

# **1999-2000 Vision Proposal**

**The University of Texas at Austin**

**School of Nursing**

## **Computer Utilization Committee**

### **Membership**

**Mr. Sergio Acosta  
LAN Administrator**

**Dr. Heather Becker  
Research Scientist**

**Mr. Wilton Deets  
Undergraduate Student Representative**

**Dr. Susan Grobe  
Professor and Principal Investigator  
Breast Cancer Screening Project**

**Ms. Lynne McIntyre  
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Senior LAN Administrator**

**Ms. Jacque Ogilvie  
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**Dr. Betty Skaggs, chair  
Asst. Professor of Clinical Nursing  
Director, Learning Center**

**Ms. Patricia Turpin  
Doctoral Student Representative**

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**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 are to provide state-of-the-art 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 powerful, state-of-the-art technology, competent staff are available to assist the to create and produce instructional materials, new resources such as CathSim (VR instructional tool) and Nightingale Tracker are purchased for use with students. Four projects were selected upon which we would focus during the 1999-2000 academic year: Network Augmentation, Fiber Optic, Research Lab Carrel Renovation, and the Multipurpose Room Renovation Projects.

**Proposal #1: Network Augmentation Project**

This project solicits assistance in building and securing the School's infrastructure, essential to supporting the instructional and administrative work of the School. We request that funds be allocated to purchase equipment in four broad categories: 1) network infrastructure hardware, 2) network infrastructure software, 3) workstation hardware upgrades, and 4) workstation software. Equipment and software that we would like to put in place during the next academic year total \$91,140.00. This

equipment is basic to the achievement of the goals and objectives in the School's IT strategic plan.

### **Proposal #2: Fiber Optic Feed to the School of Nursing**

The School has a technology classroom that currently has a coaxial broad band connection. While this connection to Utnet is adequate for current applications, a faster fiber optic connection would assure a higher quality data feed, permit simultaneous feeds for concurrent classes, and provide faster data feeds for digital library connections that are becoming available for students and faculty. The School requests \$6,876.00 to install the fiber optic cable and acquire required hardware.

### **Proposal #3: Research Computer Lab Carrel/Furniture Redesign**

The Research Computer Lab, used primarily by master's and doctoral students in the School of Nursing, needs computer carrels to accommodate the larger workstations, mouse action, study materials, and data print outs. Present furniture was designed to accommodate mainframe terminals. \$5,500.00 is requested to replace the computer carrels.

### **Proposal #4: Multipurpose Room Renovation**

The multipurpose room is a large, flexible classroom that is used for all-school meetings, large class meetings, and continuing education programs. This classroom does not support any of the newer technologies. Grants are being submitted to secure funds for renovation of the room. Vision funds are being requested to assist with the upgrade of the equipment to be dedicated to the room.

Equipment and software needs include: monitors, a ceiling mounted computer projector, two laptops, a data camera, a podium or console to contain equipment, and a security system. The total cost of the equipment requested is \$23,740.00.

## **Information Technology Vision Statement, Mission, and Goals**

### **Vision Statement**

The vision for information technology (IT) in the School of Nursing is that all students, faculty, and staff learn, teach, conduct School and professional business independently and efficiently with out regard to time or place. Specifically:

Faculty, staff, and students are competent, comfortable users of information technology;

Appropriate technological and educational support are available to all students, faculty, and staff;

Faculty and students appreciate, understand, and use information technology in all aspects of nursing practice, education, and research; and

Faculty and staff are leaders in the innovative use of information technology in nursing practice, education, and research.

### **Mission:**

Enable students, faculty, and staff to exploit technology for communication, collaboration, and information management.

Goals for 1997-2000 with statements reflecting progress toward goals and objectives identified for implementation during the 1999-2000 academic year:

1. Students will have access to state-of-the-science technology.

**Eval. of progress toward goals:** The School furnishes approximately 1 state-of-the-art computer for every 20 students. In addition to equipment, the newest instructional CD-ROMs, virtual reality machines, and application programs are available for students.

