UTSOA

The University of Texas at Austin School of Architecture

Information Technology Vision Plan AY 2007-08

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Director of Information Technology

Summary of Requests:

Cyclical Replacement of Computer Lab Equipment (recurring) **$50,000**
Four year cyclic replacement cost for pool of 100 workstations, peripherals, and IO Central checkout equipment (projectors, digital cameras, digital video cameras, etc.).

Software Acquisition & Licensing (recurring) **$45,000**
Cost of annual site/floating license renewals and upgrades for the various design, analysis, and visualization software packages used in the School.

Network Infrastructure (recurring) **$25,000**
Cost of maintenance and cyclic upgrade of networks in the School's four buildings.

IO Staff (recurring) **$35,000**
A portion of the cost of Graduate Assistants to operate the computer lab, plotting, printing, scanning, and digital fabrication facilities of the School.

Equipment Maintenance (recurring) **$12,000**
Cost of maintenance & service contracts on key pieces of plotting, scanning, and digital fabrication technology to ensure availability.

Operating Systems Programming Support (new recurring) **$35,000**
A portion of the cost of creating and maintaining a new staff position to provide operating system programming, setup, and administration expertise or a contract with ITS to provide the needed services.

Digital Fabrication – Phase III (project) **$200,000**
Upcoming phases in our implementation of digital fabrication facilities include the acquisition and installation of a five-axis large-format CNC Router, a large scale 3D digitizer, a composite binding 3D printer, and a medium format laser cutter.

Computer Lab Furniture (project) **$60,000**
In order to provide an appropriate environment for our students to work in, we need to upgrade the seating and desks in the Computer Lab to durable and ergonomic workstations and chairs.

Classroom & Review Presentation Systems (project) **$30,000**
One auditorium is in need of a serious technological overhaul, including a systems redesign and the acquisition and installation of new equipment to improve the usability and reliability of the teaching technology.

Recurring Subtotal	$167,000
New Recurring Subtotal	$35,000
Project Subtotal	$290,000
Total ITAC Funding Request:	**$492,000**

Overview of Current IT Programs & Infrastructure

Mission Statement

The Office of Information Technology is tasked with the provision and management of all information technology resources for the students, faculty, and staff of the School of Architecture. It is our mission to provide secure, reliable, and relevant technologies to support the educational, academic, and service mission of the School.

Computer Lab

The School of Architecture Computer Lab, located in Sutton Hall 1.102, provides dedicated computational, input, and output resources to all students enrolled in classes within the School. There are over sixty standard PC workstations, sixteen standard Macintosh workstations, and seventeen special application or peripheral workstations. The computer lab is open and staffed for 104 hours per week during long semesters, from 8:00 AM to Midnight Sunday through Thursday and from 8:00 AM to 8:00 PM on Fridays and Saturdays.

IO Central

IO Central contains the centralized printing and plotting equipment for the School, large format scanning, equipment checkout (including digital cameras, LCD projectors, and laptops), and provides a central location for students needing IT assistance. The facility adjoins the Computer Lab and has the same hours of operation. It houses a central print server with queues for the various printers and plotters; including eleven plotters, 2 color laser printers, 2 black and white laser printers and a 42” large format scanner.

Digital Fabrication

The School currently hosts four major pieces of technology for digital fabrication: a 3D printer that produces plastic models from digital input, a laser cutter that cuts and etches sheet material through a printer-style interface, a CNC router that can cut shapes and route surfaces out of sheet material up to 4” thick using a digital control system, and a 3D non-contact laser scanner that can produce three-dimensional digital models by scanning physical objects.

IO Staff

The Computer Lab and IO Central are staffed by twelve half time graduate students per long semester. Six of these positions are funded by Teaching Assistantships, while the other six are paid as salaried Graduate Assistants from ITAC funds. One of the significant changes we have made is to have two IO Staff on duty during most lab hours to provide better service.

