

MINID

Wheels for the

Xgrid goes to Monash



WHEN YOUR CAREER FINDS YOU



Conferences: the hidden stories



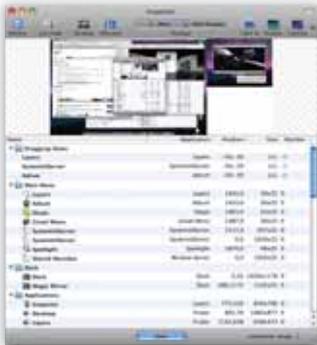
Jam2Jam

Jamming over the Miles



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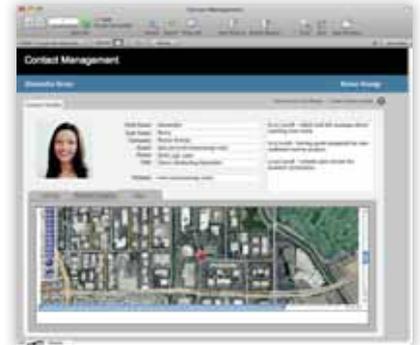
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If you do screenshots often, you'll love Layers. Instead of grabbing one single bitmap image of the screen, Layers creates a Photoshop document file that isolates each screen window, menu, desktop icon, menu bar and the Dock in a separate layer. Do your screen grab once, then mix and match the elements until they're arranged the way that's most meaningful. \$US19.95 (\$A30, trial available) from the.layersapp.com.



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If you're aching to get creative with your photos, Funtastic Photos will let you flex your right brain until it hurts. Mix and match more than 40 graphical effects, make greeting cards, add reflections, add speech bubbles, email photo cards, create printable 3D photo cubes, export to iPod or mobile, make photo collages and more. Works with iPhoto, and non-destructive editing means all changes can be rolled back. \$US34.99 (\$A53, trial available) from ohanaware.com/funtasticphotos.



New look, better Filemaker

Filemaker long ago became synonymous with 'Mac desktop database', but the latest version further improves the platform with a host of new features. Most obvious is a heavily redesigned and simplified user interface, but under the covers you'll benefit from new features like user-triggered scripts, saved finds, themes and templates, embedded Web content, dynamic reports from grouped data, and much more. \$499 rrp; upgrade, educational pricing available. www.filemaker.com.au.



Satisfy your inner maths geek

If you deal with numbers – and we mean serious numbers here, not balancing your cheque book – you probably already know about Mathematica. Designed to do just about any kind of mathematical calculation you might imagine, it has been upgraded to version 7 – adding a host of enhancements including image processing and parallel computing extensions, new visualisation tools, results via synthesised speech, and loads more. The \$4150 rrp goes as low as \$230 for a student version. www.analytica.com.au.



More Avid than ever

If you're serious about video editing, and need a full range of high-end features, the latest upgrade to Avid Media Composer may suit beautifully. Written for Mac OS X from the ground up, Avid's video editing system gets support for a broad range of HD workflows, tapeless cameras, enhanced keyframing, timecode management, the Avid FX titler and a host of other applications. Learn more at www.avid.com/products/Media-Composer-Software or contact Amber Technology on 1800 655 945 or www.ambertech.com.au for academic pricing.



Find your lost disk space

If you use your computer at all, you probably store files on it. And, over time, those files can get pretty large – chewing up gigabytes of precious hard drive space without you knowing it. If you're scratching your head as to where your space went, point Grand Perspective at it and the worst culprits will become immediately clear: the bigger the box, the bigger the file. Open-source and free, you can get it from grandperspective.sourceforge.net.

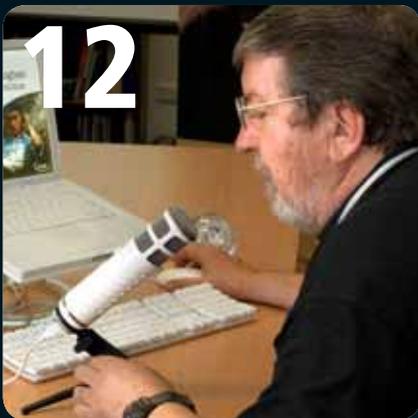
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EDITORIAL



Welcome to the first edition of *Wheels for the Mind* for 2009, an anniversary year in which the AUC celebrates 25 years of educational partnership with Apple. And what a line up of programmes there are this year!

Student developer scholarships, honours scholarships, WWDC scholarships, seeding grants, X-World, innovation grants, the biennial academic conference, CreateWorld and of course a wide offering of Apple training, makes this year's programme bigger and better than ever.

In this edition, you can start jammin' with the team from Queensland University of Technology who developed Jam2Jam, which allows musicians and students to interact musically in a truly global way. This innovative software is getting noticed fast and it has already shown educational value in being a great way to get young students, with few developed musical skills, straight into using and understanding music from their first interaction with this highly intuitive package. I'm sure Paul Thomas of Curtin University, who talks about the shift to new media, where digital representations of the world are becoming intrinsically linked to our experience of that world, would recognise its significance.

But in this digital world of super-sharing, what is legally able to be used, reused, mixed and mashed without an ensuing law-suit, is discussed by Mark McMahon of Edith Cowan University. Is there nothing new under the sun? Has everything that has been produced in man's history just been a re-mix of a few basic ideas. To quote Samuel Johnson, writing some two hundred and fifty years ago, '...how small a quantity of real fiction there is...that the same images, with very little variation, have served all the authors who have ever written.' And if this is so, what constitutes an original work? Looking at both sides of the coin, Elliott Bledsoe from Creative Commons demystifies the new framework of copyright which has gained a foothold in fifty countries since its inception in 2002.

But there's plenty more to read about inside. Find out how Mathieu Tozer's studies led him to translating the programme *Comic Life* into Japanese. You can also go under the hood of the iPhone with Carrie Osborne, who explains in simple terms what those settings actually do. And if you haven't heard about the resounding success of CreateWorld 2008, check out the vibe on pages 18 and 19.

And finally, this will be my last publication as editor of 'Wheels'. David Yammouni will take over as interim editor for the next two publications – so keep those articles coming in. I would like to thank all our readers and contributors over the past four years – it has been a blast! My sincere thanks to you all.

Stephen Johnston
s.johnston@ecu.edu.au



AUC Update



Program the iPhone

Building applications for the iPhone is a red-hot area of focus these days, and the AUC is anticipating strong demand for the iPhone Software Development Kit workshops to be held this year in Perth (21-22 March), Melbourne (28-29 March), and Sydney (4-5 April).

The workshops are aimed at students in AUC member universities who are studying computing science, computer engineering, information technology, mathematics, creative arts/design or relative disciplines and have an interest in developing applications for the iPhone and iPod touch.

Content ranges from an introduction to the iPhone/iPod touch SDK to development tools, application development, views, storing data on the iPhone, multitouch, 2D and 3D graphics, Core Animation, and Core Location services. Attendees are expected to have some basic experience programming in languages such as C++, C, Java and have an understanding of object oriented programming concepts.

To facilitate participation in the workshops, the AUC is offering 20 subsidised places for each workshop. Each subsidy provides one night's accommodation, return economy airfare, meals and electronic course notes. See www.auc.edu.au/iPhone+SDK+Workshops for more details.

Technical training in 2009

In 2009, the AUC continues its affiliation with leading IT training firm Dimension Data Learning Solutions (DDLs), which will offer five different Apple training courses through its training centres in each major capital city across Australia.

AUC members receive a 35% discount on the cost of any Apple training course, with no limits on the number of staff who attend. The AUC also offers additional subsidies for up to four members per university, which include accommodation and airfare subsidies. This year, the courses on offer include:

Mac OS X Support Essentials v10.5

Mac OS X Server Essentials v10.5

Mac OS X and Mac OS X Server Directory Services v10.5

Mac OS X and Mac OS X Server Deployment v10.5

Mac OS X and Mac OS X Server Advanced Administration v10.5

These courses include invaluable skills on planning, supporting, and integrating Mac OS X and Mac OS X Server, and provide a strong foundation to help IT professionals pass the various Mac OS X certifications offered by Apple Training.

For more information, visit www.auc.edu.au/Technical+Training+2009

AUC podcasts online

With video and audio podcasts more accessible than before, it was only a matter of time before it had to happen – and now it has: The AUC's podcast team has been working feverishly to bring you the highlights of the recent CreateWorld 2008 and Macworld Expo 2009.

CreateWorld 2008 was held in early December 2008 at Griffith University's Southbank campus, and attracted over 100 attendees, who enjoyed the many unique and creative presentations from a wide range of disciplines. Drop by createworld2008.edublogs.org to learn more.

Macworld 2009, of course, was held in San Francisco in early January and marked a special milestone both in that it was the first Macworld in recent memory where Steve Jobs did not present – and because it was Apple's last Macworld for the foreseeable future. Both occasions, as well as the usual wide variety of compelling Mac-related content, provided more than enough fodder for the AUC delegation of around 40 people, all of whom made the trek across the Pacific to experience this landmark conference. Their highlights, with specific focus on the education-related presentations, can be found at macworld4educators.edublogs.org.



Something interesting happening within your university's teaching environment? We want to hear about it! Drop us a line at David.Yammouni@Education.monash.edu.au and we'll include the most interesting tidbits in the next issue.