**Objective for 1999-2000:** Perfect classroom environments especially as it facilitates the use of multimedia. (Projects # 1, 2, 3, and 4)

2. Faculty and staff will have access to adequate computing resources.

**Eval. of progress toward goals:** Faculty and staff computing resources are continuously being updated, but this is still an area of great need

**Objective for 1999-2000:** Upgrade and replace SON technology with state-of-the-art equipment and networking resources. (Projects 1, 2, and 4)

3. Faculty, staff and students will possess a basic set of skills in information technology and computer use.

**Eval. of progress toward goals:** A smorgasbord of instructional programs is designed and presented for students, faculty and staff.

4. Faculty and students will be challenged to incorporate new technology into their professional and scholarly activities.

**Eval. of progress toward goals:** Increasing numbers of faculty are using multimedia strategies in their courses. Syllabi are being added to the SON web page. Faculty are beginning to use on-line testing software. Faculty are beginning to consider distance education strategies as optional delivery method.

**Objective for 1999-2000:** Create resources for innovative instruction. (Project 1, 2, and 4)

5. Accurate, timely technical consultation will be available to students, faculty, and staff.

**Eval. of progress toward goals:** Two full time staff and 60 hours of TA are available for faculty, staff and students. As faculty, staff and students grow in their ability to use IT their needs for assistance grow. Additional IT staff are needed to meet the growing requests for assistance.

6. Information technology content will be integrated into the curriculum.

**Eval. of progress toward goals:** As faculty build more IT techniques into their courses, students are encouraged and required to participate in e-mail communications, listservs, and Internet activities as a part of their course work.

7. Resources will be identified and allocated for acquisition, support, enhancement, maintenance and protection of technology.

**Eval. of progress toward goals:** Funds are expended for IT needs, but resources are not *dedicated* for IT purposes.

**Objective for 1999-2000:** Perfect classroom environments especially as it facilitates the use of

multimedia. (Projects 1, 2, 3, and 4)

## **Facility and Staffing**

Since the early 90's when the original Vision plan was submitted, the School has realized consistent growth in instructional technology resources.

### **Infrastructure:**

All faculty desktop computers are networked by four SON servers. All have access to the Schools intranet, e-mail, Internet, and FTP resources. We are in the process of upgrading the network capacity to 100 MB. All classrooms have been provided with network access, and are being activated as the demand grows. Having introduced all to the new resources, there is a great demand for more access, larger storage capacity, more training opportunities, and faster machines. The weakest link in the network is staff's inability to provide the personal support needed by users.

### **IT Staff**

Two full-time staff members and 3-20 hour teaching assistants make up the Computer Assistants Team. The head of the team is a Senior LAN Administrator, the other full-time staff member is a LAN Administrator.

### **Access to Computers:**

Students gain access to computer resources through the Learning Center (LC) and the Research Computer (RC) Labs.

### **Learning Center (LC) Computer Resources:**

Computer Classroom consists of 12 computer workstations and a teacher station. Eight are Dell Pentium IIs. Four are Macintosh G3s. All computers, managed by LabManager software, have a full complement of software needed by students and Internet access.

A general use computer facility provides students with 15 workstations (Mac and PC), one graphic workstation (G3 with full graphic capabilities, scanner, film recorder, and printer), three computer-video interactive stations, and other traditional AV stations. A Pentium II PC with a graphic excellerator card houses a virtual reality application, CathSim.

### **Research Computer (RC) Lab:**

The RC Lab has 8 workstations with software needed by graduate students learning about and conducting original research. Software such as SPSS, SAS, Ethnograph, NudIST, Teleform, and Lisrel are examples of applications available.

### **Other LC resources with IT implications.**

● **Simulation Lab** features three clinical simulation labs with computerized hospital

information systems(HIS) used in local facilities. Two labs have BedCom®, the HIS used by Seton. Vision funds purchased the bedside computer units. Seton Network donated the software and tech support. Seton abandoned the BedCom® System and is now considering the adoption of SMS Point of Service System. The School will install the system adopted, as experience with the charting system used in practice sites helps students focus on patients and their care.

