Thinking different,
Building different

These days, computers are the productivity engines behind most university courses. Recognising their central role in students' education, many universities are consolidating cutting-edge technologies into equally innovative buildings that emphasise form as well as function.

Something in the water

We may take it for granted that water is clean, but it doesn't get that way without the constant vigilance of water authorities and specialists armed with complex mathematical models. One Western Australian team of water researchers is using Macintosh G4 systems to run those models, helping it deliver results to clients faster than ever before.

AUC gets the 'Gong

By taking a lead in the promotion of e-education, the University of Wollongong has distinguished itself within Australian academia. It's also been a major contributor to the AUC since its inception. This issue, we find out why the AUC is so popular in this rural centre.

Unleashing the beast

Apple's widely hyped OS X 10.2, codenamed Jaguar, has been a shot in the arm for the operating system by improving performance and adding many new features. We find out what's to like about Apple's latest platform.

PRODUCT Round UP

NEVER ENOUGH STORAGE

External, portable drives just keep growing, which is a good thing considering the growing use of Macs for heavy-duty video editing. If you're running out of space, consider investing in one of the many external hard drives now on the market.
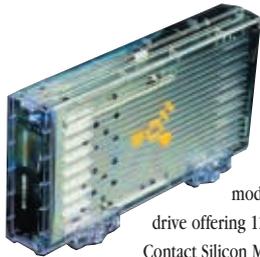
Models such as Silicon Memory's IceCube have reached 120GB in capacity, using a FireWire port to provide fast data transfers between Mac or PC and the drive. ATA-100 interfaces provide sustained data transfer rates of around 34MB/s. And if that's not fast or big enough for you, just wait a few months: bigger drives are in the wings.

Pricing for the IceCubes ranges from $403 for a 20GB model with 7200-rpm IBM drive, to $752 for a 7200-rpm IBM drive offering 120GB of storage.

Contact Silicon Memory at 02 9417 7822 or at www.siliconmemory.com.au.

COREL LAUNCHES FRESH ASSAULT ON ADOBE

Many institutions may have standardised on Adobe's Photoshop and Illustrator tools, but their dominance is far from universal: many graphical illustrators continue to swear by archrival Corel's Photo-Paint and CorelDRAW graphics manipulation software.

Corel recently released a substantially updated version of its venerable CorelDRAW Graphics Suite 11, which bundles Photo-Paint and CorelDRAW with the R.A.V.E. vector animation tool (which produces Macromedia Flash files) and loads of clipart spread across five CDs.

The new versions have been Carbonised to take advantage of MacOS X, with features ranging from better support for Web graphics to image stitching (combining multiple shots into a single panorama), pressure-sensitive smudge and roughen brushes, better import and export filters for standards like Microsoft Visio and JPEG 2000, improved brushes, and the ability to make your own symbols for regular reuse.

CorelDRAW Graphics Suite 11 retails for $1135 before the usual upgrade and educational discounts. Contact Corel on 1800 658 850 or visit www.corel.com.au.
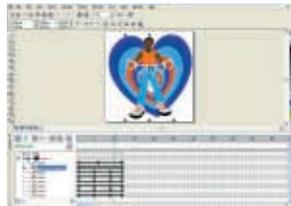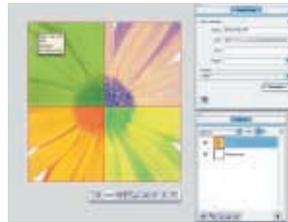
BETTER WINDOWS INTEGRATION THAN JAGUAR

MacOS X 10.2 (Jaguar) has been hailed for its ability to seamlessly link Macs with Windows networks – an increasingly important capability given the growth of Windows systems within Australian universities. But Jaguar only provides basic connectivity; for those wanting to provide completely transparent Windows integration, consider Thursby Software Systems' DAVE 4.0.

The latest version of Thursby's well-received file and print sharing system, DAVE – like Jaguar – uses an implementation of Microsoft's SMB protocol to share Windows resources the Windows way. Unlike Jaguar, however, DAVE goes much further: files are stored in Windows NT's native NTFS file format.

DAVE supports NT Domain Login so users only have to authenticate themselves once; provides local, share-level and user-level sharing security; supports SMB printing for seamless printing on Windows printers; shares CDs, hard drives and file folders; supports Windows Shortcut (.LNK) files and distributed file systems; and supports Services for Macintosh.

DAVE costs $US149 for a single user, with educational prices including $US419 for a 5-user license; $US1609 for 25 users; or $USD5599 for 100 users. Download a time-limited trial or purchase the software online from www.thursby.com.

SERIOUS STORAGE FOR SERIOUS USERS

If no amount of storage seems enough for you, you should be looking into Fantom Drives' ever expanding product range. The latest additions include high-capacity DVD-RW drives for individual users, as well as a FireWire-attached RAID (Redundant Array of Inexpensive Disks) array that's ideal for users requiring large volumes of high-availability storage.

The G-Force RAID FireWire series comes with 3 or 8 hard disk trays offering total capacity of up to 480GB. The systems can be configured at a variety of RAID levels to provide instantaneous recovery in the event of a hard disk crash. They are platform independent, incorporating their own processor to provide seamless access to Windows, Novell, NT, Unix and Mac-based environments. The drives start from around $5783 in a 120GB configuration.

For mobile users, Fantom Drives' external DVD-RW/CD-RW SuperDrive uses FireWire to provide a high-speed connection to both Windows and Mac machines. Providing up to 4.7GB of storage space per disk, the drive includes a lossless linking system to prevent buffer underruns and supports DVD-R disks playable in both DVD players and DVD-ROM drives. The drive costs $1452.

Contact BITS on (02) 9310 3199 or www.bits.com.au.

PRINT ANYWHERE – NO STRINGS ATTACHED

Wireless networks between PCs are nothing new, but extending those networks to other devices is. Troy Wireless's EtherWind is a wireless print server that uses 802.11b standards to link printers with computers running most operating systems.

Since Apple's AirPort wireless networking devices are 802.11b compliant, that means you can simply attach the EtherWind to any printer – both parallel and serial ports are supported, for handling one or two printers simultaneously – and print from anywhere within range. That makes it an ideal part of temporary computing labs or environments where notebook users are often in and out of the office, and want to print without being tied to a physical network cable.

EtherWind supports all the normal standards, ranging from automatic 1-2-5.5-11 Mbps stepdown speeds to 40-bit and 128-bit WEP encryption. It supports protocols including NetBEUI, NetBIOS, SMB, lpr/lpd, Direct Mode IP/IPX, DEC LAT, Banyan VINES and DLC/LLC, and supports WINS and DHCP IP address management as well as integration with Novell Directory Services.

EtherWind costs from $877.80, educational discounts are available. Contact XSI Technology on (02) 9496 1100 or www.xsi.com.au.

GOOD FOR MORE THAN JUST PIRATING DVDS

DivX has generated more than its share of controversy, most notably because it's the best way to squeeze a full-length feature film from DVD onto a single CD whilst retaining high quality. But behind the facade of piracy that the media has given it, DivX remains an important and eminently usable way of compressing video streams for extremely high-quality results.

DivX 5.0, the latest suite of DivX technologies from DivXNetworks, includes what's being touted as the first publicly available MPEG-4 Advanced Simple Profile video codec for the Mac. That means faster, better compression and a better visual experience.

If you haven't experienced the quality of DivX, give it a go. Its increasing legitimacy makes it an excellent choice for video compression, and the latest version has improved compression even more than earlier versions.

