The Graduate Multimedia Program
2004 Five Year Review

CAL STATE

HAYWARD

Prepared for the
Committee on Academic Planning and Resources

The Committee on Academic Planning and Resources

**Introduction to the Five Year Review documents
for the Graduate Multimedia Program
and a brief response to the outside reviewers report.**

**Submitted by James Petrillo, Director
Graduate Multimedia Program**

This marks the Tenth year of the graduate multimedia program and it has given me the opportunity to reflect on program's accomplishments. In general the first five years represented a period of program initiation and the necessary problem solving encountered by trying to create, from scratch, a unique and innovative interdisciplinary program. The last five years has represented a period of maturity and know-how for the program. This last period is the successful fulfillment of the original goal of bringing multimedia production education to CSU Hayward. I want to thank the faculty and staff for their hard work and their exceptional commitment to the program. I also want to give special thanks to Dean of Graduate Studies, Carl Bellone, Professor Christopher Morgan of the Department of Math and Computer Science, Professor Donna Wiley, the Director of the Graduate Programs in the College of Business and Economics and Professor Emily Brizendine, Associate Dean of The College of Education and Allied Studies, for their steadfast support that made this all possible.

Early in the winter quarter 2004 Keith Muscutt, Associate Dean of the Arts at The University of California Santa Cruz, was contracted to review the CSUH Graduate Multimedia Program. He received a copy of the Self Study document, visited the program and spoke with students, faculty, staff and administrators. He delivered his report in April, 2004.

I believe the report renders a good view of the Graduate Multimedia Program's achievements and its challenges. I find very little to disagree with about its content. I hope the CAPRA members will have the opportunity to give the reviewer's report a close reading. Although most of the recommendations made by Associate Dean Muscutt can be easily implemented with increased resources, the current grave condition of the CSU budget makes their imminent implementation seem remote. However I believe that with good planning, the building of the new Business and Technology Center and the gradual stabilization of the budget, Graduate Multimedia will remain a strong, effective, high quality program at our university.

If there is any additional information that the committee would like to receive please make a request and I will do my very best to provide it to you in a timely manner.

This document contains:

- The self study report

- Attachment A
  Program graduation rates
  Gender
  Age
  Ethnicity

- Attachment B
  The last available Academic Performance Review Statistics

- The Program Assessment document

- Five year plan

- The 2004 outside reviewer's report

- 1999 Five Year review

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The CSUH Graduate Multimedia Program
Five Year Review
Self-Study document
prepared by
James Petrillo, Director
Graduate Multimedia Program

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The Mission

The CSUH Graduate Multimedia program mission is to educate the next generation of interactive digital media content creators who will have a central role in shaping our culture. The program is a unique, interdisciplinary learning environment that fosters imagination and collaboration in multimedia production. The program focuses on the creative and technical aspects of using computer technology to create, control, deliver and present content in a variety of interactive digital forms.

The program mirrors real world conditions by emphasizing teamwork and production oriented goals. Because multimedia is a rapidly developing and rapidly changing field, the program focuses as much on the enduring creative processes as on transient technology. Students in our program learn skills necessary to adapt quickly to new work environments. They also develop a strong theoretical foundation in multimedia arts and enhance their creative and technical skills.

The heart of the program is the thesis: a team-based production that demonstrates unique and innovative uses of interactive technology. The CSUH Multimedia program provides students with creative, technical and collaborative skills for successful professional careers in the ever changing multimedia industry.

The Program

The CSUH Graduate Multimedia program was created in 1995 as collaboration between the four colleges of the university. Three of the colleges have graduate programs that are related to, but do not overlap with the mission of the Graduate Multimedia Program. The College of Business and Economics in collaboration with the College of Science has its Telecommunication Program, The College of Education and Allied Studies has its Educational Technology Leadership Program and the College of Science has its Computer Science Graduate Program. The Graduate Multimedia Program is distinguished from the others by its curriculum and its outcome goal. The goal of the Multimedia Graduate program is for collaborative teams of students to research, develop and produce content rich, interactive digital media experiences that demonstrate innovative possibilities for creative culture. Multimedia graduate students have pursued a broad range of research and production in the field including, augmented reality, telepresence, mini robotics, emergent behaviors, and A.I environments as well as more conventional interests such as interactive exhibitions and game design.

The curriculum of the program is divided into two parts. The second year is devoted exclusively to the thesis project. This is the core activity of the program and the purpose to which all of the other courses must serve. Student teams during the thesis year are provided with twenty-four hour a day access to production suites. The program employs the creative laboratory model where students have designated facilities that provide maximum opportunity for them to "build" their project.

The first year curriculum is devoted to preparing incoming students to succeed in the thesis project. There are several significant challenges that must be met during this time that are different than most other university programs. The Graduate Multimedia Program, because of its interdisciplinary design, regularly admits students from differing cultural and academic backgrounds. In order for them to succeed within the rigorous demands of the thesis project they must have the opportunity to negotiate those differences and find commonalities of interest, temperament and vision. Whatever subjects are taught during the first year, the goal of developing group coherence and integrity is essential. This creates an added demand on the faculty who participate in this program. After years of development, the current faculty has enough experience with and commitment to program strategy to achieve this goal.

The Faculty
The Graduate Multimedia Program does not have a resident faculty but relies on the participation and commitment of the Colleges to provide faculty from their departments. Because of this situation and the interdisciplinary nature of the program, faculty development for this program has been a slow and arduous process. One of the most difficult things for interdisciplinary programs to accomplish at any university is for discipline based faculty to adequately model the interdisciplinary collaboration the program expects of the students. This often requires faculty to make exceptional commitments of time that go far beyond their traditionally expected roles. Currently, thanks to the diligence and support of Director of Graduate Programs for the College of Business and Economics, Donna Wiley, a very effective and successful business course in entrepreneurship has been developed and staffed specifically for this program. The College of Education has provided the program with Professor Li-Ling Chen who is doing an exceptional job teaching learning theories related to computer-based application development. The College of Science had some difficulty in filling the vacancy left by Professor Chris Morgan. Dr. Morgan was one of the founders of the Graduate Multimedia Program and has provided many years of invaluable service. He has now moved on to other important career pursuits. Thanks to the efforts of Dr. Edna Reiter, Chair of the Computer Science Department and to Dr. Morgan, this position is now being filled by an excellent young lecturer from the College of Science, Ray Mitchell. The remainder of the program faculty is drawn from the College of Arts Letters and Social Sciences, Art Department where a number of exceptional interdisciplinary faculty members who possess high levels of digital production skills as well as Art making talent have maintained a steadfast commitment. A crucial need does exist in the staffing of inter-college faculty for the role of thesis project advisors. The addition of Ray Mitchell is an important step in the diversification of faculty from all the colleges who are willing and able to manage production oriented thesis projects.

Curriculum

The details of Graduate Multimedia Program curriculum must be revised at least every two years because of the rapidly changing nature of the technology that drives the field. The Program currently requires a 52 quarter-unit minimum; however most students in order to develop the necessary expertise to accomplish their goals in the thesis project take more than the minimum requirements. During the next development period the program should consider the possibility of expanding the unit requirement for the degree from 52 to 60 units.

Below is the curriculum as it will appear in the fall of 2004.

Technical Preparation Courses (12 units)

MM 6100 Tech I: Principles of Digital Multimedia

Creation, capture, conversion, storage, transport and display of digital multimedia information. Physical basis of perception and digital representations. Multimedia input/output devices and processing architectures. Historical and conceptual basis of multimedia. Hands on experience using multimedia development tools. Course is limited to Graduate Multimedia majors.

MM 6120 Tech II: Multimedia Network and Hardware Development

Theory and practice of data networking. Analysis, design and construction of electronic multimedia components including the use of sensors, effectors and controllers. Prerequisite MM 6100.

MM 6130 Tech III: Multimedia Software Development

Introduction to scripting and programming for multimedia production. Prerequisite MM 6120.

Project Preparation Courses (12 Units)

MM 6101 Multimedia Seminar

Seminar on the conceptual strategies for multimedia development. Course will also examine key historical events in the emergence of multimedia forms and the role of multimedia in the creation of culture. Particular emphasis placed on small group working dynamics. Course is limited to Graduate Multimedia majors.

MM 6102 Application of Learning Theories to Multimedia Design

Learning theories in creating effective educational multimedia for CD and World Wide Web. Trends in cognitive, social, psychological, developmental, and humanistic theories for multimedia content development. Prerequisite: MM 6101 and familiarity with at least one development methodology (e.g., computer software development, theater or video scripting, educational materials development).

MM 6103 Business Basics in Multimedia

Basic business skills for the new economy. Includes options for employment, various uses of multimedia in industry and how to create a multimedia business. Business plan creation, marketing, cash flow analysis and presentation skills are emphasized.

Project Courses (16 units)

MM 6860 Introduction to Project Development

Small development projects to evaluate the potential of individual students to succeed as members of a thesis team. Establishment of research project teams

and the development of thesis proposals. Prerequisites MM 6100, 6101, 6120 and classified or conditionally classified standing in Multimedia M.A.

MM 6870 Multimedia Development I

Collaborative interdisciplinary teams begin to develop multimedia projects. Design and creation of interactive audio, video, graphic and narrative content. Prerequisite: MM 6860 and advancement to candidacy.

