Organizational Context

1.1 The State of Hawai'i

Hawai'i is viewed by most non-residents as a serene island paradise, somehow apart from the rest of the world. And in some ways that's true. Hawai'i's biological and geological uniqueness and rich Asian-Pacific cultural heritage can be found nowhere else. Even on Oahu, the largest island in terms of population, there's a small-town flavor. The spirit of *aloha* is well-known to visitors, but among residents of Hawai'i, a familial spirit of togetherness called *ohana* also permeates the culture. It can range from an intangible feeling of collegiality to a resilient social support structure. Whichever form it takes, the feeling of *ohana* is one of the characteristics of the University of Hawai'i Library and Information Science Program that enables it to overcome obstacles and create a positive educational environment.

Two thousand miles of ocean provide no insulation from economic doldrums. The weakness of the U.S. economy in the early nineties depressed Hawai'i's core tourism, agriculture and construction industries at the time when military spending was also being curtailed. In the mid-nineties, as the U.S. economy improved, the Asian economy stumbled and Hawai'i's suffering has continued unabated.

The people of Hawai'i have known for some time that the State must diversify its economy to thrive in the global marketplace. While opinions vary on the best method, the overarching concern has always been to maintain Hawai'i's uniqueness. With such exquisite environmental and cultural resources, people in Hawai'i are understandably quite protective of their islands. This pride, while well-founded, sometimes results in a resistance to change.

Indeed, at the onset of the downturn, the State's lone strategy seemed to be simply to slash spending and try to weather the storm until the tourists and the military came back. But one of the few positive outcomes of Hawai'i's sustained economic battering is that it has shaken both the political leadership and the electorate into confronting reality.

The State now encourages more public-private partnerships and takes a much more active role in trying to attract new, environmentally clean, knowledge-based industries that are well-suited to take advantage of Hawai'i's geographic and cultural proximity to the Pacific Rim. Priority has been given to telecommunications, software, biotechnology and other high-tech industries. Supporting these industries requires world-class research facilities and a technologically literate workforce. The State has realized that the best engine to drive these changes is the University of Hawai'i.

1.2 The University of Hawai'i

The University of Hawai'i aims for excellence in education, research, and service by offering programs with a distinctly Hawaiian and Asian-Pacific focus. (For background material see: www2.hawaii.edu/welcome/general-info.html; for facts on enrollment, student composition, etc., see: www.hawaii.edu/iro/facts/fs1998.htm; for information about information technology and library resources, see: www.uhm.hawaii.edu/infotech/). The University's goal is to become the premier Asian-Pacific research university in the U.S. The University is a multi-campus, statewide system of post-secondary education, one of the few in the U.S. desig-

nated as a land-grant, sea-grant, and space-grant institution. The University is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC) and by the appropriate bodies for its 45 professional programs.

In recent years, the University has responded to the severe competition for state dollars with greater attention to system behavior and performance outcomes. The University's Strategic Plan for 1997-2007 was composed during these lean times and is anything but an academic wish list (discussed in Chapter 3, Planning; complete UH strategic plan available on site and at: www2.hawaii.edu/ovppp/ stratplan.pdf). At the forefront of the University's strategic plan is a commitment to be responsive to State needs, especially those of the labor market, and to make the best use of limited resources. Currently in the midst of institutional accreditation with the WASC, the University is being challenged to show progress in meeting their strategic goals.

The University accomplishes these goals by providing a quality education and increasing its involvement with K-12 educational reform, to see that Hawai'i students are more adequately prepared for college-level success. Funding priority has been given to maintaining excellence in the University's acknowledged areas of research strength: astronomy, ocean and earth science, and tropical agriculture. To expand its reach and meet the needs of working students and residents in outlying areas, the University has implemented innovative distance education programs which have been ranked second in the nation according to the report, "The Digital State 1998" (Progress and Freedom Foundation, 1998). The University of Hawai'i scored especially high in areas related to delivery of instruction through interactive technologies, a key component of the Library and Information Science Program.

As the preeminent educational institution in the State, the University of Hawai'i has always been critical to the higher education of Hawai'i's people. For this reason, the State has historically sought to control the University's operations via decades of legislation, which has limited the University's flexibility in many areas. Fortunately, the State now agrees that its needs are best served by freeing the University to pursue its goals more creatively.

With the passage of Act 115 in 1998, the Hawai'i Legislature granted the University significant new levels of autonomy in governance and administrative matters. The University now has the authority to retain its own legal counsel, manage and invest special funds, procure goods and services, and manage personnel. A new relationship between tuition revenue and future state appropriations is currently being negotiated, which necessitates seeking new revenue sources.

