

The University of Texas at Austin

School of Architecture

Vision Plan 99

Computing Plan for Fiscal Year 1999-2000

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 becomes the maintenance of high standard and quality in the effort.

Academic Instructional Goals:

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.

An increasing demand for computer-aided design instruction in the curriculum combined with the success of existing computer based studio courses indicates the need for an additional design studio with extensive computer resources.

ITAC funding requests:

Digital Archive Project

Cataloging and Scanning Labor	\$40,000
Computer-Aided Design Studio	\$100,000

Hardware, peripherals	
Cyclical Upgrade of Equipment	
Computer-Aided Design Studios	\$40,000
Computer-Aided Teaching Facility	60,000

Vision, Goals and Objectives

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. The ongoing support of funds and equipment from the University's Information Technology Fee and Faculty Computer Initiative, along with the implementation of the School's Instructional Technologies Fee, has enabled the widespread use of computer resources in our curriculum. Our challenge becomes the maintenance of high standard and quality in the effort.

The merging of the Interior Design program from the Human Ecology Department in the College of Natural Sciences into the School of Architecture has brought new opportunities to the School and has expanded our commitment to another area. The impact on the School's facilities has not been problematic. However, we are looking forward to the use of additional building space, the acquisition of which will present an opportunity to do a much-needed upgrade to our network infrastructure. A new computer-aided design studio is planned to partially support the investigation of interior design.

New technologies offer new opportunities. Our Digital Image Collection is continuing to grow. Some of the material we now offer as support materials for courses in the Architecture curriculum may soon be available to the community of users on the World Wide Web. Internet video presentations will eventually extend the influence of the School into new areas. A Project Quest grant for a video server will support an investigation of the uses of on-line video streams in architectural education with a small-scale broadcast of a lecture series.

Infrastructure

Facilities

Computer-Aided Design Studios

Design studios are the fundamental arenas for education in the School of Architecture. There are seventeen studio spaces in the School that house between twenty and thirty design studio sections each semester. Each of these studio spaces now contains a minimal set of equipment--between one and four workstations with various local output peripherals. These studio

workstations are also networked to centralized output devices and file servers. Two of the studios emphasize computer-aided design and therefore have higher concentrations of workstations: the Technical Communication studio has fifteen workstations and the Advanced Visualization studio has seven. Some results from the Advanced Visualization studio are viewable on the World Wide Web <<http://www.ar.utexas.edu/vislab/>>. The success of these two "computerized" studios has prompted a need for an additional similarly equipped studio. This studio will have the flexibility to handle classes for Architecture and Interior Design students.

The goals from previous plans of introducing computational resources as tools into the design studio arena are being met. Cyclical upgrades and maintenance of equipment will assure continued success.

Network Facilities

Success of the School's distributed computing environment depends on network support facilities, allowing increasingly faster access to centralized output devices among the three (and soon to be four) buildings which house School of Architecture facilities, file servers, license servers, media servers and information archives. The existing network infrastructure is based on 1980's technology--PhoneNet cabling, AUI and 10Base-T ethernet cabling, fan-out hubs, routers, bridges and controllers. This network is nearing the end of its sufficiency. Upgrading the network is now projected for the year 2000. At that time the integration of part of the West Mall Office Building into the School will prompt a reorganization of all parts of the network, with new routers, switches and cabling—perhaps including "fiber-to-the-desktop" technology. Such an upgrade should establish the basis for serving the needs of the School during the next twenty years.

Computer-Aided Teaching Facility

The computer laboratories located in the basement of Sutton Hall function as the School of Architecture's computer-aided Teaching Facility. The Teaching Facility provides equipment for instruction in the areas of computer-aided design, geographical information systems, image processing, numerical simulation, desktop publishing, multi-media production, statistical analysis and program development. The facility is available for open student use when class activities are not scheduled and is currently open one hundred hours a week. With a newly expanded CAD area, the facility now contains more than sixty Macintosh, Pentium and UNIX workstations.

The Teaching Facility also functions as a focal point for centralized output devices. The variety of printers and plotters that are available in this central location include letter-size and tabloid-size black-and-white laser printers, letter-size and tabloid-size color ink jet printers, a tabloid-size color laser printer, a multi-size dye-sublimation printer and large-format (24" and 36" wide)

color ink jet plotters.

Digital Media Collection

The Digital Image Collection project is continuing. More than 50,000 slides from our AudioVisual Resource Collection have been digitized and are currently stored on various media. Support materials for architectural history and survey courses are now available from the digital archives on the World Wide Web. Design is under way for the user interface to allow access to the collection database; two design studios have been selected for trial studies in the use of the resource during the Spring 1999 semester.

Faculty and Administrative Computing

The School of Architecture has more than eighty full time faculty and staff members that regularly use computer resources. This equipment must be maintained on a continuing basis.

Staffing

Director of Computer Laboratories

The School of Architecture has one full-time Senior Systems Analyst that serves as the director of all computer-related activities within the School. Bob Swaffar manages a staff of Teaching Assistants who conduct the daily operation of the Teaching Facility and maintain the open-use computer laboratories.

