Arts Division IT Transition Plan
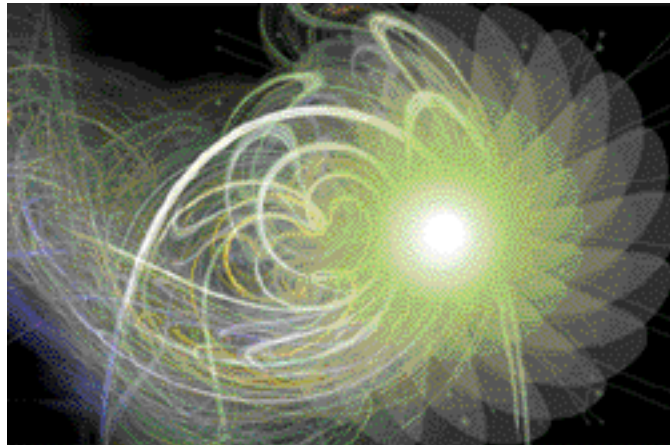
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Contents

1 Introduction

The proposal for a new Ph.D. program in Film and Digital Media at UCSC offers a useful context for the current state of arts education:

> "The arts, including Film and Digital Media, are growing at the University of California, already far outpacing overall institutional growth.…This overall growth in the arts… is there for a reason: namely, the advent of an economy in which various forms of media figure large and in which cultural events largely take place in media demands a place where these cultural changes can be critically and creatively assessed, understood and transformed."

This trend toward a media-mediated and technology-mediated culture is much in evidence in the Arts at UCSC. Over the last dozen years or more, the disciplines within the Arts have become increasingly reliant on information technology. Whereas a decade ago, for example, the editing of video in the Film Department was largely an analog process, it is now almost entirely digital. Similarly, much of photography—only recently analog—is now an IT process. Digital technology creates new fields of inquiry and performance—algorithmic composition and networked, interactive dance, for example. Digital technology brings into reach capabilities that before were prohibitively expensive—for example, video compositing and special effects. And digital technology expands the range of previously common, and even ancient, practices, such as printmaking, music notation, the study of images in art history, and lighting for the theater.

Each of these trends is in evidence at UC Santa Cruz, and the UCSC Arts Division and its departments have responded to these changes by investing considerable resources in IT equipment, software and staff. The trend toward the use of technology in the arts has not reached a steady state, but rather is likely to continue for the foreseeable future.

This document describes the current state of IT support for the Arts at UC Santa Cruz, describes future trends and needs, and describes how to meet current and future needs in the context of the transformation of IT services currently underway.

2 Divisional Priorities and IT Consequences

The priorities of the Arts Division over the next five years are detailed in its "Revised Academic Plan, 2005-06—2010-11," dated January 17, 2006. In order, they are: (1) Graduate program growth; (2) Diversification of faculty and curricula; (3) Undergraduate program stability; (4) Research development; (5) Capital programs and space planning; and (6) Co-curricular programs. Following is a discussion of those priorities with significant IT consequences.

2.1 New Graduate Programs

The division has five graduate programs in the planning stages and two that have already begun enrolling students. They are described below, in chronological order of implementation.

2.1.1 Digital Arts and New Media—MFA

The Digital Arts and New Media program, now in its second year, will continue rapidly to grow. Currently at 20 students, the program is estimated reach its full size, a cohort of 36 MFA students, in the fall of 2008. The program, by definition, is very technology-intensive.

2.1.2 Music—DMA, Algorithmic Composition

This doctoral program focuses on using technology to compose music. It is a small, technologically intensive program of four students, which began this past fall, 2005. The emphasis is in on using programming algorithms and technology as a means of musical composition; given the relatively small number of students, the IT consequences are likely to be incremental.

2.1.3 Music—PhD, Cross-cultural Musicology/Ethnomusicology

This program will result in two new faculty hires, and plans to enroll its first students next fall, in 2006-07. It will reach its full cohort of ten students in 2011-12. IT impacts are likely to be significant in the area of preparation and delivery of musical content, a particular need and concern, especially at the doctoral level, when studying music of other cultures.

2.1.4 History of Art and Visual Culture—Ph.D., Visual Studies

This program will emphasize advanced research in the history, form, creation, reception and meaning of visual signs and practices. The first cohort of four students will arrive in 2008-09, and enrollment will grow to 24 students by 2013-14. This program will also result in the hiring of three new faculty members. Delivery of visual content in this field is increasingly digital, within and outside of the classroom. Materials now include remote image databases as well as local institutional and individual faculty collections, and IT impacts of the program are likely to be moderate to significant.

2.1.5 Film and Digital Media—Ph.D., Critical Theory and Production

This program will combine critical theory with film and digital media production. It will result in three new faculty hires, and also plans to enroll its first cohort of four students in 2008-09. It will reach its full cohort of 24 students in 2013-14. With a doctoral-level focus on production, this production will have moderate to significant IT impacts. A graduate production lab is planned to be included in the program.

2.1.6 Art—MFA, Art as Visual Communication.

This new MFA program will integrate theory and art practice, across different visual art mediums, to explore the power of visual communication. The program will emphasize content and context of art production rather than the usual structure by media categories. The program will accept 12 students per year, beginning in 2009. It will reach its full capacity of 24 students the following year, 2010. IT impacts are likely to be moderate and incremental.

2.1.7 Theater Arts—MFA, Design/Technology.

This MFA program will combine graduate studies with the working environment of a professional theater company, to test classroom ideas, theories and inspirations in a professional performance context. The program will result in two faculty FTE hires. The first cohort of 12 students is planned to enroll in 2010, and the program will reach its full

capacity of 24 students the following year. IT impacts are likely to be incremental in the areas of scenic, lighting and sound design.

2.1.8   Theater Arts—Ph.D., Performance Studies.
The proposal for this program is in development.

2.2 Planned Facilities and New Spaces
The division is entering a period of significant growth in physical facilities. These are detailed below, in chronological order of occupancy.

