

A U S T R A L A S I A N

W H E E L S



for the mind

- **Keeping order in Mac labs**

By changing configuration settings and loading shonky software, even the most well-intentioned students can make a mess of critical Mac laboratories. Learn how the University of Adelaide and University of Technology, Sydney have successfully fought back against desktop vandals and careless experimentation

- **A week in San Jose**

Apple's WorldWide Developers Conference (WWDC) is an annual mecca for Mac fans and propellerheads from around the world. This year, the AUC began sponsoring Australian students as well as staff, and inside this issue one of those students relays her WWDC experience

- **AUDF 2000 grantees named**

The Apple University Development Fund's latest round of grant winners was announced in September. Here's a rundown of the fascinating projects the AUDF will fund over the next year

- **Wintel-heavy RMIT joins AUC at last**

A concerted shift towards the Wintel platform had made Macintosh systems a rare breed at the RMIT University. Thanks to the unfailing commitment of a number of diehard staff, however, the Mac is on the rebound within RMIT, which recently became the AUC's 31st Australian member

**Free online
subscription!**

Sign up at
<http://auc.uow.edu.au>

Subcontinental Drift

Having enlisted the support of most universities in Australia and New Zealand, the AUC is now expanding further into the Asia-Pacific region. Its first milestone is the recent partnership with a private technical college whose love of the Mac has made it a trailblazer in Wintel-dominated India

PRODUCT Round

UP



ONE MOUSE, TWO COMPUTERS

A KVM switch is a simple and inexpensive way to connect two or more computers to one keyboard, monitor and mouse, and are the perfect solution for desktops with limited space. No software is required to drive the OS-independent devices, as long as each computer has USB support. CPUs are connected via one USB cable and one video cable, allowing the user to switch between each CPU with the touch of a button. With a built-in 2 port USB hub, you can also share USB devices between all connected CPUs. ATEN KVM switches are available in 2-port (CS-102U) and 4-port (CS-104U) versions, and start at around \$149.00. For more information, visit www.aten.com.tw/aten%20cs-104u.htm or contact AdNet on 1300 366 369.



ATEN KVM switches are available in 2-port (CS-102U) and 4-port (CS-104U) versions, and start at around \$149.00. For more information, visit www.aten.com.tw/aten%20cs-104u.htm or contact AdNet on 1300 366 369.

MASS STORAGE AT HIGH SPEED



You're ready to join the Digital Age: you've got an iMac DV, a digital video camera, and the perfect story line... You just need a hard disk drive that can keep up! Built around high quality 5,400rpm and 7,200rpm drive mechanisms from industry leaders Seagate and IBM, Fantom Drives' FireWire Hard Disk Drives pack loads of storage space into an attractive, easy-to-use package suitable for novice and professional users alike. The Fantom FireWire hard drives use a FireWire connection for high-speed data transfers, and are available in 13, 20, 30, 45, 60 and 75 gigabyte capacities at prices starting from

\$699.00. More details and comparative specifications are available from www.fantomdrives.com or contact AdNet on 1300 366 369.

COMPLETE CDS IN MINUTES

Fantom is also making a hard play for the fast-growing CD burning market, bundling technology from Plextor into its new Plextor 12x10x32 CD-RW. This drive, which can burn a standard CD-R disc in around five minutes and writes to CD-RW discs at blazing 10x speed, uses a FireWire connection to ensure that the drive can take



data as quickly as your computer can push it down. Fantom also offers a Panasonic 8x4x32 kit for those happy to pay less and wait just a little longer. Both kits come complete with the OEM version of Adaptec Toast 4, all necessary cables and a variety of blank media to get you started. Contact AdNet on 1300 366 369.

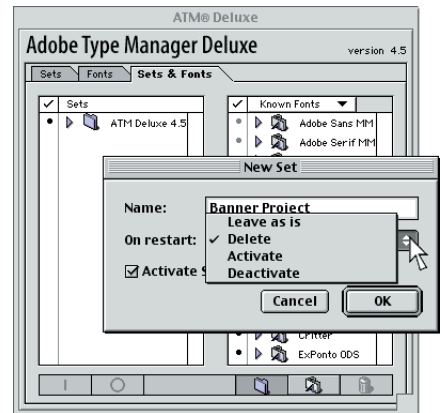
BULLET-PROOF STORAGE

Although hard drives continue to get bigger and faster, there's also a crying need for increased reliability that simply isn't provided by conventional drives. To increase the reliability of both server and desktop hard drive storage systems, you'll do well to look into a RAID (Redundant Array of Inexpensive Disks) system, which maintains multiple copies of your data on different hard drives so that the crash of any one drive won't lose any of your data. Fantom's G-Force RAID data storage system incorporates a hardware-based RAID controller to provide a robust storage solution for professionals who depend on the integrity and continual availability of their data.

Indeed, the G-Force RAID can automatically rebuild the data from a failed drive while continuing to provide uninterrupted access to the rest of the RAID volume. When replacement is necessary, you can also swap in a replacement drive without shutting down the system. RAID 0, 1, 0+1, 3 and 5 configurations are supported, and both power supplies and replacement drives can be easily swapped into the unit without having to power down – improving the unit's ability to operate securely in enterprise and production environments. Contact AdNet on 1300 366 369.

THE OTHER KIND OF ATM

Graphics leader Adobe has updated its venerable Adobe Type Manager (ATM) software, which is now in version 4.6. ATM is targeted at graphics layout artists and the rest of the font-obsessed, allowing tight control over installed fonts and enabling the creation of temporary font sets for one-off documents. Other features include printing of font samples, automatic font smoothing, and the ability to speed interface speed by adding and removing fonts as necessary. ATM 4.6 supports MacOS 8.1 through 9 and comes bundled with Adobe Type Reunion Deluxe 2.6, which automatically sorts fonts by weight, style and type for easier access. The new version includes support for OpenType, PostScript Type 1 and TrueType fonts and costs \$129, or \$96



for owners of previous versions. For more information, see www.adobe.com.au/products/atm/main.html. Contact Adobe on 1300 550 305 or upgrade online at <http://web.itdirect.com.au/adobe/>.

STILL ARE (CODE)WARRIORS

Metrowerks has updated its perennially popular CodeWarrior development environment to take advantage of MacOS X. The new version, 6.0, includes a range of enhancements including new Carbonized IDE, PowerPlant, Constructor, Profiler; the ability to import and export IDE settings in XML; an Aqua look and feel with customisable menus and key bindings; PowerPlant support for the Carbon event model; an improved editor, find dialog and debugger; and cross-platform debugging that helps migrate classic Mac applications to the OS X environment. For more information, visit www.codewarrior.com/go/6/. Contact Code & Data on 1300 307 207 in Australia, 0800 441 889 in New Zealand, or at www.code.com.au.