Calling all student developers

If you're a student and an experienced Mac OS X programmer, you may be interested in applying for an AUC Student Developer Scholarship to support your work on an innovative project.

The scholarships are valued at nearly \$10,000 over a two year period, providing the loan of a MacBook Pro; a one-year ADC Select membership, renewable subject to acceptable progress; a standard AUC student scholarship to Apple's World Wide Developer Conference in mid 2009; a standard AUC student scholarship to the AUC Conference, incorporating DevWorld, to be held in Canberra in September 2009. Assuming you make acceptable progress during 2009, the scholarship also includes attendance at WWDC and AUC DevWorld in 2010.

The scholarships also offer a potential career-defining role participating in Apple's internship program at Apple headquarters in Cupertino, California.

Applications close 11 March and recipients will be announced on 30 March. For more information, visit www.auc.edu.au/Student+Developer+Scholarships.

Honours scholarships now open

The AUC is now accepting applications for Round 1 AUC Honours Scholarships, which support a full-year research project that depends upon or uses uniquely Apple technologies. Incidental use of a Macintosh does not, in and of itself, apply.

Scholarships are available to full-time domestic students of AUC member universities engaged in an Honours program in science, the humanities, information technology, engineering, creative arts, health or business. They have a base value of \$4000, payable in two even amounts. An additional \$500 is available to support conference attendance or publication of research in a relevant publication, and an additional discretionary bonus of \$500 is available for recipients who, at the determination of the review committee, have excelled in their work.

Round 1 applications are due by 25 March. Applications for Round 2 scholarships will be due in July. For more information, visit www.auc.edu.au/Honours+Scholarships

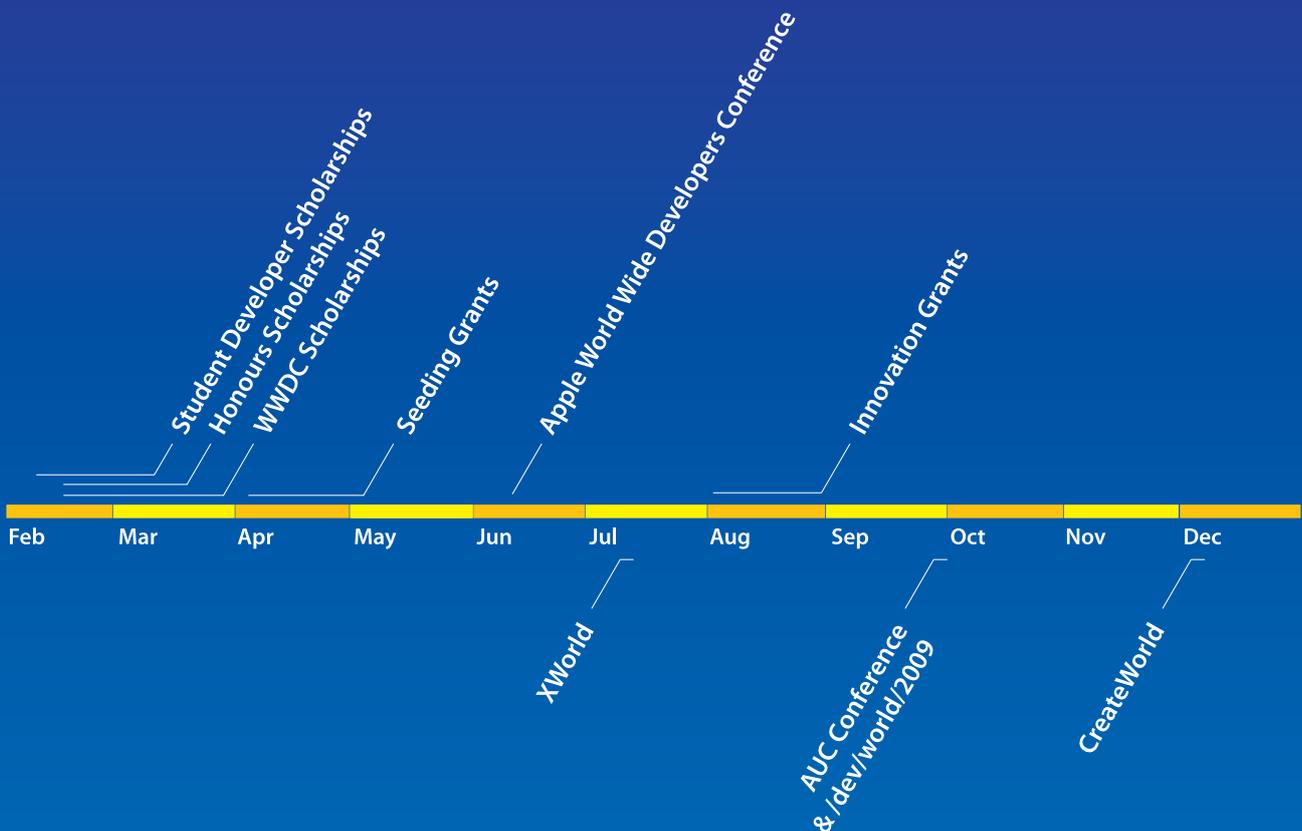
WWDC applications open

As it does every year, the AUC will this year sponsor a number of students and staff from member universities to attend Apple's World Wide Developer Conference in the US. These hugely popular events expose attendees to thousands of like-minded developers, as well as Apple developers and a wealth of technical programming information.

Applications for this year's scholarships close 25 March; details are available at www.auc.edu.au/WWDC+Scholarships



A Year of Opportunities 2009



Dates are indicative only, and are subject to change. Programs are only available to bona fide staff and students of AUC member Universities. Most events have long application lead times - see the web site for program details, application forms and updates.

www.auc.edu.au

Visit the AUC web site for your local University Representative's contact details

Putting Monash on the Xgrid



Androulakis (left) and Buckle (right)

The multiplier effect is a constant problem for bioscience researchers, who can successfully develop complex formulae for analysing their experiments but often struggle to find enough computing power to repeatedly run their formulae through hundreds of thousands of possible permutations.

Desktop computers can take hours or days to run large numbers of calculations, introducing unacceptable latency that can limit the scope of researchers' work or force them to guess the value of some parameters and run calculations with smaller ranges of values than they would like.

The use of supercomputers has been one solution – albeit a prohibitively expensive one – but researchers in Monash University's Department of Biochemistry and Molecular Biology have recently found great success with a much less costly approach using bog-standard iMacs and Mac Pros along with Apple's Xgrid clustered computing technology.

The change of tack came after a team led by associate professor Ashley Buckle – a senior research fellow in the department with a focus on protein crystallography and bioinformatics – began working on a research project that required the analysis of the structure of a particular protein involved in the human immune response.

The protein had more than 10,000 atoms, each of which contributed a small amount of information to the massive data set produced during the x-ray crystallography process,

which bombards a protein or other target with x-rays and measures the diffraction of the rays from different angles.

The size and complexity of the protein meant the researchers' ability to crunch through the data was limited, and required a large amount of human intervention. "We couldn't quite get the answers we wanted by running lots and lots of calculations," says Buckle.

"We were running around the department setting up jobs on different Macs and playing with the parameters, but weren't quite sure what values we should use to get the right answer. The problem was that every attempt would take about three hours to run. We would start it, wait a bit, and run around to every piece of equipment we could find. It was a real pain."

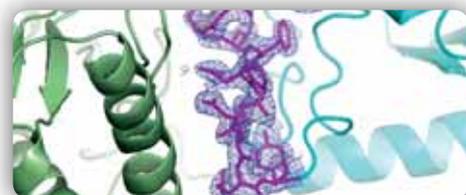
In the end, the team did discover the right answer – and was able to beat a competing research team in the UK to publish the results – but the experience led Buckle to consider that there must be a better way. That way soon revealed itself in the form of Xgrid, which was trialled by a member of the team and soon proved to be the ideal solution for the department's needs.

Trials with Xgrid were a logical step because the department long ago standardised on Macs running Mac OS X, the Unix roots of which made it ideal for scientific research. There are now more than 40 of the machines spread across the department.

"People come in and see a bunch of pretty Apple machines around and they say 'this is so pretty and nice' and we point out that it's actually very functional," says Steve Androulakis, a recent computer science graduate who had little Mac experience before joining Buckle's team but now swears by its capabilities. "You have a nice, streamlined user interface but at the core, it's fundamentally a tried and true architecture."

Androulakis and colleague Mark Bate were tasked with implementing Xgrid and building a front-end application that would facilitate the processing of data from laboratory instruments. "The idea is that no biochemist should really have to learn how to program," Androulakis explains. "It's not their job, and they generally don't like doing it. Whereas we love doing it."

Buckle agrees: "a lot of people build their own grids and applications, and that's great, but it takes away from us doing research," he explains. "We want to minimise the amount of code we have to write, and minimise the amount of messing around so we can get on with the research. And we didn't want to spend days and days writing software that we'd just run once a year."





Xgrid splits computing jobs across nearly 40 Macs around the department.

Custom-built MR Grid software helps researchers submit jobs to the Xgrid controller.



Switching on the Xgrid

The addition of Androulakis and Bate to the team was a conscious effort to bring in people without heavy scientific training, hoping that the combination of the two would produce even more perspectives on solving common problems.