2.2.1   Digital Arts Facility
This $25 million building is scheduled for occupancy in the fall of 2008. Its 20,000 assignable square feet will be the physical home of the Digital Arts and New Media MFA program, as well as housing technical aspects of programs in Art, Music and Theater Arts. Services to be available for each department using this facility are described in the relevant section of the Service Catalog.

2.2.2   Kresge College, Expansion Space
The Arts Division will acquire about 3,000 assignable square feet in Kresge College in fall 2006 and at least 2,000 additional a.s.f. in 2007. This space will accommodate the interim growth of the DANM program, pending the completion of the Digital Arts Facility. After that, it will accommodate the PhD program in Film and Digital Media.

2.2.3   McHenry Library, Expansion Space
The department of History of Art and Visual Culture is scheduled to occupy about 5,000 a.s.f. in the expanded McHenry Library in fall 2009. This will include accommodation of the HAVC Ph.D. program.

2.2.4   Communications Building, Expansion Space
Arts is set to acquire 2,000 a.s.f. on the main floor of the Communications Building during the current quarter, to house the immediate consolidation of the Film and Digital Media department.

2.2.5   Center for Art and Visual Studies
This donor-funded gallery and exhibition space, of between 10,000 and 20,000 assignable square feet, is in the planning stages. It is expected to be ready for occupancy in 2011.

2.3 Undergraduate Program Stability
The current view of the campus administration is that undergraduate enrollment in the arts will remain at a steady state for the next five years, with nearly all growth concentrated in graduate programs. The division takes a different view, and comments, in its Revised Academic Plan, "While graduate growth is our most important priority, we believe that our undergraduate programs will also come under pressure and that we should be enabled to accommodate some additional enrollment." Even if undergraduate programs do not grow in this period, the trend—noted in the Introduction—toward increasing use of IT and specialized technologies in arts disciplines will continue, and keep sustained pressure on IT staffing levels and equipment budgets.

2.4 Research Development

Much recent research by Arts Division faculty has been quite IT-intensive. One NSF grant, to Prof. Sack (~$700,000), has required a partial FTE in dedicated IT support. Another NSF grant, to Prof. Warburton (~$300,000), has resulted in the Dance Telematica projects, involving both research and instruction, which drew upon considerable IT resources, and produced notable and high-profile performances. Continuing this trend, notes the Revised Academic Plan, "with the establishment of the DANM graduate program and the projected Ph.D. programs in F&DM and Visual Studies, we expect the number of overhead-bearing grants to increase." The Division and ITS will need to be prepared to support these activities.

In another example, the collaborative performances by composer Hi Kyung Kim and visual artist Elliot Anderson, *Rituel III*, required quite a bit of IT support. And, the Division established the Arts Research Institute in 2003, and "the result is an increased national and international visibility for the arts at UCSC," as well as an increased in demands on IT resources.

This continued expansion of research activity in the Arts Division, much of it with significant IT involvement, points to the ongoing need for a robust and skilled IT support infrastructure.

3 Current IT Projects

This list of projects, while not exhaustive, gives the flavor of activities beyond the scope of daily work that are currently underway in Arts IT.

3.1 Division-wide or multiple department projects

3.1.1 Expansion of streaming media services for instruction
(Division, Film & Digital Media, Music, Theater Arts)

3.1.2 Podcasting for instruction
(Division, Film & Digital Media, Art)
- Students sharing work in film audio production via podcast.
- Podcasting lectures in Music and Art.
- Podcasting required listening for Music instruction.

3.1.3 Required laptop programs
(DA/NM, Film & Digital Media)

3.1.4 Remote IT support via iChat

3.1.5 Supervise student filmmaker for documentation and faculty web interviews
(DA/NM, Division)

3.2 <u>Art Department Projects</u>
    3.2.1   Improvements in digital photo and printmaking facilities.
    3.2.2   Cost-recovery model for large-format printing.
    3.2.3   Improvements in Electronic Art facilities and services.
    3.2.4   Planning for Art space in Digital Arts Facility.

3.3 <u>Digital Arts and New Media Projects</u>
    3.3.1   Complete build-out of current DA/NM facilities.
    3.3.2   Design of technical aspects for Digital Arts Facility.
    3.3.3   Refine "community" web space for students.
    3.3.4   Continue development of relationships between DANM and local technical businesses.
    3.3.5   Develop equipment checkout system.

3.4 <u>Film & Digital Media projects</u>
    3.4.1   Fiber-linked mass storage for film instruction / editing.
    3.4.2   Unattended live-event capture and broadcast.
    3.4.3   Reconfigurable exhibition / lab space for Digital Media
    3.4.4   Film alumni blog
    3.4.5   Interdepartmental layered disk images
    3.4.6   Customized DVD's for Critical Studies instruction
    3.4.7   Various web/database tools for digital media instruction
    3.4.8   Planning for filmmaking with HD technologies
    3.4.9   Analysis of discussions in web-based communities

3.5 <u>History of Art and Visual Culture Projects</u>
    3.5.1   Upgrade of instructional facilities
    3.5.2   Instructional development using ARTstor database
    3.5.3   Increased used of digital materials in instruction
    3.5.4   Customized DVD's for instruction

3.6 <u>Music Projects</u>
    3.6.1   Introduction of new notation software
    3.6.2   Upgrade EMS student lab to G5 and Tiger; update ProTools to 7.
    3.6.3   New EMS LAN and server for audio file transfer/ backup
    3.6.4   Add Native Instruments synthesis to EMS stations.
    3.6.5   Upgrade Kyma host computers
    3.6.6   Upgrade Recording Services to G5/Tiger; update Protools hardware.
    3.6.7   Workshop in Algorithmic Composition (WACM), June-July
- Requires temporary 15 station computer lab and LAN for summer workshop in algorithmic composition. (June- July)
- Requires migration of LISP modules from MCL to Allegro.