Through a cooperative effort with South Austin Medical Center (SAMC), one of the simulation labs is equipped with the Meditec® HIS. The School installed an ISDN line and network cabling, and SAMC donated terminals, tech support, and access to their training modules.

●**Reference Area or Audiovisual Library** houses the School's reserve collection, models, and clinical equipment available to students for check-out. This area assures timely access to computer assisted instruction programs and supports students with literature and Internet searches.

●**Production Facility** provides a graphic artist, a production manager, and a full array of design and graphic tools. The production staff produce or help users learn to produce multimedia presentations, posters, newsletters, logo design, slides, HTML documents, and promotional materials for various programs of the School..

### **Classrooms:**

Tiered Classrooms:

The School has one technology classroom that supports two-way audio, video, data capabilities, and computer-driven multimedia equipment. In the summer of 1997, four additional tiered classrooms were upgraded to facilitate multimedia projections. During fall 1997, black-out curtains were installed in 4 classrooms (5.180, 5.178, 4.102, and 4.183) to permit the use of computer projection equipment. Two classrooms have ceiling mounted projection facilities. Others are serviced by portable projection equipment. All rooms have Ethernet feeds that are being activated as the demand increases.

Multipurpose Room:

The Multipurpose Room is a large, flexible teaching space that is used primarily for large class activities, all-School assemblies, and continuing education programs. This room needs to be made more multimedia friendly. One project in this year's Vision Plan includes funds to purchase equipment to contribute to this renovation.

### **Other School of Nursing Computing Projects**

Network between School of Nursing and School's Remote Nurse-Managed Clinics:

The School sponsors two nurse managed clinics: the Breast Screening Clinic (Drs. Susan Grobe and Mary Lou Adams) and the Children's Wellness Center (Dr. Melanie Percy). In addition to providing much needed services to selected populations, the clinics also provide invaluable clinical sites for student experiences. These clinics

demonstrate nursing roles of tomorrow's health care system.

#### Distance Education Initiative:

The School's vision includes initiatives that will deliver CE programs and formal courses to nurses in their place of work both in the Austin and Central Texas area, helping nurses who want to upgrade their education but must continue to work full-time.

#### Research Program:

The faculty have successfully competed for a total of \$5,870,972 (PROJECTED) extramural research funding during the 1997-98 year. All programs depend heavily on technology to support collection, management, and analysis of data.

#### School Data Management Project:

The School has undertaken a project to use mainframe data to facilitate decision-making processes. A consultant has been engaged to construct locally managed databases to analyze data such as student demographics, course information, and GPAs, to improve course planning and to provide data for grant writing efforts.

### **Proposed Projects/titles**

#### **ITAC eligible (priority order)**

#### **Project #1: Infrastructure Augmentation**

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 and maintenance, replacement, and upgrade of infrastructure components. This project serves the entire School: students, faculty, and staff. Instructional activities and administrative functions benefit from a secure, efficient network.

#### Resources, Equipment, and Software Needed to Accomplish Project Goals:

<b>Item</b>	<b>Cost per item</b>	<b>Cost</b>
Network Infrastructure Hardware		
Ethernet Switches	6@\$2,500/each	15,000.00
Network Infrastructure Software		
Remote Management Software	15@\$150.00/seat	\$2,250.00
Software Distribution and Monitoring Software		\$1,050.00
Intranet-based Calendar System		\$1,000.00
Network Monitoring and control software		\$3,000.00

### Workstation Hardware Upgrades

Fax software and equipment (modems and software)		\$3,500.00
CD ROM Tower (7 disc capacity)	2 @ \$3,170	\$6,340.00
Replacement Workstations/Monitors		\$50,000.00
Printers (16/600 or better)	\$1,400.00 each	\$2,800.00

### Workstation Software Upgrades

MacOS 8.5 Upgrade		\$7,250.00
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**TOTAL** **\$91,140.00**

Installation of equipment, technical support, and future maintenance would be supplied by the School of Nursing with oversight by the School's LAN Administrator. Funding would be drawn from several accounts: Special Equipment funds, the School's MO&E, Student Information Technology Funds, and the LC's MO&E accounts.