It works, says Buckle: “you’re constantly putting them outside their comfort zones: it gets a bit chaotic because you end up with the lab people and the programmers and they speak different languages – but at the end of the day you get more agility.”

After quickly climbing the learning curve of both Macs and advanced protein analysis techniques, Androulakis and Bate eventually produced MR Grid (named for its role in the molecular replacement process), a Java-based application that is now used on a regular basis to give researchers an easy way of farming out complex data analysis across the department’s computers (for the curious, MR Grid is freely available at code.google.com/p/mrgrid/).

Because the Xgrid agent is built into Mac OS X, bringing the systems online is dead easy; jobs fed into Xgrid are then split up and sent across the departmental network for processing. “It’s simply a matter of turning the machine on, making sure the binaries are distributed across the network,

making sure the very simple input files are distributed, and Xgrid does the rest,” says Buckle.

Results confirm Xgrid has delivered a significant boost in effective processing power – allowing the department’s researchers to try different parameters for their analysis without worrying that they’ll be waiting hours for each run to complete.

“Most calculations only take minutes,” Buckle explains, “and the process is embarrassingly parallel – but you’ve got to have enough computers to run it on, since we don’t know what combination of parameters is going to be the winner. With Xgrid, as you increase the size of the grid, you increase the size and number of the jobs you can put onto it. With this approach, each calculation can get its own CPU.”

The 800-core gorilla

Regular iterations of MR Grid have steadily improved the quality of the tools available to department researchers, who have shown themselves more than capable of busying the entire population of Macs with Xgrid calculations. Yet with this increased computing power – which, it’s important to note, has been delivered at near zero incremental cost – comes a paradox: scientists begin to expand the parameters of their work, testing larger data sets, putting existing sets through more iterations or developing completely new data analysis techniques.

It is for this reason that the team is looking forward to the completion of the new Science Technology Research and Innovation Precinct, a new building that will eventually provide new research facilities for the Faculty of Medicine, Nursing and Health Sciences – and a new home for the Department of Biochemistry and Molecular Biology. This will coincide with the April launch of ‘Orchard’, a high-density cluster built using 100 eight-core Apple Xserves.

With more than 800 CPU cores, Orchard will be the largest Apple cluster in the southern hemisphere. This jump will boost available computing capacity by more than an order of magnitude, allowing researchers to envision and explore even more complex equations – or to run existing simulations with higher resolution or over much longer periods of time. The cluster will be dedicated to performing massively parallel crystallography calculations, as well as molecular simulations that investigate the dynamics of protein motion.

“We’re changing the way we think,” says Buckle. “The key thing is being able to test an experiment; if you can do that, you’re not stabbing in the dark so much. And with nearly 1000 cores available, we’re trying to get our heads around what kinds of experiments we could do. With work that’s loosely coupled like this, you’re only limited by the number of computers on the network.”

pxgrid.med.monash.edu.au/projects/

University innovation tied to bandwidth

Faster-than-ever Internet trunks and broadband links are revolutionising exploration at universities, but infrastructure providers need to keep up with spiralling growth and plan for a coming explosion in data consumption, the head of Australia's nationwide university network has warned.



Chris Hancock

Speaking at a Communications Alliance industry function exploring future uses for broadband, Chris Hancock, CEO of AARNET (www.aarnet.edu.au) – which provides a multi-gigabit network linking 38 Australian universities and CSIRO with each other and the outside world – said Australian institutions are “at the precipice” of a digital education revolution.

Driving this revolution is the ready availability of large amounts of bandwidth – which is already in high demand. Citing AARNET usage figures, Hancock said current consumption peaked out at around 1.5 gigabits per second last November and total consumption passed 5 petabytes in 2008, but that these figures were likely to skyrocket as universities collaborate with peers here and abroad for projects like the Australian Square Kilometre Array Pathfinder (ASKAP, at www.atnf.csiro.au/projects/askap).

An array of 36 antennae each 12m in diameter spread across the Western Australian outback, ASKAP will provide a massive radio astronomy site with world-leading capabilities. Due for completion in 2013, ASKAP is hoped to pave the way for an even larger international mega-science project called the Square Kilometre Array (SKA, at www.skatelescope.org) developed by a consortium of 19 countries and possibly located in WA as well.

Such massive instruments offer unprecedented insight into the universe – but they also have an unquenchable thirst for bandwidth: “right now, the entire planet produces about an exabyte – 1×10^{18} bytes – of data,” Hancock said. “The SKA will produce that much data every single day. And moving that data will require 80 gigabits per second of links between arrays, and 2 terabits per second for long-haul links, by 2016. It’s clear we’re pushing the boundaries.”

Given such numbers, the need for abundant bandwidth – including what Hancock calls ‘white space’, or bandwidth overheads – is unquestionable. To this end, AARNET is encouraging government to work with universities to foster strategies to boost core data capabilities significantly over the next few years.

“Headroom is really important,” Hancock explains. “Unless you have that white space, it’s literally impossible to do many things in education and research.”

Not all bandwidth-hungry applications are so extreme, however: with the increases in bandwidth over the past few years, Hancock pointed to numerous examples where university students, staff and researchers were already benefiting.

Surgeons at Concord Hospital in Sydney, for example, late last year used broadband videoconferencing links to sit in on laparoscopic surgery to remove a colon cancer – in Seoul, South Korea. In another event, AARNET’s Ozeconferences effort conducted a live videoconference with Australia’s 39 university CIOs and Ben Self, the online technical campaign advisor for US President Barack Obama. And a collaborative online teaching project, Megaconference Jr. (www.megaconferencejr.com), unites students at 216 schools in 22 countries via broadband.

Innovation isn’t just about moving data faster; related innovation at the connections’ endpoints is just as important. In the longer term, the combination of high-speed data and interactivity is steadily revolutionising even high-end scientific, research and collaborative education, Hancock said, citing the example of the University of Melbourne’s OptiPortal – a 96 megapixel visualisation wall that enables high-resolution, life-sized collaboration with others around the world over a dedicated 100Mbps connection.

A growing array of similar efforts is providing high-resolution, interactive endpoints across Australia and at universities from Japan to the Czech Republic, Switzerland to California. Connecting them will continue to push the envelope in terms of what connectivity and collaboration students and staff will come to expect.

With the future coming so quickly, what do the coming years hold? Hancock offered four main takeaway points: continue to be amazed; embrace white space in broadband; visualisation is key; and, perhaps most evident already, “it’s all about mass collaboration”.





Academic Ramblings: It's a Mixed Up, Muddled Up, Mashed Up World

By Mark McMahon, Edith Cowan University

Except for ... no, even these lyrics from The Kinks' *Lola* have been reused, albeit not very auspiciously, in Transvision Vamp's *Revolution Baby*. As much as we strive for originality, just how many ideas are truly new?

In 1998, English alternative rock band The Verve released *Bitter Sweet Symphony* - an anthemic tune that made use of an orchestral sample from The Rolling Stone's 1965 song *The Last Time* as a hook. Despite initially agreeing to its use, The Stones ended up suing The Verve for using too much, leading to all of the rights for the newer song to revert back to the antiquarian rockers. It was, according to The Verve's lead singer, Richard Ashcroft, 'the best song Jagger and Richards have written in 20 years'.

Certainly after being voted among the Top 10 Tracks by a poll of 50 songwriters by Q Magazine, it will have helped bolster Mick and Keef's superannuation funds. It's not the first time that The Rolling Stones have claimed foul about the lack of originality in music either, criticising indie electronic artist Moby for his liberal use of sampled early blues artists in his music.

What The Stones neglect to acknowledge is that they've been doing the same for years, only through imitation rather than direct

sampling. Some may argue that they brought blues music to the attention of a pallid British audience reared on skiffle and folk, but I'm sure Muddy Waters wouldn't have minded some credit for getting their Mojo Workin'.

In many ways this recycling of ideas and styles is totally legitimate. Literary theorists have a word for it - intertextuality. It explains the fact that James Joyce's *Ulysses* is based on Homer's *Odyssey*, only set in 1904 Dublin and with more sex. It also excuses the substitution of light sabres for Excalibur in Lucas's hero's journey, *Star Wars*.

Is there a difference, though, between reverential reuse of ideas and direct sampling? The copyright lawyers would like us to think so. Yet digital technologies have allowed us not only to reuse content but repurpose it in a way that both replicates and augments the original.

We are in the era of the Mashup - a multimodal reappropriation of ones and zeros into something that may ultimately be quite new. When one piece of content aggregates with another and another you end up with a whole that is more than the sum of its parts.

In the world of mashed up web applications, geotagging is one of the best examples of this. Maps can now link to commercial databases such as real estate listings, allowing you to find houses for sale in a more topological way. Other information such as crime locations, real time traffic, and even pizza store locations can all contribute to build a rich demography.

Who owns this content though? There are a number of the geographically aware products available on your iPhone that bring you information about petrol prices, speed traps and the like, but most of them rely on user generated content. This democratisation of data works well, particularly for the guy who just writes the application that everyone downloads.

In such instances, the content aggregators may be best viewed as benign parasites of users' endeavours. When YouTube was sold to Google, the developers made US\$1.6 billion. Not bad for what was basically an idea.