DivX 5.0 is currently in Alpha 3 version for MacOS, and can be downloaded free. The Windows-only Pro version adds video tools and even better encoding for $US30, or you can get an ad-supported version for free. For more information, see www.divx.com/divx/mac.

editorial

FROM THE EDITOR'S DESKTOP

As the Academic year draws to a close, students start thinking about swot vac and the promise of Christmas holidays, and the AUC seems to be as busy as ever.

In October, the winners of the 2002 Apple University Development Fund grants were announced. This program always brings some extremely interesting projects out of the woodwork, and the latest round is no different.

This year's AUDF grants will support the development of such varied projects as collaborative music software, learning aids for the blind, digital media management tools, literacy training, and more. We're proud to sponsor such a diverse and promising array of projects; keep the creative juices flowing! Another big AUC event is looming on the distant horizon – namely, the 2003 AUC Academic and Developers Conference. To run from September 28 to October 1 next year, the conference will be held at the University of Adelaide. We're currently accepting proposals for presentations at the conference; for more information, turn to page 5.

As always, AUC members have been busy in all sorts of endeavours, just a few of which we've documented in this issue of Wheels. Over in Perth, for example, a group of University of Western Australian water researchers has found Mac G4s blow away the competition when it comes to running complex mathematical models of water behaviour.

In the outer Melbourne suburb of St Albans, architects have been doing their own behaviour modelling during the design and construction of Victoria University's newest building – an award-winning $8.6 million assemblage of computer labs, design studios, lecture theatres, and some very cutting-edge Mac technology.

Elsewhere in the issue, we catch up with recipients of the AUC's iPod Seeding Program and learn about a similar program that will give AUC members the chance to experiment with Apple's new Xserve. We find out about UNSW's home-bred online learning platform, meet an award-winning computer graphics artist, catch up with longtime AUC sponsor the University of Wollongong, and more.

I hope you enjoy this issue and have a great holiday season.

Peter Sharpe, Editor
pjsharpe@unimelb.edu.au

contents

iPod impressions

Earlier this year, the AUC was allocated two Apple iPods – Apple's hugely popular music player and portable file storage device – for the purpose of developing new higher education applications. Five educators at AUC member universities borrowed the iPods for four weeks at a time. Here's what three of them reported back after putting the devices through their paces:

Kate Foy, University of Southern Queensland

Goal: Use iPod for voice and speech development during professional actor training.

Report: With the iPod I now had the opportunity to use a small, portable, elegant and fun piece of hardware to encourage my students to work on their voice and speech. I downloaded customised exercises for individuals and lent them the iPod for several days while they ran it – and the new approach to practise – through its paces.

The word they used most frequently was "wow!" What did they like about it? Apart from the obvious "coolness", the pause button and digital format mean there's no waiting (important when you are pausing and repeating words or sounds). Its design encouraged them to use it often and in various situations. It is a great little tool for my application in voice and speech training.

The next step for me is to investigate the use of the iPod in web-based delivery learning. It should be possible for students to download lectures and listen on the go. I intend to continue developing individual student learning packages for speech. I can also see its application in the professional world of actor dialog coaching.

Steve Martin, University of Melbourne

Goal: Offer physiology students access to spoken materials such as lectures and motivational materials.

Report: Sound quality is excellent, and the iPod's capacity makes it a great addition to a home stereo; it can play an enormous amount of audio continuously without any intervention.

The iPod cannot record, but it can be used as an external hard disk to which audio can be stored. I tested this with a freeware recording utility called Coaster 1.1.3 (www.visualclick.de). I attached the iPod to an iMac, and selected it in the recording destination panel after hitting the 'Choose' button. I recorded around 15 minutes of continuous speech using the internal mic (uncompressed mono 44KHz AIFF format – about 60Mb).

iPod offers potential for use with text-to-speech tools. For example, a small freeware utility, QuickSpeech (www.webnation.com/webtools), can be used to convert a required lecture or text into an 'album' of audio by using QuickTime Pro to turn QuickSpeech's resulting QuickTime audio movie into an AIFF file.

Finally, the Internet Movie Database (www.imdb.com) is an excellent example of alternative uses for the contacts database on the updated iPod firmware.

Greg Nelson, Victoria University

Goal: Explore students' use of lectures, provided as MP3 audio recordings, to reinforce classroom learning. Also, work with the Alternative Therapies unit to explore iPod's use in healing of language disorders.

Report: The iPod for me was a complete turn about – far more versatile and easy to use than I expected. I found myself saving audio lectures to the iPod for students to access, and on occasion stored radio programs relevant to course objectives. The iPod made access easy, and due to the amount of storage possible I could archive lots of work. I would dearly love and cherish the 10 gig version. I hear Apple has plans to incorporate the old Newton technology into something like an iPod. This would make the iPod a mean organiser. For me, at present, the strength of the iPod is its storage capability, ease of use, and simply good functionality.

OS X training plays to sellout crowds

For over a year now, the AUC has been partnering with various member universities to offer interested staff from member universities subsidised attendance a number of training courses on different topics. This year, the AUC continued its focus on MacOS X with a pair of courses covering OS X administration, migration from MacOS 8 and 9, and advanced OS X server topics.

More than 85 people – technical co-ordinators, administrators and end users – attended the Mac OS X Administration Basics course, which was offered in July through member universities in Sydney, Melbourne, Brisbane, Perth and Adelaide.

This three-day, fully accredited course covered the basics of installing, administering and using Mac OS X. Topics covered included installation and configuration, testing and troubleshooting, managing multiple users, preferences, applications, files and privileges, file sharing, printing, email, Internet access, system startup and shutdown, and peripheral device support. It is the first of two courses required for Apple Certified Technical Coordinator (ACTC) certification, which is recognised worldwide by Apple and the IT industry.

AUC members also showed strong interest in Mac OS X Server Essentials, a three-day course that was delivered during September to a full roster of 40 attendees in Sydney, Melbourne, Brisbane and Perth. This course is the second component of ACTC certification, covering more advanced topics such as managing multiple users; setting up network services such as email, printing and file sharing; using NetBoot; use of LDAP and Active Directory services; and integration with other operating systems including Windows, Unix, and earlier versions of MacOS.

The courses have been extremely popular this year, with all positions filling up. If demand continues strongly, another round of courses may be run in December 2002 or January 2003; check the AUC Web site, at http://auc.uow.edu.au, for regular updates. The AUC always welcomes feedback on the types of courses that are of interest to members.

Adelaide to host 2003 AUC conference

THE UNIVERSITY OF ADELAIDE AUSTRALIA

It's been a year since more than 250 delegates from AUC member universities gathered together at the last AUC Academic and Developers Conference, at James Cook University in Townsville. Next year, we're getting ready to do it all again at the University of Adelaide, which has graciously offered to host the AUC's next biennial conference.

Running from September 28 to October 1 next year, the 2003 Academic and Developers Conference will be themed 'Digital Voyages', a name chosen to reflect its focus on the use of digital devices and the computer as the hub of our increasingly connected digital world.

As in past years, the conference will be organised around three streams. These include Academic Adventures, how academics and students are using Apple technology in research and teaching to investigate new areas; Developer Discoveries, how developers are building on the strengths of Apple technology; and Technology Trails, detailing new paths for users and administrators of technology in higher education.

The AUC is currently in the process of organising the content for this conference, and welcomes proposals from all those interested in presenting.

Hardware and software developers are strongly encouraged to present – either academic papers for publication, or proposals for less formal papers which will not be published. For those not in a position to present a full paper, there is also the option to participate in less formal Show & Tell sessions.

Full presenters will be supported financially by the AUC and Apple Computer, which will provide return economy airfare, registration and budget accommodation costs for one speaker per presented paper. Submissions or proposals must be received by the AUC before May 2, 2003; final edited papers will be due by July 4, 2003.