EVEN BETTER STATISTICS

SPSS' data analysis and presentation tool is a de facto standard for many statistics courses and researchers, and the well-aged package has now gotten a major facelift with the release of SPSS 10 for Macintosh. The new version incorporates multi-dimensional pivot tables, an interactive tutorial, OLAP cubes, a broader range of graphs, data management, file conversion and a host of other improvements. For more information, visit www.spss.com/spss10/spss10mac/. SPSS can be contacted on 1800 024 836 or (02) 9954 5660.

editorial

FROM THE EDITOR'S DESKTOP



In this edition of *Wheels for the Mind*, we begin a series of feature articles about different AUC sites that make up the AUC membership. The first in our series profiles the first AUC member, the University of Tasmania, who first joined when the AUC was founded in 1984.

This article makes an interesting contrast to a story about the AUC's latest associate member, the Dr Mahalingam College of Engineering and Technology (MCET) in Pollachi, India. The partnership with MCET represents a new era for the AUC, as it forges its first relationships with academic institutions outside of Australasia.

Also in this edition is a demonstration of how the AUC is beginning to provide direct benefits for students. A contingent of 30 Australian tertiary students was recently funded by the AUC to attend Apple's Worldwide Developers conference in San Jose,

California. In this issue, one of the student attendees – Joanne Bell of the University of South Australia – provides an interesting insight into the conference and the benefits it has given her.

Our technology feature this issue profiles iMovie 2, a major update to Apple's home video editing software. If you haven't seen it already, I would recommend that you make the effort to find a copy, for it is without doubt a revolution in video production.

I hope you enjoy this latest edition of *Wheels*, and remind you that you can visit the AUC Web site to get a free subscription to this magazine and ensure that new editions are always delivered on-time.

Peter Sharpe,
Editor
pjsharpe@unimelb.edu.au

contents

What's new in the AUC

A week in San Jose: One student's WWDC reflections	4
AUC Conference 2000 makes waves in the 'Gong	5
Tasmania's 16 years of AUC success	6
Latest AUCDF recipients score \$150,000 in funding	8
iMovie 2: Apple's digital video tool gets a sequel	10

Mac OS X Beta redefines the desktop	11
NetBoot lets CompSci students roam free	12
UTS lockdown stymies Mac vandals	12
RMIT University joins AUC after Mac drought	13
Subcontinental Drift: AUC heads to India	14

AUC MEMBER UNIVERSITIES

AUSTRALIA

Australian National University
Central Queensland University
Charles Sturt University
Curtin University
Deakin University
Edith Cowan University
Flinders University of SA
Griffith University
James Cook University
La Trobe University

Macquarie University
Monash University
Murdoch University
RMIT University
Southern Cross University
Swinburne University of Technology
University of Adelaide
University of Melbourne
University of Newcastle
University of New England

University of New South Wales
University of Queensland
University of South Australia
University of Southern Queensland
University of Sydney
University of Tasmania
University of Technology, Sydney
University of Western Australia
University of Western Sydney
University of Wollongong
Victoria University of Technology

NEW ZEALAND

University of Auckland
University of Canterbury
Massey University
University of Otago
Victoria University of Wellington
Waikato University

AFFILIATED UNIVERSITIES

Australian Defence Force Academy
University of Canberra
Dr Mahalingam College of Engineering
& Technology, Pollachi, India



Wheels for the Mind is published by Apple Computer Australia Pty Ltd, 16 Rodborough Road, Frenchs Forest, NSW 2086

Apple University Consortium: <http://auc.uow.edu.au>

Editor: Peter Sharpe Production: Graphics 103 Printing: Rowprint Editorial: David Braue

Cover photograph: Macintosh computers are a rare breed in India, but a new generation of students is giving Apple new life on the timeless subcontinent.

A week in San Jose



by Joanne Bell

The AUC has long offered scholarships sending staff developers to Apple's annual WorldWide Developers Conference, but this year those scholarships were extended to students of AUC member universities as well. As the AUC student representative for the University of South Australia, Joanne Bell – currently pursuing a Bachelor of Visual Arts degree at the university's South Australian School of Art – was one of 30 students sponsored nationwide to visit Apple's 2000 WWDC, held May 15 to 19. Here's what she thought.

I looked out over a sea of people, brought together by one common interest: the World Wide Developers Conference 2000, for Apple developers across the globe. Held in San Jose, California, in the heart of Silicon Valley, the air was alive with excitement and a passion for Apple. The conference culminated in myriad sessions covering the Developer Preview 4 (DP4) release of Mac OS X, WebObjects, developments on QuickTime and the latest news on Apple's strategic plans and achievements.

As part of an initiative by the AUC, I was able to travel to the conference courtesy of a Student Developer's Scholarship. This meant that all travel accommodation and meals were covered by Apple. I feel extremely lucky to have had such an amazing opportunity and felt truly inspired on returning from WWDC 2000. Follow up from the conference has included numerous CD-ROM updates and information detailing Apples' latest developments.

As a student, the Developers Conference had begun on Sunday with an overview of the week to come and an introduction to fellow students from as far away as Japan, Europe and even a delegation from China. The afternoon was topped off with a Job Expo, featuring leading hardware and software companies looking for fresh blood. Amongst a smorgasbord of beautiful food students were encouraged to mingle with potential employers and pass on copies of their resumes.

I don't think I have ever seen so many computer-orientated people together, the air abuzz with lingo and excitement. However I felt in the minority somewhat, one of a few hundred women amongst thousands of men. Even during breaks, people continued to engross themselves in their computers, in trying out the latest DP4 version of Mac OS X. Laptops were commonplace, even surfing via AirPort hubs during sessions. I have never seen so many people so consumed by their passion for code and lingo. It was inspiring.

On the first day, thousands of people stood outside the entrance to the Developers Conference first session, the opening of the

doors seeing a flood of people scurrying to find themselves a seat. An opening address by Steve Jobs was met with a standing ovation and cheers; it was almost as if this man was a god! It was hard not to be swept away by the excitement and euphoria that filled the air of San Jose for that week. In all, 3,600 people attended WWDC 2000, an increase of 40% in attendance.

As people departed from the opening address by Steve Jobs they were handed a CD-ROM with Developer Preview 4 on it. Throughout the week sessions covered the new developments included on the CD-ROM. Participants eagerly sat with their laptops and copy of Mac OS X at hand as Apple employees outlined the workings of Mac OS X, including its Classic, Carbon and Cocoa application programming interfaces, during the week's sessions.

On our second-to-last night, buses were visible as far as the eye could see an Infinite Loop, the heart of the Apple Development Centre, and home for a giant party organised by Apple. Inside the circular glass walls was an area of lush green lawn housing food carts, kegs and free t-shirts galore. A crowd of about 3,500 attended the party relaxing to the sounds of The Rippingtons playing their 'smooth jazz'. "And this is how we intend to compete. This is how we intend to force an alternative out there, a choice out there for people that want it!" said Jobs.

During the week of attending the Apple Developers Conference in San Jose, I gained an overwhelming respect for this company and its philosophies. Apple is so much more than just a computer company, and people seemed almost prepared to die in the face of defending 'their Mac'.

As a student and a designer, I gained a deeper understanding of the need and strength behind a concept driven interface. In the interface sessions regarding Mac OS X, details of colour schemes, icons, etc. were demystified, revealing a complex concept at the heart of each design element. The 'Aqua' interface has been painstakingly constructed to reveal a clean and fresh image as Mac OS X emerges.