MM6880 Multimedia Development II

Continuation of multimedia projects begun by teams established in Multimedia Development I. Projects prepared for completion in MM 6899. Prerequisite: MM 6870. Consult the quarterly class schedule for materials/facilities fee.

MM6899 Project

Completion of an original professional quality digital interactive multimedia project and a comprehensive written thesis document. Both the project and the thesis document are submitted to the program committee which specifies the format. Weekly supervision by a faculty thesis advisor and quarterly reviews by a thesis committee. Oral presentation of multimedia project is required.

Multimedia Forum (4 units)

MM 6805 Forum (1unit)

Lectures and presentations by professional and students working in a wide variety of multimedia related disciplines. Forums are open to the general public.

Electives (8 units minimum)

Selection of electives is made by advisement. Students have a wide range of possible upper division undergraduate and graduate courses to choose from. The selection of electives is intended to tailor the curriculum to students' individual needs.

Resources

The current Graduate Multimedia Program facility resides in the Art & Education building. The single space is entirely dedicated to second year student thesis projects. High end media production suites are provided for each team. The quality of the equipment and infrastructure in that environment are excellent but the size of the space is inadequate. The 1000 sq ft of space is appropriate to accommodate up to 16 thesis project students, however, it is expected that next fall this facility will be serving 20 students. Although we will be able to provide equipment for this number of students, space can not be created out of thin air. This is a major problem with no immediate solution. The first year students must make due with classroom space provided by the Art Department. While the Art Department facilities are excellent, the high demand for their utilization has at times made scheduling difficult. All of these problems will be alleviated to a large degree with the construction of the new business and technology building which has plans for a Graduate Multimedia facility.

The level of other resources used by the program up to this point has been appropriate to maintain the quality of the program. The program staff consists of one full time Program Coordinator and one half-time Technician. The technician is a full-time employee of the university and half of his salary has been paid by funds generated from the continuing education program in multimedia run by the Art Department. This staff member has

provided excellent service for the complex needs of both the graduate program and the ALSS undergraduate Electronic Arts programs. However the continuing education program is no longer able to maintain funding their half of this position and a new agreement must be developed to ensure the significant needs of both the graduate and undergraduate programs are met. With regards to the non staff operations budget, the up coming FY 2004/05 looks bleak. The state fiscal crisis has negatively affected all programs across the university. The Multimedia Graduate Program has not been spared its share of the pain. The budget for equipment and for S&S has been cut by 62 percent next year. Good planning during the past year will mitigate most of the damage that this reduction will cause but if funding is not restored the following year serious erosion of the quality of the program and all other programs in the university may occur.

Students
The Graduate Multimedia Program has promoted and has been rewarded with a remarkable diversity in student academic disciplines, ethnicity and cultural background (see accompanying table). However, international students who have in the past made up 20 to 40% of the student population are finding it increasingly difficult to get visas since 9/11 and are additionally burdened by increased out of state tuition fees. The program currently enjoys a large, first year class of mature and highly qualified students but the changes in the economy and the culture suggest that the program will require new initiatives in the recruitment process to maintain future enrollments. The program should develop a new recruitment promotion plan in order to ensure its continued success in attracting the best students.

It has always been difficult to recruit with consistency the number of highly qualified students with appropriate skill preparation levels. The program has in the past compensated for this unevenness preparation by requiring under prepared students to take, by advisement, specified sequences of undergraduate media production classes before being admitted to the thesis project. The program should develop a formal three year curriculum that takes advantage of the advanced undergraduate classes already available in the university in order to recruit students of ability who need extra preparation to acquire the necessary knowledge to succeed in the thesis project.

Current and future career opportunities are high for people with strong competencies in Multimedia production. At this time every sector of the economy that is: Business –big and small, Education, Government, The Arts, Non Profit Organizations, Religious organizations, etc, all need and use interactive multimedia services. Is there any institution that doesn't have a website and is there any organization that doesn't need it upgraded with the latest interactive bells and whistles? The fields of interactive exhibition design and interactive home entertainment are expected to expand dramatically in the next five years.

Multimedia Graduate program graduation rates

Fall 96 thru summer 97:	11
Fall 97 thru summer 98:	10
Fall 98 thru summer 99:	19
Fall 99 thru summer 00:	22
Fall 00 thru summer 01:	14
Fall 01 thru summer 02:	15
Fall 02 thru summer 03:	20
Total	111

Student gender

	Men	Women
Alumni	62	49
Current	17	16
Total	79	65
%	55%	45%

Average age at time of admission   Age range

Alumni	31	22 - 57
Current	33	23 – 58

Ethnicity of Majors

	Alumni	Current students
American Indian/ Alaskan native	1	0
Asian Indian	2	2
Black	6	3
Chinese	11	7
D.S.	12	3
Filipino	2	0
Iranian	1	1
Japanese	6	1
Latino	1	2
Mexican American/ Mexican/Chicano	8	1
Vietnamese	1	3
White	59	9
Other	0	2

Attachment B

VI. Quantitative Evidence   Program   Multi Media

	Category	Item	Fall Quarter				
			1998	1999	2000	2001	2002
A.	Enrollment	Number of majors	41	46	36	41	36
	History	Undergraduate	0	0	0	0	0
	(majors include	Graduate	41	46	36	41	36
	Multi-Media)	FTES-MM	22.00	20.80	15.10	19.40	16.70
		Number of sections offered	4	4	3	4	3
		Average section size	22.30	21.80	25.30	19.80	27.70
		Number of students on wait list					
		Degrees Granted Prev Year	5	21	20	13	14
		Undergraduate	0	0	0	0	0
		Graduate	5	21	20	13	14
B.	Staffing	Headcounts of TT faculty	0	0	0	0	0
Data Source :		FTEF of TT Faculty	0.00	0.00	0.00	0.00	0.00
State Controller's Data		FERP FTEF	0.00	0.00	0.00	0.00	0.00
Base as of November 1		Total TT FTEF	0.00	0.00	0.00	0.00	0.00
		Lecturer FTEF	0.41	0.00	0.00	0.27	0.27
		Total FTEF	0.41	0.00	0.00	0.27	0.27
		% FTEF that is Lecturer	100%	0.00	0.00	100%	100%
From APDB Chancellor's		Total Teaching FTEF	1.35	1.90	2.20	1.45	0.90
Office Workload Reports		% FTES taught by Lectuers	46%	0%	0%	33%	0%
Excludes administrative							
and other support time		**Tenure Track Faculty who teach MM are in other Departments.**					
C.	Capacity Utilization	SFR for Tenure faculty	21.69	11.00	7.00	11.02	0.00
		SFR for Lecturers	14.02	na	na	23.70	0.00
		Total SFR	16.30	11.00	7.00	13.43	0.00
		System SFR	na	na	na	19.1	na

Multimedia Graduate Program Assessment

Program Goals

Knowledge:
Students should be up to date on trends and practices in multimedia development.

Students should understand learning theories as they apply to multimedia and interactive design.

Students should understand basic business practices and be able to develop a business plan.

Students should be able to develop meaningful content for interactive multimedia production.

Students should have good design aesthetics.

Students should be familiar with a range of applications for multimedia production and telecommunications design.

Skills:
Students should have the ability to demonstrate a variety of production skills in imaging, interactivity, audio production and network distribution.

Students should have the ability to work productively in a team.

Students should have the ability to produce a team-based interactive project.

Students should be able to produce innovative and novel approaches to multimedia production.

Outcomes and Indicators

Outcome:
> Students will be proficient in digital imaging, interactive production and audio production.

Indicator:
> Passing grade of B or above in MM 6100 - Tech I: Principles of Digital Media and MM 6860 Introduction to Project Development. Advancement to Candidacy.

Outcome:
> Students will be up to date with trends in multimedia development

Indicator:
> Passing grade of B or above in MM 6805 – Multimedia Forum.

Outcome:
      Students will understand the relationship of the principles of learning to
      Interactive Design.
Indicator:
      Passing grade of B or above in MM 6102 Application of Learning Theories to
      Multimedia Design.

Outcome:
      Students will have an understanding of the creative practitioners and technical
      innovations that have resulted in the current state of the art and craft of
      multimedia production.
Indicator:
      Passing grade of B or above in MM6101 Multimedia Seminar.

Outcome:
      Students will understand how to create a business plan
Indicator:
      Passing grade of B or above in MM 6103 Business Basics for Multimdeia.

Outcome:
      Students will have the ability to produce work in a team based environment.
Indicator:
      Passing grade of B or above in MM 6860 Introduction to Project Development
      and successful completion of the Graduate thesis Project.

Assessment method for thesis: Staged committee reviews of thesis project

When: Stage I is at the end of MM 6860 Introduction to Project Development. Stage II is a quarterly review of team progress. Stage III is the thesis defense at the end of the project.

Who: The Multimedia Graduate Committee and any other advisors that participate in the project as official faculty advisors.

Stage I: Advancement to Candidacy
Individual students must demonstrate competencies in a range of current multimedia production skills. Teams are formed and an initial thesis proposal is presented to the committee. Students who do not meet the individual competency expectations are not advanced to candidacy nor are they to proceed to the formation of a group. Teams who present proposals to the committee will receive one of three outcomes: 1. proceed as is, 2. proceed with recommended modifications or 3. re do the proposal.