    3.6.8   Conversion of concert archive to modern digital format.
    3.6.9   Conversion of instructional tapes from Beta to DVD.
    3.6.10 Upgrade all classroom CD players.
    3.6.11 Upgrade classroom VHS and DVD players.
    3.6.12 Evaluate high definition rostrum camera systems for music score projection

3.7 <u>Theater Arts projects</u>
    3.7.1 Interactive, network-mediated dance, including
        a. Exploring new codecs for performance, e.g. DV over IP
    3.7.2 Motion Capture
        a. Motion capture for dance education and choreography
        b. Motion capture for dance performance
    3.7.3 Barn Theater network installation
    3.7.4 Mainstage/Dance studio network installation
    3.7.5 Experimental Theater wiring for closed-circuit broadcast

4   <u>Future Program Outlook and Unmet Needs, By Department</u>

4.1 <u>Art Department</u>

The Art Department has undergone significant growth particularly in the areas of electronic art and public art. New faculty hires and expanded curriculum in these areas have placed additional demands on facilities and staff. So far, particularly qualified students have filled the gap in electronic art—the most technically intensive—but this is not reliable. Digital printmaking and photography are oversubscribed already, and classroom support for intermedia and sculpture is insufficient.

IT staffing levels in the Art Department are acknowledged by all to be already inadequate. In addition, planning should begin in 2006 for the digital interface facility in Digital Arts building. That facility will need new, permanent staffing—at least an incremental FTE—when it comes on line in 2008, two and a half years from now. The MFA program in Visual Communication beginning the year after, 2009, will add to the IT workload.

Estimated need: By fall 2006, increase current 0.75 FTE by 0.25 to total 1.0 FTE.
                       By fall 2008, increase by 0.5 – 1.0 to total 1.5 – 2.0 FTE.

4.2 <u>Digital Arts and New Media</u>

The Digital Arts and New Media program will continue rapidly to grow. The program is estimated reach its full size, a cohort of 36 MFA students, in the fall of 2008. The opening of the Digital Arts facility in 2008 will increase the demand for equipment and staffing. The addition of a non-IT assistant working with current DANM staff (including IT staff) should mitigate the impact, and increasing use of student assistance is also a possibility.

Estimated need: By fall 2008, increase current 1.0 FTE by 0.25 – 0.5 to 1.25 – 1.5 FTE.
                       Use of graduate student assistance is a possible mitigation.

4.3 <u>Film and Digital Media</u>

Although staffing and facilities for Film and Digital Media are currently sufficient, the need for an incremental staffing increase is likely by at least the second year of the Ph.D. program, 2009-10. Further, Film and Digital Media as a discipline always requires the most up-to-date and powerful IT equipment, and equipment replacement cycles need to be short. Here again, equipment replacement is likely to be a continual issue.

Estimated need: By fall 2009, increase current 1.67 FTE by 0.25 – 0.5 to 1.92 – 2.17 FTE.

4.4 History of Art and Visual Culture
The HAVC Department is currently supported entirely by divisional IT staff. This has been a reasonable approach until recently, as the technical demands of the department have been at a manageable level. However, several developments are bringing us to the point where HAVC will need dedicated IT support, at least a partial FTE. These include the increasing use of digital technology in instruction, such as remote image databases like ARTstor, digitizing private faculty collections, and a steadily increasing use of IT-enabled classroom presentations; the advent of the Ph.D. program in 2009; and the expansion of the department into McHenry Library. My estimate is that by winter 2007, HAVC will reach a threshold where it need some dedicated support.

Estimated need: Starting winter 2007, begin to provide dedicated support of 0.25 –0.5 FTE.

4.5 Music
The effectiveness and dedication of the Electronic Music Studios director has until now meant that many complex activities, spaces and faculty in the Music Department are supported by a single person with a half-time staff appointment, along with support from divisional IT staff. However, the increased demand for digital delivery of music content in instruction, the advent of two new doctoral programs, the DMA in fall 2005 and the Ph.D. in fall 2006, and the opening of the Digital Arts Facility with its algorithmic composition lab in 2008, will create the need for incremental dedicated IT staffing in Music.

Estimated need: Starting winter 2007, begin to provide dedicated support of 0.25 –0.5 FTE.

4.6 Theater Arts
New faculty hires in Theater are driving a significant increase in technical activity, especially in the areas of set and lighting design and distance/interactive networked theater. A 0.25 FTE position, the current staffing level, is not appropriate for a department at this level of technical activity.

Estimated need: By fall 2006 or fall 2007, increase current 0.25 FTE by 0.25 – 0.5 to total 0.5 – .75 FTE.

4.7 Arts Division
Current Division staffing is tight, but adequate. The Systems and Support Manager, a long-time staff member, is remarkable in his ability to support an entire division with only his own labor and that of a half-time student. He provides both highly specialized, discipline-specific support services across all of the Arts disciplines, as well as standard support services. A student assistant position is soft-funded, but is essential for at least the next two years as the ITS support center ramps up.

I anticipate that services provided by the ITS support center will begin to take some of the load of global services off of division staff at just about the time when pressures from the new graduate programs and facilities coming online, described above, add increasing, discipline-specific demand.

Estimated need: Beginning in about winter 2007, start to provide local IT specialist services to HAVC and Music, plus additional support to Theater Arts, with capacity created by decreasing global service provision. Estimate 0.25 FTE change in winter 2007, and another 0.25 FTE change in winter 2008.

4.8 Summary

Overall, a careful managing of staff resources can keep the cost of necessary staff increases at a manageable level over the next five years. If, as described in the previous section, demand for global services is met over time by the campus support center, capacity will be created for existing staff to meet new demand. In this model, summarized in the following table, Arts' IT staffing needs are estimated to increase by between 1.38 and 2.79 new FTE by 2010-11.