For submission guidelines, visit the AUC Web site at http://auc.uow.edu.au.

ADC 2001 attendees show off their tropical dress sense

2 0 0 2   A U D F   W I N N E R S   R E V E A L E D

Winners of the 2002 Apple University Development Fund (AUDF) grants were announced in mid October, and as usual AUC members are demonstrating their interest in a broad range of exciting projects.

There are two levels of AUDF funding: Seeding Grants and Developer Grants. Awards to Developer Grant recipients vary, but all Seeding Grant recipients receive a 700MHz G3-powered iBook with 12.1″ screen, 20GB hard drive and CD burner; an Apple Developer Connection student membership; CodeWarrior Academic, courtesy of Code & Data Australia; MacOS X and developer tools; and the Learning Cocoa book from O'Reilly Publishers.

This year's winners include:

S E E D I N G   G R A N T S

Kathryn Clancy, Deakin University; Angelo Fraita, University of Western Sydney; Flavia Morello, University of Technology, Sydney; Jia Yin Pan, University of NSW; Andry Rakotonirainy, University of Queensland; Wade Tregaskis, La Trobe University

D E V E L O P E R   G R A N T S

Andrew Brown, QUT: Further development of Jammin', music software that lets composers create music using simple controls, and collaborate in real time via the Internet.

Michael Cutter, University of Melbourne: Graphical administration console to improve access to the Squid proxy server application on Mac OS X.

Steve Dillon, QUT: Development of a client/server version of DMAP (Digital Multimedia Assessment Portfolio), an application for tracking and building portfolios of student work.

Naden Franciscus, Curtin University: Implementing a major rewrite and enhancement of iCabinet, a WebObjects-based web content management application.

Prof John Fulcher, University of Wollongong: A speech recognition system designed to improve literacy by facilitating documentation of spoken materials such as oral histories.

Dr Phillip McKerrow, University of Wollongong: Development of a package implementing a new algorithm for archiving the many large video clips generated during Final Cut Pro work.

Iain Murray, Curtin University: A screen-to-speech engine that will help vision impaired and blind students complete preparation materials for Cisco's Certified Network Associate (CCNA) training curriculum.

Dr Danny Ratner, University of Wollongong: A radio control kit will let programming and physics students create computer-controlled toys, models, robots and industrial applications.

James Steele, University of Canberra: Expanding streaming media serving to allow for Web-based selection of four or more live video and audio streams.

David Vernon, University of Wollongong: Musician, an OS X application helping music students create musical scores, edit audio, and control audio and MIDI effects during a live performance.

Dr Lyndon While, University of WA: A MacOS X integrated development environment facilitating programming in the Haskell development language (www.haskell.org).

Full details of all winning projects are available at the AUC Web site, http://auc.uow.edu.au.

Macs take FORTRAN
to new depths

By David Braue

Peace, tranquillity, perhaps a nice dip in the pool – what do you see when you look at a shimmering dam? For the team at the University of Western Australia's Centre for Water Research (CWR), a dam is a complex series of interrelated thermal columns, salinity gradients, phytobacteria and other contaminants.

Modelling these factors requires the combination of sensitive sensors, field samples, and the use of computers to collect data and apply complex behaviour models to map out the characteristics of dams. CWR's application of models such as DYRESM (a one-dimensional model that demonstrates change in element stratification over time) and the three-dimensional ELCOM (Estuarine Lake Computational Model) has helped it secure an international reputation: current and past projects span Australia, Italy, Brazil, Argentina, the United States and elsewhere.

ELCOM is predominantly a physics-based model, reflecting the physical interaction between temperature, water density, and other physical characteristics of the water. But it also factors in biological elements, something that's helped strengthen CWR's reputation for helping water authorities better understand their water columns.

To run these models, the nearly 100 students (mostly postgraduates) and faculty within CWR rely extensively on crunching through vast amounts of data fed into algorithms written in the engineering-focused FORTRAN 95 language. For the task, the team recently turned to Apple Macintosh G4 systems running Absoft's Pro FORTRAN for OS X, the only OS X FORTRAN compiler currently on the market.

The complexity of the models had previously precluded the team from using MacOS 9, says research associate Dirk Slawinski, but OS X has been a star performer.

"We needed to have Unix to make our models work properly because of the way they were designed," he explains. "MacOS 9 and earlier versions were not equipped for that: they didn't share the memory, have the right kind of scripting, and so on. When MacOS X became available you effectively had a Unix OS, and the G4 systems have proven to be a lot faster than comparable Intel systems. Indications are that they are one and a half times as fast."

That's allowing the team to produce good results faster, and it's motivated CWR to look into other uses for the G4s within their work. One particular use is to be able to share their models with customers – typically, regional water authorities who want to model a water pollution problem. But this is difficult, since such companies tend to be predominantly based on Windows machines.

Earlier this year, the answer became clear: use Java to build a cross-platform analysis tool that will provide portable data analysis for CWR and its customers. "We want to use the Macs as our main computational engines, but since the bulk of our clients are engineering firms and lots of students are engineering students, they all have PCs at home," says Slawinski. "We want to make sure we fit into both groups so we can cater to the whole scientific and commercial community."

The Java development project is currently underway and has turned up a promising proof of concept, but there's still work to be done. When it's finished, the application will allow CWR customers to view and manipulate graphical representations of the centre's data, enabling them to monitor the change in water characteristics throughout the year.

Recognising the project's potential importance, Apple Computer last year awarded the team an AUDF grant that's given them a pair of 733MHz G4-based Power Macintosh systems. "Apple have been very supportive of us to make sure that our ideals of keeping Macintoshes in the engineering environment are possible," says Slawinski. "Many of the upgrades we've needed to make wouldn't have been possible otherwise."

For more information, see www.cwr.uwa.edu.au.
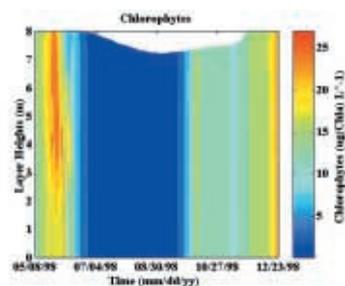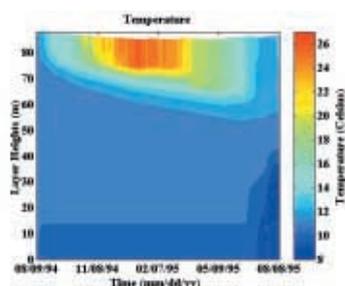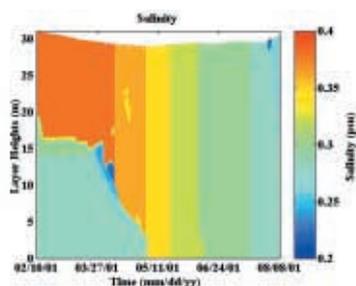
Modelling water attributes provides valuable insight into dams' change over time

Omnium revisits online learning

By David Braue

Omnium's Rick Bennet

University of New South Wales (UNSW) lecturers are warming to a major revamp of Omnium, an online learning and collaboration environment that's been built from the ground up to facilitate graphical communication between designers around the world.

Launched in October, Omnium 3.0 builds on three years of work by Rick Bennett, a lecturer in design at the School of Design Studies, within UNSW's College of Fine Arts. Bennett founded Omnium Projects in 1999 in an attempt to address perceived shortcomings in previous 'virtual design studios' – online services that join participants via the Internet.

In its first incarnation, Bennett used the Omnium engine to run a ten-week project called Omnium [vds] '99, which linked 50 design students from 12 countries across five continents. Using feedback and observations made during that project, Bennett expanded Omnium into v2.0, which he acknowledges was "a wonderful plan in theory but in practice it failed for a number of reasons – the most important of which is that I failed to remember to keep the technology simple and transparent, so that design activity can be seen clearly."