Stage II: Quarterly reviews
Teams present their progress to the committee at the end of each quarter for evaluation.

Stage III: Thesis defense and public presentation
Teams make a final presentation to the committee at the end of the spring quarter and then they make a public presentation of their project. The committee must sign their approval of the completed project

CSUH Graduate Multimedia Program
Five year plan

Many of the suggestions presented here have already been introduced in the self study document.

Curriculum

An approved and updated curriculum will be implemented in fall 2004. No additional changes to the core curriculum are envisaged at this time. However the program should consider developing a preparatory year offering composed of appropriate undergraduate courses already in the catalogue. This prep year would be for students who have the requisite imagination and motivation to succeed in the program but not the necessary skill sets. At this time we provide this as an informal arrangement on a case by case basis but the program would be better served to formalize and standardize this process.

This proposal should first be agreed upon by the Graduate Multimedia committee, composed of representatives of all four Colleges and then carried out by the program director. It should be formally implemented by the fall of 2006. There would be no additional costs to the university as the students would be taking already existing classes.

Students

Statistically speaking, the Graduate multimedia program serves and average of 40 majors per year. However this number has a practical limitation because of the available facility. Currently the second year thesis project students have a 1000 sq. ft. space in the Art and Education building. This studio is only large enough to meaningfully accommodate 16 thesis students although we often squeeze in more. The reality of this space limits the actual number of students we should accommodate in the program. If we limit our average student intake to an appropriate 20 each year we would likely get an average of 16 students going on to the thesis project. This would give the program an average of only 36 students per year. Fortunately, a solution may be at hand. The university is currently in the final planning stages of a new Business and Technology building. The graduate multimedia program is expected to have an 1800 sq. ft. studio space in that building. This will have a significant impact on the program and the students. If that facility is completed in the next three years it would effectively accommodate 20 thesis students. We could then corporately admit 25 students into the first year which would yield an average of 45 students. This would be a 12.5% increase in the number of majors the program has served in the past. A secondary benefit of the new studio is that the smaller studio can be used for the educational needs of first year students who are, in practice, displaced with no core location. This has always been a serious deficit for a program that spends so much of its effort in the first year to establish a team building and learning community.

Recruitment and Promotion

The Graduate Multimedia program is undoubtedly one of the best interactive media production programs in existence. However it suffers from very low visibility. Thus far small amounts of resources have been committed to the effort of promotion and its direct relation to recruitment. It is recommended that over the next five years a significant effort matched by monetary investment be dedicated to clearly defined project for promotion and recruitment.

Faculty

The Graduate Multimedia program does not have a resident faculty. It relies on the participating colleges to provide faculty as needed. The program has established successful long term faculty relationships with the College of Arts, Letters and Social Sciences, the College of Business and Economics and the College of Education and Allied Studies. An important program a goal has been the involvement of more faculty from the various colleges in the capacity of thesis advisor/mentor. In the past his is area has most often been supported by faculty form the College of Arts, Letters and Social Sciences. However, beginning in FY 2004/05 Ray Mitchell from the College of Science will become a regular thesis advisor. This is a very positive addition to the program and a direction the program needs to continue to pursue.

Resources

Although operating a digital media dependent graduate program is thought to be expensive, the overall cost of the Graduate Multimedia program is in keeping with the average cost of running department at CSUH. Because the Multimedia Graduate program does not have a resident faculty the cost per unit of faculty time is the lowest possible. As Dean Bellone has pointed out in the previous five year review the Multimedia Graduate program's total cost is inline with the cost spent on all departments at CSUH. The Graduate Multimedia program accounts for 0.3 percent of the expenses for all departments and accounts for 0.3 percent of the students. Given that the funding for the program has remained flat for the past five years these figures may now be even more favorable for the overall cost of operating the program.

The flat budgets of the past five years have been adequate to serve the programs need for continual upgrading of digital equipment to keep pace with the ever changing workplace. However, recent budget reductions for the CSU system threaten the long term effective sustainability of many programs including this one. For the FY 2004/05 the Multimedia Graduate program budget for equipment and for S&S has been reduced by 62 percent. Although the program has planned well for the difficult year ahead, a continuation of cuts in the future will have dire consequences for the its long term health. Every effort should be made to by the university to restore the budget and by the program to develop additional revenue from sources outside the university.

CALIFORNIA STATE UNIVERSITY – HAYWARD

MASTER OF ARTS IN MULTIMEDIA

Visitor's Report

Keith Muscutt

Visit Dates:
April 6-8, 2004

INTRODUCTION

The on-site review took place on April 6th (pm), 7th and 8th. The reviewer was provided with adequate materials prior to the review (consistent with the recommendation of the March 1999 review). During the time available there was ample opportunity to meet and talk with almost all the students as well as core Art Department faculty in the program, to tour facilities, and to interview non-academic staff, the Dean of Graduate Studies, and the chair of the Art Department – but unfortunately there was not enough opportunity to meet with faculty and academic administrators from other participating Colleges. A concurrent review of the Art Department was under way, so the reviewer benefited from an opportunity to compare notes with Art Dept. reviewer Harry Reese from U.C.S.B., as well as attend a presentation that he gave about his own work as part of the Multimedia Forum lecture series.

Prior to the visit this reviewer was familiar with the Multimedia graduate program by reputation, through the network of professional connections which exist in the field of digital media. It can be said, without fear of contradiction, that the CSUH Multimedia program set the standard by which similar programs, now proliferating across the state and nation, are compared. Program founder James Petrillo is in continuous demand as a consultant to proposed and fledgling digital media programs at both graduate and undergraduate levels, and CSUH Multimedia M.A. graduates now populate the faculties of a significant number of recently established academic programs as far afield as Louisiana. CSUH, its colleges, and the graduate school are to be commended for having undertaken the prescient and difficult task of pioneering interdisciplinary digital and electronic media studies in California.

The objective of this report is to make recommendations that will enable faculty and administration to sustain and improve the program, building on its solid foundation of achievement. It is also written with the recognition that, within present budgetary constraints, recommendations that call for significant infusions of new resources may fall on deaf ears, so they are made sparingly and only where there is some urgency.

Several recommendations reiterate those of the previous reviewer.

CONTEXT

In addition to confronting severe budgetary impacts of the state's parlous finances, CSUH apparently suffers from a lack of overall enrollment growth. This reviewer is not familiar with comprehensive campus academic plans, if they

exist, but the premise seems to be that change cannot be supported with new growth resources and can therefore only occur through reallocation of existing resources. In a rapidly changing society, to which the university must be responsive, strong leadership is required to ensure that innovative, interdisciplinary programs are not stifled by entrenched, disciplinary interest. The visionary leadership of Dean Bellone, Prof. Petrillo, and others created what has become, in the first decade of its existence, a hallmark of distinction for the CSUH campus. For that vision to be sustained and advanced, a clear sense of direction for the next decade – a recommitment to the existing vision or perhaps a re-envisioning of it – is worth considering. This is not to imply that current planning is absent or inadequate. The self-study conveys the opposite impression. Rather, it is to suggest that while working on incremental improvements that have been identified in the current plan, next year would be an opportune time to celebrate the tenth-year milestone of accomplishments with some reunions of alumni, exhibitions of faculty and student work, brainstorming retreats, and a "gala" event with a view to refreshing, reinvigorating and to some degree reinventing the program.

STUDENTS

There was plenty of opportunity to meet with students, in groups and privately. They constitute an amazingly talented, motivated and diverse group in every respect – including foreign students from many parts of the world (currently Taiwan, Mainland China, Mexico, Ecuador, Vietnam, India and Iran), as well as domestic in-state and out-of-state students of varying ages, ethnicities, and socio-economic backgrounds. Men and women are about equally represented. Educational histories are also quite diverse. In addition to a small group (about 25%) of recent CSUH graduates there are students with undergraduate degrees in disciplines ranging from philosophy, to chemistry to astronomy. Several returning students leaven the mix with a professional and educational career experience – providing a healthy "dose of reality" for their younger colleagues.

Student morale is high. Although students expressed many anxieties about their personal prospects and ability to achieve the standards to which they were being held, there was a clear consensus that the program is meeting their expectations, although there is still room for improvement. They praise faculty for their knowledge and commitment.

The project teams, which constitute the core research and creative experience of the program and occupy almost the entirety of the second year, bring about extraordinary cohesion and camaraderie as faculty and students from varied background exchange ideas and skills. Several project teams share the same, indeed the only, dedicated research lab space, so there is constructive

collaboration as well as friendly competition among them. Two criteria are stressed – innovation and interactivity – and the guiding philosophy seems to be that you have to work hard to play hard.

Unfortunately, this project/lab experience is entirely reserved for second-year students. There is no lab or even social gathering space for first year students. This regrettably isolates first-year from second-year students as well as from each other.

This reviewer was invited to join a first-year student viewing of a second-year project, "Robo-sapiens," involving robotics, infrared wireless networking, emergent-behavior, and a component of social/psychological commentary (including light-hearted satirizing of the faculty and staff, after whom the robots were named – a good sign!). Two student presenters (both ESL students) discussed the origins, goals, and evolution of their creative/research project and the collaborative process of their team. The project itself was impressive as an ongoing experiment in interactive kinetic sculpture, but even more impressive was the students' ability to articulate their ideas, place their work in a theoretical framework, and respond intelligently to first-year viewers' critiques and suggestions. If this one project team is typical of others, then it is a great pity that there is not more opportunity for interaction between first- and second-year cohorts.