Perhaps best summed up by Jobs himself, Mac OS X is about "taking things to the next level in terms of performance and capability, while at the same time making them simpler and far more complex." What I have taken away with me goes far beyond words, and I feel extremely grateful to have had the opportunity to experience it. I recommend that other students approach their schools about attending WWDC, making the most of the opportunity to immerse themselves in a week of code and inspiration.



Joanne Bell, seen here winning a door prize, was among the AUC's first student WWDC ambassadors

AUC Conference 2000 makes waves in the 'Gong



Joe Luca, lecturer in Multimedia,
Edith Cowan University, Perth

"It was good fun. I enjoyed the industry flavour, where industry folks came in to talk about how they developed their shareware. Having industry talk to academics is really good stuff, and I think that's really good for academics to get their heads around. I'd like to see more speakers from industry talking about how Macs are being used in industries and what they want us to be able to do with our products."



David Yammouni, technical services
officer and AUC Co-Ordinator,
Monash University, Melbourne

"It was by far the smoothest conference I've ever been to: really feature-rich, and we saw a lot of very good technologies. Monash not having traditionally been a Mac university, all the colleagues that went came back saying 'we love this'. The average punter doesn't realise what sort of power there is within Apple technologies, and a conference like this really opens their eyes. I would recommend it to anyone, even PC people."

More than 250 attendees converged on the University of Wollongong earlier this year, marking the tenth anniversary of the AUC's flagship gathering and welcoming the new-look AUC to the new millennium.

Themed 'New Millennium, New Technology, New Worlds of Learning', the 2000 Apple University Consortium Academic and Developer Conference 2000 ran from the 25th to the 28th of April and attracted hundreds of academics, senior managers, administrators and developers alike from a far afield as Singapore and Thailand.

During the four days of the conference, attendees met to exchange information, ideas, philosophies, and practical advice on technology innovation, integration and implementation in the higher education environment. Most picked up a wealth of new ideas from the presentations they saw and social contacts they made, and all returned home with the newfound knowledge and tools to implement new ideas in their own environments.

A highlight of the conference was the diverse range of keynote speakers that presented. These included Peter N Lewis and Andrew Tomazos of Stairways Software, who showed how they go about creating world renowned shareware such as Anarchie, NetPresenz, Assimilator and Internet Config, which are used by over 800,000 people in the USA, Japan, Europe and elsewhere.

Also presenting was John O'Donoghue of the University of Wolverhampton, UK, who talked about his 23 years of educational experience teaching, lecturing, advising and consulting and recently as senior education officer with the Berkshire (UK) education department. His present position with the Delta Research Institute offers him special responsibility for R&D for future learning.

The audience also got a chance to see demonstrations of new Apple technologies courtesy of Lorri Jennings-Emery and Shaan Pruden, who came from Apple's Worldwide Developer Relations team in the US and demonstrated Mac OS X as well as giving the audience some hands-on time during a more informal show-and-tell session. At a special developers' lunch, fuelled by special developer pizza and Coke, Lori and Shaan held a round table discussion with developers about how they can work with Apple to create some of the programs such as those from Stairways Software.

Academic presenters were also well received, with speakers including Dr Phillip McKerrow, of the University of Wollongong, discussing his robotics research and education combining Lego-built robots with LabVIEW. Dr Peter Evans, of the University of Southern Queensland, talked about his team's work developing embedded, reusable learning objects called COOL Tools. And Mr Michael Vallance, of Singapore's Temasek Polytechnic, talked about his experience building The International Writing Exchange at Temasek Polytechnic, an online platform for developing engineering students' writing skills. Papers, abstracts and presenters' contact details are available on the AUC web site, and printed copies and CD-ROMs of the Conference Proceedings are available in each AUC university library.

Capping off a great conference, the conference dinner was themed "space!" and conference delegates were invited to dress up for the occasion, which saw the normally staid crowd of academics turn into a sea of aliens both familiar and, well, not. Dinner guests included Darth Vader, Princess Leia, Yoda and an Imperial Stormtrooper as well as crew members of the Starship Enterprise and a few Vulcan ambassadors.

After a few glasses of wine, even those who were less inclined to dress up were making their own costumes from the coloured paper, glue and sparkles left on each table. Prizes were handed out for the best, worst and most absurd creations and with the band playing into the night, many delegates nominated the dinner as the highlight of the conference. Incriminating photos are available on the AUC Web site.

By the end of the conference over 30 papers had been presented, five keynotes held, and numerous show-and-tell sessions run. The many opportunities to network, combined with the social functions and formal sessions, created an atmosphere of excitement, encouragement and innovation that made this year's conference our most successful yet.

The next AUC Conference is currently scheduled for September 23rd to 26th, 2001, and is in the planning stages. Keep an eye on the AUC web site and mailing lists for details.

Andrew Jeffery



Tasmania's 16 years of AUC success



The University of Tasmania has been part of the Apple University Consortium ever since it first began operating in Australia in 1984. Since then, the university has continued to play a major role in the strategic planning and ongoing development of the AUC, and has benefited considerably from its involvement in the organisation. Sixteen years on, staff and students of the University of Tasmania continue to laud the benefits of AUC membership with a universal fervour that convinced us to venture south to the Holiday Isle and find out why.

With approximately 12,500 students spread across main campuses in Hobart and Launceston and the North West Centre in Burnie, Tasmania Uni is one of Australia's smaller universities. Its lifelong commitment to Apple and the AUC, however, is no small matter: nearly half of the university's 4000 computers are Macintoshes of every shape and size.

Macs continue to sell well on campus, with students in design-heavy faculties such as the School of Architecture (see *Wheels for the Mind* Autumn edition) particularly keen on more powerful G4 systems. In the first half of this year alone, the university's Campus Computers shop sold some \$615,600 worth of Macintosh equipment to university departments and another \$307,000 to individuals. This is approximately 300 machines, or ten percent of



the university's total installed base of Macs.

Working with Apple, says acting Campus Computers manager Glenda Wardlaw, has been an ongoing pleasure due to the commitment the company shows its university customers through their membership in the AUC. "Adopting the Mac really put a bit of technology into the university when they were doing very basic things to start with," she says.

"Apple are about the best manufacturer we ever have to deal with as far as getting information, providing support back to the Uni, support for development on campus, sponsoring conferences and running training courses on campus. Apple are very stringent about their training, so they're up to date all the time. No other supplier provides that kind of service."

The AUC-initiated training provide by Apple has proved invaluable to university staff such as Campus Computers sales and administration staffer Con Skrepetos, who has nothing but praise for the two-day Configuration Engineer course the AUC held on the Hobart campus earlier this year.

"It was very useful, and has helped us diagnose problems that students at the university might be having with their Apples," Skrepetos says. "I've also found it very useful to configure systems so students can have them set up and configured straight away; this gives a much nicer out-of-the-box experience. It's whetted my

appetite to get more product training. I think the AUC partnership works well because it's a total commitment to the Apple products; we have a purity of hardware and software coming from the one area, which just makes a better all-around product and better service we can provide."