With Omnium 3.0, Bennett has been joined by designer/producer Ouita Broadfoot and programmer/Webmaster Thom McIntyre to upgrade the system, which has been written for cross-platform delivery using Macs and run off of Mac servers, and has received strong support from Apple Computer Australia.

The system's pilot test linked participants in Australia, China, Singapore, Hong Kong, Brazil, Venezuela, Puerto Rico, Canada, Germany and South Africa, all of whom used the system to attend an online course called Graphics and Contemporary Society, written by UNSW design academic Leong K. Chan.

The four-week project, in which participants worked with teams of four or five to collaboratively develop work that's available online, concluded on October 25. Bennett notes that the system's latest incarnation has begun to attract interest from other UNSW academics through the support of EDTeC, a UNSW centre focused on helping staff make the most of online delivery.

With their guidance, Bennett says Omnium 3.0 has progressed to the point where it's a viable alternative to the US-designed WebCT software that's become the de facto online learning standard for Australian universities. The system is available for lease to other interested universities around the world.

Throughout Omnium's development, Bennett has had to balance the capabilities of technology with the features that allow individual personalities to shine through. "Omnium is specifically designed for visual based interaction and places students in working groups to encourage collaboration," he says. "Yet no matter how beautiful the graphics or how easy the interface is to use, the personalities of teachers and students in online learning are always going to be the telling factor."

For more information, visit www.omnium.unsw.edu.au or contact omnium@unsw.edu.au.

Catching some rays at UTS

It's always rewarding to see your students rise to the pinnacle of their chosen careers, but the past year has been even more personally satisfying for University of Technology, Sydney computer graphics lecturer Dr Kevin Suffern.

Suffern, who has taught computer graphics at UTS for 20 years, has spent the past decade mastering the complex process of ray tracing – modelling the flow of light onto, through, reflecting from and running around simulated three-dimensional objects. With a background and PhD in applied mathematics, he has written and refined his own ray tracing software over the years, and takes the novel approach of having his students write their own ray tracers during their courses.

Recognition of his skill came recently for the second time in his career, when his 'Lighthouse' received the CompuGraph 2002 Bronze award for computer art at an awards ceremony in Singapore. Another work, 'Creation', was one of 40 shortlisted entries out of more than 200 contenders.

The last time Suffern received an award was for a piece he entered into a 1994 exhibition at ANU's Drill Hall Gallery, where he took top prize. This year, he was also invited to present his work at the 17,000 strong SIGGRAPH 2002 conference in Texas, USA.

All have taken with them the nuts-and-bolts approach that's kept Suffern's work fresh and well recognised. "I'm not trained as an artist, but have always been passionate about art – and, in particular, ray tracing and art. There are very few courses that teach ray tracing the way I teach it – getting students to write their own ray tracers from scratch – but they get a proper understanding of how the whole process works."

The quality of Suffern's ground-up approach to ray tracing becomes clear when perusing a list of his previous students. Notables include Andre Mazzone, whose work at George Lucas-founded Industrial Light & Magic led to a role in production of the recent movie *Ice Age*. Justen Marshall and Naomi Hatchman received Oscars for their work on *The Matrix* and are currently working on its upcoming sequel, while Suffern alumnus Rangi Sutton worked on the BBC's widely lauded *Walking with Dinosaurs* and *Walking with Beasts*.

Suffern's current students are showing similar promise: Information Technology student Steve Agland's Bin Can Can work was exhibited at SIGGRAPH 2002 alongside that of his teacher, while peer Emily Boyd has received a number of international awards for her software MatMice, which has helped more than 170,000 children worldwide build their own Web sites.

Left: Blue, a recent artwork

Background: Suffern's award-winning Lighthouse

Building blocks

By David Braue

In many universities, the predominance of Windows PCs has meant that Macintosh systems tend to be clustered within a few departments, occupying labs in out of the way places where they're heavily used by students in relevant fields.

Just the opposite has proved true at Melbourne's Victoria University and the University of Tasmania in Launceston, however. In new buildings on both campuses, Mac labs are high-profile components of sweeping new facilities that are giving students unprecedented access to cutting-edge creative design technologies.

The opportunity to consolidate computing resources around Macs was a major benefit of VU's $8.6 million Online Training Centre (OTC), which was completed in mid 2001 and formally opened by Premier Steve Bracks in August. Located on VU's St Albans campus in western Melbourne, the 3200 square metre building is itself a study in art, from its outside mosaic of coloured snakeskin tiles to its prodigious open spaces.

Its design is so innovative that the building has already received two coveted design awards: the Royal Australian Institute of Architects' Victorian Architecture Medal, and the William Wardell Award for Institutional Architecture.


Victoria University's Bruce Youl

Inside, the pervasiveness of Macs is tangible; they occupy half the voluminous central open-access computing facility, where 40 Macs and 40 Windows PCs are available to students whenever the facility is open. The building, which has been open to students from the beginning of this year, also has nearly 20 individual learning spaces; a multimedia lecture theatre; a self-contained IT training centre available to external groups; several light-filled studios for more conventional artists; and a host of Mac and Windows labs for specific uses.

"It's very much a technology and multimedia-focused building," says VU IT manager Bruce Youl. "Most of the subjects taught in here have got a heavy reliance on PCs."

In an atypically close pooling of resources, VU's TAFE and higher education divisions share the new facilities. The OTC is heavily used, for example, by around 200 TAFE students enrolled in the Advanced Diploma of Multimedia course, where they're learning design techniques using 3D and video editing tools including LiveWire, VideoFX, Adobe AfterEffects and Apple's Final Cut Pro. The 733MHz PowerMac G4s, complete with DVD-burning SuperDrives, help students burn through their tasks to produce clean-looking results.
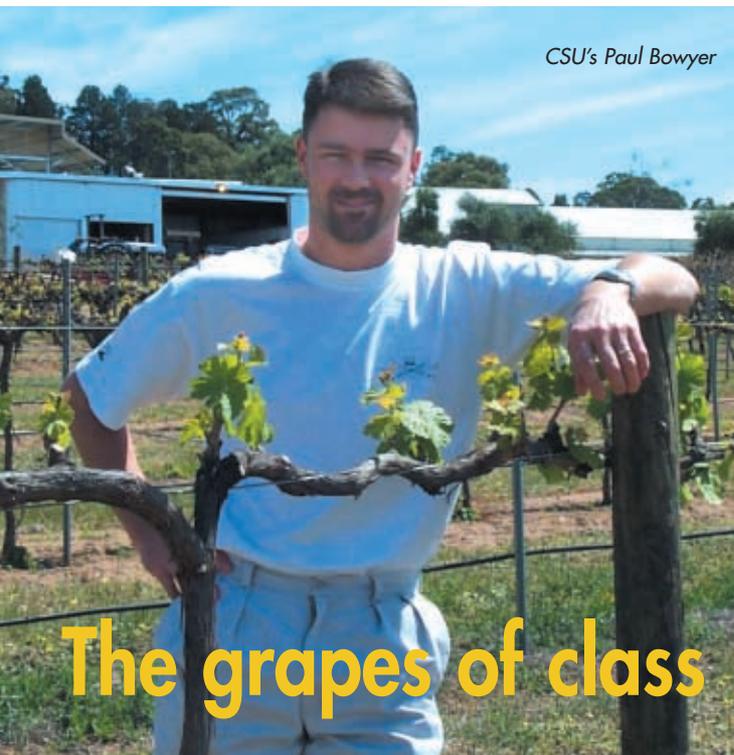
The grapes of class

CSU's Paul Bowyer

Participating in a wine-making boot camp might sound like heaven for some, but it's a lot more stressful than that for nearly 170 students at Charles Sturt University in Wagga Wagga, NSW.