Recommendations:

- First-year students *urgently* need a physical space where they can congregate and exchange ideas.
- Seek ways to increase first and second year interactions through shared resources, a more integrated curriculum, or some form of apprenticeship.
- The second-year creative/research lab is cramped and inadequate. A lab commensurate with the scale and scope of the projects is well deserved.

FACULTY

Faculty creative and research credentials are strong in the arts and appropriate to the program (this reviewer is not competent to judge the credentials of faculty outside the College of Arts). Faculty commitment to organizing and teaching in the graduate program is very evident and praised uniformly by students, who note especially faculty availability outside class.

However, some incipient cracks are apparent in faculty morale and require attention. Teaching loads are heavy, and administrative course relief for

managing this complex enterprise, as well as related components of the undergraduate program, is minimal. A tenure track appointment, and further advancement, depend on excellent research and/or creative productivity, but teaching and service loads do not allow time for faculty to develop their careers. Institutional support for research is virtually non-existent, except for faculty start-up packages, which are soon exhausted. While the communal faculty lab space makes for efficient use of shared technologies, and also facilitates communication and collaboration among faculty, it is woefully small.

It should be recognized that the existence of the Multimedia M.A. provides qualitative reinforcement for the corresponding components of the undergraduate program – i.e. the multi-media related "options" which constitute a large proportion of overall enrollments. Faculty recruitment is improved when prospective faculty members see opportunities to work with graduate students. Support for faculty development in the form of funding for conference attendance, creative studio/lab space and equipment, and above all course relief in order to pursue creative/research activity, is therefore critical to *both* the undergraduate and graduate components of the curriculum.

CSUH is distinguished from most similar campuses by the mutually reinforcing strength of digital-media curricula at undergraduate and graduate levels. In order to preserve this distinction, and recruit and retain faculty, the campus will have to support research. Digital media is a highly dynamic array of extremely challenging fields, more akin to, for instance, computer science than to traditionally sanctioned art practices. It has recently become a highly competitive academic field. The University of California is launching programs on every campus (e.g., Media Art and Technology at UCSB, the UC Davis Technocultures initiative, the Digital Arts and New Media M.F.A. at UCSC) and throughout the state and the nation digital media curricula are being offered as optional pathways within existing Art and/or Film programs. These represent truly revolutionary shifts in the arts in academia not only in tools and technologies but more importantly in the form, content and theoretical approach to creative expression. For CSUH to capitalize on its pioneering leadership in this field it will have to offer faculty the necessary space, time, and financial support to continuously maintain their edge in a fast-paced and highly competitive academic and professional marketplace.

Recommendations:

- Investigate how faculty research in similarly technical and dynamic disciplines, such as computer science and engineering, are institutionally supported and move towards applying those procedures and standards.

THE CURRICULUM

The essential elements of the curriculum are those of similar programs elsewhere, with the emphasis on team-building and innovation. It has a unique "flavor" in that it has required courses in business management and in theories of learning (directed towards educational software development). In addition to being highly regarded by students as practical, career-oriented experiences, these courses build valuable bridges, through faculty and support commitments, to the colleges of Business and Education. An example of the value of these links is the expansion of Multimedia facilities in the proposed Business and Technology building – an opportunity which testifies to the College of Business' continued commitment to the program. It is, nevertheless, obvious that the entrepreneurial "start-up" of the eighties and nineties was the prototype for this emphasis, and it is one that might in some respects have outlived its usefulness. In the last ten years tremendous evolution has occurred in digital media. Whereas even five years ago an innovative website or educational CD might have been an acceptable thesis project, today they probably would not qualify. Digitally- and electronically-mediated expression is exploring many new frontiers in the arts, as well as in the sciences (where imaginative expertise for the visualization of research in the physical and biological sciences is increasingly valued). And in the Humanities and Social Sciences there is intense interest in a wide array of digital-media impacts on society that have been spawned by the internet, cellular phones and other interactive communications technologies – topics that can be loosely grouped under the heading of "digital cultures." The point here is simply that a wider range of curricular and faculty collaborations among and between colleges and disciplines might now be contemplated. The absence of formal connections between the M.A. and the performing arts programs deserves some thought. And interaction with the sciences and social sciences beyond what already exists, should be encouraged.

One recurrent theme in my meetings with students was a perceived lack of range and depth in instruction in programming and programming languages. As an "art" program, the faculty is understandably more concerned about development of conceptual skills than mastery of tools. But, to a multimedia student, reading and writing code could be seen as analogous to a music composition student needing to know how to read and write scores – not an unreasonable expectation. The field has passed beyond the point where multimedia artists should rely on off-the-shelf technology, rudimentary programming skills, or "outsourcing" technical requirements. On the other hand, it is not practical to assume that students who enter with limited programming skills, currently a fairly high proportion, can be taught them in a short period of time (despite cliché that asserts that it is easier to turn an artist into an engineer than to turn an

engineer into an artist). This is an essential quandary for the program – similar to ones in most interdisciplinary endeavors – which may be impossible to resolve fully. Perhaps, with the passage of time, incoming students and faculty will become generally more proficient in these areas. Meanwhile, an art-oriented programming curriculum, extending beyond the introductory courses that are currently offered, may be necessary. If faculty provisions become available, either in the Art Department or in the College of Science, priority should be given to finding an individual who can embody and span the art and technology needs of the Multimedia program. Digital-media graduate programs that are being developed regionally and nationally should produce the necessary candidates.

Recommendations:

- Consider re-positioning and perhaps even renaming the program. The somewhat outmoded term "multimedia" does not do justice to the range and depth of work that research faculty and graduate students are producing. Perhaps "digital and electronic art" or words to that effect would be preferable. (Ignore this recommendation if there are major bureaucratic impediments that will sap faculty energy.)
- Strengthen instruction and expect greater proficiency in programming language skills. This might be accommodated within existing curriculum-planning initiatives which propose a formal three-year curriculum option for students needing better preparation and/or the proposal to increase the curriculum from 52 to 60 units.

FACILITIES

Serious space deficiencies have been mentioned already. A plan exists to include additional space for the second-year graduate laboratory (about 1,800 square feet) in a proposed Business & Technology building. However, unless the existing lab is retained for either first-year students or research faculty, their needs will remain unfulfilled. And in the interim, until the new building is finished, no one's needs are being satisfied. While reallocation of existing space in the Arts and Education (A&E) Building will no doubt be a thorny topic, it needs to be tackled. Failing that, there is space in the sculpture courtyard area where temporary buildings could be stationed without detrimentally effecting nearby programs.

The root of the space problem may be that nobody in the Art/Multimedia faculty has much awareness of the space-adequacy standards that are applicable to the state universities (e.g. those in the CPEC "A Capacity for Learning" report, dated Jan. 1990) and therefore no one is in a position to argue for space, neither among

arts programs nor within the campus framework, on the basis of enrollments or other data.

Recommendations:

- Campus space planners should be invited to meet with faculty administrators in art and multimedia, review CPEC guidelines, generate tables that show what guideline-space allocations would be appropriate to the Multimedia program, and how actual allocations compare with guidelines (both absolutely and in comparison with other campus programs). With this information in hand, and if warranted, inequities in space adequacy in the existing building can be rationally addressed, and arguments for new space can be advanced, both for state- and donor-funded facilities.
- Consider the feasibility of installing temporary facilities in the courtyard.
- The condition of some public spaces in the A&E building is deplorable. While it is *de rigueur* for teaching studios to be messy, broken fixtures and missing ceiling tiles in the corridors are bad for morale, recruitment, and fundraising. (The remarkable absence of graffiti indicates that it is *not* art students who are responsible for the damage.)

STUDENT OUTREACH AND FUND DEVELOPMENT

Several separate but related topics are bundled under this heading. They share a common theme, which is the need for the campus and the program to invest effort in external communications with prospective students, alumni, and donors. Faculty leaders of the program are acutely aware that the health of the program is dependent on the quality of students who are recruited into it, as well as the faculty and equipment available to support them. As similar programs are established elsewhere, the CSUH Multimedia program will have to compete for the best students. Success will, in large part, depend on developing a strategy to market the program's strengths in educating and placing its graduates. Faculty members are temperamentally averse to commercializing their activities, especially at public institutions. In the past, the need to advertise has been seen as tantamount to an admission of failure. But the harsh reality is that state support for the university is dwindling, competition for the best faculty and graduate students is intensifying, and peer institutions are aggressively promoting their programs.

The Multimedia program currently enjoys a unique competitive advantage in the form of its established reputation, but it risks squandering that asset if it does not take prompt action to broadcast it more effectively. Given the nature of the program it is imperative that it has a state-of-the-art web presence that is professionally maintained by a first-rate webmaster with strong design ability.