These staffing estimates are in concert with the Arts Division's Revised Academic Plan, 2005-06—2010-11, dated January 17, 2006. The minimum staffing levels proposed here are below the costs projected in the Revised Academic Plan, and the optimum levels proposed here are above them; the distribution proposed here is slightly different. The position of the division's administration is that the estimates in the present plan revise and update the academic plan.

Arts Division IT Staffing Needs, Fall 2006 - 2010								
		Staffing Increase						
	Current	2006	2007	2008	2009	2010	Increase Total	Staffing Total
Optimum IT Support Levels								
Art Department	0.62	0.21	-	0.83	-	-	1.04	1.66
DA/NM	1.00	-	-	0.50	-	-	0.50	1.50
Film & Digital Media	1.67	-	-	-	0.50	-	0.50	2.17
HAVC	0.00	-	0.50	-	-	-	0.50	0.50
Music	0.00		0.50	-	-	-	0.50	0.50
Theater Arts	0.25	0.50		-	-	-	0.50	0.75
Arts Division	2.50	-	(0.25)	(0.25)			(0.50)	2.00
Totals	6.04	0.71	0.75	1.08	0.50	0.00	3.04	9.08
Minimum IT Support Levels								
Art Department	0.62	0.21	-	0.42	-	-	0.63	1.25
DA/NM	1.00	-	-	0.25	-	-	0.25	1.25
Film & Digital Media	1.67	-	-	-	0.25	-	0.25	1.92
HAVC	0.00	-	0.25	-	-	-	0.25	0.25
Music	0.00	-	0.25	-	-	-	0.25	0.25
Theater Arts	0.25	-	0.50	-	-	-	0.50	0.75
Arts Division	2.50	-	(0.25)	(0.25)	-	-	(0.50)	2.00
Totals	6.04	0.21	0.75	0.42	0.25	0.00	1.63	7.67

5   Arts IT Service Catalog

5.1 IT Tools and Services—Global
5.1.1   Long-term Assigned Equipment
Arts IT purchases and assigns one workstation per ladder faculty member. In addition, IT staff assign either dedicated or shared computing equipment to lecturers, staff, teaching assistants and course assistants as appropriate. IT equipment is generally renewed by Arts Computing on a four-year cycle. Because of recent budget constraints, equipment renewal has generally come to mean making available a fixed amount of funding per faculty member that can be applied toward the purchase of IT equipment.

5.1.2   General productivity software
Arts Computing purchases and distributes basic productivity software for all faculty and staff, as appropriate. This generally includes current operating systems, word processing, email, spreadsheet, presentation, database and calendering software, as well as web browsers and virus protection.

5.1.3   Desktop support / Front-line support
Arts IT staff offer phone, email and on-site support for all instructional equipment, software and networking about 10 hours per day, five days per week. Limited support is available evenings and on weekends as well. Staff generally don't make home visits.

5.1.4   Repair
Staff troubleshoot and repair malfunctioning equipment, and coordinate external repair if necessary.

5.1.5   Network
Arts Computing purchases from ITS network access for all faculty and staff. This service is minimum 10 Mbit switched ethernet; in some cases 100 Mbit. In addition, the office purchases network access for Arts-assigned classroom computers and departmental lab computers. IT staff coordinate the installation of, and in some cases provide, wireless network access.

5.1.6   Printing
Arts Computing provides networked laser printing -- mostly grey-scale, but some color -- for all faculty and staff.

5.2 IT Tools and Services—Enhanced Global Services
5.2.1   Shared software
IT staff research and make available on a shared basis, usually via Keyserver, more specialized kinds of software, such as Photoshop, web and graphic design tools and the like.

5.2.2   Equipment for Checkout
The Arts IT office maintains an inventory of equipment available for checkout, including laptops, digital still cameras, digital camcorders, loaner desktop computers and so on.

5.2.3 Desktop backup Services
IT staff provide automated, redundant network-based backup to any on-campus divisional workstation on request.

5.2.4 Training
Prior to consolidation of the position, the Administrative Systems Coordinator was charged with spending 15% of his or her time performing IT training, generally in a group format, for all divisional and departmental staff. Currently, this function has not been replaced by ITS.

In addition, IT staff continually provide individual and group training on systems and applications for faculty and staff on an as-needed basis.

5.2.5 Purchasing research and requisitioning
Arts IT staff regularly research, requisition and receive IT and digital media equipment for faculty.

5.3 Administrative Systems
The Arts Division has numerous local administrative systems that are vital to its operation. These have been created and maintained by an Administrative Systems Specialist. However, the provision for this position has been turned over to ITS, with the expectation that maintenance of these systems—or ones providing the same functionality—will shortly be provided. Some of these systems are:

5.3.1 Curriculum and Leave Plan
The Curriculum and Leave Plan allows the Assistant Dean and the Department Administrator Managers to plan the curriculum and the work time of faculty. It contains numerous analytical, budgeting and reporting functions. It is currently undergoing a major revision, by an outside contractor.

5.3.2 Other Administrative Systems
A sample of additional systems includes:
- Divisional Address Book. Holds contact information for all divisional faculty and staff. This database is managed by the Dean's Assistant and can be accessed by staff and faculty. The Dean's Assistant produces organizational charts from the data in the address book.
- Equipment Checkout Database. Used by the Film & Digital Media Department to track an extensive complement of equipment.
- Shakespeare Santa Cruz Volunteers. Used by Shakespeare Santa Cruz to keep track of volunteers' schedules, duties, contact information, etc.
- Time and Attendance System. Recently turned over to the Business Transformation Project
- Theater Arts 50. Tracks students, their production assignments and evaluation materials in this theatrical production class.

5.4 Web and Server-based Services—Enhanced Global Services

5.4.1 Course web space

Space on Divisional web servers for course web sites is available for all faculty. This is typically used when ITS-provided space is insufficient for one of several reasons. Such reasons might include the need for access to a specific application, streaming space, disk space in excess of ITS quotas, or the need for a course to persist over several quarters. Such space is also available for special student projects.