CSU offers three courses on the science of wine growing including the Bachelor of Applied Science (Wine Science), Bachelor of Applied Science (Viticulture) and Associate Degree of Applied Science (Winegrowing). The courses are particularly appealing to distance students, who make up around 130 of the approximately 170 enrolled in the first-year subject Wine Science I.

As part of their education, all students in the mandatory course are required to converge on Wagga Wagga for a four-day intensive, hands-on and tutorial based training course at CSU's chemistry lab, which includes a broad range of scientific instrumentation. At the end of the four days, all students sit a comprehensive exam.

For distance students that may be setting sight on their peers for the first time at the vineyards, the intensive lab – and the knowledge that there's an exam at the end of it – has been anxiety producing for many students, says Dr Paul Bowyer, a lecturer in CSU's School of Wine and Food Sciences. After attending the
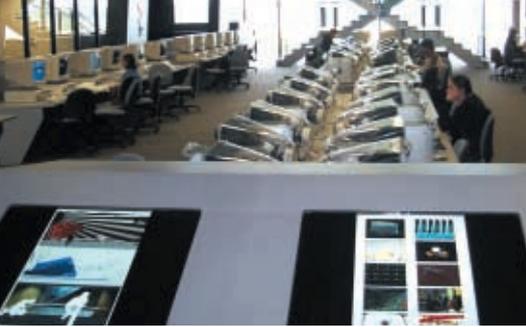
Open space is abundant within the University of Tasmania's new Academy of the Arts

"The benefits of having Macs are their far lower maintenance compared with PCs, and their ability to deal with digital video," says Mark O'Rourke, multimedia program manager within VU TAFE's Department of Art, Design and Multimedia. "We can look at interactive authoring with full-screen DVD video content. Final Cut Pro is the industry standard video editing software, and we really need to be teaching industry standards if we're preparing students to get jobs in the industry."

Similar changes are afoot at the University of Tasmania, where the new Academy of the Arts facility at Inveresk has been designed from the ground up to give students access to conventional art and new media facilities. The centre is located in a growing 17.5 hectare recreational precinct in Launceston that also includes an AFL stadium, the Queen Victoria Museum and Art Gallery, cafes, a conference centre and other facilities.

Students have access to around 60 G4 Macs complete with flat-screen Cinema Displays, which they use for a broad range of design and art-related courses. Around 600 students pass through the centre every week.

"We've always been based on Mac because it's the preferred option of artists," says Vincent McGrath, professor of art and head of the School of Visual and Performing Arts within the University of Tasmania's Academy of the Arts. "The computing laboratory is considered the heartbeat of the place, and we've designed the curriculum to take advantage of what the world of technology has to offer."

For many students, the Macs are used as companions to the conventional art work they're doing – "extrapolating knowledge and then interpreting it via computer", says McGrath. That lays the groundwork for some extremely interesting possibilities as sculptors, ceramic artists, painters, drawers and photographers explore new ways of combining their real-world disciplines with the creative possibilities of the virtual world.

Macs aren't just about enhancing conventional artistic and multimedia disciplines, however. At VU, they're also providing a strong foundation for more complex programming, scripting and interactive design being done by students in the higher education division's Bachelor of Arts (Multimedia) and Computer Mediated Art degrees, which combine conventional art discipline with digital media tools.

In those programs, students delve deep into nitty-gritty work that combines graphic design techniques with complex scripting, multimedia design using Macromedia Flash and Director, and construction of database driven applications using ColdFusion.

The OTC's dual-platform design has also proven beneficial to students in VU's Bachelor of Business and Multimedia and Bachelor of Performance and Multimedia degrees, both of which are taught at VU's Footscray campus. Although Footscray's courses are taught around Windows PCs, students there are warming to the OTC's improved access to Macs, says Megan Chudleigh, a lecturer in the Faculty of Arts at VU.

"The fact that our section of the OTC is Mac based provides students with some extra opportunities they don't receive in the PC labs, particularly in video production" says Chudleigh. "Even though they're Business students and do a lot of work on PCs, when it's time to do video and sound work they end up back on the Macs. The Mac labs have allowed us to move into DVD, which we haven't even tried on PCs. Students now have access to some really high-end technology they didn't have before."

AUC's Academic and Developers Conference in Wollongong in late 2000, Bowyer hit upon the idea that Apple's iMovie video editing software might be a good way to smooth the transition and help students improve the value they get from their time on campus.

"Students learn about the chemical analyses routinely performed in the industry for wine quality control," he explains. "There's also a big theoretical component. It's a lot for them to come in not knowing anything, and on the fourth day you're meant to sit an exam on it. I realised I could film myself doing some of the experiments, then use iMovie to produce short Internet-viewable films of the experiments. It seemed like a good way to help distance education students get around this problem a bit."

Bowyer had an associate videotape him doing four basic experiments – lasting between 30 seconds and two minutes – then captured them into his Blue & White G3 (he's since upgraded to a PowerBook G4). He used iMovie to add subtitles and music, then let students know the movies were online so that they could familiarise themselves with the experiments before arriving.

After a strong reception from his efforts, Bowyer used additional university funding to buy an external LaCie FireWire hard drive, then used the space to digitise a number of experiments running up to 10 minutes in length. Because of the file sizes, he put eight videos onto a CD-ROM that was this year distributed to distance learning students along with their study manuals, lecture notes and lab materials. The CD-ROM also included extra movies introducing students to the campus and explaining what they'd be doing there.

Converting each video, Bowyer says, took around three or four hours of his time with iMovie – "the hardest part was doing voiceovers, because I had to sit down with the manual and make sure I was saying exactly what I should be and not wasting time," he says. But the effort was worth it: early results from a survey of students, conducted after CSU's September intensive course, indicated they had found it invaluable.

"I had one student who was in the residential school a few years ago and had failed the subject and was back for his second time," Bowyer recalls. "Just before they did the exam, he stood up and said the difference this time was phenomenal – that the films were great, and made the whole experience much more positive. It's rare to see that sort of a gesture from a student."

AUC's home in the 'Gong

G4s in Ashelford's Mac lab

By David Braue

Although many students prefer to stay at universities within the capital cities, those who have made the trek to Wollongong to study often find they prefer the rural city's combination of lifestyle, accessibility to Sydney when needed, and the thriving academic and research community that has grown around the University of Wollongong (UoW).

Outside observers seem to agree: UoW has been flooded with accolades in recent years, including being chosen as Australia's University of the Year in both the 1999-2000 and 2000-2001; topping the Good Universities Guide in ratings for students' overall educational experience and graduate outcomes; and beating out all other universities in a Graduate Careers Council of Australia assessment of full-time job outcomes.

One particular focus of these assessments has been UoW's ability to prepare its more than 14,000 students for the 'e-world', a recognition of its significant investment in installing and developing cutting-edge new technologies. This effort is backed by the university's seven research institutes, including a Telecommunication and Information Technology Research Institute devoted to the exploration and commercialisation of new telecommunications technologies.

Given the importance of IT within its academic structure, it's no surprise that UoW staff have long been strong advocates of Macintosh technologies. UoW was a founding member of the AUC, with its nearly 20 years' involvement meaning that the university has been in the AUC for nearly half of its 51-year existence.

That involvement has taken many forms. UoW hosts the AUC's Web site, hosted the 2000 AUC Academic and Developer Conference and also hosts the annual Innovative Technology Schools Conference, an Apple-backed event that will greet over 200 attendees when it returns for its 14th year in December.