This is not a job for faculty and it requires consistent attention which will not be supplied by transient graduate students (although they should of course contribute to the content). In addition to creating an attractive electronic brochure for applicants, the webmaster should be responsible for a proactive campaign for linking to key sites and search engines, placing internet advertisements, tracking alumni, and creating an online alumni newsletter, public forums, and so forth. Reflecting the goals of the Multimedia program, the site should demonstrate as well as point to the best in innovation and interactivity. The program is currently developing a much-improved site, but it was clear to the reviewer that, like almost everything else, the burden of making it happen is descending on the shoulders of the faculty and that permanent staff support is lacking.

Similarly, it seems that the campus has not devoted sufficient external fundraising support to the program. Certainly, the results of any such efforts are disappointing. Given the program's proximity to the epicenter of the digital media revolution, and the potential value of its graduates to the regional economy, the virtual absence of fund-development support for research, fellowships, equipment donations and so forth seems myopic, if not tragic. A multimedia graduate program with an established record of excellence presents a golden opportunity for the campus to raise external funds. The board of industry advisors is an initial step in the right direction, but it will not produce concrete results without a clear agenda and the persistent stewardship of a trained development professional. While the faculty must be involved in identifying and cultivating contacts, dazzling potential donors, and sometimes "making the ask," they need to be guided by a hardworking, professional fundraiser reporting in to campus senior management.

Recommendations:

• Hire or contract with a skilled web designer to develop and maintain a state-of-the-art web presence.
• Make sure that campus-level fundraising executives are aware of the opportunity to find industry support for this program. Try to ensure that a member of their staff is designated to assessing, setting and achieving fundraising goals. (A campaign to raise a $5M endowment over five years – that would generate annual proceeds of $250K thereafter – is within the realm of possibility.)

PROGRAM ADMINISTRATION

The reviewer was frankly unable to develop a coherent understanding of the fund sources and funding structure of the program. It seems that resource allocations are the result of a complex history of wheeling and dealing between Multimedia, Graduate Studies, and the Colleges of Business, Science and Education. This leads to a kind of budgetary ecosystem, not necessarily a bad thing if it keeps all the stakeholders actively involved in decision-making, but obviously prone to confusion, delay, and possibly friction, especially if there is turnover in administration and institutional memory fades.

The operating budget is marginally adequate for supporting the project-team laboratory. As noted elsewhere in this report, support for graduate students themselves and for faculty research is woefully inadequate. Administrative staff support seems appropriate, but technical staffing is below the bare minimum. The absence of staff to assist with student recruitment (web presence) and fund development has been mentioned, above.

Jim Petrillo, the program director has, by all accounts, performed heroically. Multimedia's hybrid of Hercules and Sisyphus, he combines strong leadership with great tenacity. The task of running an interdisciplinary program is largely one of persuasion and diplomacy, because the program director has limited control over resources and must negotiate constantly with other jurisdictions. This must be intensely frustrating, as well as debilitatingly time-consuming. It is apparent that the director's combined teaching and administrative load is excessive. Despite, or because of, his commitment to the graduate curriculum and its administration Petrillo has insufficient time to invest in other areas critical to its future, such as student recruitment and external fundraising (both discussed elsewhere).

It was not clear how much longer Petrillo intends to remain in the position, but there will inevitably be a changing of the guard in the not-too-distant future. Succession planning is well underway, with junior colleagues being groomed for academic and administrative leadership by occupying positions as area-heads for the optional pathways in the undergraduate program. Colleagues have already taken on the role of interim director during Petrillo's sabbatical leave. Junior faculty show strong leadership potential and there is no reason to fear a vacuum when Petrillo hands over the reins.

Recommendations:

- Develop a one-page summary of basic program resources – faculty course assignments, staff provisions, and support funds. A diagram of how funds flow, and who really controls them, would be helpful (especially to the next outside reviewer!).
- Make sure that contractual arrangements between stakeholders are unambiguous and well documented. This will guard against future misunderstanding, and guarantee the stability of core funding.
- Give the program director more control over core program resources. This will align authority with responsibility, empowering the coordinator to solve problems efficiently as well as be a more effective advocate for budgetary needs.
- Increase technical staff support from half-time to full-time.

SUMMARY

The Multimedia program is both rigorous and vigorous. The faculty is strong, the students are outstanding, and the staff very capable. Budgets are strained and faculty overextended, but there is much to celebrate as the program approaches its tenth anniversary. The key elements are in place for an equally promising future. The digital-media field is increasingly important and by pioneering it successfully the Multimedia M.A. has brought considerable prestige and visibility to the arts at CSUH and to the campus as a whole. The tenth anniversary will be a milestone, but does not necessarily signify a crossroads. The way forward could be through progressive fine-tuning of a proven model, or through a more comprehensive revision of it. The stagnating economy of the campus might dictate the former, while a highly-motivated and relatively youthful faculty might precipitate the latter, especially if the economy improves and outside funding is brought in. In either case, the principle challenge will be for CSUH to retain its eminence in the face of growing competition and resource pressures. This entails significantly greater attention to faculty development and graduate student support, which in turn entail concentrated effort in finding outside research awards and industry support. This will require some modest investment, but the prospects for a handsome return on that investment are good.

Having been on the receiving end of many reports such as this, I am aware that they often tell the reader as much about the author as the program under review. I therefore tender these observations humbly, with the knowledge that they are the result of a fleeting experience and of necessity somewhat impressionistic. Those who wrestle with the difficult trade-offs on a day-to-day basis will surely

think, and rightly so "that's easier said than done." Nevertheless, I hope these recommendations will be of some assistance.

In closing I would like to thank everyone, in particular administrative assistant Raquel Arcia and technician Gavin Farrington, who helped organize the visit, introduced me to the students and faculty and showed me the facilities. My visit to CSUH was both pleasant and informative.

Keith Muscutt
Assistant Dean of the Arts
UC, Santa Cruz

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M.A. in Multimedia   *1999*
Five Year Review

Prepared by
James Petrillo
Coordinator, Graduate Multimedia Program

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The Graduate Multimedia Program is now completing its fourth year of operation and this report provides an excellent opportunity to look at what has been accomplished and what future challenges lay ahead. Included in this report are a review of the current state of the program by Sylvia Walters, Chair of the Department of Art at San Francisco State University and a "response to concerns" by Carl Bellone Dean, Graduate Programs.

I would like to begin with an acknowledgment and thanks to three people who have played absolutely crucial roles for the existence and success of this program. First, Provost Martino who had the foresight to initiate this project and the courage to see it through. Second, Dr. Christopher Morgan of the Math and Computer Science Department who kept the organizing committee on task and got us to do the correct research to back up our proposal. Finally, Dean Bellone for his supreme diplomatic skills, for his many creative initiatives at promoting the program and for his benevolent oversight of the entire project from its beginning.

The goal of the Graduate Multimedia program is nothing less than to be the best *interactive media content production education* in the world and to be the model for other programs to emulate. As you know interactive media is rapidly becoming the dominant form of information distribution. The Graduate Multimedia program is the leader in educating the next generation of content providers who will have a central role in shaping culture. The core of our program is an interdisciplinary team-based thesis where groups of three to five students produce exceptionally high quality, content rich interactive media projects in professional studio settings. The term content rich refers to the program's commitment to steep our students in Humanities traditions and expect of them in-depth research on the meaning of their subject. Before students are advanced to thesis candidacy they must complete a rigorous first year of technical, theoretical and group dynamic preparation courses in order to ensure that they are prepared for excellence.

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A Brief History

1993-1995 Prelude:
In late spring of 1993 Provost Martino brought together a committee of members of the CSUH community interested in various aspects of new media and asked them to develop a plan to further multimedia on campus. In very short order there was agreement that the best way to accomplish this goal was by the creation of an interdisciplinary graduate program. The committee was also looking for a new model to organize the education around and first proposed a structure with no classes and only production teams working with faculty mentors. It was not entirely surprising to learn that the university regulations require classes, units and limitations on the number of units devoted to research. Coming to terms with the conflict between an ideal vision and organizational reality resulted in the model we finally adopted, which in retrospect is far superior and effective than our original proposal.

During this period, untangling the competing needs of the various schools and individual participants and resolving a plan for the distribution of resources became the major area of contention. As a practical political solution it was resolved that each school would have its own separately administrated facility. Finally, with a concerted effort and goodwill on the part of the faculty and administration, a proposal was crafted that moved through the university committee process and was delivered to the chancellors office in what must be record time for a new program approval.

1995-1998 Building the Program
The speed at which the Program was created produced an unstoppable momentum and an unreasonable expectation of immediate results. The consequences were that in the fall of 95 we were creating facilities, constructing an admissions process, and simultaneously offering both preparatory course work and thesis projects. We had no office space, no staff, no resolved administrative structure and a vaguely defined strategy of separate studios managed by each school that proved totally unworkable. In short, we were assembling an airplane and flying it at the same time.

It was only through the dogged determination of faculty members wanting the program to succeed and the brilliant diplomacy of Dr. Bellone that a truly great program was to emerge. By the end of Spring 98 the program had an effective oversight committee representing all four schools; a program

director, an office (AE1231), a program secretary and a technician; a production studio (AE1227) capable of supporting the work of 20 thesis students; a half dozen award winning graduate thesis projects; a highly committed faculty with clearly defined roles; a curriculum that has proven itself based on student outcomes; a reliable annual budget; and a committed and hard working external board of media industry advisors representing IBM, Macromedia, Dreamworks, PDI (producers of ANTZ), Electronic Arts, Dolby Labs, Gistics, S.G.I, and G.E.S.I./Diaquest. In addition the program has firmly established a national and international reputation for its leadership in the field, its innovative curriculum and the extraordinary quality of its graduates.