Training is just one part of the close relationships the AUC maintains with its member universities. Through regular collaboration, consultations with peers and financial sponsorship, participation in the AUC regularly gives back in even more ways to staff and students at the University of Tasmania.

This is particularly the case in terms of project funding; Tasmania Uni has long been a strong player in the AUDF (Apple University Development Fund) awards meted annually to Macintosh-related software development projects.

Indeed, University of Tasmania academic John Hall was one of two nationwide winners awarded substantial AUDF Major Grants in this year's round of funding, which was announced early in September. Hall's project will involve the construction of CNC Router software that allows Architecture students to instantly model their designs in two and three dimensions using automatic modelling equipment.

It is through funding such as this that the AUC has had a major effect on the university's internal infrastructure development and software expertise, says John Jauncey, the university's IT director. "When we first got into the consortium, it gave us access to a new technology that was virtually unavailable any other way," he explains. "The AUC has direct lines to Apple itself, which means it constantly provides up-to-date information to members. This has certainly had a huge benefit to the university in terms of strategic planning."

"Such things as the rebates that come to the university are very useful," Jauncey continues. "They have provided extra laboratories over the years, and have been able to provide equipment to staff and students at far reduced costs. Also, Apple facilitates the getting together not only of the VC, but also the directors of IT for meetings. This just stresses the information flow from Apple to these universities, as well as the peer interaction through these groups. It's a bonding between a manufacturer and the universities unlike any other I've seen."

Individual departments benefit, too, from the close access to Apple technologies they get through the AUC. This access has been invaluable for IT strategists such as David Wikeley, computer systems manager within the university's Faculty of Health Sciences. Wikeley manages a multi-platform, statewide IT environment encompassing 12 buildings, four physical sites, 15 servers and over 500 desktops – around 70 percent of which are Macs.

"The AUC has really helped us by showing the direction that the technology is going for teaching development and systems delivery," he says. "It has been fundamental in giving direction; in having current technology – and the direction of current technology – available for general discussion, it certainly helps later purchasing decisions."

AUC membership has also benefited many staff members and students by giving them access to AUC-sponsored events such as the annual allotment of scholarships to help Australia's academic development community travel to San Jose, California for Apple's annual WorldWide Developers' Conference (see page 4 for one student's account of her trip to this year's conference).



Some 62 people – 31 staff and 31 students, or one of each from every AUC member institution – are funded annually to attend the WWDC, which has been universally acclaimed by those Australians lucky enough to attend. One such lucky person was Tony Gray, technical services manager within the university's School of Computing in Launceston and the university's AUDF Co-Ordinator.

"Going to the WWDC is immeasurably valuable," explains Gray, whose trip to this year's conference was the latest of several trips he's made to the event.

"Until you've been to something like that, you just don't have enough perspective on how everything works. You feel like you're a little bit out of it, particularly in Tasmania, where you're a long way from the centre of the IT universe."

Gray felt so "with it" at the WWDC that he returned from California brimming with ideas, and ended up coding a Macintosh emulator of his long-ago favourite computer, the BBC.

"When you get there and start meeting the guy who works on Photoshop, it makes you feel like part of it, and that it's actually quite accessible and possible for anyone to get involved with this stuff," Gray explains. "To make contact with these people, and to realise they're not on some ivory tower somewhere – and have the same sorts of issues as you do when they're developing code – is a great catalyst, and I've found it a great motivator."

Everyone who goes there, goes there with a singular purpose: they're enthusiastic about the Mac. There's no extraneous noise, and you've got a whole week to wallow in the environment."



Latest AUTF recipients score \$150,000 in funding

By Andrew Jeffery

Nine academics at AUC member institutions around Australia are rejoicing after being selected as the recipients of this year's round of funding through the Apple University Development Fund (AUTF).

The AUTF is a joint venture of Apple Computer and the Apple University Consortium (AUC), set up to support and encourage software development using Apple technology in education. The fund was established in recognition of the contributions, creativity and skill of Macintosh developers working and studying at AUC member campuses.

This year, the AUTF provided some \$150,000 to foster new development projects, add to the base of more than 4,000 applications already available for the Macintosh, and to provide new relevant functionality that can improve the delivery of education using Macintosh technology. The grants cover the cost of computer hardware, software and other relevant resources.

The AUTF Grants are extremely important in fostering the large number of academics developing educational software in Australian universities.

They are now recognised by many as one of the major benefits of membership in the Apple University Consortium, and are among the main reasons that schools such as RMIT have joined the AUC (see page 13). They have been regularly updated to address the requirements of the AUC in relation to grant allocation and promotion and awareness of the grants.

This was the second year that the grants were divided into 3 categories, a move that was taken to enable a wider cross-section of the University community to apply. The grants available included:

Major Grants – Funding up to \$30,000 for one or two flagship projects which will promote the profile and value of the AUC within the University community. There was a strong preference for products likely to be used in the AUC or relevant to several Universities, with emphasis on 'real' programming in preference to simple content development projects.

Pilot Grants – Funding up to \$10,000 for smaller 'proof-of-concept' projects from staff and students, with a strong preference for products that are of some specific use in their own right.

Seeding Grants – These grants are for people who want to learn and explore programming on the Macintosh. Some background in programming or IT development is required, but staff as well as students are eligible to apply. The grant currently includes a loan Macintosh computer, a copy of CodeWarrior Professional Academic programming environment, appropriate self-study and enrolment in the Apple Student Developer program.

Successfully receiving an AUTF grant involves meeting certain criteria – such as educational relevance and originality – and preference is given to the broad educational applicability and innovation of funded projects. This year, the emphasis was on the upcoming Mac OS X release along with the Java development environment and QuickTime streaming multimedia technology.

By the closing date of 28th July 2000, the AUC had received 22 Major Grant applications, 38 Pilot Grant applications and six Seeding Grant applications. This was a high-water mark in terms of the amount and diversity of applications. One of the noticeable changes from previous years was the amount of inter-disciplinary collaboration that was present in the applications, a move that highlights the effectiveness of AUC membership in helping link researchers with similarly-interested peers across the country.

The AUTF Review Committee, which has representation from AUC members as well as Apple Computer Australia and academics, met in late August to review the applications and awarded the following Grants for 2000.

Major Grants: 2 Allocated

iMill - A Desktop CNC Router System for the Macintosh

Mr John Hall, Faculty of Science & Engineering, School of Architecture, University of Tasmania

This project will address the problem of producing physical prototypes at the designer's desktop with the same ease that we currently enjoy when printing a drawing to a laser printer or plotter.

The project sets out to develop and build the tool-path software and router cutter hardware that would allow it to be simply plugged into an iMac. In combination with a CAD package such as VectorWorks or ArchiCAD, students would then be able to design and physically manufacture prototype designs from the comfort of their own workstations.