UoW was among the last Australian universities to keep a Mac retail store operating on campus, although the popular shop

University of Wollongong

eventually closed after changes to the AUC's charter in 2001 allowed universities to outsource their Mac purchasing.

Even without that physical presence, university staff have remained heavily involved in development programs like the Apple University Development Fund (AUDF) grants; UoW researchers have been the recipients of the most AUDF grants – more than 35 – of any university throughout the program's history. They've also long been keen participants in the AUC's annual WorldWide Developers Conference (WWDC) scholarships.

"The contacts are invaluable," says Donna Ashelford, support co-ordinator within UoW's School of Information Technology and Computer Science, who attended this year's WWDC courtesy of the AUC. "When we started our lab [which includes 28 Macs including fourteen 733MHz G4s and 14 dual-processor G4s] there were no Apple tools for doing lab management. A lot of this has had to be hand-crafted. But at WWDC there was a 'Birds of a Feather' session about higher education lab management, and I was able to make contact with people doing developments in the lab management area."

Similar feedback from other participants has kept staff and student involvement in the AUC high, says Daniel Saffioti, a lecturer in the School of Information Technology and Computer Science and UoW's AUC Co-ordinator. Saffioti, who is one of two University of Wollongong staff members to receive XServe servers under the AUC's Xserve Seeding Program, sees the AUC as an important sounding board for the university's diverse community of Mac users. This is particularly important as university management follows market trends by increasing its investment in Windows PCs.

"We utilise as many opportunities as we can with respect to the AUC," he says. "The people on campus who have an interest in Macs are very keen, and we want to encourage people to use Macs more in their teaching."

Mac advocates are spread across the entire university, from faculties like Informatics and Engineering to Education, where Macs are widely used across IT-oriented UoW research centres like the Research Centre for Interactive Learning Environments, Centre for Language Education University of Wollongong, Educational Media Lab (EMLAB) and Digital Media Centre (DMC).

"Our whole faculty is a Mac faculty," says Professor Barry Harper, Dean of Education and director of the DMC. "We've done a lot of projects through the AUC. It's a great program that helps a whole lot of new initiatives get a kick start. We also find that through the program and Apple Australia, we get good links back to Apple in the US. That's very important to us because to be able to link into Apple research units means we can feed back ideas while we're generating new research directions."

The DMC's Investigating Lake Iluka, an interactive simulation for teaching ecology to Year 12 students, was one of the first AUC-backed commercial successes when it was released several years ago.

These days, UoW researchers are actively engaged in a number of equally promising projects, many of which have received AUDF support. One ongoing project is that of Dr Phillip McKerrow, associate professor in the Faculty of Informatics' School of Information Technology & Computer Science (SITCS). McKerrow is building a 'machine vision toolkit' that will utilise the G4's AltiVec processor to develop commercially relevant methods for computer-based recognition of physical objects.

McKerrow was also one of four UoW researchers, all from SITCS, to receive grants in the latest round of AUDF funding (see page 5). This year, UoW projects made up four of the eleven total Developer Grants awarded.

Recipients included McKerrow, who will implement an algorithm he's developed to improve the archiving of massive video files during Final Cut Pro authoring; computer systems officer David Vernon, who is building an OS X musical scoring and audio editing program called Musician; Professor John Fulcher, writing a speech recognition system designed to bridge the gap between spoken and written word; and Dr Danny Ratner, who wants to out-Lego Lego by building a computer-programmed radio control kit enabling students to create and program physical toys and robots.

Such innovative applications continue to define the university's research focus. EMLAB researchers, for example, have recently turned their sights to interactive television development, where they're using a lab with 10 Macintosh G4 workstations and three Titanium PowerBooks to investigate new concepts in learning design. "It's very much a Macintosh development space," says Harper.

Despite the growing number of Windows machines at UoW, its long history as a Mac heartland has earned the Mac a comfortable position as a key operating platform where it's seen to be most appropriate. That commitment has straddled two decades and continues as strong as ever. And that's in large part thanks to the UoW's close involvement with the AUC, says Saffioti, who believes the organisation will continue to help the Mac win and keep supporters among the AUC.

"We do encourage people to take up what the AUC offers," he says. "If we can pick up more people who are passionate about this kind of stuff, that's great."

Mac OS X 10.2:

By Andrew Jeffrey

It's not often that a point upgrade gets so much attention, but the buzz about Mac OS X version 10.2 (codenamed 'Jaguar') made it a winner even before it had hit the channels. A dramatically enhanced version of Apple's UNIX-based OS X operating system, Jaguar has improved raw performance and added a bevy of useful and exciting features.

Apple urgently needs an operating system worthy of its Digital Hub focus as it seeks to lure Windows users with its 'switch' advertising campaign. Jaguar is it.

Mac OS X 10.2 is instantly alluring to performance-starved OSX users, giving the oomph for tasks like digital-photo editing and DVD burning. Apple's famed iApps, including popular tools like iPhoto and iDVD 2, run more smoothly after installing Mac OS X 10.2. And for those with dual-processor Power Mac G4s, Mac OS X 10.2 is offers a real treat because it exploits their enhanced data-crunching capabilities. This will mean real performance improvements for new buyers, since all current and future PowerMacs will have two CPUs.

In some areas, such as junk-mail filtering and focused online searching, Mac OS X 10.2 is light-years ahead of the Windows competition. In others, such as integrated instant messaging, hard-drive file searching and application, there are some ways to go.

Apple says there are 150 new features in Jaguar. Here are some highlights:

• **Elementary.** Use Sherlock, an Internet-searching program with specialised "channels" for looking up stock quotes, movie show times, Yellow Pages listings, eBay auctions, airline flight times, word definitions and more. While Sherlock offers many improvements, the original Watson is still around and has increased the number of plug-ins. Unfortunately, both applications are very focused on US based content, limiting their usefulness to Australian users (unless you want a pizza delivered from Cupertino to Cairns!)

• **iChat, uChat, we all Chat.** If you're on an Ethernet or 802.11b-wireless network with other Mac OS X 10.2 users, swap instant messages using Apple's new iChat program, which also connects to AOL's market-leading AOL Instant Messenger community. The AUC Executive recently used iChat as a part of its tele-meeting and it worked well, allowing those attending to see the text of items to be discussed.

iChat enables online collaboration between peers

• **Looking through Windows.** Mac OS X 10.2 can interact with Windows PCs on a network without add-on software. Ditto for Mac-to-Mac network communication, via a zero-admin communications technology Apple has dubbed Rendezvous. That's how iChat users see each other on a network. Other gadgets, such as printers and scanners, should be Rendezvous-ready soon allowing you to simply 'find' them on your network without any cables or wires.

• **A non-Spam diet.** The updated Mail e-mail program includes junk-mail filtering. A week of testing proved it was remarkably adept at identifying spam and separating it from legitimate e-mail. The program can be trained to improve filtering accuracy over time. Mail still has a few problems in some areas, but it is a substantial improvement.

• **Access your addresses.** Mac OS X 10.2 includes a universal Address Book that multiple programs, such as Mail and iChat, can easily access. If you add your picture to your address-book card, for instance, the image shows up in iChat when you chat with others. Mail uses Address Book to look up e-mail addresses, and other programs will start using the new Address Book as Apple has made it an open standard using vCard technology.

• **Going to the Extreme.** Performance of the graphics-intensive OS X has been sluggish, though a bit less so with each new incarnation. Mac OS X 10.2 accelerates this trend with a technology called Quartz Extreme, which speeds up 2D and 3D performance. This allows the CPU to off-load graphic intense operation to the GPU (Graphics Processing Unit) on the video card. You do need a modern video card with at least 32MB of Graphics RAM, but the benefits are well worth it – the results make the Aqua interface shine.

