

College of Communication
Information Technology Vision Plan
2003-2004

Introduction

The College of Communication sees information technology as a means to enrich the educational experience and invigorate emerging areas of scholarly research and education. IT is also a mixture of tools that can improve the nature and efficiency of our business. As such, considerable investments are made in support of instructional technology initiatives and solutions to ease daily operations.

Information Technology in the College is no longer a special area, limited to certain disciplines. Rather, it enhances every area of our curriculum. Classrooms, computer facilities and even our hallways are enhanced to provide a pervasive technology presence. We provide state-of-the-art networks, instructional computer labs, special-purpose equipment, media production facilities, and technology rich classrooms. We have a professional staff to support and maintain these facilities and services. We provide our faculty with direct support for developing Instructional Technologies in their coursework. These efforts highlight our commitment to our students and their success as Communication graduates.

Synopsis of IT and Related Funding

The College of Communication received \$438,231 from the University-wide Information Technology Advisory Committee fee. We also generate approximately \$1.1 million from the College's Information Technology Fee (ITF). Other instruction-related projects, most of which involve a great deal of IT resources, are funded through a \$1.1 million Communication Learning Equipment Fee (CLEF).

A large portion of the ITAC Fee allotment is spent to operate the Communication Computer Center (<http://www.utexas.edu/computer/labs/ccc/>), a joint-use facility open to Communication majors during traditional business hours, and to all registered University students after hours. Management and upkeep of the facility is provided by Instructional Technology Services, at an annual cost of approximately \$160,000. ITAC funding support for this facility remains our primary concern.

Our largest ITAC-related project this year is the replacement of over fourteen computer projection systems throughout our buildings, and the addition of new systems, serving a total of twenty-four rooms. These enable the consistent availability of media presentation systems within every room used to teach classes. There is no longer a technical impediment to including rich media in one's instruction or student activity.

This year, nearly \$200,000 was spent to replace our entire CMA/CMB switched network. As the bulk of our network components were over 4 years old, it was important to replace components for which spare parts are unavailable.

We have also used ITAC monies to fund a building-wide Wireless Area Network (WAN) using the University's Public Network Access service. Already, over 50 laptops are used daily in "mobile computer lab" scenarios, allowing greater flexibility in realtime collaboration. Information is found at <http://communication.utexas.edu/wireless/>.

The principal use of the ITF remains professional and temporary staff. We employ 16 FTEs in IT-related positions, with duties ranging from instructional media production to audiovisual systems support to computer facility and faculty/staff systems support. Instructional Technology support falls mostly in three areas. The Technology Team Help Desk provides network and systems support for student labs, faculty and staff. The Instructional Design Group assists faculty in the development of instructional media. The Media Services unit provides assistance for classrooms and audiovisual equipment, as well as providing duplicating and media archiving, playback and checkout. We also employ professionals to support highly specific technical areas, such as our digital audio and video editing facilities. Our mission statement places student needs above all else, and our support priorities reflect this.

This year, CLEF provided for much of our instructional equipment, software and services. This fund provides for department-specific needs and is distributed based on competitive project proposals. The next round of proposals will begin in February and awarded before the end of the spring semester.

Our Vision

Much of our technology vision depends upon the facilities and services we provide. These are described below, and present URLs for additional detail. Listed below are the initiatives we expect to undertake, the resources required to enable them, and challenges we expect to overcome.

Mobile Computing Transition (Funding request: \$176,400)

The principal focus of our IT efforts for the immediate future is a move towards a new paradigm of pervasive mobile computing. Currently, the College operates a number of facilities that provide students and faculty access to computing resources (see http://communication.utexas.edu/techteam/tech_labs.html). This traditional approach, however, limits the extent to which technology can transform the ways our students are taught. Technology utilization essentially stops at the door. Rather than continuing to build and re-build “computer labs,” we intend to establish a requirement for students to purchase their own laptop computers.

What advantages does this shift in strategy provide? The sheer effort involved in continuously upgrading and replacing fixed computing facilities can be avoided. Instead, our efforts can go towards developing instructional systems and methods that move us from dependence on “glorified typewriters” towards the extensive use of online communication and collaboration, rich media production and “anywhere, anytime, on-demand” learning.

Secondly, reports show that students already invest heavily in computer technologies. What we are simply doing is providing justification for those students to bring their computing resources with them, and incorporate them into their learning experience. By developing curriculum strategies that include student-provided computational resources, we enhance the investment they have already made.