This unique hardware and software combination will permit rapid prototyping, in two and three dimensions, to be carried out beside a Macintosh at the designer's workstation. It will offer the designer the same utility and capability in physical form that the introduction of the laser printer allowed desktop publishers to achieve in the realm of printing in the mid 1980s.

Interactive Communication Engine (ICE)

Mr Nigel Kersten, College of Fine Arts, Computing Support Unit, University of New South Wales

This grant is for the development of a web based, group to group communication engine. This engine will run on the upcoming Mac OS X or Mac OS X Server, and will make use of core Apple technologies, including WebObjects and the QuickTime Streaming Server.

The key concept is to provide a simple installation of the engine for Macintosh servers that are currently running Apache and WebObjects, and to provide web based administration of a flexible, modular, and extensible design. Data will be stored and manipulated via WebObjects, and multimedia will be delivered via QuickTime and Apache.



Core modules of ICE include IRC-style chat, streaming QuickTime movies, 'white-board' shared drawing boards, shared bookmarks, and multimedia galleries. There are currently a range of individual applications that provide some of these functions, but there is no single solution that provides it all on the Macintosh.

Pilot Grants: 7 Allocated

Streaming Video with QuickTime – A Self Paced On-line Training Package

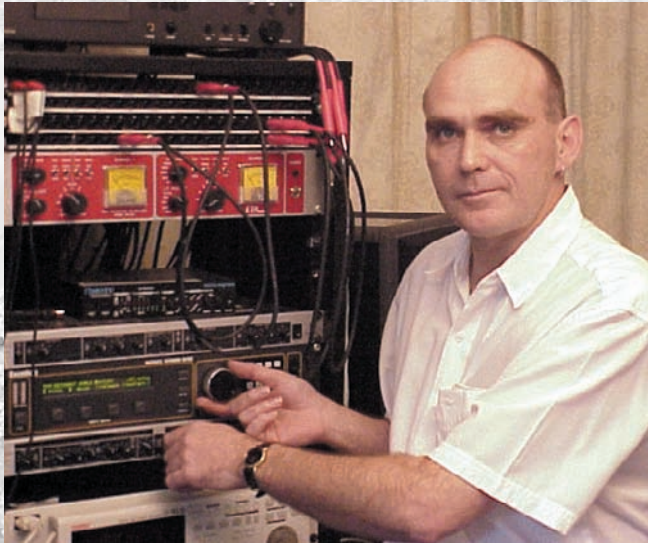
Mr Rod Ellis, Professional Development Unit, Edith Cowan University

The project will develop an online self-paced training course designed to help people learn how to create digital video – particularly streaming video – for use in their own applications. The end result will be an exemplary online, activity based learning workshop, where people can work at their own pace while learning about all matters relevant to QuickTime enabled digital video production and use.

Neuro-Controlled Interactive Technology (NCIT)

Mr Dejan Petrovic, Griffith University

This project focuses on integrating multimedia interfaces with hardware technology to create a device that will enable users to control computer applications through the implementation of mind control inputs. For example, processes such as application interaction, navigation and execution of individual actions would be controlled by the user's mind. Such a system would have significant implications for making Macintosh computers even more accessible to the physically handicapped.



M-SEA Application for audio control in Multi-Sensory Environments

Dr Steven Campbell, College of Music, Visual Arts and Theatre, James Cook University

M-SEA will primarily be an application program for controlling audio (CD/MIDI) in Multi-Sensory Environments (MSEs) currently established for disabled children. M-SEA will provide control of up to eight sensors, primarily echo location sensors that enable the children to direct and change the music using their own body movement. However, a full range of tactile sensors may be used with the application.

BlueJ on Macintosh

Dr Michael Kölling, School of Network Computing, Monash University

BlueJ is a unique software development environment developed by Monash University, designed for teaching introductory object-oriented programming. BlueJ currently does not run on Macintosh, because it is written for the Java 2 platform which is not supported by the current release of MacOS. Java 2 is supported on MacOS X, but the aim of this project is to develop a Macintosh version of BlueJ.

Jymnast – Java Tool for PDF Graphics Creation

Mr Stephen Martin, School of Physiotherapy, University of Melbourne

The primary aim in this project is to use the Macintosh platform to produce a drawing, graphing and tracing application that can save and open content in its own double-clickable document format, and which can also save user designs directly as Adobe™ PDF (Portable Document Format) documents.

iLecture Editor

Mr Mike Fardon, Faculty of Arts, University of Western Australia

This project will involve development of an application to enable lecturers to connect with their lecture stream, synchronise other media – such as JPG and GIF images, and video snippets, textual explanations, URLs, and definitions – and finally convert the complete, expanded lecture into a Web-based format that is easily accessible to students.

Machine Vision Toolkit

Associate Professor Phillip McKerrow, School of Information Technology and Computer Science, University of Wollongong

The AltiVec processor in the Macintosh G4 creates the opportunity to develop a machine vision toolkit with similar capability and performance to hardware-based image processors without having to purchase additional hardware. Images can be obtained from DV camcorders over Firewire, from analog video cameras using frame grabbers, or over the net. This toolkit will provide the enabling technology for developing machine vision applications in science, medicine, surveillance, forensic science, industrial inspection, astronomy, metrology, agriculture and education.

Seeding Grants: 4 Allocated

Yen Chueng, Monash University

Gary Jolley-Rogers, University of Melbourne

Richard Gardner, University of New England

Hon Hwang, University of Technology, Sydney

Congratulations to all those that were successful in 2000 and a big thank-you to all the others who applied but were unsuccessful this time. We encourage you to apply again; applications for the next round of AUCF Grants will be held in the June 2001 time-frame. Keep checking the AUC web site (<http://auc.uow.edu.au>) for more information.

Please also note that the deadline for applying for Seeding Grants has been extended, since the small number of applications received has left many awards unclaimed. The AUC is currently conducting a direct marketing campaign to staff and students in IT-related courses throughout member universities; those interested can lodge their applications via the AUC web site at <http://auc.uow.edu.au>. The deadline for this extended round of applications is October 20, 2000.



iMovie 2:

Apple's digital video tool gets a sequel

By Andrew Jeffery

One of Hollywood's unwritten rules is that movie sequels almost always lack the appeal and ingenuity of the first. But Apple has broken the rules with the release of iMovie 2, a new video editing tool that's easier, faster and more intuitive to use than its predecessor.

iMovie was the first digital video editing application specially designed to give beginning moviemakers the power to create digital movies from their existing digital video footage. At the time of its launch, it was seen by many as something they might be interested in; however, with the recent boom in digital cameras, it has quickly become a key component in Apple's new digital media revolution.

iMovie 2 is the next-generation version of iMovie. In addition to all the features of iMovie, it includes new tools and features that give you greater control and more creative freedom. Its intuitive tools let you transfer video clips to and from your digital camcorder, edit and arrange them into storylines, enhance them with professional-looking transitions and animated on screen titles, and even add music and visual effects. Throw in your own natural creativity, and you can become the next Stanley Kubrick without leaving your desk.

So what's new?

iMovie 2 offers a number of new creative tools and enhancements that make creating movies easier than ever.