Act 115 fundamentally redefines the relationship between the University and its communities. The University is challenged to take a larger role in the economic development of the State and to become entrepreneurial itself—to cultivate private support, to compete for the best talent, and to build a university that is globally competitive while remaining relevant to the people of Hawai'i. According to University President Kenneth P. Mortimer, Hawai'i's economic recovery will depend significantly on the ability to develop new enterprises based on new applications of knowledge. At the heart of this vision to create a knowledge-based economy in Hawai'i is the Department of Information and Computer Sciences, within the College of Natural Sciences.

1.3 SLIS-ICS Merger History

1.3.1 Background

The LIS Program has emerged from a period of transition. It is now part of the Information and Computer Sciences Department of the College of Natural Sciences. This reorganization is the culmination of a four-year effort to ensure that the Program is able to prepare graduates for the increasingly technical library and information science environment while continuing to imbue students with the core concepts and humanistic values so important to the field. As early as 1993, the faculty of the School of Library and Information Studies (SLIS), led by Dean Miles Jackson, began to proactively develop a vision for the future of library and information science at the University that keeps pace with state needs, societal evolution, and technological progress.

The University Administration granted Dean Jackson an unprecedented semester-long leave of absence to develop a vision for SLIS. The result was his report that placed SLIS within a multidisciplinary integration, "New Opportunities for the 21st Century." Early in 1994, the LIS faculty went on a retreat to discuss alternatives for the future of the School. Since information science is at the crossroads of many disciplines, including library science, educational technology, computer science, communications, cognitive science, semiotics, and decision science, our vision involved creating a restructured super-school joining several cognate disciplines in one unit. The faculty created a document that outlined our goals for restructuring SLIS and forwarded it to the UH Administration. Fatefully, the SLIS expansion plan report coincided with the emergence of a statewide fiscal crisis. The reorganization plan was not a result of the downturn in the economy, but since it eventually provided some savings, it came at an opportune time for the University.

Talks between Dean Miles Jackson (who was retiring), Interim-Dean Larry Osborne, and then-Senior Vice-President and Executive Vice-Chancellor Carol M. Eastman advanced, favoring a merger of smaller proportions that fit with new economic realities and UH goals. Eastman lent her support to the restructuring plan, confirming that the School's program is serving the needs of the State and the Asia-Pacific area, affirming the University's commitment to LIS education, recognizing the trend toward convergence in communication and information science and the shared knowledge base of these disciplines, and validating the need to bring these fields into closer alliance. The rationale for merging included achieving more efficient administration and utilization of resources, bringing together in one department faculty and students focused on the evolution of information technology in society, and strengthening academic programs, research, and scholarship in information technology, digital libraries, and distance learning (particularly supporting the concept of University Centers).

In November 1995, the President charged a Task Force with working out a proposal for restructuring SLIS, including Dean Jackson, Dr. Larry Osborne, faculty from Communications, Computer Science, Educational Technology, Journalism, the heads of the University Libraries and the Hawai'i State Public Libraries, and representatives from the Faculty Senate and the Office for Faculty Development. The Task Force articulated several restructuring alternatives, among these, the most attractive and exciting option to the LIS faculty was a merger with the Department of Information and Computer Sciences (ICS) (see Proposal for Reorganizing, on site document). VP Eastman arranged discussions between Interim-Acting Dean Larry Osborne, ICS Chair Stephen Itoga, and Wesley Peterson (ICS senior faculty member). Unfortunately, as the reorganization plans advanced, rumors appeared in the media announcing the closure of SLIS without mentioning the restructuring

plans. This and the Board of Regents approved tuition hikes began to affect the number of applications. The Program is still experiencing a decline in enrollment that is being addressed with a new recruitment plan. A positive development is that Fall 1999 semester applications increased 36%.

Since 1987, SLIS has been a partner with ICS in the Interdisciplinary Doctoral Program in Communication and Information Science, where LIS and ICS faculty have formed good interpersonal and cooperative research relationships over the years. While most LIS faculty are ostensibly in different academic cultures of social sciences and humanities from the ICS faculty in natural science, we share some similar research interests, though from different perspectives, and some LIS faculty have natural science degrees. Similarly, we see these cultural differences as strengths, since both computer science and library and information science have turned their attention to storing, retrieving, communicating, and presenting information, especially using networks. Perspectives and clientele vary somewhat, but these fields are converging, and the reorganization takes advantage of their complementary strengths. Information, its development, dissemination, and use is the single largest industry in the U.S. Because society has moved to a networked information environment, information science is, at present, one of the richest and most fertile research areas, including studies of the properties of information, the functions of information behavior, the forces that govern the flow of information, and the processes of managing information in order to maximize its access and use.

