SUPPORTING DOCUMENT

for
INTEGRATED MULTIMEDIA TEACHING and RESEARCH FACILITY

ITEMS LISTED

FURTHER ATTACHMENTS:

PUBLICATIONS/EXHIBITIONS BY RESEARCH INSTIGATORS

FLOW DIAGRAM OF COMPUTER USAGE AND RELATIONSHIPS AT COFA

STATEMENT OF TEACHING AND RESEARCH RELATED COMPUTING EQUIPMENT PRESENTLY OWNED AND OPERATED BY THE BUDGET UNIT

PROJECT DETAILS

Objectives of the proposal.

The objective of this proposal is to augment the present low performance computing facilities at the College of Fine Arts (COFA) into an integrated high-end digital multimedia teaching and research facility for the students and staff of the College. The proposal comprises of two mutually beneficial components, which given support, will be implemented over a period of two years.

Part A: A high-end PowerPC based Teaching Laboratory be established to support the teaching and development of complex levels of data management, ie: multimedia. This will specifically include, 3D modelling, animation, imaging, sound editing and computer aided design (CAD).

Part B: One Media 100, and supporting digital input devices be established as a professional high-end Audio Visual Studio.

Digital media is an integral component of the visual arts. Opportunities available to the visual arts through the formation and maturation of the digital information industry are extensive. Artists have historically been amongst those at the forefront of exploration of new technologies. The dissolution of boundaries facilitated by this industry are felt by, and affect, all aspects of the visual arts. The College, with this in mind and modelling itself on the University's pluralistic approach to visual arts education has been involved in relating channels of media learning between discipline areas through multimedia as far back as the 1970's. The College is recognised for introducing multimedia into the art school context well before the term became ubiquitous.

At COFA all students, but in particular students of the Schools of Art and Design Studies, develop an individual approach to their art practice through their knowledge of aesthetics, various histories of art, and the creative exploration of the qualities inherent to a number of media systems. They not only learn how to use these systems intelligently, they also learn how to push the boundaries of the systems, exploring the creative potentials of these communication vehicles, as well as suggesting new experimental approaches. This advanced approach to media knowledge and exploration supports the University of New South Wales' commitment to a comprehensive and high quality visual arts education program. Presently however, the College's computing facilities are reaching a critically low-end level of performance and are unable to sustain or develop and facilitate, quality, efficiency and leadership in the cross-disciplinary areas of the digital visual arts. It is with this in mind that this grant proposal is presented.

This proposal will:

- Provide essential equipment to augment existing low-end audio visual teaching and research equipment into an integrated multimedia teaching and research facility, ensuring the facilitation of teaching, development and exploration of visual and sonic literacy at COFA.

Provide a professional high-end computing multimedia facility for the development of skill resources for scientific visualisation and educational training materials, accessed via industry based projects, cross-faculty research projects and staff research liaisons.

- Support and realise the University's pluralistic approach to visual arts education, accommodating new technologies and interdisciplinary collaborative work by providing a platform whereby all media can be professionally manipulated in the digital realm.
- Provide a facility to support a mutually beneficial relationship between traditional analogue media and new emerging digital medias.
- Provide a facility to support channels of media learning between the discipline areas of art and design.
- Acknowledge and support the university's strategy initiatives and equity policies through provision of high-end computing facilities that could not be reasonably expected to be otherwise available to students and by expanding computing facilities so that students will have facilities and time to work on projects outside scheduled teaching time.

Benefits that the proposal will have for the University.

- The University will be recognised by industry for the production qualities of its graduates and their placement in jobs.
- The University will be recognised by industry for its training role for industry via the multimedia Unit. This will establish links with industry which will enable the University/College to provide access for industry training/research programs in return for industry investment in the technological resources of such programs
- The University will be recognised by industry and the community as a centre of excellence in the training of Artists and Designers.
- The University will be recognised for its ability to adopt new models of educational delivery and information access to make a better match between resources available and effective learning requirements.
- The University will benefit via the increased production capacity for students to make better use of existing output services available to the University and the College, ie: optimise existing College technical support facilities.
- The University will benefit from the increased production capacity for students for the World Wide Web via the use of the College's WWW Server, ie: optimise existing College technical support facilities.
- The University will be recognised as providing the highest quality information technology teaching and research laboratories for the education of artists, designers, art and design educators, art historians and theorists.

The University will benefit by placing newly acquired production hardware into existing production infrastructures and technical support and maintenance structures.