An expanded set of visual filters allows you to add dramatic impact to movies with an array of new video effects, including Sepia Tone, Black and White, Soft Focus, and Water Ripple. Adjusting colours, controlling brightness, and altering the contrast of captured video are all now possible as well.

You can also create titles using TrueType and PostScript fonts, can later alter the size of the text in titles, captions, and closing credits, and can control how long titles stay on the screen.

One of the new version's really neat new features is the ability to change the speed and direction of transitions, allowing you to move smoothly and from scene to scene. You can even run clips backwards for that TV effect of going back in time.

Editing your movie has always been one of iMovie's strengths, and the new version allows you to preview movies in real time through your digital camera. This allows for improved visual feedback during the editing process, and greatly speeds up the finished product by eliminating the need for bothersome reshoots.

Rather ordinary handling of audio was one of the first iMovie's



A range of filters provides digital effects to add extra life to movies

few shortcomings, but the new version allows for much greater flexibility. You can now separate audio from the captured video, allowing for more flexibility, and even lock audio to a specific video frame to ensure accurate lip-syncing. The ability to paste stills, graphics, and other video clips over existing video – while preserving the underlying audio – makes it ideal for video photo albums, documentaries, and narrative storytelling.

You can also import MP3 files that you create or download from the Internet, allowing you to incorporate a much wider range of music and sound effects into your movies.

The overall interface has also been streamlined, making it easier to find the right tool and work with it. One of the new features I particularly liked was the ability to import as many clips as your hard drive can handle. The previous version only allowed a fixed number of clips in your 'shelf', which could become frustrating during large video production projects.

Don't forget your FireWire

Ease of use was one of iMovie 2's key design features. Simply start the program, connect your digital camera to the Firewire port on your Macintosh, and click Import. That's it!

The most difficult part is editing out all the 'non-interesting' parts of the video – the parts that make your audience go to sleep. But once you've been through the difficult process of self-editing, it's time to let your creative juices flow.

Most digital cameras will work with iMovie, but they do need a Firewire port. Sony markets this as i.LINK while others call it DV input/output, while the official name for Firewire is IEEE 1394. They all mean the same thing and should work fine together.

One thing to be wary of, however, is what brand of camera you decide to buy. Sony and Canon cameras seem the best and have the most support from Apple. Other brands such as Panasonic do work but have some problems with the more advanced features of iMovie. The best idea is to check online, at www.apple.com/imovie/shoot.html, to see what models are supported.

iMovie 2 runs on any Macintosh computer with a 300-MHz or faster PowerPC G3 or G4 processor and built-in FireWire port, which currently means every shipping Mac other than the iBook.

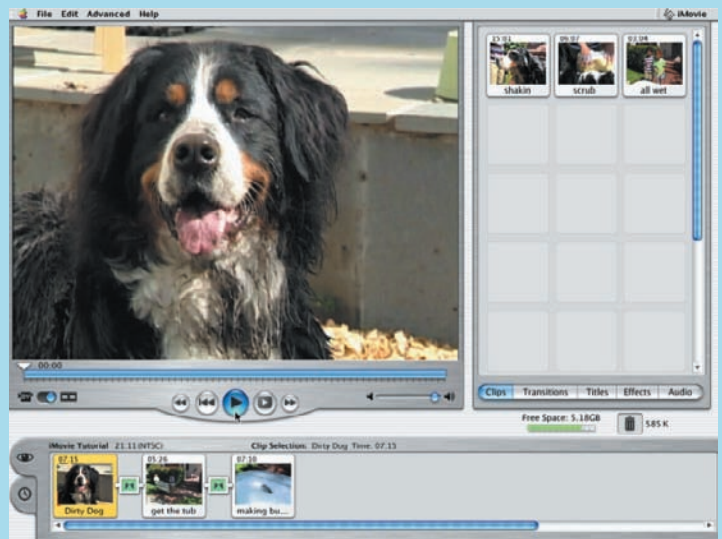
Getting the results 'out there'

Once you've spent the time to create your movie masterpiece, you want to be able to show it to your eager audience. iMovie offers a number of ways of doing this, the most common being to send it back to your camera and play it on a TV screen. This is quick, easy and since most people have TVs at home, you don't have to worry about people having the 'right' sort of computer.

Many of us will want to show our creation to the entire world, and the best way for this to happen is to export the movie as a QuickTime file. Nearly every Mac user already has QuickTime already installed, and most Windows computers now include QuickTime capabilities as well.

Exporting to QuickTime is a rather time intensive process, however, as iMovie has to take your pristine DV source and compress it down to a smaller and more manageable size. For large iMovies, this can take the better part of a day; I had one movie that was 35 minutes long, and it took almost 9 hours to export it as a QuickTime file. It's best to leave your Mac to churn through the compression at its own pace, and go do something else – like filming your next epic – while it's chugging along.

Apple makes it easy to upload your iMovie to the Web using iTools (<http://itools.mac.com/itoolsmain.html>). This product provides you with your own Web space and e-mail address (myname@mac.com), and can even create iMovie theatres to show off your work. Unless you have a very big Internet pipe, however, I would steer clear of this option; even uploading a small iMovie (3.4MB) on a 56K modem took me over 3 hours.



iMovie 2's easy-to-use interface allows simple sequencing of video clips

How do I get it?

iMovie 2 currently ships with every new iMac DV or better and every G4 desktop Macintosh. By the time you read this it will probably ship with every FireWire enabled Macintosh, including the portables. Owners of the original iMovie can update via the Apple Store for a modest fee and current owners should also get the update (to version 2.0.1), along with some new plug-ins, free from Apple's Web site (www.apple.com/imovie/).



Mac OS X

Beta redefines the desktop

After months of waiting, the general public can now get access to the first public beta of Mac OS X, the long-awaited major revamp to the venerable MacOS environment.

The Mac OS X Public Beta features a range of important new functionality, including seamless Internet integration; native support for Adobe Portable Document Format documents through Apple's Quartz graphic engine; the completely new Aqua user interface; OpenGL and QuickTime support for fast graphics and full-featured video; and more.

Mac OS X is the first desktop operating system to make use of Apple's new Darwin operating system foundation, an open-source, Unix-derived environment that provides true memory protection, pre-emptive multi-tasking and symmetric multi-processing to support new dual-G4 processor systems.

Also included in the Public Beta are tools including Apple's new



e-mail client, QuickTime player, Sherlock Internet search tool, and Microsoft Internet Explorer. Also new are the Keychain password management tool, online software updates, and support for standards such as WebDAV file sharing, PAP for remote printing, and LDAP directory services. The release version of Mac OS X is expected to ship by early next year.

More information about the features of Mac OS X Public Beta are available at www.apple.com.au/macosx/. Copies of the Public Beta can be purchased online from that site for \$55.

NetBoot Lets CompSci Students Roam Free



Many points of failure: Big iMac labs can be a major headache for administrators

Remote application loading has given the University of Adelaide's Department of Computer Science far more resilient desktops since it began using OS X Server's NetBoot feature to manage some 118 iMacs spread across the computer lab used by its more than 1000 first-year students.