Design Student Computer Policy

The School has implemented a student computer policy for all undergraduate and graduate students enrolled in our design degrees: architecture, interior design, and landscape architecture. The students are required to provide a laptop and specific design software. Support of this initiative is provided by requiring extended warranties for hardware issues, leveraging the ITS helpdesk for general hardware and software issues, and providing design application assistance through the IO Central.

Technology Classrooms

The School has two auditoria, seven classrooms/seminar rooms, and two studios with installed projection systems.

Network Infrastructure

Goldsmith Hall has up-to-date networking infrastructure, with a Gigabit backbone, Fast Ethernet to the desktop, and a Cat-5e SCS. The West Mall Building and Battle Hall have been updated to Fast Ethernet networks thanks to generous donations of old network equipment from ITS and the Department of Computer Sciences; their legacy Cat-5 cabling is now at its maximum potential. Sutton Hall has had a partial network upgrade, including a Gigabit backbone, Gigabit service for servers, and Fast Ethernet to select portions of the building; however, it still requires completion of the SCS and additional network equipment to bring it up to campus standards. We are also in the middle of updating our wireless in all four buildings; Sutton Hall was completed last year, and funds have been allocated this year to complete full coverage in Goldsmith Hall.

Server Infrastructure

The School currently has three Windows 2003 Servers: two newer Dell PowerEdge Servers, one runs our intensive printer and plotter services and the other runs our local network file sharing and software licensing; the third server is running legacy web hosting and ftp services and is expected to be phased out by completing the transition to ITS hosting in the next year.

IT Staff

Director of Information Technology

Responsible for IT vision, management of IT staff, administration of all IT related budgets, network administration, server administration, software licensing and distribution, Computer Lab workstation administration, and computer support.

Network Analyst

Faculty and staff computer administration, LAN administration, Computer Lab supply management, security implementation, inventory, BevoBucks and print charging administration, and computer support.

Webmaster

Design, administration, and content management of the School of Architecture web site.

Current and Proposed Funding Sources

ITAC

ITAC is the primary budget used to provide student computing resources. Our current ITAC budget is $128,086; this is approximately 25% of our total IT budget. Increased special project funding through ITAC has historically been our most successful method of funding for major technology initiatives and projects.

SOA Instructional Technology Fee (flat rate allocation)

This allocation is currently $115,000, 54% of which is currently dedicated to IT staff salaries. The remainder is used as a supplement to fill the gap between funding resources and funding needs for recurring expenses and projects.

SOA Special Equipment Fund

A portion of the School of Architecture's annual operating budget is the Special Equipment Account. The annual Special Equipment budget is approximately $105,000. This account is the primary source of money for faculty and staff computing; it is also used to support our visual resources and shop facilities, and to fund technology programs and projects.

CLC & FCI Funds

The School now opts to receive CLC & FCI funding directly into an account. This funding source is very helpful in freeing up Special Equipment Account money for other projects and programs that are of direct benefit to students.

SOA MO&E

Currently, $117,527.00 (65.4%) of our IT salaries come from the School's MO&E budget; this represents a very significant investment by the School in Information Technology.

SOA IT Revolving Account

All IO Central pay services are charged to students through the BevoBucks system. In addition, faculty and staff may use the input and output devices in this facility if they provide a UT account number. These funds go into the SOA IT Revolving Account and are used to pay for the consumables used in the operation of the Computer Lab and IO Central. Since our academic programs are very output intensive, the priority for these services is that they remain inexpensive and available to the students. Activity on this account is a good metric of the volume of services provided to our students; even with our minimal cost-recovery pricing, the revolving account had over $55,000 of activity last AY, over 10% of our operating budget. We are planning on conducting a modest price increase in order to use this account to partially fund our IO Staff, another 'consumable' required to operate our services.

Differential Tuition

The School continues to pursue increased funding through increasing our differential tuition. Only a portion of last year's requested increase was granted, and increased funding for information technology is high on next year's list of anticipated recipients of increases from this source.