Unfortunately, for every person that benefits from Mashups there are others who see it as an infraction on their creative endeavour. Producer 'Danger Mouse' made a seminal Mashup in 2004 with the *Grey Album* - a unique combination of The Beatles *White Album* and rapper Jay Z's *Black Album*. It never saw the light of day in any official capacity because The Beatles' publisher EMI stopped its distribution. It remains, though, a milestones of Mashup culture and one of the most downloaded albums of all time.

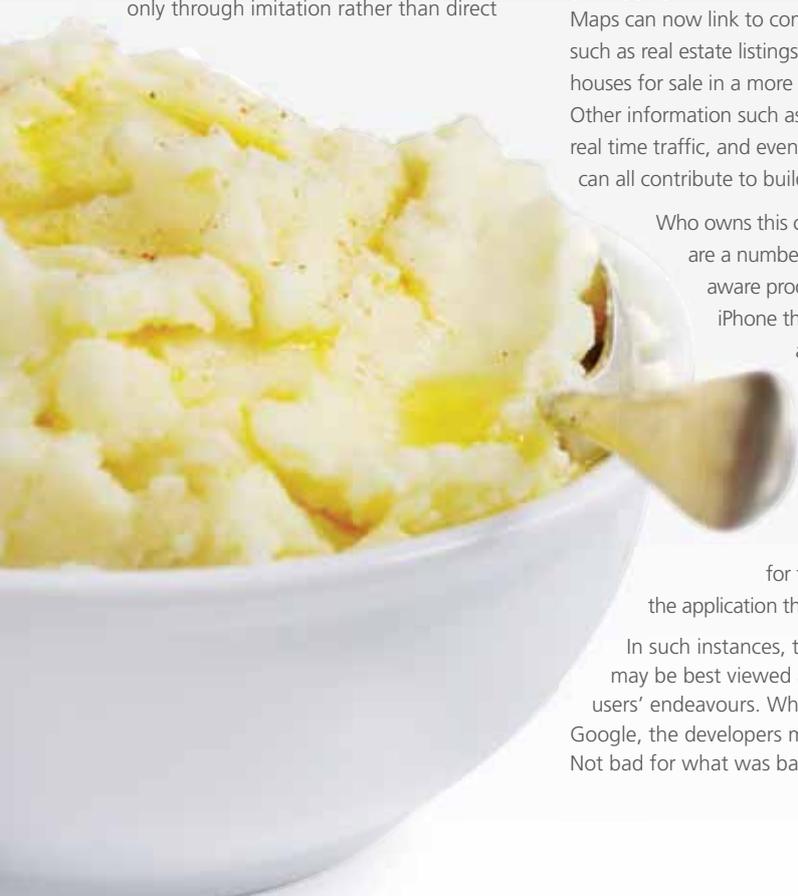
More recent Mashup progenitor, Girl Talk has been more successful. A deliberately ironic pseudonym for Pittsburgh DJ Gregg Gillis, his current album is almost completely comprised of samples from other work. Perhaps the sheer scope and diversity of the album is one of the reasons he has avoided litigation, with the first track alone containing over 21 samples of previously published work. It would be hard to know where to throw the first salvo.

Ultimately, the aim of the Mashup is not to profit from the work of others but to generate something new through the innovative recontextualisation of familiar cultural symbols. Sometimes the peculiarity of this appropriation is part of the appeal, like when we are invited to view Marcel Duchamp's urinal as a piece of modern art.

In fact, there is something fundamentally post-modern about the Mashup. The mixing of incongruous elements in a playful manner is very 'Now' and reflects the participatory nature of digital technology. The fans have become the new creators and they're standing on the shoulders of their old gods.

Perhaps that will explain how at the time of writing, the most popular free application at the iTunes store is one which puts audio samples of 80's A-Team icon Mr T in the palm of your hand. Yes, the top PAID app is called 'Wobble Bikini Fun' which may undermine the argument a little but it's clear that many people now view the media that reared them as creative fodder for the future.

Mashups are a good thing and provide a recipe for innovation. Someone may have already provided the flour, eggs, and sugar, but it's up to individuals like us to mix the cake. In the spirit of Mr T, if I see Mick and Keith, I'll tell them to cut their jibber jabber. I'm gonna embrace the Mashed Up world - *and Ah pity the foo' that doesn't.*



Apple Bytes



GarageBand '09 includes a range of step-by-step music lessons.



iPhoto '09 automatically recognises the faces in your photos and tags them accordingly.

Get a new iLife

It's only one number in the sequence higher than iLife '08, but Apple's new iLife '09 suite – shipping with new Macs or available for \$129 as an upgrade – offers a broad range of features that make Apple's well-respected iPhoto, iMovie, GarageBand, iDVD and iWeb content management applications just that little bit better.

Stealing the show were iPhoto '09 and iMovie '09, which have each been adorned with whiz-bang features that will make many photographers and videographers smile in accord.

iPhoto, for one, has gained new Faces and Places views that complement the existing Events, which manages photos by time. Faces, a significant time-saver for those with many photos, automatically scans photos in the iPhoto library for individual faces, then automatically tags the photos based on who's in them.

And Places, as it sounds, brings geotagging to iPhoto for the first time: by using GPS information stored in photos (the iPhone adds it automatically, as do new Blackberry and other mobiles as well as a few camera models), or adding it using built-in links to comprehensive global maps, iPhoto can now automatically locate pictures on a world map – and use that information to search photos by place, or to create books with customised maps of the journey contained within.

iPhoto '09 can also publish photos to Facebook or Flickr, and can create themed slideshows for playing on Mac, iPhone or iPod.

iMovie '09, the other standout from the new suite, has been particularly important for Apple to get right, given the furore over the many features stripped out of iMovie after Apple ditched its

popular iMovie '06 and rewrote the app from the ground up for the '08 incarnation. Feedback was so negative that Apple offered iMovie '06 for free download, but the removal of that link in January suggests Apple is confident that it finally has the mix of features right in iMovie '09.

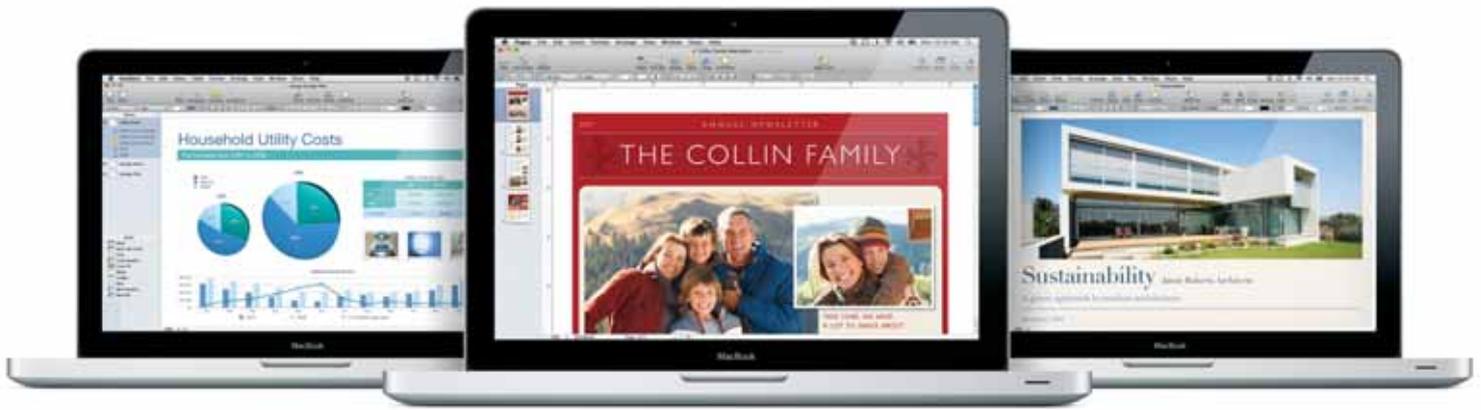
Most prominent among the features is video stabilisation, which scans shaky handheld video and automatically straightens and stabilises it; now there's going to be no question just what actually happened on that big Saturday night out. Also new to iMovie '09 is a precision editor, which lets you magnify clips and fine-tune any edit you've made. There are new titles, transitions, cinematic effects, picture-in-picture, green screen, sound and video mix-and-match, and even animated travel maps that are automatically generated in a variety of styles, Indiana Jones-like, to follow the travels documented in your movie.

Also getting a makeover is GarageBand, which adds a variety of features including interactive video lessons from professionals, and guitar amp and stomp-box effects that lets you combine different virtual guitar pedals to produce your own unique sound. GarageBand '09 also includes Magic GarageBand Jam, which lets you play along with a customised virtual band.

Rounding off the iLife '09 bundle are an upgraded iWeb – incorporating new iWeb Widgets providing capabilities such as iSight video and photos, a countdown timer, YouTube video, RSS feeds, integrated FTP publishing and Facebook notification of new updates.

iMovie '09 brings back many of the effects of iMovie '06 but adds new features including shake elimination and automated travel maps.





iWork '09 boosts Apple's core productivity apps and feeds the new iWork.com online sharing service.

