Results of The UCLA Information Technology Planning Board 2001 Campus Study
In the beginning . . .

All users connected to one central hub. Not very conducive to individualized uses and needs.

Now . . .

A highly developed distributed system of interconnected hubs exists. Very effective within each campus unit; yet unrealized for its full potential.

In the future . . .

A globally distributed system will offer uniform capabilities throughout the campus. A community-oriented infrastructure that allows for individual freedom.
Information Technology at UCLA is at the crossroads

While we have made great strides, technology’s full potential as a campuswide education, research, and productivity tool has yet to be realized. We all agree that information technology will pave a path that guides UCLA’s future. But the direction of the path, whether it will turn left or right or continue straight ahead, has been uncharted. Until now.

Thanks to your input, UCLA’s Information Technology Planning Board is ready to lay the foundation for the future. Based on what you’ve told us, and with the support of the campus leadership, we have identified the direction information technology will take as we approach the crossroads.

To recap our activities so far, the ITPB and its staff spent the year 2001 interviewing approximately 70 of you – academic and administrative leaders – asking for your thoughts about and experiences with information technology in the pursuit of your job, research, or studies. We held focus groups and formed ad hoc committees to look at the current state of information technology at UCLA and to help us think about the future.
This booklet sets forth what we heard and launches an institutional process for more fully integrating information technology into campus life.

We sorted your comments into five major areas of emphasis – principles that capture programmatic directions common to the various campus departments. They will serve as the framework upon which the campus information technology infrastructure will be designed, built and rebuilt.

UCLA’s information technology areas of emphasis:

1. **Integrate students into an IT-enhanced, individualized teaching, learning, and research environment.**
2. **Make UCLA a leader in three IT areas: data management and analysis, digital media, and computation-based research.**
3. **Use the Internet to support centers of scholarly interaction both to engage students and to enhance external access to UCLA.**
4. **Provide information to increase productivity and to enhance the relationship of individuals to the university.**
5. **Use UCLA’s IT resources to improve interaction with external communities.**

The value of these areas of emphasis is in how they relate to your local mission, how they focus your thoughts about deploying and using technology, and finally how they define your information technology requirements. If they are on target, they will spur the next level of planning in which goals and measurable programmatic objectives are defined and shaped. On the following pages, we take a closer look at each of the five areas of emphasis and outline what we ask of you next.
Integrate Students into an IT-Enhanced, Individualized Teaching, Learning, and Research Environment

The Goal

To use information technology to stimulate the cultural, social and education changes that will enhance the UCLA academic experience.

IT Building Blocks

- Blend Internet-based learning for on- and off-campus students to deliver and enhance the curriculum as defined by the missions of academic units.
- Use IT systems to enhance faculty-student interaction.
- Use IT systems to communicate with students about the curriculum.
- Use IT to help students forge groups around curricular and non-curricular activities through a process of academic socialization.
- Use IT to enhance the undergraduate research experience.
- Promote research on IT systems as a means to improving educational effectiveness.
- Ensure that students, faculty, and staff have the IT skills required for effective teaching, learning, and research.

The Future

Imagine it’s 2005. A UCLA undergrad is working on a research project he’s selected from the UC database of research topic areas. He checks his e-mail and finds a message about a new article on his research topic and the Web site where it’s available. At the Web site, he discusses the topic with other students, asks questions of professors, and gets advice from off-campus experts. As a registered participant in this research project, he can talk with a company involved in the subject area, contact his instructor to discuss when his report will be ready, and schedule an appointment for it to be evaluated. And he can do it all from anywhere on campus because he has a laptop that remains connected independent of location.

The Path

This is the kind of educational experience we envision for the UCLA student of the future. It follows the newly defined direction in which the campus is headed. Wireless transmissions will augment physical wires to make computers as portable as cell phones. But building an information technology foundation for UCLA’s future is more than just the infrastructure.