5.4.2 Project web hosting & virtual hosts

Arts IT staff host websites in support of ongoing projects, and will arrange for and host virtual hosts for instructional or research use. An example from Theater Arts is http://telematica.ucsc.edu/ —part of a course in distance dance over Internet 2. As another example, the student film magazine Eyecandy also maintains a virtual host site at http://eyecandy.ucsc.edu/ .

5.4.3 File-sharing Services

Arts Computing provides centralized, secure, backed-up shared-file space for courses, individuals and groups.

5.4.4 Bulletin-board / Database Services

Arts IT servers host several instances of web-based bulletin boards, usually using *phpbb*, with *MySQL* database back-ends, to support classes and projects.

5.4.5 System Administration

In addition to administering divisional and departmental servers (file, web, software, backup, streaming media, database), Arts IT also provides system administration of faculty machines used for instruction, upon request. System administration for research machines is the responsibility of the individual faculty member.

5.5 Web and Server-based Services—Arts-specific

5.5.1 Streaming Media Services—Video

Arts IT and departmental staff maintain multiple QuickTime streaming servers. The streaming servers provide samples of student movies; there are examples at http://film.ucsc.edu/showcase. The server also periodically hosts live streaming performances and rehearsals from the Theater Arts Department.

5.5.2 Streaming Media Services—Audio

In addition to video streams, the streaming servers also provide music students with required-listening music for classes. Classes including American Popular Music, Jazz, African Music, Electronic Music, Music of the Beatles, and others use this service to access course-required music in a secure and legal fashion.

5.5.3 Departmental web services

Arts IT staff design, serve and coordinate maintenance of the official web sites for the Division and its departments, programs and administrative units. Instructional elements include program descriptions, resources for students, course listings, and so on. A key element for arts programs anywhere, no less at UCSC, is the showcasing of student and faculty work. The departmental sites for Art, DANM, Film and Theater provide videos

or still images of student and faculty projects; the Music site provides recordings of performances.

5.5.4 Gallery and performance web services
The Web Developer provides specialized web design services for the Sesnon Gallery, recurring music festivals, and other exhibitions and performances as needed. Maintaining a website for an art gallery, in particular, takes particular design and aesthetic skills.

5.5.5 Faculty professional website services
Arts IT staff provide design and space for, and coordinate maintenance of, faculty professional web sites. In addition, staff have developed tools and templates that faculty can use to create and update their own web sites, while maintaining a coordinated divisional design.

5.6 Planning, Policy and Coordination Services
5.6.1 Resource Planning
The IT director/Divisional Liaison is responsible for effective distribution of computing resources throughout the division. Resource planning is done in consultation with the dean, assistant dean and department chairs; the Director of CRM in ITS and fellow Divisional Liaisons.

5.6.2 Information Technology Policy
In order to formulate and implement effective and appropriate IT policy, Arts IT staff work in consultation with the divisional administration, department chairs and faculty; as well as with appropriate peers in the ITS organization, through IT governance committees, through the Computer Coordinators forum, and through representation at the campus Information Technology Committee (ITC).

5.6.3 Coordination with other units
Arts IT coordinates with other ITS units—especially Instructional Computing, Network Services, Media Services and the computing units of other academic divisions—to provide various support services for instruction. As well, staff coordinate with ITS colleagues on matters of general campus concern such as hardware and software standards, security, bulk licensing, and so on.

5.7 Multi-departmental Services and Facilities
5.7.1 Software for instruction
Divisional and departmental staff research and purchase dozens of titles of arts-specific software for labs, classrooms and checkout, from a variety of funding sources.

5.7.2 Classroom Support Services
There are several department classrooms and performance spaces with IT and projection equipment, and well as streaming media capturing equipment. Much of this equipment is specific to arts instruction. For example, instruction in art history requires equipment with greater color fidelity than is typically available; similarly, sound equipment for music instruction is often higher-end than is typically used in classrooms. Instruction on and maintenance of this equipment is provided by local IT specialist staff.

5.7.3 In-class Tutorials
All departmental and most divisional staff give in-class, small-group or individual instruction to students on hardware, software, digital media peripherals and procedures.

5.7.4 Support for Performance and Exhibition
Divisional and department staff provide support for instructional events such as the Art Department's Open Studios, Film and Digital Media screenings and digital media events, and performances in the Music and Theater departments. This support can range from a couple of hours to planning and execution over multiple quarters.

5.7.5 Door Security Systems
Omnilock (programmable door-lock) programming and maintenance for students and faculty are provided in Art, DA/NM, Film, History of Art and Visual Culture and Theater Arts.

5.8 Art Department Services and Facilities
The Art Department provides three instructional computing lab facilities, one oriented toward photography and printmaking ("The Cave"), one toward electronic art, and one oriented toward public art. The labs are maintained and staffed by the Art Department IT Coordinator/LITS. Equipment, software and networking are provided through a combination of department, division, donor and grant funding.

All Art Department labs are available to qualified students 24 hours a day, seven days a week.

5.8.1 Digital Photography and Digital Printmaking Facility and Services
The department maintains a lab space called "The Cave," with support for large format printing with archival papers and inks. Equipment includes numerous large-format printers—Epson 7800, 7600, 4000 (2), 2200, and 1280 (2) The lab also supports flatbed and slide scanning, equipment for creating printing plates, and so on. Color fidelity is maintained on of these devices with color calibration equipment and software.

5.8.2 Electronic Art Facility and Services
The Electronic Art lab is a free-form space for building computer-assisted art installations. It features specialized hardware and software for creating interactive works, such as support for robotics and installation control.

5.8.3 Public Art Facility and Services
The Public Art Lab provides support for large-scale public works, including signage, image enlarging and projection equipment.

5.8.4 Image/Slide Preparation Services
Since the closing of the campus Photo Services unit in 2005, Art Department staff have taken on the task of photographing images from books and other materials, and making them available in digital form, or as slides. This service is available on a recharge basis for instruction and research. The heaviest user of the service is the department of History of Art and Visual Culture.