The ICS faculty held several meetings to discuss the proposed merger, some in the LIS facility. One theme that arose in their discussion that was passed along to the LIS faculty, was the general concern in their field that CS education needed to become more responsive to students and future employers. This new need is fueled by the shift in the past two decades from mainframe applications to personal computer use, networked access, and distance learning, especially asynchronous modes. The CS field has moved into designing systems for larger groups with broader, non-technical backgrounds, such as corporations, small businesses, and consumers. Similarly, the LIS field has evolved toward serving end users within networked information system architectures. Both faculties work with information technology, CS looks at it as developers and LIS looks at it from the user's point of view. Thus, the interests and domains of the two fields are converging, providing an opportunity for broadening the ICS mission and strengthening the department with the addition of LIS faculty concerned with human-system interaction in information retrieval, the social impact of technology, evaluation of large retrieval systems and databases, teaching information technology literacy, and system design and operation.

Ultimately the two groups realized that we had complementary goals, with CS wanting their students to be more responsive to diverse users' concerns and LIS wanting their students to develop greater technological knowledge. For example, CS faculty have a service course (ICS 101 Tools for the Information Age, syllabus available on site) that attracts nearly 1,000 undergraduate students each semester, but, with the advent of the Internet and the Web, they realized that a complementary course focusing on information retrieval, evaluation, and use, including information ethics would be a useful next step. The LIS faculty had planned to develop such a course, and since the merger this course was added in 1999 as a second service course offered by the department, through the LIS Program (LIS 100 Libraries, Scholarship and Technology, syllabus available on site), and taught by University librarians. We have made considerable progress in our cross-cultural integration with ICS in two short years of planning and implementing the merger, and expect

that this integration will continue to develop in the next five years as faculty continue to explore areas of complementarity (See Chapters 2-8 for evidence of integration).

1.3.2 Programs, Personnel, and Space

The two faculties agreed that there would be no change in the existing degree programs at the time of merging. The restructuring moved under ICS administration the LIS faculty and existing Programs, the Master's in Library and Information Science (MLISc), participation in the School Library Media Specialist certification process, a post-Master's certificate with two tracks, six dual-Master's degrees with other disciplines, and participation in the Communication and Information Science doctoral program. The College of Arts and Sciences, its College of Natural Sciences, and the ICS department are the three new layers of administrative units that LIS now reports to and conducts business through. ICS department head, Dr. Stephen Itoga is administrative head of LIS and CS faculty, while LIS retains a Graduate Chair, Dr. Violet Harada, as required by American Library Association (ALA) accreditation. The locus of tenure is within the College of Natural Sciences, while personnel matters have been transferred to the department level. In the restructuring, LIS lost the Dean's secretary position and the Dean position. However, in the merger proposal accepted by the University, the former Dean position was designated as a "cross-over" faculty position, with the understanding that it be assigned to ICS since CS and LIS programs are currently understaffed relative to student demand. The department received permission to hire for this position in May 1999. In addition, restructuring necessitated a review and re-description of LIS clerical and administrative assistant positions within the College of Natural Sciences. Hiring for a student specialist position has also been approved.

The faculty are pleased to join the College of Arts and Sciences (CAS) and its College of Natural Sciences (CNS). We welcome the change in program name to Library and Information Science Program, and the new MLISc designation for the degree. LIS faculty remain in their physical quarters in Hamilton Library and continue to teach the courses they have been teaching. In 1995, two years before the official merger, we formed an informal SLIS/ICS relationship that worked well because in getting to know each other, we were able to see more areas of collaboration and enhancement. In 1996, ICS department head Dr. Stephen Itoga participated in creating the LIS strategic plan at a two-day faculty retreat. We appreciate his cogent and collegial input to our planning process (See Chapter 3. Planning Process for details). At that time we invited CS faculty to begin using the LIS space, e.g., some CS faculty have office and research space in the LIS facility, CS faculty offer classes, hold seminars and faculty meetings in LIS space when available, and use LIS information technology in their research and teaching. At the same time, LIS faculty were invited to utilize the ICS computing facilities, conference rooms, and equipment in the POST building. Through these voluntary, cooperative efforts, the LIS faculty have been able to see themselves as part of the larger department within a college structure.

After the merger, both faculties began to work on cross-listing and revising relevant courses, eliminating peripheral programs (e.g., the Certificate in Archives Management), and streamlining management procedures. Current course load policies and practices as well as current tenure and promotion policies and guidelines for ICS and LIS remain in effect. Two LIS faculty received tenure in the ICS department in 1998, and a third will apply in 1999. The appropriate graduate chair in consultation with the ICS department head organizes the department personnel committee for each applicant.