Work better, smarter, cooler

Apple's iWork '09 represents the latest iteration in Apple's productivity suite, which combines the Pages word processor, Numbers spreadsheet, and Keynote presentation application.

With the applications already feature-rich, this release has focused less on fundamentally massive improvements as on significant refinements. Keynote '09, for example, incorporates new object transitions that automatically animate objects on and across slides, and works with the new Keynote Remote application, which lets you view slides and

presenter notes, and control your presentation with your iPhone or iPod touch.

Pages '09 includes outline mode, MathType 6 support for adding complex equations, EndNote X2 integration to ease bibliographic referencing, and a full-screen view that minimises mental clutter by giving authors a blank screen to write on. And Numbers '09 bundles improved formula creation tools, better grouping and summarisation of data, more chart types, mixed charts, and permanent links between Numbers charts pasted into Pages or Keynote.

Breaking totally new ground is iWork.com, an online service – currently in beta – that Apple is developing to allow users to share iWork '09 documents online. Upload your document and other users can view it, make comments and notes, and download your document in iWork, Microsoft Office or PDF formats. iWork.com is a small but important step in Apple's cloud-computing ambitions, and will be an increasingly important part of its strategy moving forward.



More MacBook per charge

Apple's 17-inch MacBook Pro may be large, but it has quite a following amongst those who want a desktop-replacement system that they can unplug and take with them. For those users, Apple's latest hardware release will be particularly relevant.

The unit has gotten an aesthetic makeover, joining its smaller MacBook companions with the same unibody aluminium design that Apple debuted in October. It gets a slight feature boost, including a full 1920x1200 better-than-HD resolution screen that puts its display capabilities on par with those in Apple's desktop systems.

One of the most ballyhooed features, however, lies within the new MacBook Pro: a reworked battery, made of mouldable lithium-polymer technology, that packs in more charge than ever. Apple claims this translates into eight hours of use on a single charge, with more than 1000 charges possible over the life of a single battery.

Real-world battery performance will of course vary significantly, but by reworking this fundamental technology, Apple has helped differentiate its 17-inch model – and paved the way for potentially bigger power boosts should it bring the same battery technology into its 15-inch and 13-inch MacBooks too. As with all things Apple, watch this space.

Apple: innovating from strength to strength

Apple's latest quarterly results confirmed the company's products are continuing to hit the sweet spot in the markets in which it plays. Quarterly revenues for the fourth calendar quarter of 2008 passed the \$US10 billion mark, with more than 2.5 million Macs, 4.4 million iPhones and 27 million iPods sold during the quarter – and all four figures are records. Supporting these figures was the announcement that iPhone and iPod touch users have downloaded more than 500 million applications from the App Store, a significant milestone given that the service has only been available for about six months.

AUDIENCE PARTICIPATION IN A WEB 2.0 WORLD

If a man with a microphone approaches you outside the next conference you attend, don't panic: it's probably just Allan Carrington working on his next podcast.

A learning designer in the Centre for Learning and Professional Development at the University of Adelaide, Carrington and his colleague, Graduate Centre lecturer Ian Green, have been conducting dozens of post-session interviews at a number of conferences in order to capture and organise the collective wisdom of both audience members and conference speakers.

"Everybody has a story to tell," says Carrington, who struck on the idea after he was invited to help prepare the podcast of the 17,000-strong EDUCAUSE 2005 conference in the US. Interviews with audience members attracted considerable attention, and Carrington realised there were many more stories to be told at the average conference than just those presented by the speakers.

"The community wisdom is just as valid as that of the conference presenters," he explains, "and we've found there are some people out there who have some pretty interesting things to say. The truth of the matter is that most people at a conference are not participators; they are observers. We're just using Web 2.0 technologies to empower them to move from observation to participation."

Working from plans etched out during his flight back to Australia, Carrington and Green have since attended a number of local and overseas conferences, microphones in hand, where they waylay keynote speakers, presenters and audience members alike. From local events such as ASCILITE '07 in Singapore to the AUC's CreateWorld '08 in Brisbane and Macworld Conference & Expo '09 in the US, podcast teams interview more than two dozen people at each conference for around ten minutes each, rapid-firing a number of quite carefully constructed questions designed to draw out the often surprising passion of attendees for the subject matter.

"For example, I'll say to someone 'I'm your vice chancellor and you've got 2 minutes to convince me to spend \$8m on your idea, go!'" laughs Carrington. "A lot of people don't really stop and think about how much knowledge, depth, passion, insight and wisdom can be transferred in a ten minute interview. If it's done right, we've gotten some really good stuff out of this."

The results of the interviews are published as regular podcast episodes through iTunes, with follow-up commentary through the duo's blog. Listener feedback is actively encouraged as part of the process, with sites such as the CreateWorld '08 (createmorld2008.edublogs.org) and Macworld '09 (macworld4educators.edublogs.org) soliciting comments to deliver a richer experience for all involved. Carrington also encourages direct feedback via allan.carrington@adelaide.edu.au.

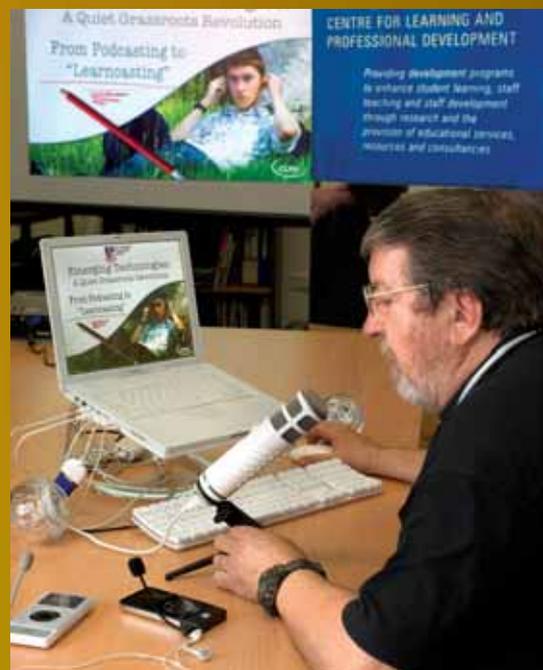
Now well established, the effort has proved innovative enough to have recently attracted the attention of Apple, which profiled their efforts in an online case study (www.apple.com/au/education/profiles/uniadelaide).

By capturing a broader range of knowledge from events designed for learning, Carrington believes the effort is enhancing attendees' enjoyment of the events they attend. With interest continuing to grow, he and Greene are currently editing their Macworld '09 podcasts and are casting their eyes towards this year's academic conferences, where ideas include making material available quickly through 'learning hubs' consisting of several Macs set up at the conference. Attendees will be encouraged to listen to podcasts as they're made, then add their own input in an effort to capture and redistribute a broad spectrum of expertise.

"Some of the stuff we're capturing is just awesome," says Carrington. "The people we talk to are as much about passion as they are about content. There's a bit of challenge in the sheer amount of processing of it all, but the biggest challenge has been for people to recognise how important a knowledge building exercise this is."

In the long term, Carrington sees significant scope for the techniques he and Green are testing with conference feedback to be applied in an academic setting: in a paradigm they call 'Just in Time Teaching Version 2', Web 2.0 technologies will be used to let learners provide feedback to teachers as the learning is being delivered – giving teachers an opportunity to revise the focus of their teaching for maximum efficacy.

"We can use this interactive learning system to change the way we teach face-to-face," Carrington explains. "Preliminary evaluation from students in a research project at Adelaide has been overwhelmingly positive, and there has been an improvement in engagement and grades. It's the same as with conference podcasting: you shift the emphasis to the collective building of wisdom, you empower all participants in the process, and suddenly everything's different."



above: Allan Carrington in action



Ian Green interviews Alan November at Macworld '09

creative commons **WHAT YOU NEED TO KNOW**

Copying online content is as easy as 'drop and drag' or a quick command-C, command-V – making copyright infringement the bludgeoning weapon of copyright owners and the cause of ongoing headaches for teachers trying to teach a high-quality standard of digital literacy.

Little wonder that Creative Commons (CC), a licensing framework for managing rights to use and reproduce content, has rapidly gained currency as an alternative to conventional 'all rights reserved' approach to copyright management. First released in the United States in 2002, CC reverses the default assumptions of copyright, acknowledging that content is going to be shared and reused. But rather than open that content up to a free-for-all, CC allows creators to set a variety of conditions on how that sharing and reproduction happens.

Through widespread grassroots support and localisation of CC licensing suite to national laws, CC now offers licences for 50 countries, with another 15 jurisdictions underway. In Australia, the domestic CC licensing suite is administered and supported by ccAustralia (<http://creativecommons.org.au>), a team headed by Queensland University of Technology Professor Brian Fitzgerald and Deputy Vice Chancellor Professor Tom Cochrane. The organisation is based at the QUE-hosted ARC Centre of Excellence for Creative Industries and Innovation (www.cci.edu.au), from which it engages in educational programs and research activities to foster awareness of CC amongst Australia's creative types.

One of the ccAustralia team members is Elliott Bledsoe, who presented a workshop with QUT education lecturer Michael Dezuanni at the AUC CreateWorld '08 conference in December as part of his ongoing efforts to spread the word about CC – especially in academia, where the volume of production and consumption of content emphasises the complex nature of copyright law.