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### **Project #2: Fiber Optic Feed to School of Nursing**

The School has a technology classroom that currently has a coaxial broadband connection. While this connection to Utnet is adequate for current applications, a faster fiber optic connection would assure a higher quality data feed, permit simultaneous feeds for concurrent classes, and provide faster data feeds for digital library connections that are becoming available for students and faculty.

### **Resources, Equipment, and Software Needed to Accomplish Project Goals:**

<b>Item</b>	<b>Cost per item</b>	<b>Cost</b>
Two multi-mode fibers (SON to Ser 319)		
Installation and maintenance (\$12/month)		\$3,058.00
Multi-mode fiber optic transmitters (1194AMT)	2@900.00	\$1,800.00
Multi-mode fiber optic receivers (1194AMR)	2@900.00	\$1,800.00
Power transformer modules	4@32.00	\$128.00
Rack mount kits for these units	2@45.00	\$90.00
<b>Total Project Costs:</b>		<b>\$6,876.00</b>

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### **Project #3: Research computer lab carrels/furniture redesign**

The Research Computer Lab, used primarily by Master's and doctoral students in the School of Nursing, needs computer carrels to accommodate the larger computer workstations, mouse action, study materials, and data print outs. Present furniture was designed to accommodate mainframe terminals.

**Resources, Equipment, and Software Needed to Accomplish Project Goals:**

<b>Item</b>	<b>Cost per item</b>	<b>Cost</b>
Kitsune Computer Word Stations 30" d x 42" wide Laminate: Storm Gray Silica Trim: Blue Gray	8@ \$500.00	\$4,000.00
Electrical improvements (estimated) Power Poles, etc.		\$1,500.00
<b>TOTAL</b>		<b>\$5,500.00</b>

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**Project #4: Multipurpose Room Renovation**

The Multipurpose room is a large, flexible room that is used for all-school gatherings, large course examinations, and for continuing nursing education programs. This facility is in great need of renovation. The room no longer supports newer instructional methods such as multimedia presentations.

All students in the school, undergraduate and graduate, would benefit from the equipment detailed in this project. In addition, the multitude of practicing nurses who attend continuing education programs in this space would benefit from the addition of the equipment requested in this project.

**Facilities, Equipment, and Staff Needed to Accomplish Project Goals:**

<b>Item</b>	<b>Cost per item</b>	<b>Cost</b>
Monitors (4)	\$400.00 each	\$1,400.00
Computers (Macintosh and Windows-based for presenters)	\$2,500.00 each	\$5,000.00
Computer Projector	3,000.00	3,000.00
ceiling mount	\$500.00	500.00
Elmo (Data Camera)	6,000.00	6,000.00
Furniture to accommodate computer, OH, Elmo, etc.	2,500.00	2,500.00

Fiber Optic Security system	\$1,500.00	1,500.00
Cables for Video/Computer	\$300.00	300.00
Software	\$2000.00	2,000.00
Maintenance (10% of hardware costs)		1,540.00
<b>TOTAL</b>		<b>\$23,740.00</b>

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**Non-ITAC eligible (priority order)**

**Project #1 Faculty Workstation Upgrades**

Life cycle funding for faculty and staff computers is a difficult task. We never seem to have enough power faculty and staff workstations. In addition, file transfer problems due to differing software versions is a constant challenge to faculty and IT staff. Insufficient memory and storage are also problematic. At this time we need to replace approximately 35 Quadras and Performas in the School.

<b>Item</b>	<b>Cost per item</b>	<b>Cost</b>
Macintosh/ PC	35 @ \$2,500	\$87,500
Software	35 @ \$200	\$7,000
<b>TOTAL</b>		<b>\$94,500</b>

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**Project #2 Distance Education Initiative:**

The School's vision includes initiatives that will deliver CE programs and formal courses to nurses in their place of work both in the Austin and Central Texas area, helping nurses who want to upgrade their education but must continue to work full-time. Release time for faculty and Teaching Assistant with multimedia design skills are needed to design and produce instructional materials.