• **Find files fast.** The Finder can now really find! Built into each Finder window toolbar is a small search box. Type in your query, and Finder will quickly find the right file for you.

• **Drill downward.** Mac OS X 10.2 marks the long-anticipated return of 'spring-loaded folders', a Mac OS 9 favourite. Use your mouse to hover an icon over a folder and it springs open. Do this repeatedly to drill down through levels. In a new twist, all folders except the last vanish when you release the mouse.

• **Bluetoothed out!**. Mac OS X 10.2 supports Bluetooth, a short-range, low-power wireless-networking technology for interconnecting Macs and other devices such as printers, cell phones and handheld organisers.

• **Scribble on the desktop.** If you use a Wacom graphics tablet, Inkwell is for you. With Mac OS X 10.2's new handwriting-recognition capabilities, you can write with the tablet's electronic pen and see your strokes automatically translated into text on your Mac's screen. Accuracy was good but not great during our testing.
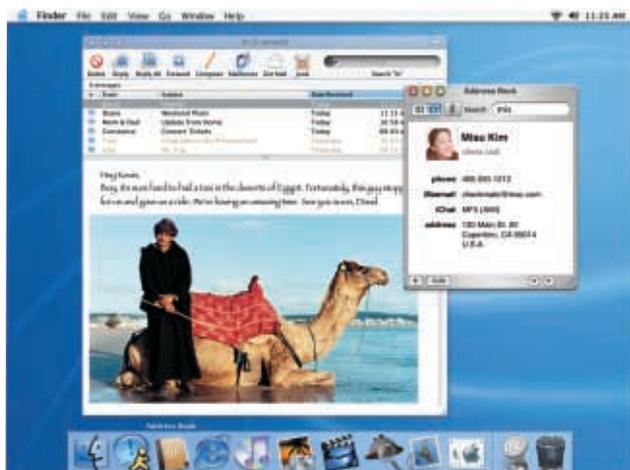
• **Calendaring for the rest of us.** Most big organisations use calendaring software to book meetings, manage tasks, and so on, all from a central server. This allows neat functionality such as seeing where other people are and when they are available. Now

- the beast within

Jaguar incorporates a significantly enhanced Mail client

• **No more retyping!** Apple has recently released iSync, another part of its Digital Hub strategy that lets you synchronise all your devices using one common application. If you use a Palm PDA, Bluetooth mobile phone, or iPod and use a .Mac account you can sync all your devices (including other Macs) and never have to retype addresses, phone numbers or documents ever again! iSync is a free download, from www.apple.com/isync.

So, should I upgrade? Should OS 9 and previous OS X users swallow twice and take the plunge? The answer is definitely yes. For those with recent-model Macs – especially with new graphics cards such as the GeForce 3, 4 or ATI Radeon cards – Mac OS X 10.2 is too appealing to pass up.

Macs such as the flat-panel iMac and a PowerBook G4 were generally more responsive with Mac OS X 10.2 than with the preceding OS X version 10.1.5. In fact, all Macs capable of running 10.2 should see a speed improvement and increased functionality.

Apple has delivered the goods once again and after using 10.2 for 3 months, I never want to go back.

While most users will have to pay the full retail price (no upgrades this time), many Universities can buy a copy of 10.2 for as little as $40 under Apple's Technology Assurance Program. More information about Jaguar is available from www.apple.com.au/macosx.

Apple has released iCal, which allows everyone to create calendars and share them with others either via the Web, a .Mac account or email. iCal is a free download for 10.2 users from www.apple.com/ical.

AUC members get Xserve preview

Apple's Xserve has drawn attention for its solid design and high-end performance. Now, thanks to the AUC and Apple Computer Australia, eleven interested staff at AUC member universities are getting the chance to put the Xserve through its paces.

The Xserve Seeding Program enables members to evaluate the Xserve platform, Mac OS X Server functionality, integration with other platforms and networking. The project's aims include exploring obvious uses for the Xserve such as file sharing, web and print serving, QuickTime streaming, WebObjects and database testing, lab management and directory services; assessing Xserve's integration into a mixed networking and multi-platform environment; and identifying new uses for the system in various areas of education.

There is a strong preference for seeding proposals that are actually of some use in their own right and to the wider higher education community. Proposals that took advantage of, and enhance the value of uniquely Apple technologies such as Mac OS X Server (including UNIX, Cocoa and Java based applications), QuickTime Streaming, WebObjects and Java tools for the Xserve were given a high priority.

The Xserve is an industrially designed and engineered 1U rack-mounted server and is unlike other Macintosh Servers previously available. A commitment to providing the Xserve with appropriate

Xserve includes an intuitive management console

rack-mounted housing and networking facilities in a secure, safe and clean environment was a requirement of the application.

Participants in the program have committed to sharing the knowledge gained and provide feedback by way of a formal report on their use of the Xserve. As with all AUC projects any resulting applications, performance results or uses will be freely shared amongst member universities. Copies of the reports will made available on the AUC web site.

The following people, having fulfilled the requirements for Xserve Seeding Program participation, will be evaluating an Xserve for a loan period:

- **Anthony Burrow, Charles Sturt University**
- **Martin Hill, Curtin University**
- **Julie Land, James Cook University**
- **Philip Machanick, University of Queensland**
- **Noel Malafant, University of Wollongong**
- **Andrew Maxwell, University of Southern Queensland**
- **Greg Mitchell, University of Melbourne**
- **Daniel Saffioti, University of Wollongong**
- **Peter Tonoli, University of Melbourne**
- **Glenda Wardlaw, University of Tasmania**
- **David Whiteley, Deakin University**

The Digital Ceiling

By Roland Sussex, School of Languages and Comparative Cultural Studies, University of Queensland
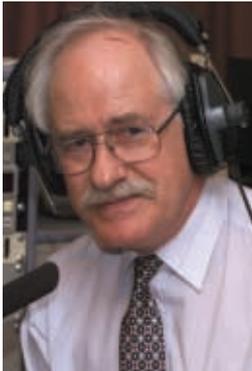
Roland Sussex

In June 2002, Apple held an IT briefing at the University of Queensland for 70 IT leaders in teaching, research and administration from Australian universities. The issues raised in the presentations were discussed in an open forum, with the presenters as panellists.

Seven of the issues raised provide a useful window on how we are getting on top of some educational-IT issues, and how some issues are still holding us back.

1. Diversity

Over the last five years or so, there has been a common view that diversity implies costly dissipation. Some, especially smaller, institutions have felt that they could afford to support only one operating system. Yet recent experience, not only with viruses, has shown that under-diversification leaves IT dangerously exposed if something disastrous happens to the favoured environment. This is not just a metaphor transferred from biodiversity, though that is certainly relevant.

Three players have emerged clearly in this context: Mac OS X, Windows and UNIX/Linux. The chances of a close fit between UNIX/Linux and one or both of the other players is a major direction for rationalising diversity while keeping the benefits of platform-specific commitment.

Diversity, in other words, is a form of systemic insurance in case of catastrophic breakdown. But it is also, in some senses, a way of thinking about intellectual problems where the methodology converges with epistemology.

2. The system-comprehensive perspective

Combining teaching, administration and research allows a system-wide view that is obscured if we try to treat these components as separate entities.

Researchers are now obliged to report regularly and copiously on their work and funding. It makes excellent sense for the research and reporting environments to share software, or at least data structures. Teachers have to regularly interact with records and student reporting – again, a seamless interface allows economies of effort in exchanging data and materials.