"Creative Commons is a way for individual copyright owners to make their content more flexible and more open to reuse by other people," Bledsoe told podcaster Allan Carrington (see opposite page) in an interview after his CreateWorld workshop, "while still being able to retain certain parts of those rights depending on what they're happy with other people doing with their work."

CC lets you control how others use your work using four different licence elements: Attribution (BY) requires users of a work to credit the original creator; Noncommercial (NC) restricts reuse for commercial purposes; remixing is allowed under the Share Alike (SA) element, but only where derivative works are also available for remix; and No Derivative Works (ND) bans modification of the work.

By default, all CC licences require that you credit the original creator if you reuse a licensed work, ensuring that the source of reused content can be traced back. At a minimum, all CC licences also allow users to distributed licensed content for non-commercial purposes without modification. Of course, copyright owners can allow other freedoms depending on which licence elements they apply.

Recently, popular industrial rock band Nine Inch Nails took the controversial step of releasing part of their album Ghost I-IV (ghosts.nin.com) under a Creative Commons licence. They followed this bold move up with a second release, The Slip (theslip.nin.com), two months later. This entire second album was available for noncommercial remixing under CC. From all appearances, both experiments were a success. Ghosts alone netted \$1.6 million (which didn't get to a major label) and was nominated for a Grammy. The Slip also surpassed expectations, taking out the top seller position on Amazon's MP3 downloads store despite also being available for free online. And the decision to release the tracks under a CC licence that permitted remixing helped foster a remix community around the music.

Yahoo's photo publishing website Flickr (www.flickr.com) hosts is building a massive repository of public photos available under CC licences called, The Commons. In February this year the site hosted more than 84 million photographs available on more flexible terms than "all rights reserved" copyright. And in December, the Australian Bureau of Statistics (ABS) (www.abs.gov.au) released all content on its Web site under a CC license. This means that anybody can reuse content on the ABS site for personal or even commercial uses as long as the ABS is attributed as the source.

With a number of ongoing projects – such as the ABC Pool project (www.pool.org.au), a CC-governed social media experiment that aggregates user-contributed content – Creative Commons is growing its footprint steadily. And while many universities have jealously guarded copyright on their content in the past, Bledsoe said ccAustralia's ongoing education efforts, as well as the growing profile of the licensing scheme at all levels, is starting to gain real traction in the education space.

"Universities went through this whole frenzy around the commercial value of IP in the late 1990s, but I think most of them are now at least seeing the light and realising perhaps that education should be more important than the dollar," he told Carrington. "Educators and librarians seem to be really interested in Creative Commons and seem to be across copyright issues, and see it as a way of making it easier for them. As it proliferates and naturally grows in its organic way, it's picking up a lot more understanding."

Creative Commons at a Glance

The Creative Commons licensing scheme uses four major attributes which can be combined to produce a selection of six CC licenses. Here's a rundown, and an explanation of Jack's obligations if he wants to use content created by Mary which is licensed under various CC v2.5 Australia licenses:



Attribution (BY):

Jack can share and remix Mary's content, but must attribute it to her and link to the licence's Commons Deed (a one page summary of the licence which links to the full legal document). Remixes do not have to be licensed on the same terms.



Attribution-Noncommercial (BY-NC):

Jack can share and remix Mary's content but only where his use is noncommercial. He must also attribute it to her and link to the appropriate Commons Deed.



Attribution-No Derivative Works (BY-ND):

Jack can only share the content around. He cannot remix the work in any way, but he can make money out of its distribution. He must also attribute Mary and link to the appropriate Commons Deed.



Attribution-Share Alike (BY-SA):

Jack can share and remix Mary's content but unlike the Attribution licence, if he makes a derivative work he must distribute it under another Attribution-Share Alike licence. He must also attribute Mary and link to the appropriate Commons Deed.



Attribution-Noncommercial-Share Alike (BY-NC-SA):

Like the Attribution-Share Alike licence, but reuse is restricted to noncommercial use only. Jack can share and remix Mary's content where he is not making money and where derivative works he makes are distributed under another Attribution-Noncommercial-Share Alike licence. He must also attribute Mary and link to the appropriate Commons Deed.



Attribution-Noncommercial-No Derivative Works (BY-NC-ND):

This is the most restrictive licence. Under it, Jack is restricted to distribution for non-commercial purposes only. He cannot remix the work or make money from its reuse. As always, he must also attribute Mary and link to the appropriate Commons Deed.

JAMMING OVER THE MILES



It started out as an experiment in music-making for children, but Andrew Brown and Steve Dillon's Jam2Jam has rapidly grown into a worldwide phenomenon that has featured in interactive museum applications and will this year facilitate musical jams between students around the world. Worldwide enthusiasm for the application, which enables up to six people to play music together in real time over the Internet, has provided great inspiration for Dillon, a senior lecturer within the Faculty of Creative Industries at the Queensland University of Technology (QUT).

Network Jamming was created by the Australasian Cooperative Research Centre for Interaction Design (ACID, at www.acid.net.au) to develop jam2jam in communities and with industry partners. Working with ACID research fellow Andrew Sorenson and ACID research manager associate professor Andrew Brown, "we have combined theoretical approaches and been working out how electronic music composers are creative with technology and the process of creating music," Dillon explains. "And we've looked at working out the meaning of music to children, and we've combined those two pieces of theory into a theory of meaningful engagement."

That theory has evolved over time as the Java prototype Jam2Jam Gray (available at www.explodingart.com) gained a following amongst the students with whom Dillon and Brown played – 3000 to 5000 of them so far, and counting. The hardware version of jam2jamAV software has featured at, among other places, a two-month installation at Sydney's Powerhouse Museum. In that installation, two Macbooks and five USB MIDI controllers allowed children to play music and video together in real time whilst projecting images like 'Andy Warhol on steroids'. Children as young as five were able to collaborate in professional sounding DJ/VJ performances, and record their performances in real time.

Begun in 2002, the Java-based jam2jam project has evolved over time with considerable support from the AUC, which has provided hardware and development support for the team. The project reached a new level in 2006, when the team began working with Sorenson's Impromptu programming language (impromptu.moso.com.au) and exploring ways of engaging with "disengaged" students in Caboolture and Brisbane's southern suburbs.

Observations of this work have fuelled ongoing development of the software, which avoids latency issues by shifting relatively-small MIDI data over a network or the Internet, has been designed for simplicity: students adjust the sounds they produce using onscreen sliders. Mac OS X's Core Audio and related technologies are "drawn on pretty heavily" to keep the music – and, if users wish, related video content – running smoothly.

"We've solved the problems of lag and delay," Dillon explains. "When you move an icon up and down or make selections about transformation, the changes happen imperceptibly in real time. "The result is a gut feeling very much like the feeling you get when you're jamming with someone in a band."

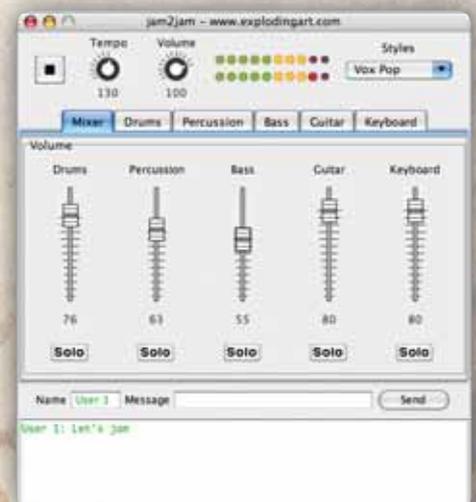
That feeling is exactly what has driven later installations of the software, which was recently used in a project in which year 7 students remixed digital content generated by the aboriginal people of the Lockhart River community in Far North Queensland's Cape York Peninsula. "What we are seeing is new kinds of relationships between an artist and the public," says Dillon. "We usually view a piece of art in a gallery and acknowledge it. With the images or music algorithm embedded in jam2jam, we can play with it, perform and remix it, producing endless variations on an

artist's work." The software also features heavily within QUT's undergraduate music courses, and has been used in mental health therapy in conjunction with the Health Interactive Technology Network (www.hitnet.com.au).

With such strong and varied interest domestically, the team has turned its sights to the world: a planned online jamming will link Australian and Swedish students later this year, while performance installations in the US, UK, Sweden and Norway will expand Jam2Jam's network of influence significantly.

By encouraging users to upload their jams to the Jam2Jam Web site – which provides musical blogging capabilities for every user – Dillon hopes the tool will continue to facilitate shared musical discovery that transcends boundaries.

"Most computing and music applications are about recording, but we want to embed musical and media knowledge within the tool, and have people improvise with it, and make and discuss new works," he says. "Media is a significant influence in children's lives these days, and we're hoping to offer opportunities to offer key concepts about media transformation and music making – and make it accessible to children. We're looking at generative arts being a very pervasive thing in their lives."



jam2jam connects systems over a network to let students create a media performance ensemble, capture their performances and share them online.



RELEARNING THE ART OF

Lecturers are facing an ever more difficult struggle not to be left behind as digital media arts technologies evolve more quickly than the pedagogical tools being used to teach them.

"The process of writing curricula often takes time, as does putting things into place and building resources and facilities to be able to deal with the curriculum right," explains Dr Paul Thomas, a senior lecturer in electronic art with Curtin University.