Third, this model effectively extends the learning experience beyond our physical boundaries. Today, students bring their wireless laptops to campus to take advantage of widely available wireless network access. They extend this access to the handful of cafes around campus that provide free wireless access. I have queried some of these “early adopters” as to why they have gone to this trouble. Ultimately, this provided them with a uniquely useful communication tool. They stay connected to both their academic and personal or professional lives. Learning depends on the free exchange of ideas, and this “mobile computing lifestyle” presents a means to participate in this exchange, no matter the location in time or space.

There are a number of issues that must be considered before taking this on. These include:

Network/Wireless Access – This must be as ubiquitous and reliable as possible. Currently, the College has deployed industry-standard “WiFi” access points to cover the majority of the Jesse H. Jones Communication Complex (CMA and CMB). We intend to extend this to cover all public spaces, both interior and exterior to the Complex. In addition, we intend to work with neighboring businesses that provide wireless access to include them in our strategic planning.

Locating Network Resources – A student brings a wireless laptop to our building and logs onto the network- now what? Effort must be taken to make the various systems and network services our students will depend on easy to find and use. These include printing, network storage (such as the University’s WebSpace service), courseware management (Blackboard, etc.) and online communication systems (email, listserves, etc.). Because these resources may no longer be tied in space and time to a particular “computer lab,” or even a particular network, the traditional means of locating these services is impractical.

Physical Issues – Students will now be carrying their computing resources with them. While advances have been made in both the size and longevity of mobile computers, we must still provide physical access to our networks, power recharging and, quite simply, a “place to plant one’s stuff.” The “cybercafe” metaphor solves this problem. We can modify our physical spaces to better accommodate the mobile computing workflow.

Robust and Rich Online Systems – Our mobile computing strategy will depend heavily on online systems, so these systems must become both dependable and compelling. Students and faculty will be far more likely to use a service that is both useful and engaging. At the same time, they will shy away from dull, undependable resources. We will count on continued funding and development of online systems maintained by ITS, preferring to use universal, multi-platform, highly-scaled, centralized systems, instead of custom, complicated and less well-maintained services.

“High-End” Needs – Today, mobile computing resources can provide most of the computing needs for students and faculty. Laptop computers are nearly on par with the best desktop systems. However, there will always be resource needs that are unreasonable to shift onto the student. For example, high-end audio/video editing systems or digital imaging devices can still be made available in “technology salons” or for checkout through our Media Center. Again, by reducing our need to constantly replace fixed computing assets, we can instead focus on providing higher quality and better access to such resources.

Help – Students bringing their computers to campus will only increase the need for quick, competent technical support. Increasing the number and distribution of locations to receive this support is also desirable. One idea is that of an “Expert Bar” at the primary “cybercafe” in the Complex. A mix of paid staff and student and faculty “experts” who donate their time to sharing their knowledge and experience could operate this. We will depend heavily on campus-wide support systems, such as provided by ITS, the CIT, etc.

The College will work towards this model by first implementing a mobile strategy for particular academic programs within our departments. Already, we have migrated some facilities from fixed computer installations to laptop-based “mobile labs.” In these, we will explore the changes necessary in both our pedagogy and systems.

In order to begin this transition, we are requesting funding to build a cross-departmental “mobile lab,” which faculty can use to bring laptops, digital cameras, scanners and related equipment into the classroom. These will supplement the existing departmental units and checkout equipment. As this new model

becomes routine, we will shift our funding focus from these capital expenses, towards the development of support materials and technology to maximize the student investment in mobile systems.

Classroom Media Presentation (Funding request: \$41,600)

As mentioned above, we continue to spend considerable resources and effort on enhancing our classrooms, meeting rooms and auditorium. Over a quarter million dollars were spent this year to incorporate a rich set of presentation technologies into each room, from LCD projectors to multi-channel audio processors. Each room is designed to provide almost everything an instructor would need for a presentation. Our classrooms and meeting rooms are described at http://communication.utexas.edu/room_resv/index.html.

This year, we request funding to add real-time streamed video decoding capability to each of our classrooms, in order to take advantage of media available both in the College of Communication Digital Archive (an ongoing project), and the Classroom Experience Archive, detailed below.

Online Systems and Communication

As mentioned above, our instructors depend heavily on the online systems that enable new methods and dynamics in their teaching. We provide a staff to help develop their instructional media. The Instructional Design Group currently consists of 4 FTEs and various student assistants. They work closely with other units on campus, including the Measurement Evaluation Center and the Center for Instructional Technology. More information is found at <http://communication.utexas.edu/idg/>.

The College works closely with departments across campus to help develop the next generation of online systems. Systems being developed currently include a Digital Asset Management System, which will be used to store, catalog, search for and present digital media for use in classrooms, by students in labs and at home, or by researchers across campus. This is closely tied to an audio/video streaming system that provides high-bandwidth playback capability for thousands of hours of media. We will have initial applications developed around these systems beginning in Summer 2003.