NetBoot was initially tested on a single server last year as a way of improving management of the 38 iMacs that were then installed in the lab.

Constant student changes to the desktop, new software loads and twiddling with applications' configuration settings often meant that later users were unable to get the results they wanted. And while administrators could use remote deployment tools to reset each desktop overnight, this did nothing for the second, third or subsequent user in any given day.

"Running labs for students is a really difficult task, particularly when they're Computer Science students who to some extent are intended to fiddle with these things," says Computer Science lecturer Henry Detmold. "We want them to be able to play with the computer in front of them, feel that they own it, and then when the next person comes along it should go back to its default state."

Using NetBoot, each MacOS 9-enabled iMac loads its applications from a logical cluster of seven OS X Servers, which run students applications for delivery to the iMacs over the lab's 100Mbps Fast Ethernet network. If misconfiguration ever renders a system unusable, a restart will restore the standard configuration and cause applications to be loaded fresh over the network.

Students can maintain their own personal preferences in applications such as Netscape Communicator. Individual configuration settings are stored on the department's Sun Solaris-based file server and loaded at logon, giving students

access to their own desktop no matter which workstation they're logging onto. And while most common applications run from the servers, Java applications are downloaded to the iMacs and executed locally so as to improve performance; this was particularly important since the department this year began teaching Java programming to all first-year students.

The successful deployment of the NetBoot technology gave administrators the confidence to acquire 70 more iMacs, which went into commission this semester to bring the total number of desktops to the current 118. Yet despite tripling the size of its installed base of iMacs, NetBoot has managed the growth and avoided any increase in administration requirements.

"Prior to NetBoot, we had to copy applications onto the desktop machines' hard drives," says Detmold. "Each one effectively needed to be set up more or less individually. You could spray it out from a central location, but once you'd done that the configuration of each individual machine was separate - so machines had a tendency to deviate from where they should be. But with NetBoot, you just restart the system and it's back to where it should be."

UTS Lockdown Stymies Mac Vandals

The challenge of maintaining a lab full of working Macintoshes, despite the creative experimentation of a university full of budding computer geniuses, is enough to drive many lab administrators to despair. But this year, the University of Technology Sydney's Faculty of Design, Architecture and Building (DAB) has taken control of its Mac desktops and stopped problems from careless student reconfiguration.

Some 150 students within the heavily computer-dependent faculty use around 100 Macintosh PCs spread across its computer labs, with senior Visual Communications students also using Windows NT-based Silicon Graphics Visual Workstation 320s running specialised professional design applications. With the labs offering essential tools including MiniCAD, Graphisoft ArchiCAD, Ashlar Vellum, Macromedia Dreamweaver, Director and Flash, Quark Express and Microsoft Office 98, students need the Macs to be available any time.

But overly keen computer-savvy students were making a habit out of playing with - and inevitably ruining - the laboratory Macs. With no way of effectively controlling student access to the applications on the MacOS 8.6 and OS 9 desktops, lab administrators had little choice but to follow the trail of destruction, rebuilding the systems one at a time.

Late last year, the lab installed ELS Mac Manager, a tool that provides a Finder look-alike desktop with a broad range of enhancements including user-based control of access to applications and resources. Students, for example, can no longer access the system folder, can only launch specific applications, and can't save to the system's hard drive.

Instead, lab managers are inculcating sound data management principles in the students by forcing them to save all their data and programs on personal Zip disks. This individualised approach will be reinforced with a coming LDAP (Lightweight Directory Access Protocol) authentication system that authenticates each user to the applications they're allowed to use.

Restricting students' previously unfettered control over the systems hasn't been easy, says Faculty Computing Unit manager Jennifer Walbank: "Because this is new to the community, they're having a hard time getting their heads around it; they have never locked down Macs before," she explains. "We're fielding a lot of complaints because before, students could do what they wanted. But as a whole, maintenance has gone down because we're not constantly fixing machines that have gone down. We haven't had to fix one machine; normally, we were usually having to rebuild a machine a day."

RMIT joins AUC after Mac drought

Years of standardisation on Intel-based PCs running the Windows operating system had put the Macintosh platform on the endangered species list at Royal Melbourne Institute of Technology. But with the concerted support of some determined staff members and an opportunistic review of university purchasing policies, RMIT is once again investing in Macintosh and recently joined the AUC as its thirty-first full member.

The decision to join the AUC came this year, as RMIT information technology staff formulated a strategy for improving the consistency of their purchasing options – and level of vendor support – by negotiating new purchasing contracts with single, individual suppliers in both the Windows and Macintosh camps. This encompassed not only on-site service to resolve technical problems, but also more everyday issues such as online order placement and tracking and a higher degree of standardisation amongst available products. "We've standardised on the Wintel

increased Mac focus is the 6000-student Faculty of Art, Design and Communications, which is seeing a long-overdue technology refresh after installing seven new Macintosh laboratories this year to bring its total to 41 labs in all.

"There was a period when Macs were on the endangered list at RMIT," says faculty IT manager David Bellchambers, who has helped guide the recent addition of more than 120 iMacs and 100 Macintosh G4s to the faculty's Novell Netware-based network. "One of the side effects of that has been that there's really only our faculty that has significant Mac expertise within the Uni. And since a lot of the Mac sites [throughout RMIT] tend to be of the small to medium variety, they've been coming to us for advice."

Peer interaction through the AUC will help broaden the Mac expertise both of his faculty, and those others who now have a more viable way of supporting their interest in the Mac platform. "From the faculty perspective, there's a definite benefit in terms of the sharing of information and cross-pollination of ideas," Bellchambers says. "Finding people with Mac and Novell experience is a rarity, but there's a definite core of people here who are quite brilliant and come up with great ideas. It will be nice to get a two-way flow going, and joining the AUC was a way of doing that."

Sharing intellectual capital is only one of the benefits that RMIT will reap from joining the AUC, however. For many students, access to resources such as the Apple-funded Apple University Development Fund (AUDF) grants will provide an important new source of funding for students and educators wanting to pursue development projects centred around what they considered to be the Macintosh's sadly-ignored promise.

"I've been one of a number of academics who have been fighting the tide of moving to PCs," says Isaac Balbin, a professor of computer science within RMIT's Faculty of Applied Science, which houses the Department of Computer Science.

He still has an original Macintosh+ on his desk "as a memento. In the early days, we were one of the first departments in Australia that taught all their Pascal programming on labs of Macintosh computers. But the Mac seemed to lose its way somewhat, and as PCs became the rule we basically saw the disappearance of Macs from the Department of Computer Science.

Balbin is among the many academics looking towards AUC membership to give the department's more than 2000 students access to a new channel of development support – which, he points out, is also good for Apple.