5.8.5 Digital Interface Facility and Services (in development)

This facility, part of the planned Digital Arts Facility, will provide equipment and software to work in the interface between wet-chemical and digital photography. It will also provide mural production facilities.

5.9 Digital Arts and New Media Services and Facilities

The DA/NM Masters of Fine Arts program currently provides a variety of lab spaces. The planned Digital Arts facility will greatly increase DA/NM program space. The DA/NM spaces are maintained by the DA/NM Technical Coordinator, and are available 24 hour a day, seven days a week.

5.8.1 Graduate Electronics / Mechatronics Lab

The DANM electronics/mechatronics lab is oriented toward graduate-level merging of electronics and art-making. It includes microprocessor development tools, basic electronic tools such as soldering stations, oscilloscopes, voltmeters and power supplies; and light machine-shop equipment like a milling machine/drill press and assorted hand tools.

5.9.1 "5.1 Surround-sound" lab

This space is devoted to projects with interactive, immersive sounsdscapes, projected video and audio installation development.

5.9.2 Motion-capture Facilities

This facility, in the early stages of development, will be dedicated to real-time motion capture, manipulation and broadcast —e.g. "active space"—for movement generally and dance especially.

5.9.3 Digital Media Presentation Space

This space, presently in development, will be a presentation facility to showcase physical representations of virtual spaces.

5.9.4 Digital Arts Facility (in development)

The new Digital Arts Facility, noted elsewhere, will provide several critical spaces for the DA/NM program, all of them IT-intensive. The largest is a Media Lab that is 40' x 40' and 25 feet high with a separate control booth. The building will also contain a 20' x 20' lab for research in reflective art; small research spaces and large demonstration spaces for 36 graduate students; equipment checkout, maintenance and storage facilities; faculty studios and a workshop. Total space in the building for DA/NM will be about 10,000 square feet.

5.10 Film and Digital Media Services and Facilities

The Film and Digital Media Department provides a number of facilities, all of which are maintained by department/ITS staff, and most of which are available 24 hour a day, seven days a week.

5.10.1 Film/Video Production Support Services
Digital Media Support Specialist Zach Davis works part-time in Film & Digital Media Department facilities and part-time in the Instructional Computing facilities. He provides in-class instruction, formal in-lab short courses on DV editing, sound editing and DVD creation, and one-on-one consulting.

5.10.2 Digital Media Production Support Services
Digital Media Specialist Brian Moffet provides in-class instruction, workshops and one-on-one consulting in technical tools for digital media production including those to create narratives and social information spaces in the digital realm, computer-supported cooperative works, human-computer interaction, and architecture.

5.10.3 Editing Suites
The Film and Digital Media Department provides six editing rooms with specialized equipment and software for nonlinear video editing.

5.10.4 Film and Digital Media Instructional Lab
The department maintains one high-end digital media lab, equipped with Apple Dual G5 stations with current state of the art video, sound, and film editing software.

5.10.5 Digital Media Lab
An additional digital media lab is in the planning stages.

5.10.6 Classroom Facilities
There are several department classrooms with IT and media projection equipment, including a 90-seat theater/classroom, two media-equipped seminar rooms, a surround-sound screening room, two production classroom spaces, and a large general production studio equipped with a green screen. Instruction on and maintenance of these facilities is provided by department staff and local IT specialists assigned to the department.

5.10.7 Equipment Checkout
The Department maintains an extensive inventory of equipment for filmmaking, which is available for checkout by students. In addition, the department contracted for the coding and maintenance of a web-enabled database for reserving and tracking the checkout of this equipment. The equipment itself is maintained by department staff.

5.10.8 Sound Effects Server
The Film and Theater Departments share the administration and use of a professional sound-effects database. Student access to the database is via the web. Software to access the sounds remotely was written by the IT staff of both departments.

5.11 HAVC Facilities Services and Facilities
5.11.1 HAVC Course Prep and Research Lab
The History of Art and Visual Culture Department provides one small computing lab to faculty for course preparation and research. Slide scanning, including batch scanning; flatbed scanning, and CD and DVD creation equipment are available. Equipment,

software and networking were provided through a combination of department, division and grant funding. The lab is maintained by Arts IT staff.

5.11.2 HAVC Classroom Support
There is one department classroom, Porter D248, with IT and specialized projection equipment. Instruction on and maintenance of this equipment are provided by Arts IT staff.

5.12 Theater Arts Department Services and Facilities
The Theater Arts Department provides two adjoining IT lab facilities, a smaller student production facility, one large, advanced IT-enabled theater space, and three additional theater spaces with IT capabilities. Equipment and software are provided through a combination of department, division, building startup and grant funding. Facilities are maintained by department staff and the local IT specialist assigned to the department.

5.12.1 Theater Arts Instructional Lab
This is an eleven-seat lab oriented toward classes in sound, scenic and lighting design, and video for theater.

5.12.2 Sound Design Studio
Adjacent to the main instructional lab is a small, high-end sound design studio. The studio contains two workstations optimized for creating sound for theater.

5.12.3 Experimental Theater
The Experimental Theater has a variety of state-of-the-art digital theater equipment, and is regularly used to create performances that are webcast. It is the location of upcoming collaborative dance pieces to be performed interactively with dancers from New York University over Internet 2.

5.12.4 Student Production Office
The Student Production Office is a five-workstation facility used by students involved in theatrical productions, typically those students working at the design and management levels of production. Typical activities include stage management, scenic design and lighting design.

5.12.5 Mainstage Theater, Second Stage Theater, Barn Theater
Each of these facilities hosts productions which have varying levels of IT involvement. Examples include video and other media design elements, lighting and sound production, supertitles and so on. In addition, the Barn Theater is a student-coordinated production facility, with a full complement of theater equipment and recently networked, located at the base of campus.