Best Practices

Server Consolidation

We have recently purchased some new server hardware allowing us to reduce the number of servers we support from seven aging servers running three different operating systems to three servers running the same operating system. We anticipate that this will result in a significant reduction in systems administration time while actually improving reliability and availability.

ITS Service Hosting

We are using ITS to host our web services, enterprise email services, and some other select data storage. Doing so allows us to have a higher level of security, reliability, and availability for our mission-critical data processes, without having to make large local investments in hardware, software, and person hours.

The Boutique Model

We are a small School with specialized needs in many areas. Our IT strategy for adapting to this condition is to find ways to leverage the generalizable IT resources and services provided by ITS and others for our 'vanilla' computational support and service needs, while focusing the energy of our IT organization on the specialized and unique 'boutique' needs of our user community. With the recent changes in ITS and the VPIT Office we are very optimistic about the further implementation of this model through the establishment of new support contracts with ITS.

Design Student Computer Policy

By initiating a required student laptop and software policy for our design students, our most intense computer users, we have been able to significantly reduce the amount by which our IT budgets are overtaxed and to simultaneously provide a better distributed computing environment and culture for our students.

Use of Previous Academic Year Allocations

Funds listed below as expended were expended in total across all IT accounts and do not represent only ITAC expenditures.

Recurring Expenses

Cyclical Replacement of Computer Lab Equipment

Proposed Expenditure	$50,000
(Average over past 3 AY) Actual Expenditure	$40,000
Shortfall	$10,000

Software Acquisition & Licensing

Proposed Expenditure	$45,000
(Average over past 3 AY) Actual Expenditure	$42,000
Shortfall	$3,000

Network Infrastructure

Proposed Expenditure	$25,000
(Average over past 3 AY) Actual Expenditure	$22,000
Shortfall	$3,000

IO Staff

(full amount, proposed ITAC portion is 50%) Proposed Expenditure	$70,000
(Based on 2006-07 appointment costs) Actual Expenditure	$70,000

Equipment Maintenance

Proposed Expenditure	$12,000
(Based on 2006-07 contract costs) Actual Expenditure	$9,000
Shortfall	$3,000

Project Expenses

Digital Fabrication

(3 AY aggregate) Proposed Expenditure	$250,000
(3 AY aggregate) Actual Expenditure	$225,000
Shortfall	$25,000

Computer Lab Furniture

Proposed Expenditure	$60,000
Actual Expenditure	$0
Shortfall	$60,000

Classroom & Review Presentation Systems

(3 AY rationalized) Proposed Expenditure	$50,000
(3 AY aggregate) Actual Expenditure	$37,500
Shortfall	$12,500

Centralized Printing Facilities

(3 AY aggregate) Proposed Expenditure	$60,000
(3 AY aggregate) Actual Expenditure	$43,000
Shortfall	$17,000

Sutton Hall SCS Upgrade

Proposed Expenditure	$100,000
Actual Expenditure	$1,000
Shortfall	$99,000

Needs & Proposed use of Funds (in rank order per category)

Recurring

Cyclical Replacement of Computer Lab Equipment

- Windows Workstations – Our pool of insctructional PC's is roughly 90 computers, the current system replacement cost is $1830 per workstation (due to the high level of graphics and processor power required for our applications). Estimated replacement cost for this pool is $42,000 per annum, on a four year cycle.
- Macintosh Workstations – Our pool of instructional Mac's is roughly 20 computers, the current system replacement cost is $4300 per workstation (due to the high level of graphics and processor power required for our applications). Estimated replacement cost for this pool is $21,000 per annum, on a four year cycle.
- Computer Lab Peripherals – We have two slide scanners, three tabloid flatbed scanners, four, letter flatbed scanners, a digitizer table, and 2 Wacom tablet/monitors. Estimated replacement cost for this pool is $5,000 per annum, on a four year cycle.
- Checkout Equipment – Our current pool includes 5 laptops, 6 digital cameras, 2 digital video recorders, and other equipment. Estimated replacement cost for this pool is $6,000 per annum, on a four year cycle.