- The University will benefit by the upgrading of existing software licences.
- The University will benefit by the ability to facilitate the representation of the University/College at major art, art education and design conferences and symposia.
- The University will benefit by the relocation of existing computer equipment and thus increase access to facilities and space that will provide equity for all schools for the teaching of technology related elements imbeded in courses.
- The University will benefit by having the resources available to ensure that UNSW COFA is the first choice for high quality overseas students wishing to study in Australia.
- The University will benefit by providing the staff with the computing production power opportunities to enhance the standing of the College's academic community and to expand and consolidate academic and research links with selected Australian and overseas university art schools. This will enhance the technical infrastructure to support alternative educational delivery systems.
- The University will benefit by the standardisation and increased level of professional output which would extend global connections and screening possibilities in electronic media conferences and exhibitions.
- The University will benefit from diverse and increased funding sources, as a result of its endeavours to continue and reinforce its leadership role in the visual arts.

Details of any existing activity to be phased out as a result of the development.

There will be no existing equipment to be phased out as a result of this proposal. Rather, a consolidation of existing facilities and infrastructure will ensue. This will provide for interdisciplinary teaching and research, as well as a mutually beneficial relationship between digital and analogue medias.

Other budget units involved.

None.

A Management Plan For The Maintenance And Replacement Of The Proposed Equipment Purchase

Due to developments in computing technology, related in the main to processing power, it is difficult to define an explicit replacement policy. based on current experience of staff and provisions for depreciation of computing equipment. it is anticipated however, that a replacement policy for computing equipment every five years would be desirable. This would require 20% of computing equipment to be renewed each year. It could be expected that funding from the newly developed fee paying Master of Multimedia course, and funding from industry based courses delivered through the Multimedia Unit will contribute towards replacement strategy costs.

MAJOR EMPHASIS OF DEVELOPMENT

This grant proposal will provide an integrated professional multimedia computing facility for the College and University. It will enhance the Colleges teaching and research capabilities, use will be for both teaching and research purposes.

- **Part A:** Integrated Multimedia Teaching and Research Facility: high-end PowerPC based Teaching Laboratory. This computing laboratory will be used primarily for teaching purposes. Tertiary education at any degree level however, by definition, involves research. Accordingly it is envisaged that students will also use the augmented facilities for Internet based research.
- **Part B:** Integrated Multimedia Teaching and Research Facility: high-end Digital Audio Visual Studio. This studio is for research students as well as postgraduate coursework and undergraduate students. This project dovetails an existing 1994 mechanism B grant to develop digital audio capacities at the College, will be harmonious with it, and seeks to extend multimedia technologies in other areas.

Refer to attached *Statement of teaching and research related equipment presently owned and operated by the budget unit.*
Refer to attached Flow Diagram of computer usage and relationships at COFA.

10. DETAILED BUDGET OF PROJECT AND ASSOCIATED CHARGES FOR 1997-99.

Refer to pages 5-6.

11. LOCATION OF EQUIPMENT

For details about location of equipment, refer to tables on pages 5-6, *Part A : Detailed Budget of Project and Associated Charges for 1997-99: Multimedia Teaching and Research Facility: high- end PowerPC based Teaching Laboratory,* and *Part B: Detailed Budget of Project and Associated Charges for 1997-99: Multimedia Teaching and Research Facility: Digital Audio Visual Studio.* Item No.10. pp.5-6.

Equipment listed as located with HiROF is discussed under item No.12. p.9. Incomes *arising from this grant proposal.*

Displaced computers from Teaching Laboratory A are discussed under item No.16 p.12 *Utilisation of Equipment.*

Also refer item No.17. p.13. *Accommodation* for further discussion on location.

10. DETAILED BUDGET OF PROJECT AND ASSOCIATED CHARGES FOR 1997-99
PART A: MULTIMEDIA TEACHING and RESEARCH FACILITY - POWERPC BASED TEACHING LABORATORY