Student Production and Classroom Experience Archive (Funding request: \$151,356)

We are developing techniques and resources aimed at preserving student works in digital form. These range from radio and television programs produced in Broadcast Journalism to creative content produced in Advertising. In addition, we will augment our classroom facilities to enable every classroom experience (lectures, student presentations and symposia) to be captured and made available in digital format for later review or scholarly use. This will integrate directly with the Campus Streaming Service and Digital Asset Management System above. In addition, several courses and sequences are being modified to include a requirement that students turn in digital media equivalents of their work (digital audio, video, scans, etc.).

We are requesting funds to implement a dedicated audio/video capture solution for six CMA classrooms, and to provide content encoding software and equipment for our 50-seat shared-use computer facility, to enable students to digitize their content for submission.

Conclusion

The College of Communication will spend considerable resources towards providing a rich educational experience. Information Technology resources will include staff support, equipment and services designed to improve every aspect of our curriculum. As we continually develop our vision, we will see a

gradual transformation from business-as-usual, towards the long-sought rich learning environment expected of the “digital age.”

As we continue to depend on campus-wide systems, we must come to expect a certain level of investment in University infrastructure. Funding of campus network infrastructure and Internet access should be a top priority, and considered as necessary to our mission as functional classrooms and libraries. This investment should be funded through centralized fees.

The IT community at the University should be regarded as an enterprise service provider. Funding should therefore reflect this. Increasing staffing levels and benefits will ensure the enormous amount of money spent on IT equipment and services will not be wasted. As we add more resources, we must also add staff. We must also seek to improve the skills and abilities of IT staff, so training and certification plans must be developed. Our students, faculty and staff deserve the best IT environment we can provide.

Finally, new IT initiatives should be developed at the College level. These can be funded through ITAC awards that target initiatives, rather than specific departments. Such a change could encourage collaboration between departments. Once a service or technology has been developed to a level that it should scale to a campus level or greater, it should be migrated to a central provider for maintenance and administration. The University can then work towards providing continued availability through grants and central budgets.

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ITAC Project Funding Requests attached

Mobile Computing Support			
Qty	Item Description	Price	Extended
Laptop Equipment			
30	Laptop computer (Dell/Apple), bag for computer + camera	\$3,500.00	\$105,000.00
30	Digital camcorder with still image capture, flash, media card	\$2,000.00	\$60,000.00
10	Portable Firewire hard drive	\$270.00	\$2,700.00
10	Flatbed, USB-powered scanner	\$130.00	\$1,300.00
1	Anthro 30-slot notebook cart	\$1,900.00	\$1,900.00
Networking			
5	Wireless access ports (CMB, CMC, additional CMA, exterior)	\$1,100.00	\$5,500.00
			Total \$176,400.00
Classroom Experience Archiving			
Classrooms (6)			
CMA 3.112, 3.116, 3.120, 3.124, 5.136, 5.156			
Qty	Item Description	Price	Extended
Encoding Systems			
6	Realtime Streaming Audio/Video Encoder (VBSTAR)	\$12,000.00	\$72,000.00
50	Sorenson Squeeze 3 Compression Suite (50 seats)	\$249.00	\$12,450.00
6	Cabling, connectors, etc.	\$200.00	\$1,200.00
Video			
6	Wall-mount Pan-Tilt-Zoom remote operated camera	\$2,000.00	\$12,000.00
6	Ceiling-mount document camera	\$3,000.00	\$18,000.00
10	Sony DSR-11 DV recorder (for CCC lab)	\$1,800.00	\$18,000.00
6	Cables, unistrut, mounts, etc.	\$501.00	\$3,006.00
Audio			
6	Rane MLM82 8-CH. Mic/Line Mixer, Rackmount	\$400.00	\$2,400.00
24	PCC Condenser Boundary Microphone	\$250.00	\$6,000.00
6	Cables, unistrut, mounts, etc.	\$500.00	\$3,000.00
Networking			
6	Rackmount 8-Port Gigabit Ethernet Switch (Dell)	\$550.00	\$3,300.00
			Total \$151,356.00
Classroom Archive Presentation			
Classrooms (6), IDG (1), CCC (1), Media Center (18)			
CMA 3.112, 3.116, 3.120, 3.124, 5.136, 5.156			
Qty	Item Description	Price	Extended
A/V Playback			

Combined

26	MPEG-2 Set-top Box (DSL4000)	\$900.00	\$23,400.00
26	NTSC monitor for podium/playback carrel	\$500.00	\$13,000.00
26	Cabling, connectors, etc.	\$200.00	\$5,200.00
		Total	\$41,600.00