"I've got various students with hairbrained ideas they'd like to implement, and if we can get seed funding for some interesting projects using Macs, that will recreate our Mac presence," he explains. "Our aim is a 36-computer showcase lab with the best and the nicest technology. Once you recreate that presence you get Mac labs, and once you get Mac labs you get graduates who will go out into industry and tell their employers to get Macs. Sometimes people don't understand how important that is."

images © RMIT 2000.
Photographer: Margund Sallowsky



environment for all our administration, but we have some significant academic areas in industry sectors where Macintosh is the machine of choice," says Lynne Fairservice, services development manager with RMIT IT Services. "In the past, people could buy Apples from whoever they wanted to buy, and could take whatever [options] they wanted. But we wanted to have a consistent approach to buying computers."

"By having only one supplier of PCs and only one supplier of Apples [Choice Connections], we're trying to build up partnerships with those suppliers, and reduce our total cost of ownership through standardisation and guaranteed service levels. We leave the choice of technology to the people running the academic programs, but we want guaranteed service response times, repair and replace times, and so on."

The decision to improve support for the Macintosh platform – and to join the AUC for the first time – has been met enthusiastically by a contingent of Mac faithful, many of whom had felt marginalised by the technology-intensive university's past focus on Windows PCs. One of the first beneficiaries of the

AUC heads to India

By David Braue

Renewed enthusiasm about the Macintosh platform has seen the AUC grow from a dozen or so universities a few years ago, to the point where it now includes more than three-quarters of Australia's universities, and several in New Zealand. But with the recent appointment of India's Dr. Mahalingam College of Engineering & Technology (MCET) as the AUC's first non-Australasian Affiliate Member, the AUC is truly beginning to realise its greater potential as a unifying force within the Asia-Pacific region.

MCET, located on a 30-acre campus in Pollachi – near the city of Coimbatore, around 250 km south of Bangalore – was founded three years ago to provide technical education and training with a distinctive industry-based focus. It currently takes in around 240 students per year into its four-year Bachelor of Engineering curriculum, and 120 further students into the three-year Bachelor of Science degree. A heavy focus on computer technology is also paving the way for the eventual introduction of degrees such as Master of Science in Software Technology and Bachelor of Hardware Maintenance.

The Macintosh difference

In an educational environment where private technical institutions are springing up like mushrooms after a heavy rain, MCET needed a way to differentiate its training from the myriad other offerings luring the new generation of technically savvy students. Recognising that Wintel computers were absolutely dominant in India – due as much to Apple's late entry into the market as to the fact that high import duties make foreign-made Macs far more expensive than local whitebox PCs – earlier this year the school established one of India's first academic Macintosh labs.

"I've been using Macs personally for the last 12 years, and I like the fact that they don't get outdated as quickly as the Wintel systems do," explains MCET vice chairman Manickam Mahalingam. "Apple systems are double the price of Wintel here, but for any educational institution, it makes no sense to change machines every three years."

Since starting with a testbed of just ten iMacs, the college quickly expanded its Apple presence to the point where it now has some 110 iMac DV and SE systems, as well as ten G4 systems. Apple computers now account for around one-quarter of the school's 500-odd computers, and from the strong response students have given them Mahalingam says that number is eventually likely to increase to 300 or more.

India is being recognised worldwide as a growing centre of software expertise, with its nearly billion-strong population churning out an estimated 250,000 trained software engineers every year. Its software industry is already estimated at around



\$US5.6 billion this year, a full two-thirds of which are exports.

Mahalingam believes that building a base of technical students who are skilled at using Macintosh systems will provide an important value proposition that will increase students' chances of differentiating themselves in the competitive software market – helping them design better software, and ultimately increasing their appeal to the lucrative worldwide market.

"Other schools are watching us, and most of them are thinking we're crazy [to adopt Macs]," he explains. "But India is becoming one of the largest sources of manpower for computers – and it's going to be one of the cheapest places to get people trained. Our long-term goal is that we become a good training centre for the Asia-Pacific region. If we're going to train people, we also need to have people on the Mac, and there's a vacuum in India when it comes to the Mac. Because most students who are studying want to go abroad, if they have these skills they'll definitely be able to start getting places much quicker."

Better still, the students love them.

So much, in fact, that many students – who traditionally did their C++ programming on Wintel machines – are now using Connectix Virtual PC to develop their code within a soft Windows environment running under MacOS. This allows them to remedy programming errors by simply closing the Virtual PC window, whereas a Wintel system might simply go into an infinite loop and require a hard reset.

"This year there's been a big difference in students' interest level," says Mahalingam. "Once the Mac labs came in, you could see them get all fired up. The Mac lab is full all the time, and right now it's operating twelve hours a day. I don't think Microsoft or Intel would like it, but I find it quite interesting when they're happy to work on a Mac with Virtual PC. Students are recognising the strength of the Mac, and I can see them really moving in."



MCET's iMac lab is among the largest in India

Partnering for the future

Now that it's begun seriously investing in Macintosh technology, MCET has been working to establish a range of relevant partnerships that will provide a broader range of career options for its students.

Recent partners include the Apple Publishing Technology Centre communications training facility, government training body the National Institute of Design, 400-centre regional training company NIIB, hardware training company AXL, and software vendors such as AutoDesk. In July, MCET also joined forces with Apple's Indian office to formally launch the first Apple Distinguished School in the country.

Building on this partnership with Apple, MCET's alliance with the Australia-based arm of the AUC has Mahalingam buzzing with possibilities. By becoming an AUC Associate, MCET staff and students will gain access to the AUC's nearly 40 member institutions across Australasia, giving them access to a broad and growing network of skilled peers as well as regular events such as the AUC Academic and Developer Conference.

Mahalingam also anticipates extending these relationships to encompass exchange of students and professors with Australian and New Zealand universities.

"What we are looking at is not so much the [AUDF] funding, but the skills and relationships the AUC provides," he says. "Since we are a single entity in India that's using this kind of a platform, we need to internetwork with people who have been doing this for a long time. The AUC looked like the best bet, with more than 30 universities that have been doing this for a long time."

For Apple, partnerships with private institutions such as MCET are going to be critical to establishing a foothold in the potentially massive Indian market, where Apple is selling an estimated 10,000 systems out of the country's total 1 million-strong annual market.

"There are a lot of world-class software businesses starting up there, and there's a lot of willpower to succeed because everybody wants to be in computer science," says Phil Hickey, Singapore-based education director for Apple Asia-Pacific. "The public sector, both in the school system and higher education, don't have the flexibility, vision and funding to look outside of what everyone else is doing. They're stuck in an old curriculum, and are still churning out mechanical engineers – which is OK, but it's not where everybody wants to be."

"AUC have opened up an invitation to Asia in general, and in India we see a huge number of private vocational colleges springing up to teach IT skills. They're much more fleet-of-foot in their decision making. MCET also want to develop some of the soft skills for the workforce – teamwork, appreciation of design in products, creativity, and not doing exactly the same as everyone else – which is unusual. That's why we're proud to be associated with MCET, because they're really innovators."

Contact Dr Mahalingam on manickamm@excite.com



Apple's Phil Hickey



MCET's founder Dr. Mahalingam



Phil Hickey joined MCET representatives for a traditional blessing at the launch of the Apple Distinguished School



Student interest in the Macs has been strong





If you liked the book,
you'll love the movie.

Apple Desktop Movies. Anywhere.



Think different.