	No.	YEAR OF SUPPORT	PRIORITY	UNIT COST	TOTAL COST	SUBTOTALS	PROPOSED LOCATION
HARDWARE							
Macintosh 7600 16/1.2g/cd MS15 Display (or equivalent at time)	22	1997	A	$5,226	$114,972		Teaching Lab A
Additional RAM 32Mb	22	1997	A	$800	$17,600		Teaching Lab A
10/100 Ethernet Card	22	1997	A	$400	$8,800		Teaching Lab A
PC Emulator Card	22	1997	B	$500	$11,000		Teaching Lab A
Wacom Digitizing Tablet	6	1997	B	$400	$2,400		Teaching Lab A
Zip Drives	22	1997	A	$300	$6,600		Teaching Lab A
Security	22	1997	A	$150	$3,300		Teaching Lab A
						$164,672	
SOFTWARE							
Adobie Sitemill edu licence 20 pack	1	1997	A	$6,200	$6,200		Teaching Lab A
Adobie After Effects edu licence 20 pack	1	1997	A	$39,830	$39,830		Teaching Lab A
Form Z Ray Trace edu licence 20 pack	1	1997	A	$16,400	$16,400		Teaching Lab A
Light Wave	25	1997	A	$1,300	$32,500		Teaching Lab A
MACROMEDIA Director Multimedia Studio, Includes, Director 5.0, Extreme 3D, x Res 2, Soundedit 16 V2, DECK II	20	1997	A	$800	$16,000		Teaching Lab A
Pagemaker 6 Upgrade	50	1997	A	$300	$15,000		Teach. Lab A+B
						$125,930	
NETWORKING REQUIREMENTS							
Networking		1997	A	$1,400	$1,400		Teaching Lab A
Dual UTP points		1997	A	$6,500	$6,500		Teaching Lab A
Master UTP Hub		1997	A	$1,500	$1,500		Teaching Lab A
Slave UTP Hub		1997	A	$1,000	$1,000		Teaching Lab A
Misc network items		1997	A	$1,500	$1,500		Teaching Lab A
						$11,900	
DIGITAL INPUT DEVICES							
Nikon Super Coolscan LS 1000, 35mm Slide scanner	1	1997	A	$3,105	$3,105		HiROF
35mm Slide Scan Feeder	1	1997	A	$775	$775		HiROF
Nikon Scantouch Flatbed Scanner	1	1997	B	$1,950	$1,950		Teaching Lab A
Flatbed Scanner Transparency Adapter	1	1998	B	$750	$750		Teaching Lab A
						$6,580	
DIGITAL OUTPUT DEVICES							
CALCOMP Teckjet 175i	1	1997	A	$20,000	$20,000		HiROF
Networked APPLE Laserwriter 1600/600 PS	1	1997	B	$3,568	$3,568		Teaching Lab A
Apple Colour Stylewriter 2500	1	1997	B	$868	$868		Teaching Lab A
B.E.A.R. Solutions Card Reader for Laserwriter	2	1997	B	$1,500	$3,000		Teaching Lab A
						$26,568	
OTHER							
RAM for LC 575	13	1997	B	$800	$10,400		Teaching Lab B
TEACHING LAB TOTAL						$346,050	

10. DETAILED BUDGET OF PROJECT AND ASSOCIATED CHARGES FOR 1997-99
PART B: MULTIMEDIA TEACHING and RESEARCH FACILITY- DIGITAL AUDIO VISUAL STUDIO

	No.	YEAR	PRIORITY	UNIT COST	TOTAL COST	SUBTOTALS	PROPOSED LOCATION
HARDWARE							
MEDIA 100 System PCI Card, Manuals	1	1998	A	$17,250	$17,250		Block C G07
Power Mac 7500/100mhz 80 Mb RAM	1	1998	A	$6,583	$6,583		Block C G07
10/100 Ethernet card	1	1998	A	$400	$400		Block C G07
Logging Station, VTR-9 pin,computer, monito	1	1998	A	$10,159	$10,159		Block C G07
						$34,392	
SOFTWARE							
Exe. Producer	1	1998	A	$1,000	$1,000		Block C G07
Media Deck	1	1998	A	$350	$350		Block C G07
Adobe Premier	1	1998	C	$1,000	$1,000		
Adobe After Effects	1	1998	A	$2,995	$2,995		Block C G07
						$5,345	
NETWORKING REQUIREMENTS							
Networking		1998	A	$1,400	$1,400		Block C G07
Misc network items		1998	A	$1,500	$1,500		Block C G07
						$2,900	
OTHER							
Table	2	1998	A	$350	$700		Block C G07
Chair	2	1998	A	$220	$440		Block C G07
Patch Bay	1	1998	A	$220	$220		
Security	1	1998	A	$150	$150		Block C G07
Cabling Audio/Visual	1	1998	A	$500	$500		Block C G07
VTR Svhs	1	1998	A	$8,000	$8,000		Block C G07
Video Monitor	1	1998	A	$1,500	$1,500		Block C G07
Speakers Amplified (pair)	1	1998	A	$600	$600		Block C G07
Headphones	1	1998	B	$250	$250		Block C G07
Audio Feeds Cassette	1	1998	B	$205	$205		Block C G07
Studio Recorders DVCPRO	1	1998	A	$23,000	$23,000		Block C G07
Camcorders DCVPRO	2	1998	A	$6,000	$12,000		Block C G07
						$47,565	
DIGITAL AUDIO VISUAL STUDIO TOTAL						$90,202	
Teaching Lab Total						$346,050	
GRANT PROPOSAL TOTAL						$436, 252	