Digital Image Project Coordinator

One full-time Lan Administrator, James O'Donnell, divides his time between coordinating the Digital Image Project and assisting the Director of Computer Laboratories in maintaining the computer resources in the School.

Photographic Services Director

One full-time Photography Supervisor, Charlotte Pickett, divides her time between traditional and digital photographic services, audio-visual technical support and faculty web page development.

SOA Web Team

A group of faculty and staff meet on a regular basis to guide the direction and implementation of the home page for the School of Architecture on the World Wide Web. The various web team members are responsible for maintaining selected pages.

Proposed Projects

Academic Instructional Projects

Project Title: Digital Archive Project

Abstract:

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.

Space/Facilities Needs:

The cataloging and scanning operations for this continuing project are now housed in the School's AudioVisual Resource Center in Sutton Hall. No additional space requirements are envisioned. The digital archive is currently stored on a variety of existing SOA media and file servers.

Audience:

Undergraduate and graduate design students in architecture, on-line general public.

Equipment:

The equipment used in the cataloging and scanning operations are taken from the available pool of computing resources within the School.

Budget:

Cataloging and Scanning Labor ITAC funds	\$40,000
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Project Title: Computer-Aided Design Studio

Abstract:

An increasing demand for computer-aided design instruction in the curriculum combined with the success of existing computer based studio courses indicates the need for an additional design studio with extensive computer resources. This new studio will also provide software to support the investigation of interior design.

Space/Facilities Needs:

One of the existing design studio spaces will be converted from a traditional studio with the addition of computer workstations and peripherals.

Audience:

Undergraduate and graduate design students.

Equipment:

The hardware in this studio will be patterned after the Advanced Visualization studio, where a variety of workstations have proven to be successful. Eight Macintosh and Pentium workstations with input and output peripherals will support sixteen design students.

Budget:

Hardware, peripherals ITAC funds	\$100,000
Software SOA IT funds	10,000
Furniture SOA building funds	10,000
	\$120,000

Project Title: Cyclical Upgrades and Software Maintenance**Abstract:**

Replacement costs have been included to reflect the need to anticipate equipment upgrades on an ongoing basis. In the projections for instructional equipment, a three-year life of hardware and a two-year life of software are used.

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.

Audience:

Graduate and undergraduate students in architecture and planning.

Budget:

Cyclical Upgrade of Equipment:

Computer-Aided Design Studios ITAC funds	\$40,000
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Computer-Aided Teaching Facility ITAC funds	60,000
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Software Annual Maintenance:

Computer-Aided Design Studios SOA IT funds	10,000
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Computer-Aided Teaching Facility SOA IT funds	10,000
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\$120,000

Project Title: Cyclical Upgrade of Equipment

Abstract:

Replacement costs have been included to reflect the need to anticipate equipment upgrades on an ongoing basis. In the projections for administrative equipment for faculty and staff, a five-year life of hardware is used.

Audience:

Faculty and staff in the School of Architecture.

Budget:

Cyclical Upgrade of Equipment SOA funds \$50,000

Funding

Information Technology Fee

The School of Architecture depends heavily on Information Technology fee funding to accomplish our acquisition and maintenance of computer resources. During the past several years, the ITAC has been generous with funds to implement our various computing vision plans. The direct allocation has been set aside for repair and maintenance of existing equipment. The cyclical and special allocations have been used to acquire new equipment and setup new facilities. The following table presents the ITAC funding for the School of Architecture in the past three years..

Fiscal Year	Direct Allocation	Cyclical and Special Allocations
1996-97	25,000	\$50,000
1997-98	25,000	120,000
1998-99	25,000	88,250

SOA Instructional Technology Fee

The School of Architecture implemented an Instructional Technology Fee for students in the 1995-96 academic year. This fee has been used for funding a half-time computer support assistant salary and the acquisition of classroom hardware and software. The following table presents the funds made available through this fee during the past three years.

Fiscal Year	SOA ITF Funds
1996-97	\$43,300

1997-98	52,240
1998-99	52,240

SOA Special Equipment Fund

A portion of the School of Architecture's annual operating budget has been a Special Equipment Account. Over the years, these funds have been used to acquire a variety of equipment for the school, including computer resources for students, faculty and staff. The Special Equipment budget amounts to \$100,000 per year. The following table presents the percentage of the Special Equipment budget devoted to various categories during the past three years.

Percentage of Special Equipment Budget

Category	1996-97	1997-98	1998-99
Faculty Computers	2.8%	21.6%	47.1%
Staff Computers	20.4	16.5	26.4
Student Computers	72.4	37.8	23.0
Shop Equipment	3.2	10.0	3.2
Office Equipment	1.1	10.4	0.3
Photographic Equipment	3.8		

Corporate Grants

Due to various factors, the School of Architecture has traditionally not had success with securing corporate grants. (We are a small school without extensive research activities.) However, during the past two years we have been able to participate in two corporate grants given to the University. In 1997, the Community and Regional Planning Program received a computer workstation and network hub from Intel Corporation in conjunction with the Geography and Civil Engineering Departments for a GIS database project. In 1998 through Project Quest, the Center for American Architecture and Design received a video server from Compaq Corporation.