Total Estimated Cost $74,000
Amount Requested from ITAC $50,000

Software Acquisition & Licensing

- Autodesk Design Institute, Annual Site license – SOA portion, $10,000
- Autodesk 3DS Max – Annual 25 seat floating license, $5,000
- ESRI ArcGIS Annual Site License – SOA portion, $10,000
- FormZ – Annual 25 seat floating license, $2,000
- Bentley Microstation – Annual Departmental License, $2,000
- Adobe/Macromedia – Annual Maintenance, New Products, & Renewals, $8,000
- Misc. Software – Energy Analysis, CFD, Atlas ti, Quark, Maya, TransCAD, etc. - $8,000

Total Estimated Cost $45,000
Amount Requested from ITAC $45,000

Network Infrastructure

- Maintenance contract on Cisco Router, $9,000
- New Cisco Switches, $12,000
- New Cisco Wireless Access Points, $12,000
- Network Installation Services, $4,000

Total Estimated Cost $37,000
Amount Requested from ITAC $25,000

IO Staff

- 6 Teaching Assistants per long semester, plus two during the summer, funded by the School's teaching budget at an annual cost to the School of $60,000
- 6 Graduate Assistants per long semester funded by IT accounts at an annual cost to the School of $70,000.

Total Estimated Cost $130,000
Amount Requested from ITAC $35,000

Equipment Maintenance

- Service contract on 11 HP Plotters, $5,000
- Service contract on InVision 3Dsi 3D Printer, $4,000
- Service contract on Z-Corporation ZPrinter 310+ (planned purchase), $4,000

Total Estimated Cost $13,000
Amount Requested from ITAC $12,000

Operating Systems Programming Support

A portion of the cost of creating and maintaining a new staff position to provide operating system programming, setup, and administration expertise or a contract with ITS to provide the needed services. Without another staff member with this type of expertise we will be unable to continue the process of improving our digital-curricular integration, level of service to students, and the reliability of our technology infrastructure.

Estimated Cost for Operating Systems Specialist (FTE) $55,000
Amount Requested from ITAC $35,000

Projects

Digital Fabrication – Phase III $200,000

The positive impact of obtaining and utilizing these tools upon recruiting, teaching, learning, innovation, and leadership be would difficult to overstate. We need these technologies to move fully into the information age in our teaching and research.

- Universal Laser Systems – X660-60 18”x32” Laser Cutter, $25,000
- Z-Corporation ZPrinter 310+ 3D Printer, $27,000
- Unspecified 5’x10’, 5 or 7 axis, CNC Routing/Milling Machine, $160,000
- Estimated installation and facilities modification costs, $25,000

Total Estimated Cost $237,000
Amount Requested from ITAC $200,000

Computer Lab Furniture

We need to provide a healthy and productive digital work environment for our students, and that must include appropriate space, lighting, and furnishings. This project allocation will be a significant first step to dealing with these environmental issues.

- 120 stations including desk, keyboard tray, and cable management, $500 each
- 160 ergonomic workstation chairs, $200 each

Total Estimated Cost $92,000
Amount Requested from ITAC $60,000

Classroom & Review Presentation Systems

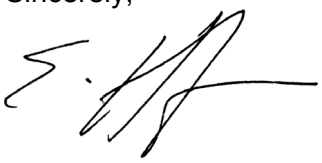
Keeping our teaching facilities technologically up to date is critical to the success of our educational mission. Jessen is our largest auditorium, where our outreach courses are taught, its renovation would impact the greatest number of undergraduate students from across the campus.

- Upgrade Jessen Auditorium to the full UT classroom console setup, $42,000

Total Estimated Cost $42,000
Amount Requested from ITAC $30,000

Please feel free to contact me if you require any additional information or clarifications. Thank you for your attention to these matters and for your devotion to improving the state of Information Technology at The University of Texas at Austin.

Sincerely,



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