2. JUSTIFICATION OF APPLICATION

Multifaceted opportunities.

Strategies initiative 45 of the Universities Corporate Plan, 1994-1996 aims to prioritise funding to high cost technical facilities that provide the greatest returns in terms of quality, efficiency and leadership in a discipline.

Traditional delivery systems have exerted a profound yet invisible influence on the form and content of audio visual productions receiving exposure. High production costs and the previously limited broadcast television spectrum for audio visual productions has invariably limited form and content to that which has mass market appeal. As information delivery systems diversify and increase through digital technology, ie: CD-ROM format and the World Wide Web, opportunities for greater exposure exists for the visual arts. The potential of these new delivery systems for the production of works that target niche markets rather than mass audiences, opens the way, and introduces new possibilities for the arts to be accessible to a wider audience. It could be argued that this digital delivery platform for the visual arts removes the experience intended by the creative artist, however it also has the potentials for increasing the awareness of and therefore the demand for other forms of artistic experiences. These developments present opportunities for the visual arts as a whole. Most important, is the development of an integrated professional multimedia unit to facilitate the quality and excellence of education and research at the College, such that these opportunities may be exploited in order to gain real benefits through profiling quality and excellence of the College into both local and global communities.

CD-ROM.

Presently the College of Fine Arts is represented by five research students in the first major survey exhibition of works on CD-ROM; *Burning the Interface - International Artists' CD-ROM* at the Museum of Contemporary Art in Sydney. The exhibition was curated by Mike Leggett a Master of Fine Art student and casual lecturer at the College. It focuses broadly upon works of excellence in innovation, experimentation and development of aesthetic possibilities of this interactive medium. It includes a selection of 30 disks, drawn from 130 proposals involving 110 artists from 14 countries.

World Wide Web.

With access to the Internet providing a wealth of information and simultaneously redefining the traditional role of libraries, students, and in particular visual arts students are open to a database of arts information such as that being centralised by the Australia Council. Access to the Internet will also provide access to program source information which will facilitate the work of COFA students. This medium also opens up further possibilities of distance learning. The establishment of an integrated multimedia teaching and research facility will directly lead to development of distance learning systems such as interactive learning systems. Presently the College is developing self paced learning CD-ROM packages which will be made available to students and staff, both on and off campus. The College also archives third year digital undergraduate student artwork onto a consolidated CD-ROM format. This could be further developed through the College Server and complimented with digital representation of

nalogue works, thus providing greater exposure and communication between industry, the community and the College.

The University, in striving for excellence in education recognises that it must increasingly provide professional high-end computing resources. The existing computing equipment of the College does not allow it to meet these goals, nor can the budget of the College independently finance them. It also cannot be reasonably expected that these costs be met by students.

Part A: Integrated Multimedia Teaching and Research Facility: high-end PowerPC Based Teaching Laboratory.

The development of multimedia art works often requires the use of many applications ie: multitasking. Presently the teaching laboratories experience difficulty supporting any level of computing above the use of a single application, increasingly the processors of a third of the computing teaching facilities are unable to support certain contemporary software at all. The reliability of these computers is also questionable. In short the demand that contemporary software makes on computer hardware makes many of the existing computers inadequate for present and future needs. The acquisition of the Macintosh 7600 PowerPC will provide a high-end computing teaching platform suitable for the required contemporary design and multimedia software. The main processor is upgradable and other options expandable. This will ensure that hardware can be maintained to an optimum supporting the requirements of new software at a reasonable cost in the future .

Part B: Integrated Multimedia Teaching and Research Facility: Digital Audio Visual Studio.