It also involves guidance of the cultural, social, and educational changes that will make the best use of this powerful tool. UCLA already has made significant progress in its student-focused information technology capabilities. Today’s student has some access to on-demand streamed media, interactive simulations, virtual models, customized disciplinary Web sites, and online forums. The next step on the path to the future is determining how we build on these existing tools and services to create an even better learning experience.
UCLA Information Technology Vision

Make UCLA a Leader in Three IT Areas:
Data Management and Analysis, Digital Media, and
Computation-Based Research

The Goal
To use information technology to enhance and ensure UCLA’s position as a leader in research.

IT Building Blocks
- Improve UCLA’s capabilities in these three areas as tools for research.
- Provide training and resources to build stable, high-quality competencies in these three areas among graduate students, undergraduate students, faculty, and staff.
- Improve capabilities in these areas in order to promote externally funded research.

The Future
Imagine UCLA researchers in 2004. One is exploring a new molecular structure to be used in a medical application. She is analyzing categories of molecular structures derived from statistical information about patients at the UCLA Medical Center. The patient data system provides information that is important to research while ensuring compliance with data privacy requirements.

This researcher is working with colleagues at UC Santa Barbara to develop a computer algorithm that generates molecular structures. They’re running the algorithm on a 1,000-node cluster located in Santa Barbara, and they’re running a simulation of the in-situ behavior of the molecule on a large shared-memory machine at the Lawrence Livermore National Laboratory in Northern California.

Another researcher on the team—an artist specializing in digital media—is developing an immersive environment for viewing behaviors and structures from different vantage points and times. His colleagues from across the state simultaneously discuss and manipulate real-time images at their respective visualization facilities. They videoconference meetings from their own desktops, and they post their combined work on a specialized Web site.

The Path
UCLA is making significant strides in providing the IT underpinning to support cutting-edge research. That’s why we’re involved in the development of a grid that would gather distributed resources into a collective set that would include computational and visualization engines, data storage, institutional servers, and collaborative desktop tools. Meanwhile, groups of technologists are working together to figure out the best use of information technology resources. Projects such as the California NanoSystems Institute, the Institute for Pure and Applied Mathematics and the Center for Embedded Network Sensors are pushing the development of information technology as researchers seek innovative ways to do their work. The next step is to determine what else is needed and how to pull it all together to make UCLA a leader in research-oriented technology.
Use information technology to develop world wide scholarly collaboration that will enrich and broaden bodies of knowledge.

- Use IT Centers to enhance the effectiveness and visibility of the academic missions of UCLA units and of the campus as a whole.
- Promote exemplary centers of this kind as models for other campus units.
- Use IT Centers to attract a high-quality and diverse student body.

Imagine the UCLA scholar of the future. He uses real-time visualizations for remote desktop collaboration with international colleagues and with students on his own campus. He sends digital, voice, and video data over the network. He creates databases of models, images, and written information that he shares with others interested in his field. His ability to gather, create, and manipulate huge amounts of data depends on an information technology underpinning that includes massive computational power, Web portals, and databases.

Compiling and managing content in a database that is available to other scholars—regardless of location—both publicizes his work and provides the mechanism for others to build upon it and to contribute to the field in general. But, the collective content and lively debate that grow around the pooled information require a broader forum. So this scholar creates a Web site that over time becomes the authoritative resource in the field. As the Web site becomes established, it is expanded to include a virtual lab that gives scholars—students, faculty, and other researchers—the opportunity to work together to tackle problems within their field.

The sharing of ideas and theories already has boosted the efforts of scholars and allowed breakthroughs in science and the humanities that would not have been possible just a decade ago. The challenge UCLA now faces is to design and create the appropriate information technology foundation to support and promote this scholarly interaction. We envision the formation of technology-based centers of collaboration that must be current and, at the same time, enduring. They must be dynamic, yet authoritative. And, they must allow for multiple contributors to the body of data.
To transform UCLA’s institutional data into a more useful campus resource by utilizing information technology to improve accessibility.