Specialists in all three domains need a forum to meet and discuss. As a corollary, there is a great attraction in chameleon platforms – hardware/software configurations which can support different applications or environments seamlessly.

3. Horses for courses

Most tertiary institutions have policies in place either directing, favouring or guiding purchasing and managing practice for hardware and software.

But there is now ample evidence that we can network cross-platform effectively and transparently. This means that the choice of hardware and software can be unhooked from policy lines of individual institutions, and especially from issues of connectivity.

We can now focus squarely on questions like: what is the best configuration for a certain task? What software is best going to fulfil specific education, administrative or research needs? The "common platform" approach can, in theory, increasingly be factored out of the decision making process.

4. Individual choice of hardware/software

As university workers become more adept and sophisticated in IT terms, they are increasingly able to formulate their IT needs in more precise, problem-based frameworks. It is no longer a matter of trying to master core technologies, but of critically exploiting specific technologies for specific purposes. This change marks a major advance in the integration of IT in university work.

5. Just In Time IT implementation

Staff are desperately short of time to develop their work in IT dimensions. Unless they are using particular or proprietary software for specific purposes – say, administrative or research data collection/analysis – they simply have neither the time nor the support to engage in major new initiatives. Many are developing IT applications Just In Time – as they're needed – with insufficient time to plan, prepare or reflect.

This problem is particularly acute with developing and supporting teaching applications, where increases in quality and variety require very large commitments of staff time and attention. And if the support is there, it is often costed in such a way as to make it inaccessible to all but the richer faculties.

6. Vortex: increasing expectations

Students are entering tertiary education with higher IT capabilities and higher IT expectations. Staff are both generating higher expectations of their own performance, and are having higher expectations placed upon them by ambitious Teaching and Learning plans in their institutions. There is a danger that this spiral is not properly under control.

7. Reinventing the wheel (of the mind or otherwise)

Working with IT does not give an impression of joining a community of shared and growing expertise. Instead, many of us reinvent innumerable wheels in parallel.

Expert ongoing guidance may be available from colleagues willing to be honeypots; alternatively, departments with adequate funds can bring in specific help. But information about what is available to tackle a problem – and even how to address a problem and express it in ways which allow an IT-based solution – are black holes.

We have not yet worked out a way of providing information, data-sources, libraries of software, or indexes of tasks and IT solutions, which our workers can use as they try to become self-sustaining IT learners.

In all this there is the seed of an agenda of work for the AUC and for Wheels of the Mind. Who wants to tackle the question of how to do something about it, and where to start?

Oriental flavours

By David Braue

Kathe Kirby (left) and Meredith Hinze, pictured with the recent Luo Brothers' lacquer paintings exhibit, see a growing role for technology in Asian-Australian art exchanges

The year-old Sidney Myer Asia Centre provides a focal point for Asian art and cultural studies

Having painted Australia's relationship with Asia in exclusively political and economic terms, the mainstream media has marginalised the other facets of our complex interactions. Seeking to bring many of those facets to the forefront, the Asialink Centre – a non-academic centre within the University of Melbourne – has been using multimedia technology to bridge the gaps with our Asian neighbours.

This bridging has come in many forms. Asialink drives a number of high-profile programs such as the Commonwealth government-backed Asia Education Foundation, which promotes the study of Asian cultures in Australian schools. Regular Asian tours of contemporary Australian art are organised by the Asialink Arts Program, which each year also provides 40 residencies for Australian artists to spend three months each in the region. Another program, Asialink MediaLink, facilitates three-month exchanges between Asian and Australian media organisations.

Because it's involved in so many projects, social networking is naturally a major part of Asialink's work. But by leveraging a number of multimedia technologies, the 25-person organisation has been able to significantly expand its reach and facilitate a number of communication forums that would never have otherwise been possible.

One such project is Asia EdNet, a moderated online discussion group that helps more than 1000 Australian teachers share information related to Asian studies. Then there's Access Asialink, a weekly newsletter that broadcasts information about Asia-related activities in Australia to 3000 subscribers.

Artists affiliated with Asialink rely heavily on digital technology to create and distribute both images and video, and Asialink has also been involved in a number of educational Web sites (to considerable success: in 1999, its China section won the Australian Publishers' Association's Best Designed Web Site of the Year award, while its Indonesia for Kids section won a 2000 award for excellence in educational publishing). Asialink is currently partnering with the Art Gallery of Queensland to develop a Web site for year 11 and 12 students focused around the upcoming Asia Pacific triennial in Brisbane.

Technology "has enormously changed our capacity to share information and resources, and enhanced our ability to support and reach out to teachers," says Asialink deputy director Kathe Kirby. "Increasingly, Australian artists are working with their colleagues in the Asian region, and there's a lot of talk about collaborative online projects."

One such project, for example, was a recent experiment by professional dance troupe Company in Space in which two dancers, thousands of kilometres apart, met in cyberspace and performed together. Dancers in Melbourne and Hong Kong were Webcast simultaneously, with their live video images combined on a large projection screen to give the effect that they were dancing in the same room.

Although a number of historical reasons had previously forced Asialink to abandon its Macintosh systems in favour of Windows systems, the pendulum has swung back again as those machines neared the end of their lives. Asialink entered new premises, in the modern Sidney Myer Asia Centre, last year, and last month cut its technology ties with the past by replacing all of its Windows machines with iMacs.

Asialink now has 26 brand spanking new 700MHz iMacs, each having 15" or 17" flat screens that IT manager Meredith Hinze says have proven both technologically sound, and much better suited to the often glaringly lit environs of the new building.

"I was very much keen to push Macs because of the reliability and the hardware," explains Hinze, the organisation's sole IT person. "We tested eMacs, but the building is extremely glary and it wasn't a great improvement over our current CRT monitors. We really thought the iMacs were the best option due to the flexibility of the screens."

The iMacs are running MacOS 10.2.1, whose dramatically improved Windows compatibility has helped Hinze seamlessly link the new desktops into the centre's back-end Windows NT 4 server (shared with several other departments).

"Getting the Mac equipment here shows us the things we might be able to do with our own Web site and will inspire us to be more creative in that area," says Kirby. "We're always interested in promoting Australian artists using the latest technologies."

For more information, see www.asialink.unimelb.edu.au
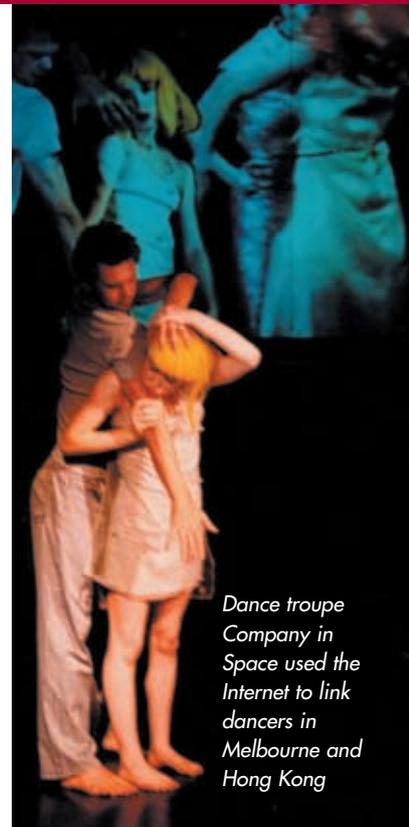
Dance troupe Company in Space used the Internet to link dancers in Melbourne and Hong Kong

AUC

Apple University Consortium

Since 1984, Apple Computer has nurtured innovative partnerships with many universities in Australia and New Zealand through the Apple University Consortium. AUC members work together to support the use of Apple technology on campus to further the goals of education.

For further information visit the AUC Website.

http://auc.uow.edu.au