Under the Colleges current structure, video is separate and needs to be digitised, editing is done on thumbnail sized pictures and rendering on current equipment can take days, requiring large amounts of memory and space. Consequently large amounts of time are taken up rendering and printing to videotape. This is highly inefficient and wasteful of valuable laboratory time. By using digital media which allows for the integration of technologies rather than existing Betacam technology, a student or researcher could model and animate a scene in the computer; shoot scenes with a digital camera; edit or combine through the Media 100 add an unlimited number of sound tracks and then record all these elements on to broadcast quality format. The University needs to be in a position where it can utilise current technologies to provide for excellence in education and ensure it remains competitive.

The proposed Media 100 digital workstations achieve all this in real time with greater quality, speed and flexibility. The Media 100 digital workstations allow moving images and sound to be edited to create final video and multimedia programs. Because editing is non-linear this information can be cut and pasted from anywhere in the program. Current video facilities at COFA are linear, once any sequence of image and sound is created it cannot be altered. This seriously limits the quality of teaching and critique, working against experimentation and innovation. Lack of facilities in this area compromises the Colleges commitment to excellence in education and thus its position at the cutting edge of advantageous technological developments in this area.

ntegration - Multimedia Teaching and Research Facility

As the proposed equipment is set in place, a planned total fast ethernet solution funded by the College will link the critical areas of the Research Laboratory, Digital Audio Visual Studio, high-end PowerPC based Teaching Laboratory and College Server. This high speed networking will provide the necessary bandwidth to handle the transfer of large amounts of data resulting from high-end graphical work, digital video, audio and design projects.

The emerging discipline of multimedia has brought with it a greater need for compatibility across departments, schools, faculties and industries. This convergence of unlikely combinations of disciplines and different artistic media is having a profound impact upon the arts. This has resulted in a new perspective on visual arts teaching and research environments and necessitates a consolidation of the Colleges disparate audio visual equipment and low performance computing facilities. This grant proposal provides a new electronic playing field - one where the College can benefit from the convergence of manipulation and facilitation of various media through the digital realm. The College, to ensure its continuing leadership role must keep apace with current developments in this field. The provision of an integrated multimedia teaching and research facility will provide a digital platform for this to occur.

Incomes arising from this grant.

As the universal digitisation of audio visual products and communications services ushers in a virtual electronic playing field, all products and services are now competing for consumer attention and thus dollars. The visual arts has traditionally been in a low exposure niche market. Digital technology offers financial opportunities for the visual arts, both in the traditional analogue arts and the digital arts.

The Multimedia Unit: The provision of a professional quality multimedia computing facility is attractive to many commercial companies for undertaking training and development. To this point in time, the Multimedia Unit at COFA has run industry based training courses and established mutually beneficial relationships with information technology players. In particular, software developers have been keen to provide the Multimedia Unit and thus the College with new high performance Software. As much contemporary software has evolved beyond the hardware capabilities of the present labs, the lack of a high-end computing facility at COFA precludes the further enhancement and development of attractive industry based training courses, as well as offers of up to date software.

High Resolution Output Facility (HiROF): As noted on Item No.10, (p.5). of this proposal, it is recommended that specific digital input and output devices requested be associated with HiROF. In doing so, it is guaranteed that by incorporating this new equipment into a self sufficient bureau, staff and students of the College and University will be provided with a professional digital input and output service at a cost well below commercial rates.Refer *Statement of Computing Equipment* for information on HiROF.

The proposed Digital Audio Visual Studio is a very attractive resource for external users and has the potential to attract significant revenue to the College. The priority of use however, will be for research and teaching purposes at the College.

14. TEACHING

Subjects for which the integrated Multimedia Teaching and Research Facility will be used.

Subject Number	Subject Title	Number of Students	Av. Hours p.w. per Student	Total Student Hours p.w.
COFA3025	Time Based Art 2	21	8	168
COFA3035	Time Based Art 3	25	8	200
COFA3840	Advanced Multimedia Workshop	Not Available		
COFA3839 **	Animation Workshop	18	4	72
COFA9301	PHD Part time	Not Available		
COFA3012	Photomedia 1 Group B	Not Available		
COFA5216	Design&Comput 1 Graphics&CAD	72	3	216
COFA3802**	Drawing(Time Based)	Not Available		
GEND4201	Design And Computing	18	2	36
COFA3022	Photomedia 2	29	4	116
COFA1036-9	Honours & Mart 4d Studies	9	4	36
COFA8631-4	Honours & Mart 4d Studies	24	3	72
COFA3032	Photomedia 3 Group B	21	4	84
COFA5315	Design&Computers2Graphics&CAD Studies	34	2	68
COFA3815	Photomedia: Digital Workshop	33	3	99
COFA3521**	Photomedia Elective	Not Available	6	
COFA3522	Photomedia Elective 2	47	3	141
COFA3523	Photomedia Elective 3	47	3	141
COFA3682	Multimedia Computing Elective	36	3	108
COFA3811*	Multimedia Computing Workshop	16	3	48

* 1st session only ** 2nd session only **Total >1605**

Statistics as per Student Information Systems Office (SISO) 16 May 1996

Hours per machine per week (for each of the 22 computers): 73

Brief explanation of why this equipment is needed for the subjects listed.