5.12.6 Sound Effects Server
Shared with Film & Digital Media (see under Film services).

5.13 Music Department Services and Facilities

Supported activities in Music include: Synthesis and analysis of sound (and some graphics), algorithmic composition, composition with scoring tools, software development, peripheral hardware development, etc. Software for these functions is highly specialized, often expensive, and subject to frequent upgrades. Hardware is also highly specialized and high performance; frequent upgrades are necessary. Modifications of lab layouts and distribution of equipment are constant.

5.13.1 Electronic Music Facilities

The Electronic Music Facilities are a suite of studios, workshops, recording facilities and classrooms for electronic music instruction and production. They incorporate a wide variety of sound and IT equipment. Facilities and equipment are maintained by departmental staff, with support from divisional IT staff.

5.13.2 Music Instructional Lab

The Music Department and Instructional Computing provide one 8-seat instructional computing lab with specialized equipment for music scoring, ear training and transcription. Equipment is maintained by IC staff. The lab is already operating at full capacity, and will be insufficient for graduate student work.

5.13.3 Classroom Support

There are currently two department classrooms and performance spaces with IT and projection equipment. In addition, music instructional support also includes high quality sound systems in all classrooms. There are also sound systems in most of the teaching studios. These have historically been installed and maintained independently of Media Services, primarily because of the high-end requirements. Instruction on and maintenance of this equipment is provided by both department and Arts IT staff.

5.13.4 Streaming Media Services—Audio

See under Multi-departmental services.

5.13.5 Performance Documentation

Recording and post production of concerts and studio sessions are performed by department recording staff and some faculty in the recording studios and by students in the electronic music studios. Software and peripherals are specialized and expensive, including the need for long term archiving.

5.13.6 Algorithmic Composition Lab (in development)

This lab, part of the planned Digital Arts Facility, will be an IT-intensive space for the study and production of computer-aided/computer-generated music composition.

6 Sourcing of IT Services

All IT services in the previous section, with the occasional exception of hardware repair and database application maintenance, are provided entirely by Arts IT staff. Hardware repair is sometimes provided by third-party vendors like DT&T Services in Fremont, or Dave's Computer Repair in Santa Cruz. Maintenance of the Curriculum and Leave Planning and Film Equipment Checkout systems are occasionally provided by contract vendors.

7   <u>Current Positions and Incumbents</u>

7.1 <u>Introduction</u>

It is important to note that, without exception, all IT staff in the Arts Division have a background in the arts. Most are currently practicing musicians, filmmakers, artists, or theater personnel. It is difficult, if not impossible, to perform these jobs competently without such a background.

Following are brief descriptions of all current Arts divisional and departmental IT positions, along with their current incumbent, and their FTE allocation. For clarification, some departmental positions have more detailed descriptions.

7.2 <u>IT Director / Divisional Liaison</u>

Scotty Brookie, 1.0 FTE. Represents Dean, Arts Division and departments, and ITS in campus policy matters relating to IT. Coordinates with other units providing IT services. Responsible for divisional and departmental IT resource planning. Coordinates special instructional projects, plans IT aspects of faculty startup, and assists faculty in grant writing. Administers streaming media and course web servers. Participates in Divisional Liaison council and other IT governance bodies.

Directly supervises: Systems and Support Manager, Web Developer, Art Dept. IT Coordinator, Digital Arts and New Media IT Technical Coordinator, Film and Digital Media technical specialists, Theater Arts IT Specialist.

7.3 <u>Systems and Support Manager</u>

Dung Wong, 1.0 FTE. Serves all Division faculty and staff. Provides systems administration; IT planning, coordination and project leadership; workstation support management and systems development for the entire Arts Division. Sole provider of discipline-specific support in History of Art and Visual Culture. Provides supplemental discipline-specific support in Art, DA/NM, Music and Theater.

Coordinates workstation support, repair, one-on-one training, backup services, equipment checkout. Administers file, web, database and software servers.

Supervises Student IT Assistant. Reports to IT Director / Divisional Liaison.

7.4 <u>Web Developer</u>

Matthew Widener, 0.5 FTE. Responsible for design and maintenance of the entire divisional web presence, including sites for all departments, programs and galleries, and faculty professional sites. Responsible for maintaining a web presence appropriate to an art school, with appropriate aesthetics and technologies. Reports to IT Director / Divisional Liaison.

7.5 <u>Administrative Systems Coordinator</u>

Open provision, now transferred to ITS Applications group. 1.0 FTE. Summary of duties from earlier Arts position: "Creates and maintains divisional and departmental administrative systems, including, but not limited to, Curriculum and Leave Planning, Time

and Attendance, Divisional Document Management, Divisional Address Book/Contact System, Shakespeare Santa Cruz Volunteers, Theater Arts Casual Labor. Coordinates with campus enterprise systems. Spends approximately 15% of his/her time conducting IT training for all divisional and departmental staff. Reports to IT Director."

7.6 <u>Art Department IT Coordinator</u>
Kevin Hoffman (until 9/06, then Peter Harris), 0.62 FTE (75% time with summer furlough). Provides IT planning and support for the instructional, exhibition and research functions of the Art Department. Responsible for all specialized facilities in Art, as well as general IT support.

Supervises student staff, assists with instruction, and supports exhibitions. Reports to IT Director / Divisional Liaison.

7.7 <u>Digital Arts and New Media Technical Coordinator</u>
Lyle Troxell, 1.0 FTE. Responsible for all specialized facilities, equipment and IT services for the DANM program. Provides interdisciplinary faculty research support, instructional support, and technical support for graduate student project groups. Manages all DA/NM lab facilities and provides web and application development support. Reports to IT Director, dotted line to program chair.

7.8 <u>Digital Media Specialist</u>
Brian Moffet, 1.0 FTE. Film and Digital Media. Provides software development, systems administration, and specialized support for instruction and research in digital media. Reports to IT Director / Divisional Liaison.