Use IT to extend and enhance library services.
Provide timely and accurate data resources and transaction services that are accessible and usable for faculty, students, staff, alumni, and parents.
Provide timely and accurate business systems that are accessible and usable for faculty, students, and staff.
Provide timely and accurate student systems that are accessible for faculty, students, and staff.
Provide IT services and support to overcome physical and temporal boundaries.
Study and communicate the effectiveness of the use of IT in academic and administrative processes.
Enhance faculty, staff, and student IT expertise.

Imagine a university where information technology is so embedded in the culture that a student uses it to continuously assess and receive guidance as she makes progress toward her degree, a staff member uses it to navigate through the campus retirement process, and a group of students uses it to collaborate with their counterparts across the country—all of them working together on a project using the same visualization of ancient Rome stored within the California Digital Library.

Information technology at this university of the future allows a student to sit outside and use her personal digital assistant to see if books are available at the library, pay her parking fine, and check a grade on a quiz she took that morning. In addition to enhancing productivity, information technology will help to create a culture of equal access. The university of the future is a place where students with disabilities use adaptive technologies to gain full access to education. It is where any high school student and his parents can go online to understand the admissions process. It is where children at the campus’ laboratory elementary school have access to works of the masters by videoconferencing with experts at a local museum.

UCLA is well on its way to becoming the university of the future. Information technology has become such an integral part of daily campus life that a productive—and at the same time, socially conscious—culture already exists here. Students, faculty, staff, alumni, and the larger community outside our borders are relying on information technology tools such as my.UCLA, the student Web portal, URSA, the self-service enrollment system, BruinBuy, the catalog-driven e-commerce purchasing application, and Gradebook, the Web-based grade management system for faculty. But this is just the beginning. In the next months and years, we must work together to make sure that these tools—and the culture they help create—continue to grow and improve.
To use information technology at UCLA to make information and knowledge available to external communities.

In a framework of partnership and accessibility, provide information and databases for the use of external communities.

Build connections with external communities by developing and sharing IT resources and expertise.

Imagine a time when a group of volunteers from the community might use results from a UCLA faculty member's research to create a database of information about local job opportunities. And a time when a high school student can stop by a community center to log onto the UCLA Web site to find information about his own community for a research paper he’s doing for class. At the community center, that same student might enhance his information technology skills as a result of UCLA’s involvement in after-school computer training programs.

Already, we’re using our information technology resources in service to our external communities. The UCLA in LA Web site is an aggregation of information to help people find community resources. Through the School of Public Policy and Social Research, for example, UCLA has supported projects such as Living Independently in Los Angeles (LILA), which is an online map of resources for people with disabilities, and Neighborhood Knowledge Los Angeles (NKLA), a Web site dedicated to preserving neighborhoods and housing options. The university is committed to its partnership with Los Angeles for the long haul, and we’ll look to information technology as a primary tool for developing new ways to nurture our external relationships and for building our status as an invaluable resource to our neighbors.
In this booklet, we’ve described the information technology framework that was built upon your comments collected over the course of a year. Simply put, our goal is to make technology ubiquitous at UCLA so that it is easily and readily accessible and of value to the work you are performing.

We have some work to do. We are proceeding with plans necessary to develop the IT infrastructure to support this framework. But a crucial next step is for the Information Technology Planning Board to understand how and why the five areas of emphasis resonate with you and your campus unit. How does each of the five areas relate to your local mission? How do these areas focus your thoughts about deploying technology and how do they define your information technology requirements?

If your unit already has established that any or all of the areas are important and you’re already putting them into practice, we’d like to understand your experiences.

By understanding the individual perspective, we’ll be able to work from an institutional standpoint to determine what is best accomplished at the local level, what requires an aggregated approach, and how the two can be coordinated to achieve the best programmatic outcome most efficiently.
How to Reach Us

We're counting on your comments. Please use the email address it@ucla.edu to send us your comments and questions. The ITPB's primary point of contact for your input is Esther Woo-Benjamin, 206-6522, or ewoo@ucla.edu. Or to discuss issues related to a specific academic area, please contact the appropriate ITPB member. You also can get further information and respond to our questions by visiting our Web site at www.itpb.ucla.edu.

Thanks for your help in laying our information technology foundation for the future.

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