The subjects listed above are all currently offered by the College and account for significant demands on computing facilities. These subjects are based on the use of technology, a technology that is evolving with the expansion of other information delivery systems. Many art and design practices are using and/or pushing the boundaries of these delivery systems by using computer technology. All of these subjects would benefit from the availability of current and cutting edge technology. This proposal reflects our responsibility to meet the demands for high-end graphics applications while acknowledging that student-owned computers satisfy much of the basic and general use computing demand.

15. ACCESS TO EQUIPMENT

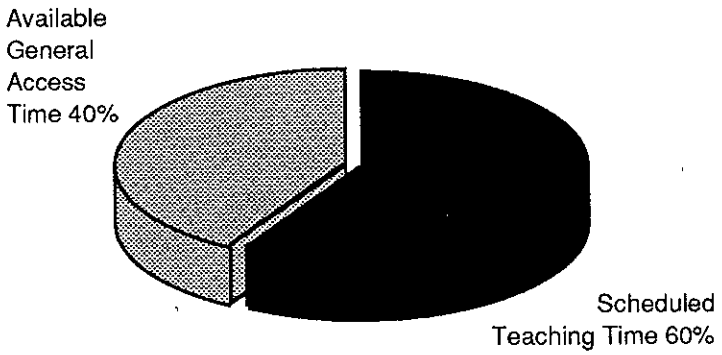
The current policy at the College of Fine Arts regarding access to computing equipment is that students need to be enrolled in computing classes to gain access. With the increase in electronic mail services and digital research avenues, the use of computers far exceeds the enrolled student numbers. The teaching laboratory hours of operation are 8 am to 9 pm Monday to Thursday, 8 am to 6 pm Friday. In previous years the facility has also been open on Saturday from 10 am to 4 pm.

The Colleges teaching laboratory access policy supports general access during scheduled class time. Computing workstations not required during scheduled classes are made available by the lecturer to those students requesting them.

The Multimedia Unit with its program of industrial training makes use of the teaching laboratory facilities during session breaks and Saturdays. The Scientia Challenge Program has also made use of the teaching laboratories twice a year for several years.

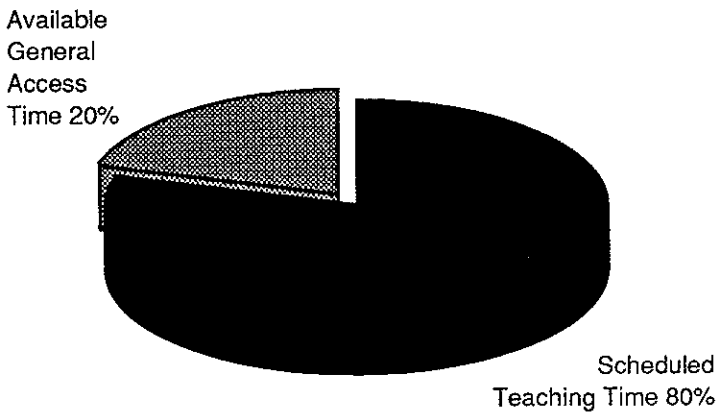
The High Resolution Output Facility (HiROF) will make use of the 35mm scanner and the 4 colour plotter. The infrastructure is in place via HiROF to provide output for the College, the University and the community, with cost recovery policies in place where relevant.

16. UTILISATION OF EQUIPMENT



EXISTING LOW - END TEACHING LABORATORY A & B
UTILIZATION: SESSION ONE, 1996.
Pie represents total lab access time.

In Session One 1996 the existing teaching laboratories A & B are booked 60% of total access time for face to face teaching, leaving 40% of total access time for necessary independent class related project work, revision and catch up.



EXISTING LOW - END TEACHING LABORATORY A & B
UTILIZATION: SESSION TWO, 1996.
Pie represents total lab access time.