1998-1999 Managing Success
The challenges this year have been about how to effectively manage a fully operational program and how to improve on the things we already do well.

Recruitment: Eight thousand program brochures were mailed to a mailing list developed through our collaboration with New Media Magazine. Monthly recruitment meetings were held at the university that drew an average of thirty people per session. Applications were up 20% this year. Our acceptance ratio is 1 in 5. The program has accepted students from Japan, Egypt, Mexico, Cuba, Canada, China, Viet Nam, Venezuela, Bulgaria, Germany and a full spectrum of American ethnic diversity. Nevertheless, I intend to double the number of applications over the next two years.

Advising: This year an exceptional effort was made to improve our retention through very active advising. The result has been a 100% retention rate.

Curriculum: Because of its strategic importance the multimedia program committee has approved changing the Telecommunications class from an elective to a requirement for all students. Also, the Business for Multimedia class has been entirely reconceived and redesigned by Professor Donna Wiley. Initial student responses have been extremely enthusiastic.

Fundraising: The real future of the program will depend on what is done here. The office of University Advancement has committed to working directly with the program for long-term fundraising. This

spring we have received gifts of $11,000 in software from DigiDesign, $15,000 in hardware from SGI and a $2600 service contribution from Macromedia. The key long-term fundraising goals will be the establishment of a program endowment and the creation of graduate student assistantships.

Public Relations: We have recently completed the production of a beautifully designed, portable conference booth. This will allow us much greater opportunities to compete at public events. This spring we presented at the Contra Costa County Tech Faire and will be at the Macromedia Users Conference in the Moscone Center. I will be presenting the program at the National Educational Media Network conference this May and the IBM international users conference in June. Plans are now being developed to present at SIGgraph and MacWorld. A new web site which will be ready by the end of June is designed to be the core of all future promotion, fundraising, recruitment and admissions efforts.

The Future:
The goal of the program remains the same: to be the best in the world and for the world to recognize it. However, in order to advance our cause it will require ongoing perseverance and commitment by the university, the faculty and the staff. We all must strive to continually improve our quality and to continue to innovate in an unbelievably dynamic and rapidly changing environment. To ensure that we accomplish these ends I would like the reviewers of this report to pay close attention to the recommendations made by Sylvia Walters which I can summarize as: more space, better ventilation, reduction of seminar sizes, additional faculty resources for upgrading skills and yes, a reasonable amount of released time for the coordinator who cannot maintain this level of achievement with the workload that is required for advancement of this type of program.

CALIFORNIA STATE UNIVERSITY - HAYWARD

MASTER OF ARTS IN MULTIMEDIA

Visitor's Report

Sylvia S. Walters

Visit Dates:
March 3, 1999

CSU-Hayward MA in Multimedia

Introduction

The Master of Art in Multimedia is a relatively young and very vital program, created in 1995 to offer graduate students with diverse professional goals conceptual and technical multimedia expertise. A unique independent graduate program in the university, it is administered by faculty from the four Schools of Business and Economics; Education; Science; and Arts, Letters and Social Sciences. The program has grown rapidly and now enrolls around sixty students. It serves students primarily from the Alameda and Contra Costa regions of the Bay Area. However, its student body also has a national and international component.

The educational priorities of the institution in multimedia were addressed through the creation of this unusual and productive program. Its development was inspired by the need for the university's principle schools to collaborate in the acquisition of technology and by the Provost's belief that it was possible to invent a new kind of interdisciplinary undertaking for the purpose of meeting the needs of a rapidly changing field. As the only multimedia master's program in California, it offers a broad range of advanced practical and creative opportunities in keeping with its graduate level interdisciplinary mandate. Professionalism in the program is fostered by a volunteer Board of Advisors composed of media technology and computer specialists that meets once semester.

This reviewer visited the CSU-Hayward campus on the afternoon of March 3, 1999. During the visit Professor James Petrillo, the Graduate Coordinator, arranged an overview meeting with Graduate Dean Carl J. Bellone, Provost Frank Martino and core program faculty. A tour of the facilities was provided along with opportunities to meet privately with members of the faculty of the different schools, and with clerical and technical staff. During the visit, I was able to observe student creative projects and participate in open discussions with students who also represented varied professional directions. I want to thank everyone for their preparation for my visit. What follows are observations, comments and several recommendations concerning the MA in Multimedia Program. The report format is loosely adapted from the National Association of Schools of Art and Design (NASAD). I hope it will be of assistance as the faculty and administration plan for programming in this important area of learning for the first decade of (dare I say it?) the next century.

Recommendation: Some advance preparation of program reviewers is strongly recommended. At minimum I would suggest forwarding catalogs, program descriptions and other material relevant to the expected report. It would be

easier to assess the program on site if one were not trying to evaluate the program's complexities while acquiring a crash course in its basics.

A. Mission, Goals and Objectives

The MA in Multimedia mission is to offer high quality professional training in computer technology and multimedia for national and international career-oriented students in fields such as art, computer science, education, business and telecommunications. Its goals are to prepare students to use computer technology to "create, control, deliver and present information in a variety of interactive digital forms," to learn to quickly adapt technology to new technical and other related environments, to encourage creative processes and intellectual development in multidisciplinary settings, to enable students to work collaboratively in preparation for real-world careers, and to integrate high level technical skills with narrative research-based content through the creation of a professional quality multimedia group project.   These are important and appropriate educational objectives for a public institution in the San Francisco Bay area dedicated to advancing learning in the arts, sciences and professions. At the MA level, the university's interest in offering a challenging, innovative, multidisciplinary, multimedia professional program is of exceptional merit as it efficiently meets a clear need to prepare diverse career oriented students in the area and beyond to work in a new and expanding digital media field. It also builds on the history and resources of the region. The MA, the first graduate degree of its kind, provides special opportunities for the development of collaborative and creative methodologies, and practical training for artistic, educational and commercial multimedia enterprises. This program fits well within the mission of an institution that prepares students to serve important economic needs of the region while seeking to create a pioneering national program.

B. SIZE & SCOPE

The MA in Multimedia enrolls 45 classified students. Of these, approximately sixty percent have their undergraduate degree in a creative field such as fine arts or filmmaking. The remaining forty percent were trained in education, business, science and the humanities. Eight full time faculty, each from varied schools in the university, regularly teach in the program and are joined by one part time faculty. The Program Coordinator teaches one graduate seminar course and manages two project classes per quarter in the program. Each of the other faculty teaches courses in the multimedia program, but the major part of their teaching load is served in the Departments of Art, Educational Technology, and Computer Science. Faculty are also required to serve as student project directors. FTEF in the program in 1996-97 was 1.2 The faculty to student ratio is 15:1.

Facilities for the program are housed primarily in the Art and Education
Building adjacent to the Fine Arts Department. A small temporary facility
nearby housed a student creative project during the period of the visit.

Generally speaking, it would appear that faculty and material resources for
the program are adequate for current enrollments and curricular offerings.
Enrollment in the MA program is manageable but crowded within the
current facilities. There is evidence of need for additional space for first year
students and for larger creative art projects. Seminars are exceptionally
large for graduate level work The Multimedia MA is a high growth program
mirroring the rapid growth of its undergraduate counterpart in the Art
Department. However the program is still very young and increased
enrollments are likely in the future. If encouraged, additional facilities and
faculty resources would be necessary. On the whole the program's size and
emphasis on teamwork ensure a visibly healthy student community.

There are enough advanced elective courses to support the current
program. Students benefit from close contact with faculty and technical staff
in and out of class. The program's culminating projects, most of which have
a strong creative aspect, are at levels comparable to nationally competitive
art programs at similar institutions. Admission standards used to ensure the
preparedness of students for advanced work in interdisciplinary fields seem
appropriate. In addition, prerequisites are required in audio and video
technology for students who may be lacking in technical knowledge.

*Recommendation: Additional resources should be considered to reduce the
size of seminar classes which are too large for graduate level work. Space
considerations are a priority to reduce crowding and alleviate other
concerns. See below (Facilities).*

C. FINANCES

Since its inception, the MA in Multimedia Program has received, a healthy
operating and equipment budget and the Coordinator administers
Foundation and Student fee funds appropriately. The program receives
approximately $106,000 annually, part of which is used for staff salaries and
the remainder for equipment and general operations. According to the
Coordinator, there is a continual need for fundraising and some financial
program needs are satisfied only through creative packaging. In
discussions with the University administration, It was clear there is strong
support for the program and a strong wish for its continued success.

Additionally, it was apparent that facilities are needed for support of first year
students in the program and for the development of creative arts projects.
Safety and ventilation systems are needed in the Graduate Studio. The

administration should undertake planning to help address these needs. Some of this could involve collaboration with the Art Department.

