
Special Purpose Computers	$150,000
College of Natural Sciences	**$1,250,000**
School of Nursing	
Network Augmentation Project	$12,600
Large classroom audiovisual control system redesign	$209,100
Bedside Charting Simulation Upgrade	$16,987
School of Nursing	**$238,687**
College of Pharmacy	
Classroom renovations	$200,000
Network expansion	$50,000
Computer hardware and software upgrades	$100,000
Digital video editing equipment	$15,000
Teaching Academy	$8,000
Web and multimedia-based development support and training	$10,000
Molecular modeling laboratory maintenance support	$10,000.00
Upgrade of mobile multimedia carts	$10,000
College of Pharmacy	**$403,000.00**
School of Social Work	
Classroom Presentation and Instructional Technology	$111,500
IT Classroom and LRC Maintenance and Upgrade	$46,100
School of Social Work Web Resource Portal	$46,800
Video Production	$63,900
School of Social Work	**$268,300**
Total all Requests for ITAC Funding for 2000-2001	**$15,594,652**