In Session Two of 1996, the teaching laboratories are booked 80% of total access time for face to face teaching, leaving 20% of total access time for necessary independent class related project work, revision and catch up.

Typically there are high and low general access demands (time required for independent class related project work, revision and catch up) upon the teaching laboratories dependant upon the time of session. Student access patterns makes it difficult to accurately measure the demand for general access. It would be fair to say however, that on average, over the entire session, demands equate to at least 50% of total

scheduled class time. It is clear from the diagrams on page 12 that the current labs are reaching a critical point in terms of their ability to support required teaching, and are also struggling to support general access demands. It is envisaged that this grant proposal will propel COFA into a position to provide professional high-end, relevant and innovative computing facilities. It will also, by displacing the current low performance computers in Teaching Laboratory A into the present word processing facility provide a much needed general access lab for those students in the initial phases of their exploration into digital visual and audio arts. Equipment presently in the word processing lab will be decentralised to each of the schools of the College.

17. ACCOMMODATION

There is no requirement for additional space to accommodate requested computing facilities. This is due to the expansion of the teaching laboratories undertaken in 1995 using College funds which led to an extension of the computing facilities of the College of Fine Arts into a special purpose teaching computer laboratory for the fine art and design programs. As the computing facilities are further increased and enhanced, rearrangement of existing spaces to suitably accommodate computing equipment will proceed. College management and the Faculty Information Technology Advisory Committee have reviewed and discussed future probable plans and details for increased computing facility accommodation. These discussions involve an option for the creation of a 24 hour general access laboratory. This would ultimately reduce teaching laboratory 'bottlenecks' and thus increase the total available computer hours through greater and better utilisation of current computer hardware. It must also be noted that if a high end lab were commissioned the College would be able to use all current hardware without additional infrastructure costs.

LIST OF PUBLICATIONS/EXHIBITIONS BY RESEARCH INSTIGATORS

Barker M, *Technothelylogia*, Monash University Gallery, 1995.

Barker M, *Queerography* , Lewers Bequest and Penrith Regional Gallery, 1995.

Barker M, *Don't Leave Me This Way: Art in the Age of Aids*, Australian National Gallery Canberra, 1994.

Barker M, *Queerography*, Roslyn Oxley9 Gallery, Paddingto, 1994

Barker M, *Queerography*, Canberra Contemporary Art Space, 1994.

Barker M, *Rated L* , First Draft West, Annandale 1993

Barker M, *Bits of This, Bytes of That II*, Art & Technology Gallery, Melbourne, 1993

Barker M, *L.O.V.E*, 10 Taylor Street Galleries, Darlinghurst, 1993

Birch S, *Don't Stop*, Linden Gallery, Melbourne, June, 1994.

Birch S, *White Cub /Black Hole*, Christine Abrahams Gallery, Melbourne, 1994

Birch S, Cover "Agenda"

Hunt SD, Homophobia, CD, (track included in compilation) Sub Rosa Records, Belgium. Pub. Les Editions Confidentielles, Belgium, Worldwide commercial distribution, 1995, J2, 12.

Kiechle H, Amorphous Constructions, WWW, August,1995.

Laing RA, *E-Topia*, Group exhibition, New Media Network, Melbourne, Nov 1994.

Laing RA, *Fourth Australian Contemporay Art Fair*, Group exhibition, Exhibition Hall, Melbourne, 1994.

Laing RA, *Horizons*, Group exhibition, Annandale Galleries, Sydney, Sept 1994.

Laing RA, *International Symposium for Electronic Arts Media Lounge*, Group exhibition, Helsinki, Finland, Isea, 1994.

Laing RA, *Don't Stop*, Group exhibition, Linden gallery, Melbourne, June 1994.

Leggett M, *Burning the Interface -International Artists' CD-ROM*, Museum of Contemporary Art, Sydney, 1996.

Miller B, A Digital Rhizome, an Interactive CD-ROM, in *Burning the Interface-International Artists' CD-ROM*, Museum of Contemporary Art, Sydney, 1996.

Munster A, *I really want to kill you but I can't remember why*, catalogue essay for exhibition, Artspace publications, 1995.

Munster A, Easy access to power, collaborative work with M Barker, *Technothelylogia*, Monash University Gallery, July 10-September 2, 1995

Munster A, Sliming the Matrix: Electronic Plasma and the Cyborg politics of contagians, *National Aids Bulletin*, vol*, No.10-11, November-December, 1994

Munster A, Interactivity: A Few Hang-ups, *Photofile*, November, 1994.