D. GOVERNANCE/ADMINISTRATION

The Multimedia program benefits from the presence of an effective and highly motivated Coordinator who has the confidence of faculty, administrators, staff and students. There is a good collegial atmosphere in the program. The Coordinator's teaching load seems high and there is evidence that additional release time for him would benefit program operations, recruiting and fundraising. In addition to his routine administrative responsibilities, he teaches a large seminar and an undergraduate class, manages the two project classes, facilitates each student's activities in the Multimedia graduate program, is highly active in University affairs related to the program, raises funds and other support for the program externally, and is a respected professional artist. The faculty appreciates the Coordinator's leadership, vision, collegiality and dedication to the program. He is seen as having the highest goals for it and is admired for having pulled it together. At the time of the visit, faculty members seemed to suggest that the Coordinator is overextended

The program is guided by one standing interdisciplinary committee comprised of a faculty member from each school and includes the Graduate Dean who is an advocate for the program and is widely appreciated for the support he provides. Program philosophy and goals are determined by the committee in ongoing dialogue. Its stress on fusing Liberal Arts core values with development of research and production skills are evident in the high quality of student work produced as well as in the understanding of goals as expressed by the faculty.

The program clearly reflects the interest and involvement of faculty and the administration at the University level. Examples include the presence of the Graduate Dean on the Program Advisory Committee and the fact that the program began at the instigation of the Provost. The Administration is comfortable allowing faculty to define program outcomes and providing them responsibility for assessment of same.

The program has a professional external Advisory Board composed of representatives of important media and industrial concerns in the region. It meets semesterly and acts to support the program in varied ways.

Recommendation: Student representation on the Multimedia Program Committee might be advisable

E. FACULTY AND INSTRUCTIONAL STAFF - COMPETENCE, LOAD, MORALE

The success of an interdisciplinary graduate program is clearly dependent not only on the quality of its faculty, but also on the willingness of the faculty to work collaboratively. While on campus, there was an opportunity to meet with six faculty and subsequently review their qualifications. All of the faculty hold appropriate degrees in their fields or have equivalent professional experience. Their combined backgrounds in telecommunications, informations systems, multimedia design, computer science and digital, audio and electronic arts are impressive and form an excellent foundation for the program. All are productive and extensively involved in professional research and/or as practicing artists. It is obvious they meet all standards for Graduate Faculties to teach in an MA program. Moreover, the faculty seems large and diverse enough in its areas of expertise and experience to cover thoroughly all fields offered. The different specific disciplines covered by the faculty and technical staff combine well to support the goals of the program.

In the visitor's judgment, the faculty seemed enthusiastic about, and energized by, the program. Students were equally most enthusiastic about the quality of instruction they were receiving, the accessibility of all faculty, and the interdisciplinary experience of studio and academic faculty.

Faculty teaching loads are within the norm for similar institutions. There was evidence some faculty feel they are overworked and do not have enough time to maintain and develop their professional skills. In such a rapidly changing technical discipline, the university would be wise to consider ways to reduce this concern.

The Forum Course seems to be a very important resource for the faculty as well as the students. The course augments the professional expertise of the faculty by providing access to experienced industry professionals who are in touch with the most current information in the field

The morale of the faculty seemed very good. However, there is some dissatisfaction with the teaching loads and with crowding in the faculty work space.

The lab technician **is also employed** as a part-time lecturer. There are no additional research assistants, teaching assistants, or other supporting technical personnel other than the Art Department Undergraduate technician who is able to provide some auxiliary support. The resident technician is highly qualified to provide technical assistance in the labs, works well with students on an individual basis and is considered invaluable in his primary role. As a teacher of the fundamentals class, he

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was perceived as too close to the students and less competent to manage a rigorous course.

There are no graduate assistantships associated with this program which appears to be a distinct weakness. While the additional technical support that a GA could offer would be very useful, the primary advantage of developing graduate or teaching assistants is that they offer vital professional experiences to students interested in teaching as a career. Secondly, the ability to offer assistantships to students is often an important recruiting tool.

Recommendation: 1) Reconsider ways to provide faculty time to maintain and upgrade research and professional skills; 2)Add resources for graduate assistantships.

F. FACILITIES, EQUIPMENT & SAFETY

Strengths: The program is housed primarily in facilities located in the Art and Education Building, but also utilizes a fully equipped four-screen distance learning laboratory that extends the classroom to a satellite Contra Costa Campus. The main graduate project studio has a good working atmosphere; state-of-the-art professional equipment including a variety of workstations and digital video, audio and CD-ROM production capability; good security systems and complete network capability. Graduate students have the benefit of twenty-four hour access to the studio, an important resource for any program attempting to provide professional skills and encourage teamwork. The studio offers a cohesive home for those second year students who do not need large quarters for their final projects. Its proximity to other media and art facilities is advantageous to students in a variety of ways. Among other things, Multimedia students have access to the Art Department undergraduate media lab and its technician during limited hours. Students undoubtedly benefit from the Art Gallery as well as other nearby visual and graphic art facilities commonly helpful in the creation of multimedia projects.

Weaknesses: A number of problems were identified during the visit:
1) The Graduate Studio is clearly crowded and does not have adequate ventilation, air conditioning or heating systems which suggest a potentially serious health hazard exists in the studios. Secondly, such conditions are likely to contribute to the deterioration of the very costly equipment on which the program relies and is therefore not cost effective in the long run.
2) A permanent "project development" facility is necessary for students working on larger-scale projects. Although students were successfully working on a large, interesting multi-dimensional mixed media project at the time of the visit, they were situated in temporary quarters. It will be important to the future of the program's interdisciplinary goals that a similar permanent

space be identified as soon as possible for students with non-industry-specific creative interests. Such students need early and continuing access to such a space to be able to adequately theorize, research, investigate, experiment, visualize and eventually realize culminating projects. Thus, students advancing to candidacy ideally should know reasonably well in advance the physical parameters that will be available for their work.

3) Media and elective classes are decentralized and located in various sites on campus. While this situation positively reinforces the interdisciplinary nature of the program, it leaves students in the program's first year without a sense that they are part of a homogenous group. Although program literature cites its decentralized production capabilities, the Coordinator envisions a centralized seminar space near the graduate studio that could be used for all media classes and first year activities. Such a space would physically consolidate the program's theory structure and offer first year students an identifiable home.

4) The small space devoted to faculty research is much too crowded. During the visit it was barely possible for several **faculty members** to sit at professional workstations in their group space without literally elbowing each other. It hardly seemed the best circumstances for quiet introspection, productive discussion or student advising. Although one of the great strengths of this program is collegiality, teamwork and good humor among the faculty, it should not be a requirement for faculty to trip over each other to develop these qualities.

Recommendation: While space is obviously at a premium at the institution, the university is strongly encouraged to seek creative solutions to the space needs of this impressive young program. The lack of environmental controls in the graduate studio, adequate research space for faculty, working space for creative-minded students, and centralized space for first year students will likely have a negative impact on productivity and advisement.

G. ADMISSION AND RECRUITMENT

Admission to the MA program is through faculty committee review of applicants and follows procedures common to selective programs throughout the country. The program recruits students regionally, nationally and internationally from multiple disciplines and benefits from the diverse student body this provides. At the same time, faculty are concerned about the need for assistantships to insure that the selectivity of the program is maintained and a qualified diverse student body recruited.

The MA program was initiated four years ago and now enrolls 45 students. This is a satisfactory number for this stage of development of the program, but there is some pressure from the administration to increase admissions to a full complement of 60 students to assure that higher enrollment targets

are met. While the Coordinator believes it might be possible to fit 60 students into the already crowded seminars, there is a concern that the larger group would need to be generally better qualified in order for the program's high standards and complex teaching goals to be met.

Graduate students interviewed were very comfortable with the level and availability of advisement in the program and especially appreciated the accessibility of faculty from all disciplines for advisement purposes.

Recommendation: Consider means to improve recruitment ability.

H.   PUBLISHED MATERIALS

Advisement and recruitment information was appropriate and generally accurate.   The program benefits from an attractive glossy flyer that should be highly useful for recruitment and community relations. The Division's web site is an attractive and effective part its publications program. Other University publications produced for the program are descriptive and informative. The Advising Worksheets clarify the literature, but could be improved by offering sample program models for each of the two years. On the whole, the publications of the institution were commendable.

II. PROGRAM   CURRICULUM

The MA in Multimedia appears to meet high standards for curricular content and structure. As a complex program highlighting the interdisciplinary study of digital media and theory of communications with approaches from art, science, education and business, it was praised by faculty and students for its infusion of research, critical analysis of content and technical instruction. The program philosophy which focuses on the acquisition of both theoretical and technical knowledge as well as on cultural values, uses a creative research and production methodology which demands of each student a professionally produced, content-driven culminating project in order to graduate. Although it is a professional and career oriented program, its broad   aspirations place it well within the university environment alongside comparable programs in education, business, some of the sciences, engineering and the arts.

The curriculum includes a range of seminar, research and project courses similar to other two-year graduate programs. Sufficient advanced courses are available as electives in specialized areas to insure depth while the emphasis on collaboration provides opportunities for each student to have interdisciplinary experiences. The program is well designed for content and structure and appears more than able to satisfy its unique and challenging curricular goals. It is both resourceful and imaginative in its ability to meet the needs of its varied student body.

During the visit, student groups representing different interests presented good quality work. Students were articulate and positive about the program and faculty. Examples of student CD-ROM productions were especially strong, including *Sacred Spaces* and *Art, Technology and Society* both of which were commendable for their depth and complexity. Other projects were presented "in-progress." An education-oriented interactive proposal for k-12 students seemed constructive and well conceived while another student project that demonstrated physical interactivity in a virtual world was illuminating and inventive. A last team of students displayed an ambitious art installation that commented on media culture and used a wide range of approaches and techniques. All in all the work was admirable.