Thomas has spent his fair share of time considering the implications of the shift to new media, and sees one major problem in current efforts to fit electronic art instruction into existing university teaching frameworks: "often, you do all this only to find out the curriculum is out of date even before you finish the course."

Hoping to reclaim some measure of control given the constraints of this paradox, Thomas has set up a web site – www.nomad.net.au – to collect feedback from a range of similarly minded people. He is also organising a symposium on the topic, to be held in July in Melbourne, that will provide a forum to share this feedback, and encourage even more discussion from old and new media artists as to how the digital shift has changed their perceptions of the fields in which they work.

The findings will inform another work in progress, a November conference at the University of Melbourne, which will combine academic topics and both conventional and new media arts exhibitions.

One of the main agenda items for the meetings is to reconcile the requirements of the evolving media arts discipline with the conventional – and more classroom-conducive methods of training. Yet these approaches, built around teacher-student instruction designed to impart skills such as word processing and spreadsheeting, fall quite short when applied to the more right-brained Brownian motion characteristic of creative endeavour.

Thomas decries the disconnect between the two: "A lot of online learning is just classroom learning put into a Word doc or onto a Web site," he explains. "This could be challenged, since these educators have taken the technology of cyberspace and moved to dominate it with a post-colonial understanding of what corporate business wants in this space – without spending time trying to find out the educational potential of it. It has been dominated mostly by ways of making money."

As someone deeply invested in the effective teaching of arts, Thomas is especially concerned about how – or whether – digital arts can maintain a discrete identity in an era where digital representations of the world are becoming ever more intrinsically linked to our real experiences of that world.

This change is reflected in the shift in creative output from canvas to monitor, both of which give artists ways of representing their thoughts and creations. Other media – film, for example, or CD-ROM multimedia creations – offer different channels that have fostered a creative divergence within the university community.

In the long term, Thomas believes this divergence has profound implications for the way we perceive ourselves – especially as areas such as nanotechnology, his own personal interest, increasingly take hold. Such efforts will meld the human experience and the representation of that experience, creating a hybrid new theory of art that Thomas believes will shape pedagogy just as much as conventional educational efforts will.

"Art is often dealing with a representation," he says. "Still, many students want to come in and be taught to paint – and to represent something the way it should look. That's how it was done hundreds of years ago, but once the camera was invented, art went off the planet: we were trying to understand a much wider range of things that affected us as human beings."

"Our whole world has become text," he adds, "and we want to be at the cutting edge of this field so we can give students the best knowledge about decoding this text, rather than the traditional reception of skills-based media."

When Your CAREER Finds YOU



Japanese skills guided Mathieu Tozer to his dream job with Plasq

Mathieu Tozer had no idea at the time where it would eventually take him, but his studies of the Japanese language – and not his programming skills – turned out to be the thing that got him an ‘in’ that has seen him land a successful career with Plasq, one of the most well-known developers of Mac software.

A Computer Science/Arts double major at Monash University, Tozer was a longtime Mac user with a keen interest in programming – but a belief that most of the action in Mac development was happening overseas. “I had been a Mac user throughout my degree, and assumed there wasn’t anything to do with the Mac going on anywhere in Australia,” he recalls.

That all changed after he read a newspaper story about Melbourne-based Plasq, whose Comic Life application gained worldwide recognition after it was chosen by Apple to be bundled with new Macs. Tozer dropped an email to Plasq co-founder Chris Pearson, and after a friendly coffee and some follow-on conversation he found himself taken onboard to handle the translation of Comic Life to Japanese.

“That got me excited about what prospects are out there and what people are actually doing,” he says. “If you look a bit, you can find amazing people.”

To further develop his programming skills, Tozer became involved with the Apple University Consortium, attending Cocoa training courses and winning an AUC scholarship to attend Apple’s Worldwide Developers Conference in the US. He kept up his contact with Plasq, and met up with the rest of the company’s farflung development team during a second AUC-sponsored trip to the next year’s WWDC.

That trip turned out to be the break Tozer was looking for: after numerous meetings, he was extended an invitation to join Plasq and has worked full-time for them ever since. During that time, he has worked on projects including Comic Life updates and the Skitch drawing tool, which he adapted to create the child-friendly Doozla. “I would be doing this job for nothing if I wasn’t getting paid for it,” he laughs.

The path to Mac

An AUC scholarship to WWDC also proved to be a boon for Matthew Tonkin, a native of Port Lincoln, SA who felt a similar disconnect from the Mac development community after completing an undergraduate qualification in Computer Systems Engineering at the University of Adelaide.

After a stint doing Mac development within a SA government department, Tonkin returned to uni to pursue a Bachelor of Business (Management of IT) remotely through the university of South Australia while working as a programmer with a Mac software firm that has since gone out of business. By 2006, Tonkin was working with Brisbane-based mind mapping developer NovaMind and, since he was still a part-time university student, qualified for an AUC scholarship to WWDC 2006.

“Up until that point I was self-taught,” he recalls. “There’s a shortage of Mac skills in Australia, and there’s also a shortage of environments to be able to learn stuff. WWDC is a big event, and you learn an enormous amount – and the networking side of WWDC is huge too.”

Just how huge, Tonkin didn’t really know until he won a second WWDC scholarship, in 2008, and ended up sitting at a table with the heads of Memeo, a Los Angeles based developer of Mac backup and file synchronisation tools that was founded years ago by ex-Apple staffers with deep and broad Mac technical knowledge. A conversation ensued, and before he knew it Tonkin was sitting an interview and offered a position doing development with the company in the US.



An AUC WWDC scholarship set the stage for Matthew Tonkin to secure his role at Mimeo.com.

Tozer's and Tonkin's success with global development firms should provide reassurance to current students wondering how they can parlay their love of development and their love of Macs into a productive career. The jobs are out there, says Tozer – but getting a leg up early can make all the difference.

"I don't know whether I would have gotten as far without the AUC's assistance and encouragement," he explains. "It made me realise there was a viable way of pursuing a career in this. I did a few half-hearted job applications to big corporations in the city but wasn't really keen on what I was applying for; it must have showed. But I was lucky: I was really keen on making something on the Mac platform. It's my hobby and my job, and I feel lucky to have found it."

Apples to Orange

While an affiliation with the AUC provided the means to get in front of the right people at WWDC, both cite the willingness to look outside of Australia as a key factor for success.

In some cases, relocation is simply a matter of convenience. Last year, for example, Tozer spent seven months living in Rio de Janeiro, Brazil – an exciting city to live in that had the advantage of being in similar time zones to many of Plasq's other developers – in the US, France, and elsewhere. "I had more waking hours and could live a more normal life there," he laughs.

Tozer has returned to Melbourne for now but is planning another overseas jaunt later this year, which he is confident will be easy to manage using regular web chats and videoconferences. For Tonkin, however, relocating to his current base in the Orange County, California region (outside of LA) has put him into the thick of a vibrant Mac development community that lies at the epicentre of global Mac development.

"From a jobs perspective, there's not much [Mac development] outside of California," he says.

"I now work for a bunch of guys that have old knowledge, and some with new knowledge. In a place like this, you're really in an environment where you're learning a lot from your peers – whereas typically in Australia you can't do that, and you're in an environment where you're not going to learn a lot from the people around you."

Although many computer science graduates envision moving straight from university into a typical role with a large employer, Tonkin encourages those considering possible career paths to keep all options open – and to take the risk of looking beyond the usual paths.

Smaller companies, he argues, provide the ideal learning environment, tempered with academic freedom: "particularly if you work for independents, you get a lot of exposure to things, and skills-wise you get to grow up in an environment where you can explore. And you get a ridiculous amount of freedom to be able to explore concepts. When you have a smaller team, you just have a lot less bureaucracy and headaches."

That's not to say that life in smaller companies is easy: Tonkin and the company's other Mac developers worked nearly around the clock to complete an upgrade of its core application to version 2 in time for January's Macworld Conference and Expo.

It was a very tight schedule, but we [the Mac team] are taking a bit more of a leadership role in its overall development direction," he says.

"Now the Windows guys are playing catchup!"



CreateWorld 2008

THE BEST SO FAR

BY STEPHEN JOHNSTON

With Griffith University graciously hosting CreateWorld for the third year running, the overwhelming consensus was that this was the best conference so far.

On the Sunday before the conference, the AUC ran three superb workshops: Creative Commons by Elliott Bledsoe from Creative Commons Australia, Final Cut Studio 2 by Stuart Harris of Apple and Podcast Producer by Rowan Simms of Apple.

The theme of 'The art of creative play, the creative art of play' was certainly apparent from the range of topics and papers which were presented in three packed days in December. Unlike previous years, the programme changed from three streams to two and this gave delegates more opportunity to maximise time spent on their areas of interest – and there were plenty of them.

From Philip Long's erudite presentation on 'The Two Cultures', in which he argued that

the two apparently opposed camps (the Literary Intellectuals and the Scientists) are both diminished by their disconnection from each other, to Caryl Shaw's fascinating presentation on Spore – a game where the player evolves, develops strategies for intergalactic domination and interacts with other player's content – and basically through this medium, tell your own story - kept the audience glued to their seats.