Munster A, Interactivity: A Few Hang-ups, paper delivered at *Dissonance* forum, Artsapce, Sydney, September 16, 1994.

Munster A, The violence in the fish, video installation for *Monstrous Gorgeous*, Contemporary Art Space of Sout Australia, July-August, 1994

Munster A, *Performative Sexualities Conference - Towards a theatre of Queer Operations*, paper delivered, Performance Space, Sydney, July 16, 1994.

Munster A, *Queer Screen Forum - Towards a Queer Cinema*, paper delivered, Performance Space, Sydney, February 26, 1994

Munster A, Queerness crosses sex boundaries, *The Australian* , August 11, 1993

Munster A, Open Quotes, *Capital Q*, Sydney July 30, 1993

Roberts-Goodwin L, *A certain BLINDNESS*, solo exhibition, Centre for Contemporary Photography, Melbourne, July-August 1994

Roberts-Goodwin L, *Remote half-light*, Solo exhibition, Perth Institute of Contemporary Arts, Perth, June-July 1994

Roberts-Goodwin L, *Remote half-light*, Solo exhibition, Perth Institute of Contemporary Arts, Perth, March-April 1994.

Roberts-Goodwin L, Next Wave, group exhibition, Melbourne Arts Centre, May 1994.

Roberts-Goodwin L, *Bitmap 101*, Group exhibition, Gallery 101, Melbourne, June 1994.

Stamp W, *Polaroid Diary* in Buckland A, Crawford M, Jackson M, joseph F, Stamp W, Webster G (eds), *Art Injection Youth Arts in Hospital*, Sydney, Promail printing group, p. 36 -37, 1994.

Stanford R, *Events Surrounding Death*-12 large scale digital prints Images,13th International Forensic Science Society Conference, Holme Building, Unversity of Sydney, 8-13 September,1996

Stanford R, *Intersections 96 Conference- 3D Facial Reconstruction*, Paper delivered, UNSW satelite event of Sydney Biennale, 1996.

Stanford R, *Terminals Conference -Post Human Conditions*, - online exhibition & conference on death at University of California, 1996

Stanford R, *'Heart Autopsy'* , two artworks for online exhibition & conference on death, University of California Art Museum, 1996.

Stanford R, *Art & Medicine Interdisciplinary Studies*, Documentation of a broad range of projects, artworks, etc. dealing with issues that deal with art, health & medicine including a project from the Dept. of Public Health, Uni of Sydney, AIDS Art Group, Westmead Hospital Adolescent Unit, Liverpool Hospital, Art & Disability and individual artists. WWW Internet Site.1996.

Stanford R, *Research and development for an Australian Contemporary Virtual Sculpture Site*, in collaboration with VisLab, USYD. Internet Site Sherman Galleries, 1996

Stanford R, *Pathology Images Project: Stage Two*, Artist-in-residence the South Western Area Pathology Service, Liverpool Hospital, South Western Sydney Area Health Service, 1995.

Stanford R, *Pathology Images Project*, Internet Exhibition, Art & Medicine Internet Site - http://central.com.au/artmed, 1995.

Stanford R, *Pathology Images Project*, Internet Exhibition, Australian Network for Art & Technology Internet Site - http://geko.com.au/anat, 1995.

Stanford R, 2D Digital Fine Art Exhibition, Interview- Financial Review, Nth Sydney, 20th March 1995

Stanford R, *Orbicule I-XIII Electrostatic Prints* Exhibition, South Western Sydney Area Pathology Service Building,1995.

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Stanford R, *Artists Thinking about Science - Pathology Images Project*, Catalogue Essay - Australian Network for Art & Technology, 1994.

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Stanford R, *Pathology Images Project*, Interview with Martin Portous, Radio National Arts Program, 1994.

Stanford R, Radio Interview with Community Health Officer, Liverpool Community Radio, 1994.

Stanford R, *Heartworld Painting Installation*, Exhibition - Dept of Anatomy & Histology, University of Sydney, 1994

Stanford R, *The Heart of Abstraction*, Thesis - Master of Visual Arts Electronic and Temporal Arts Dept. Sydney College of the Arts University of Sydney, 1994.

Stanford R, *3D Heart Visualisation*, Paper delivered at Building Bridges between Art and Science Conference, College of Fine Arts University of NSW 1994.