OVERVIEW, STRENGTHS AND WEAKNESSES

Among the program's strengths are the interdisciplinary faculty mentor teams and faculty accessibility; ready access to technical help; a bustling second year graduate studio space and state-of-the-art equipment; the program's curriculum which encourages students to see themselves more as "creators" in training rather than as specialists in hardware and software technologies; supportive School and University administration; interdisciplinary Program Committee; capable and trusted Program Coordinator; and the program's strong connections to leaders of the multimedia industry especially through involvement of the advisory board. Additional strengths include the integration of scholars, multimedia specialists and luminaries in the Forum course **which** is equivalent to Visiting Artist-Scholar Courses in comparable graduate programs, and most obviously the faculty whose national reputations and strong professional contacts are of critical importance to the program. The friendly and supportive clerical staff is also to be commended.

Areas of concern in the program are centered on space, crowding, safety issues, faculty-student ratios as seen in the large seminars, overworked coordinator, and student financial support as opposed to curricular matters. The program's ability to recruit did not appear equal to the high quality of the program because of the relative lack of funding for student assistantships.

CALIFORNIA STATE UNIVERSITY, HAYWARD
OFFICE OF GRADUATE PROGRAMS

M.A. in Multimedia

Response to Concerns
by
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Dean, Graduate Programs

Over the past four years, I have heard several statements regarding the Multimedia Graduate Program from respected colleagues that deserved a reasoned response. However, most of these statements were made under circumstances (such as in passing hallway conversations) that were not conducive to a protracted response. In other instances, an appropriate response required data that I could not produce on the spot.

The occasion of the Five Year Review for the M.A. in Multimedia seems like a good opportunity for providing a response to these concerns which I have attempted below.

1. The Multimedia Graduate Program is the most expensive program in the university.

Since the university gets funded on the basis of FTE, a good way to determine the cost of a program is to do a calculation of the program cost per FTE. The best way to do this is to divide actual expenditure data for departments by the annual FTE generated by the department and then divide by 3 (in order to get quarterly cost per FTE). Using actual expenditure data from 1996/97 (1997/98 data is not yet available) and annual FTE for 1996/97, Multimedia is not the most expensive program in the university.

The range of cost per FTE in 1996/97 was from $2,284 to $627 with an average of $1,287. The cost for the Multimedia Graduate Program was $2,035. There were three program that were more expensive than Multimedia and a total of six programs with a cost of over $2,000 per FTE.

Because the Graduate Multimedia Program is not in a school, all of the costs associated with the program can easily be identified with the program. This is not true for some of the other programs which may have hidden costs that do not show up in this calculation. For example, some departments require computer labs but these costs are in the School budget not in the department budget. Also since the Multimedia Graduate Program was only two years old in 1996/97, it had not generated as much FTE as it does now. For example, Fall 98 FTE was up 22% over Fall 96 FTE. Since the budget for the program has remained the same, the cost per FTE, if it were calculated for 1997/98, would be less and most likely drop below the $2,000 per FTE level.

Another determinate of program cost is SFR. The lower the SFR the more costly the program. The Multimedia Graduate Program had an SFR of 15.1 in Fall 97. This was above the average SFR for graduate programs of 11.9 and above the SFR of several undergraduate programs.

Another way to look at cost is to determine what percent of the all the departmental funding goes to each department. Again according to 1996/97 department expenditure data, the university spent $32,765,567 on 36 departments including the Multimedia Graduate Program. The expenditure for the Multimedia Graduate Program was $92,257 or 0.3% of the total. Thus, less than one third of one percent of the total money allocated to degree programs goes to the Multimedia Program. All of the other programs (referred to anonymously) which have a cost of over $2,000 per FTE consume a much higher percentage of the money allocated to departments as noted below:

Multimedia Graduate Program Cost Comparisons

	1996/97 Cost Per FTE	1996/97 % of Total Dept Budgets	Fall 97 Grad SFR	Fall 97 Total SFR
Program 1	2,284	3.1%	3.6	13.6
Program 2	2,272	2.5%	n/a	13.3
Program 3	2,117	1.9%	n/a	13.5
Multimedia	2,035	0.3%	15.1	n/a
Program 5	2,013	3.5%	5.4	13.1
Program 6	2,003	5.0%	13.4	14.0
All Depts	1,287*	100.0%	11.9*	21.2*

*averages

2. The Multimedia Graduate Program is expensive for so few majors and graduates.

The plan for the Multimedia Graduate Program is to eventually have 50 majors. In Fall 98, three years after the program started, there were 41 majors. The Program should reach its target of 50 majors in one or two more years.

In Fall 1996, the Multimedia Graduate Program had 34 majors or .3% of the total 11,261 declared majors in the university. Thus, the .3% of the departmental budgets allocated to the Multimedia Program seems right for the .3% of the university majors served in Fall 96.

The M.A. in Multimedia is a two year program. In fact, some students need to take three years to complete the program due to work-related problems. The program has only been in existence for three full academic years: 95/96, 96/97, 97/98. Thus, it is still early to make an assessment regarding the number of graduates. However, data from Institutional Research and Analysis shows 9 students graduated in 1996/97 and 5 students graduated in 97/98 for a total of 14.

During this same time period, there were 8 master's programs that graduated less than this amount. Only about 2 students per year have dropped out of the program. This year, 1998/99 there have been no drop outs. At least 4 students have switched from the M.A. in Multimedia to a Special Major by mutual agreement between the student and the program.

3. There is no content to the multimedia master's degree.

One of the distinguishing features of the CSUH Multimedia Graduate Program is that it is a content oriented program. It is content oriented in two ways. The first is that as an interdisciplinary program faculty from a variety of departments teach courses in the Multimedia Program consisting of similar disciplinary content found in the courses they offer in their home departments. For example, a first year student takes the following required courses: two in computer science (one taught by Dr. Chris Morgan), one in education (taught by Dr. Bijan Gillani), one in business (taught by Dr. Donna Wiley), and one in art history (taught by Professor Jim Petrillo). Most students during the first year have also taken an elective in telecommunications (taught by Dr. Alex Bordetsky). Thus, students receive a foundation of content courses in computer science, education, business, art history, and telecommunications.

The second way the program is content oriented is through the project. Projects must be content driven and involve research. Several student projects provide good examples of this. The creators of Sacred Places, in interactive web site, were part of a Mayan archeological dig at Yaxuna and spent two summers collecting data. They were supported in part through a grant from Southern Methodist University. They also visited Ireland to collect information on Celtic mythology. The Art, Technology, and Society group created a CD ROM tracing the interaction between art, technology, and society in the areas of writing, perspective, and astronomy. Their CD contains a research bibliography. It takes about 2 days to completely view their CD.

The Coyolxauhqui project team (Coyolxauhqui is an ancient Mexican Goddess) did research in Mexico (partially supported by a Graduate Student Research Grant) and produced a CD ROM which they have presented to various community and academic groups including a presentation at UC Davis. They spoke with and video taped interviews with 9 prominent scholars in Mexico who held differing views on the Coyolxauhqui myth. The Chronolock project, an interactive media installation, examined adolescent develop and involved psychological and sociological research. Dr. Nan Chico from Sociology served as one of the advisors to this group.

The MARS (Mobile Augmented Reality System) project team is developing a wearable computer system that lets you see computer images, through special eyeglasses, super-imposed over the real world. It is tied to a global positioning system. This team presented their research-in-progress to the Wearable Computer Group (consisting of 15 Ph.D. research scientists) at IBM in San Jose headed by Jim Spohrer, formerly Distinguished Scientist at Apple. The IBM groups was so impressed with the MARS Project that they have invited them back for an other presentation, promised to give them new prototype equipment not available to the general public, and invited Jim Petrillo to make a presentation at the IBM World Conference this summer.

4. Multimedia does not belong in a university.

The M.A. in Multimedia is a university graduate level program because it stresses content development and research as indicated above. Unfortunately, "multimedia" is an ill defined and widely used term. There are many extension programs and training institutes that offer multimedia training. However, these focus on learning specific tools, such as Photoshop. Acquisition of these transient tools and software programs are not appropriate for graduate education, or undergraduate education for that matter. As a result, these tool oriented courses are offered through the Multimedia Studies Certificate Program in Extension at Hayward and not as part of the undergraduate or graduate Multimedia degree programs. Students who lack specific skills are told to take an appropriate course in Extension or learn the applications themselves.

Students in the Multimedia Graduate Program learn how to become creators and producers of large scale interactive digital projects. The most important aspect is to have an interesting story to tell and to know how to tell it well. The technology is only the medium for expressing the story. No matter how impressive the technology, if the story is not interesting, the production will be a failure. There are plenty of high budget special effects Hollywood movies that bombed and thus attest to this fact.

There are important difference between art, drama, music, filmmaking, or multimedia programs offered at trade or unaccredited institutions and degree programs in these subjects offered at accredited universities. University programs must have a theoretical basis, require students to take content oriented courses, involve research, and avoid tool oriented courses. The M.A. in Multimedia meets all of these criteria.