7.9 <u>Digital Media Specialist</u>
Zach Davis, 0.83 FTE. (100% time with summer furlough; prior to consolidation, was partially funded by Instructional Computing). Provides computing and digital media studio support; oversees lab and studio facilities and student staff, assists with instruction, and supports courses. Interfaces video, audio, film, and computer technologies; establishes and documents operating procedures of non-linear editing systems and supplementary equipment; trains students, staff, and visiting faculty. Reports to IT Director / Divisional Liaison.

7.10 <u>Director of Electronic Music Studios</u>
Peter Elsea, 0.5 FTE Technician, 0.5 FTE Lecturer. Responsible for the maintenance, operation, and development of facilities for the electronic music program, the maintenance and development of facilities for the Music Department recording services, and maintenance and development of concert hall and music classroom audio systems. Reports to department chair.

7.11 <u>Theater Arts IT Specialist / Production Equipment Coordinator</u>
Eric Mack, 0.75 FTE Production Equipment Coordinator / 0.25 FTE Theater IT Specialist. As IT Specialist, provides IT support for the instruction, performance and research. Oversees the Theater Arts Computer Lab and supports permanently installed and temporary computer systems in Theater Arts performance spaces and other facilities. Supports

Shakespeare Santa Cruz during its season. Reports to IT Director / Divisional Liaison.

As Production Equipment Coordinator, supervises Lab Assistant I, student employees and Theater 50 students. Coordinates inventory, repair/maintenance, installation and removal of sound, lighting, audio, and video equipment for all Theater Arts-sponsored productions and classes. Reports to Technical Director.

7.12 Student IT Technician
Julianne Ho. 0.5 FTE. Assists with workstation support, front-line support, repair and training. Reports to Systems and Support Manager.

8   Staff Transition Plan
After transition, the Arts IT organization will remain similar to its current state. Over time, with created capacity in global services and growth in divisional programs, the Systems and Support Manager's duties will become increasingly specialized and devoted to particular departments. Details for each position are as follows.

8.1 Arts Divisional Liaison / IT Director
Scotty Brookie, IT Director, has already been appointed Arts Divisional Liaison.

8.2 Systems and Support Manager
Dung Wong, the current Systems and Support Manager, will retain some of his current duties, gradually turn over some current duties to central ITS units, and take on new, additional local IT specialist duties over time, as capacity is created in his position through centralization efficiencies.

Specifically, beginning in about winter 2007, Dung will provide dedicated local IT specialist services to History of Art and Visual Culture and Music, plus additional support to Theater Arts, with capacity created by decreasing his global service provision. He will retain management of specialized, arts-specific servers.

During the transition period, Dung will continue provide global services to his existing clients, and will provide global services escalated from the Help Desk, as needed and as he is able, to non-Arts clients near Dung's physical location. Dung's reporting relationship will remain the same.

8.3 Web Developer
Matthew Widener, incumbent in this position, will continue to provide web design and maintenance services for the Arts Division. It is likely that over time, with new capacity created through campuswide implementation of enhanced web tools, the duties of this position can expand to include support for other units. His reporting relationship will remain the same. If future duties expand beyond the Arts, a dotted-line reporting relationship within ITS/Applications could be considered.

8.4 <u>Administrative Systems Coordinator</u>

This provision has been turned over to ITS. The 15% of the position that provided IT training for divisional staff should be accounted for in some manner, perhaps by an equivalent level of training provided to Arts at no cost by Training and Development.

8.5 <u>Art Department IT Coordinator</u>

Kevin Hoffman, incumbent in this position through June 2006, and Peter Harris, incumbent returning from leave in September 2006, will become the local IT specialist for the Art Department. The duties and reporting relationship of the position will remain the same.

8.6 <u>Digital Arts and New Media Technical Coordinator</u>

Lyle Troxell, incumbent in this position, will become the local IT specialist for the Digital Arts and New Media MFA Program. His duties and reporting relationship will remain the same.

8.7 <u>Digital Media Specialist</u>

Brian Moffet, incumbent in this position, will become the local IT specialist for digital media in the Film and Digital Media Department. His duties and reporting relationship will remain the same.

8.8 <u>Digital Media Specialist</u>

Zach Davis, Film production support specialist, will become the local IT specialist for film production. As before, his primary responsibility will be to the Film and Digital Media Department. In addition, he will continue to provide support to classes in other departments where film production is part of the curriculum. His duties and reporting relationship will remain the same.

8.9 <u>Director of Electronic Music Studios</u>

Peter Elsea, the Director of Electronic Music Studios, is considered a "blue diamond" specialist. His position is not affected by the IT transformation.

8.10 <u>Theater Arts IT Specialist / Production Equipment Coordinator</u>

Eric Mack, current incumbent of the .25 FTE IT piece of this position, will become the local IT specialist for Theater Arts. His duties and reporting relationship will remain the same.

8.11 <u>Student IT Technician</u>

Julianne Ho, the current Arts Division student IT assistant, is funded entirely by the Arts Division. In order to assist in the transition efforts and maintain service levels, Arts plans to continue Julianne's position indefinitely.

To further assist in the success of the Support Center, Julianne, like Dung, will provide global services escalated from the Help Desk, as needed and as she is able, to non-Arts clients located near her. She will also be available for training in global services. Julianne's reporting relationship will remain the same.

9   <u>**Summary**</u>

Every area of the Arts Division already relies heavily on discipline-specific IT support. Currently, IT services and facilities are reasonably robust and well integrated into instructional and research programs. Support has grown organically over the last dozen or so years, but with careful attention to the need to use resources wisely.

At the same time, as detailed in this plan, every area in Arts anticipates growth over the next few years in the need for IT services. These needs are driven by continued programmatic and physical growth, and by trends that continue to incorporate a wide variety of information technologies into arts endeavors.

Implementation of this plan is intended to contain costs while ensuring a continued high level of quality in the IT aspects of instruction and research in the arts at UCSC.