We anticipate that this merger will create excitement in the field of library and information science. The national trends in LIS education reveal a number of interdisciplinary restructurings, including UCLA's move into the College of Education, University of Michigan's move to a super School of Information, Indiana University's move toward a School of Informatics, and Rutger's School of Communication, Journalism, and Information Science. Several schools are currently involved in mergers, however, none that we know of have merged with a department of Information and Computer Sciences. Our position in ICS will prove a positive factor in recruiting new types of students, permitting the LIS Program to expand the diversity of our graduates and increase recruitment of quality students. With this merger, the University of Hawai'i has the opportunity to forge a new, exciting, and richly productive department that can address information technology issues holistically, through studies of information system design and expanding user populations.

1.4 The Colleges of Arts and Sciences

The Colleges of Arts and Sciences, of which the College of Natural Sciences is a part, has drafted a mission statement to bring prime academic values, goals, and visions into sharp focus. (See the University of Hawai'i Organizational chart and the end of this chapter.) The draft mission states:

> *The mission of the Colleges of Arts and Sciences is to pursue scholarship within the tradition of a liberal education and to promote a dynamic academic environment. This education prepares students for lifelong active learning, productive careers, personal enrichment, involved citizenship, and the challenges of the future.*

The mission statement is intended to capture the core academic elements that unite and give life and direction to the Colleges. Discussion is underway about the Colleges' central purpose and what the focus should be in the near and distant future. Authored by the Arts and Sciences Committee on Philosophy and Mission, the complete mission statement identifies two central themes: pursuing scholarship within the tradition of a liberal education and promoting a dynamic academic environment (mission statement available on site).

1.5 The College of Natural Sciences

The College of Natural Sciences is the unit at the University of Hawai'i that serves as the primary resource for advanced, applied and fundamental, scientific and mathematical information for the State. The expertise of the College is called upon continually for aid in technical problems facing all levels of society.

The mission of the College is both local and global in nature. At the local level, goals for the achievement of excellence are based on the needs and natural resources of the State of Hawai'i. The College is also part of an international community and advances research in its constituent fields of study. These include: Astronomy, Biology, Botany, Chemistry, Information and Computer Sciences, Mathematics, Microbiology, Physics, and Zoology. (See the organizational chart at the end of this chapter.)

The College of Natural Sciences is also responsible to the State of Hawai'i for the continued education of individuals with advanced knowledge in science and mathematics. The mission of the College is both local and global in nature. At the local level, the College focuses on areas of excellence based on the needs and natural resources of the State of Hawaii. The unit plan of the College of Natural Sciences can be found at www2.hawaii.edu/natsci/unitplan.html.

1.6 The Department of Information and Computer Sciences

ICS has a 30-year history of excellence and innovation in computer science and information technology. Among its faculty is Wesley Peterson, internationally known for his groundbreaking work in digital communications error control. In recognition of this, he was awarded the prestigious 1999 Japan Prize for Information Technologies.

ICS course offerings include hardware and software engineering, programming, systems analysis and design, database modeling, networking, artificial intelligence, cognitive science, and human-computer interaction. Faculty include 13 in Computer Sciences and 5 in Library and Information Science. (See the organizational chart at the end of this chapter.) About 600 undergraduate and graduate students are enrolled in six degree programs (BS, BA, MS in Information and Computer Sciences, MLISc in Library and Information Science, Ph.D in Communication and Information Sciences, and Ph.D in Computer Science).

The ICS department currently carries 3% of all University teaching with 1% of its faculty resources, and has been identified by the University as a key department for expansion. In the recent re-allocation plan, the College of Natural Sciences received 7 of the 18 positions available to all of the Arts and Sciences units. Three of these were given to the ICS department (43%). In summer 1999, ICS advertised for a dual-culture teaching faculty position, a student services specialist, and a systems specialist.

ICS has shaped its own mission statement to support State and University mandates (specific goals are presented in Chapter 2):

To provide a premier education and research environment for information, library, and computer sciences in the State of Hawai'i and to support a high technology software industry in Hawai'i.

The ICS Department recognizes what few in the white-hot software industry are ready to admit: that programmers and computer scientists are not sufficient unto themselves. Crucial to the success of any computing endeavor are intermediaries between programmers and end users, whether in the form of traditional librarians or completely new types of knowledge workers. Toward this end, selected ICS and LIS courses can now be counted toward MLISc and MS degrees (see Chapter 4, Curriculum).