<b>Item</b>	<b>Cost per item</b>	<b>Cost</b>
One month release time for faculty	3 @ \$5,000	\$15,000
Teaching Assistant 20 hour/week	3 @ \$5,000	\$15,000
<b>TOTAL</b>		<b>\$30,000</b>

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**Project #3: Research Program:**

The faculty have successfully competed for a total of \$5,870,972 (PROJECTED) extramural research funding during the 1997-98 year. All programs depend heavily on technology to support collection, management, and analysis of data.

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**Project #4: School Data Management Project:**

The School has undertaken a project to use mainframe data to facilitate decision-making processes. A consultant has been engaged to construct locally managed databases to analyze data such as student demographics, course information, and GPAs, to improve course planning and to provide data for grant writing efforts.

<b>Item</b>	<b>Cost per item</b>	<b>Cost</b>
Programmer	1 @ 40,000	\$40,000
Data Enterers	2 @ \$12,000	\$24,000
<b>TOTAL</b>		<b>\$64,000</b>

**College Instructional Technology Funding Overview and Life Cycle Methodology**

Primary IT expenditures come from the student Information Technology and Vision Funds. When equipment and software upgrades are purchased for student use, the older equipment is cascaded to faculty or staff.

During the 1997-98 academic year, an additional \$50,000 from special equipment and the Dean’s discretionary accounts was used to upgrade workstations in the School’s Student Affairs Office and in the Dean’s Administrative Offices. Again, their older computers were used to upgrade faculty and staff equipment.

Life cycle methodology in the School of Nursing is based on the trickle-down effect. When new computers are purchased, the older equipment replaced are moved to the next faculty or staff in priority. Priority is based on tenure status, seniority, work vital to the mission of the School, and faculty member’s progress in using multimedia in courses.

The goal is to replace student-available machines frequently so as to have the latest technology available to them; ideally, this means a 2-year life cycle for the machines. Faculty research machines should be replaced every 2-3 years; administrative staff machines should be replaced every 4 years at the most, sooner if possible.

## Appendix A

### Total IT Summary Expenditures Report for 1997-98

Staff	\$130,000.00	School's Salary and Wages accts
Equipment	132,206.62	Student Information Technology Fees, Vision funds for all except \$50,000 that came from School Accounts
Facilities	17,700.00	Student Information Technology Fees and Vision Funds
Network	294.76	Student information Technology Fees and Vision Funds
Other		
Maintenance	3,498.04	Student information Technology Fees and Vision Funds
Software	12,352.27	
Misc	4,602.99	
<b>TOTAL</b>	<b>\$279,510.70</b>	

## Appendix B

### Infrastructure Summary

The School of Nursing infrastructure currently consists of 8 hubs and 1 router providing 10 MB Ethernet or LocalTalk connections to 6 servers and some 150 workstations throughout the building.\* The servers include a file server for the Learning Center, a file server for the School in general which doubles as a School Web server, a Mail server handling standard Internet-based e-mail for all School faculty and staff, a file server for Intranet-based creation of on-line tests, and two servers handling Learning Center student logons, printing, and workstation profiles. Workstations are 85%- 90% Macintosh computers and 10% - 15% PCs using Windows 95. Workstations for students' labs are generally 3 years old or less and there are orders in process to replace the oldest machines in this group. Following

this upgrade 80% of student workstations will be less than 1 year old. Faculty workstations are generally adequate but many are at the end of their useful life cycle and should be replaced. \*\* The typical staff workstations is less than 1 year old and should last another 2 years before replacement is considered.

Goals for future network development include school-wide deployment of 100 MB Ethernet to all servers and workstations; a dedicated ISDN link to the Children's Wellness Center; all workstations upgraded to PowerMacs or Pentium machines or better; improved student data tracking in the Student Affairs office; network asset management and workstation configuration software.

\* Approximately 90% of these connections are Ethernet.

\*\*Examples of these would be any sub-PowerMac Macintoshes or sub-Pentium PCs

**Appendix C**  
**The University of Texas at Austin**  
**School of Nursing**  
**Information Technology Strategic Plan**  
**1996-2000**  
**Reviewed/Revised 11/1998**