ICS is building on the LIS experience in distance learning to develop new initiatives to expand program offerings through synchronous and asynchronous modes. Since 1991, LIS has been a campus leader in providing synchronous distance learning through the Hawai'i Interactive Television System (HITS). This experience provides valuable expertise to support the Department's expansion plans, which include creating its own distance learning studio classrooms and ATM network to overcome HITS scheduling limitations. Beginning in Fall 1998, ICS offered two asynchronous courses to students at the Maui Technological Park supercomputer facility and plans to continue each semester.

1.7 The Library and Information Science Program

Supporting the goals of both the State and the University is nothing new to the LIS Program. The Graduate School of Library Studies was established in 1965, six years after statehood, amid economic prosperity and a high demand for professional librarians, especially school librarians. Since its founding, school librarianship has been a priority for both the LIS Program and the State. LIS has worked closely

with the Hawai'i Department of Education to expand and refine requirements and offerings leading to the School Library Media Specialist Certification. Ralph Shaw established the school at the height of a distinguished career in librarianship, publishing, technological innovation, and professional activity. The marriage of new technologies with humanistic concerns was a foundation stone for the new school at mid-century and continues to guide the program to this day. The LIS Program's mission is:

To educate individuals for careers as librarians and information professionals in a rapidly changing technological and global society. The Program undertakes research and service initiatives that meet emerging information needs. In keeping with the University's mission, it serves a multiethnic, multicultural population from the Hawaii-Pacific area, as well as other regions.

In the 1970s, the School responded to the increasing need for new skills in the information age. It revised its goals, objectives, and curriculum in 1980 to address the realities of a rapidly changing information environment. New faculty brought expertise in library automation, online and full text retrieval, and database design. In 1986, the name was changed to the School of Library and Information Studies. In the 1980s, dual degree programs were created to give students access to interdisciplinary study in special areas—Asian Studies, Pacific Island Studies, American Studies, Information and Computer Sciences, History, and Law.

The merger with ICS was foreshadowed in 1986 with the establishment of the Interdisciplinary Ph.D program in Communication and Information Sciences. This required the cooperation of four academic units—Communications, Decision Sciences, Library and Information Science, and Information and Computer Sciences. This unique program provides the opportunity for flexible, creative investigation of all aspects of the field through an integration of computer science, communication, library science, and management information systems. Additionally, the program draws on a broad knowledge base including political science, economics, engineering, operations research, and behavioral sciences.

Since the merger, the chairs and faculty of the ICS Department and the LIS Program have implemented initial actions to streamline procedures, create a seamless transition for students, pool human and physical resources, expand student learning options, and explore avenues for cooperation with other community agencies, such as the Hawai'i Department of Education and the Hawai'i State Public Library System.

In its present incarnation, LIS contributes a body of knowledge and dimensions of practice that aim to serve people seeking information. LIS blends time-tested principles of traditional librarianship with the latest tools for information management, storage and retrieval. LIS is concerned with the context of information, its social relevance, user needs, professional ethics, interpersonal and communication skills, and information advocacy. CS and LIS programs complement each other in the areas of organizational management, research methodology, experience in distance education, and teaching methods.

ICS/LIS has positioned itself as a vital tool to help build Hawai'i's future. University goals of collaborative research, training programs to support the needs of high-tech firms, attracting additional partnerships with industry and providing educational access to all Hawai'i's residents are all strengths of the combined ICS/LIS unit which are detailed throughout this report.

Since 1965, the Program has functioned as the only supplier of professional personnel employed in libraries and information centers in Hawai'i and the Asia/Pacific region. As the only accredited LIS program in the State, it plays significant education and leadership roles in Hawai'i. LIS graduates are especially well prepared to serve the full range of information needs of the people of Hawai'i, including information needs arising from the many cultures that make up this unique population. Graduates are working in Hawai'i's institutions of higher education, schools (public and private), corporate settings, research institutes, museums and art institutes, archives and records management centers, and government agencies.

In 1998, LIS graduates comprised 65-80% of the professional workforce in the public library system, the university library system, and the public school libraries. A small, slowly increasing number are taking positions in non-library settings as information professionals, e.g., database managers, information systems analysts, content specialists for Internet companies, and as information industry company representatives and officers. The LIS alumni working in the State and beyond demonstrate how the Program is helping the University accomplish its mission and goals.

The LIS Program has adapted, survived and is poised to thrive. It continues to offer students the knowledge, competencies and attitudes needed for today's information professional; to practice skills and teamwork in a unique multicultural community; and to nurture a lifelong commitment to learning, innovation, and service.

University of Hawaiʻi, Library and Information Science Program

University of Hawaiʻi, Library and Information Science Program