"The importance of being earmarked", by WAAPA student Brett Murray, explored the craft of interactive theatre through improvisation between actors and 'trigger' devices set on stage. Murray asked 'does accidental meaning exist?' and if so, how you can explore this in a staged performance, and how do the actors and the audience perceive this from different vantage points.





And there was much to challenge and stimulate our thinking. 'We're all hackers now!' declared Stephen Stockwell from Griffith University in his fascinating and highly engaging presentation. But he's not condoning any neo-criminal or underhanded behaviour, or suggesting hacking your colleague's bank account in the academic pursuit of understanding the strengths and weaknesses of the system. Information wants to be free, he stated, suggesting that we are seeing a return to the Athenian model of democracy – where the power returns to the digital citizen, bypassing the monoliths of the established media.

In the presentation 'A post card from Second Life' the audience were given a virtual tour around Deakin University's 'Deakin Island', where Jenny Grenfell outlined their immersive learning environments for peer-to-peer and teacher to student learning channels.

The full conference programme was rich, wide and deep and engaged the audience for the full

conference proceedings. The panel discussion 'Conjectures in Digital Aesthetics' with Roly Sussex, Kate Foy, Phillip Long and Phil Draper, cut a broad swathe through the fogged complexity of the digital revolution and asked: "will the new medium drive out the old", or are we at the beginning of a new partnership of classical and progressive media which now recognises that the creative process involves all the senses, because that's how we experience it. The smell of oil paint has no peerage in a digital bit-stream – no matter how elegant the pattern of ones and zeroes are.

But it wasn't all intellectual badinage and academic discourse. Topology once again delighted the delegates with an avant-garde performance based on such themes as Martin Luther King's speech 'I have a dream' and Gough Whitlam's 'The Dismissal', mixing the natural musical intonations and modulations of the human speaking voice, syncopated and harmonised with classical and contemporary melodic signatures.

An innovation for CreateWorld was the formulation of a podcast production team. The organising committee, led by Stephen Atherton of Apple, decided to merge the organic experience with the digital one by inviting the team of Allan Carrington, Ian Green, Kate Foy and Cat Hope to interview and record the vibe as it unfolded. You can share the wisdom and be part of this continuous discussion with the conference delegates and presenters at createworld2008.edublogs.org.

The essence of CreateWorld has once again been to show that – no matter how technologies enhance our lives and improve communications and collaboration – indelibly marked within the human soul is the instinct to 'gather', to meet as a contemporary people, neo-bohemians discussing the new ideas and thoughts face-to-face. In so doing, we become a tangible part of the wisdom that will benefit future generations of seekers.

Perhaps it's time we reflected on the fact that not so long ago in the pre-computing age, media was purchased from the hardware store in pounds and ounces, was mixed, applied and rendered with metal tools – and the adjective 'digital' once exclusively meant; pertaining to the fingers or the toes.

"The smell of oil paint has no peerage in a digital bit-stream – no matter how elegant the pattern of ones and zeroes are."





Make the most of your iPhone

By Carrie Osborne

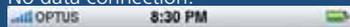
Maybe you've had your iPhone since 2007, or maybe you've just gotten one for the new academic year. Either way, you've been exploring the capabilities of this innovative device – but do you know everything it can and can't do? Here is some essential information for anybody using the iPhone.

Get Connected

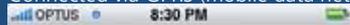
You are going to need an internet connection to make the most of all the features on the iPhone. There are two ways to get online - Wi-Fi or mobile data network. If you have both available, your iPhone will automatically use the Wi-Fi connection rather than the mobile data connection – as it is generally faster and lower cost. You can use Wi-Fi in much the same way you do with laptops – at home, university and public hotspots. The availability and speed of the mobile data network will vary, depending on your carrier. Depending on how you connect, your downloads will be charged differently. When using Wi-Fi on campus, you will be using your university internet quota. Of if you use a public Wi-Fi hotspot, you will be charged at the provider's going rates (if applicable). On the other hand, when using the mobile data network, your usage will be billed, according to the plan that you are on.

It is easy to see what connection you are using, by checking the icon displayed in the top left corner of the screen.

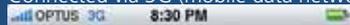
No data connection:



Connected via GPRS (mobile data network):



Connected via 3G (mobile data network):

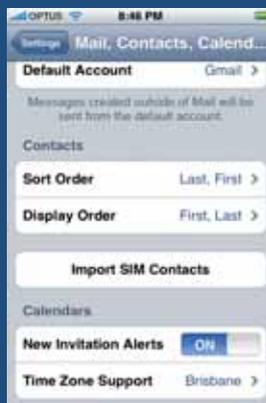


Connected via Wi-Fi:



Make good contacts

If you have contacts stored on your computer or email system, you should be able to copy these across onto your iPhone using iTunes. Unlike most regular phones, the iPhone does not store contact details directly on the SIM card – they are all stored on the phone itself. You can use the "Import SIM Contacts" feature on your iPhone to copy the contacts across from your old SIM card, however you may end up with some duplicates. To get around this, you can manually update your computer address book or new iPhone contacts list with the contact numbers from your phone, instead of directly importing them.



To VPN or not to VPN?

When you are not on campus, you can use the built-in VPN (Virtual Private Network) capabilities of the iPhone to access resources that are restricted to your university network (depending on your university's infrastructure). Once connected, all of your internet activity is channeled through the university - so you are virtually on the university network whilst the session is active.



Up in the air

When switched on, airplane mode disables the features on your iPhone that may cause interference with avionics equipment (including Wi-Fi, bluetooth, phone). You can still listen to music, play videos, take photos, read previously downloaded email and use other features that do not rely on signal transmission. If anyone calls you whilst airplane mode is active, it will appear to them that your phone is switched off (most providers will divert straight to voicemail service). This feature is not only handy for when you are jetsetting – it can also be used in situations where transmission features are not desired. For example: when at movies, lectures, meetings, libraries, hospitals or while you sleep (the alarm will still work). If you are planning to use your iPhone (in airplane mode) in a place where mobile phones are banned, first check that this is acceptable - as regulations do vary. Airplane mode is also good for when you are out of mobile coverage, as it saves the battery from draining by continually trying to search for reception.



Fetch it or push it?

This normally comes down to personal preference – some people like to know about new emails immediately, while others will only check for new email when they want to. When your iPhone is set to fetch email, it checks to see if there is any new email available at regular intervals (every 15, 30 or 60 mins), or whenever you feel like it (manually). Some email providers offer a push service, which means that when someone sends you an email, it is instantly delivered to your iPhone.



Getting jiggy with it

You can have up to nine home screens – this is great for grouping similar applications. For example, you could have separate screens for games, work, study, news, etc. To create new screens or move icons around, simply touch and hold any icon until all of the icons start wiggling. Then you can drag everything into the positions you want and when you are done, tap the home button. The dots at the bottom of the screen indicate which home screen you are on.

Same stuff, different device

iTunes takes care of the synchronising between your computer and iPhone. You can set it up to synchronise contacts, calendar entries, web bookmarks, music, photos, movies and applications. If you have a MobileMe account - you can synchronise email, contacts and calendar while you are on the go. Depending on the systems that your university uses, some of these features may or may not be compatible.



What's the magic word?

It is a good idea to leave the default autolock feature enabled (locks screen after period of inactivity) to prevent unintended operation and save battery life. In addition, to add an extra layer of security to your iPhone you can set a passcode lock. This requires a pin number before unlocking the screen or when switching the phone on.

Location, location, location

Location Services uses a combination of wi-fi, mobile network and GPS technologies to try determine your current location. If you would like to track your position in Maps or use applications that rely on location data, then you will need to switch Location Services on.



“There are two types of people in this world: those who have lost data and those who will lose data”

Luckily, iTunes takes care of your backups for you each time you synchronise your iPhone. For this reason, it is good to regularly synch your iPhone – and also to apply system updates.

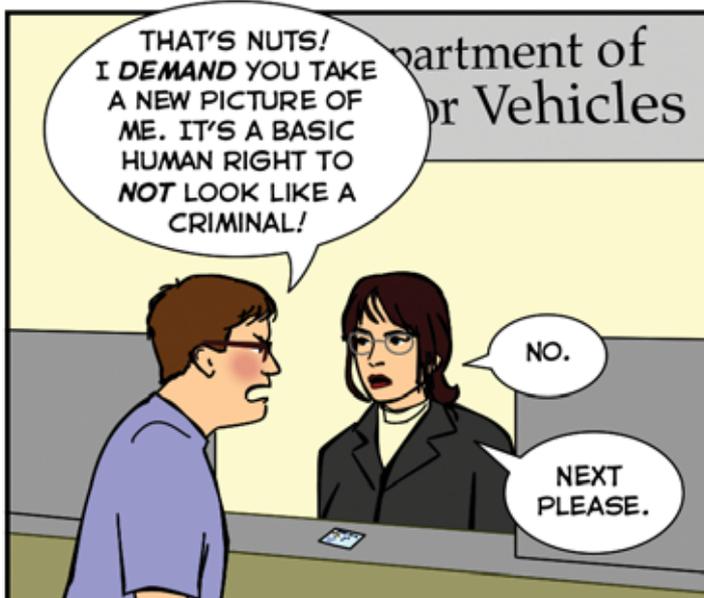
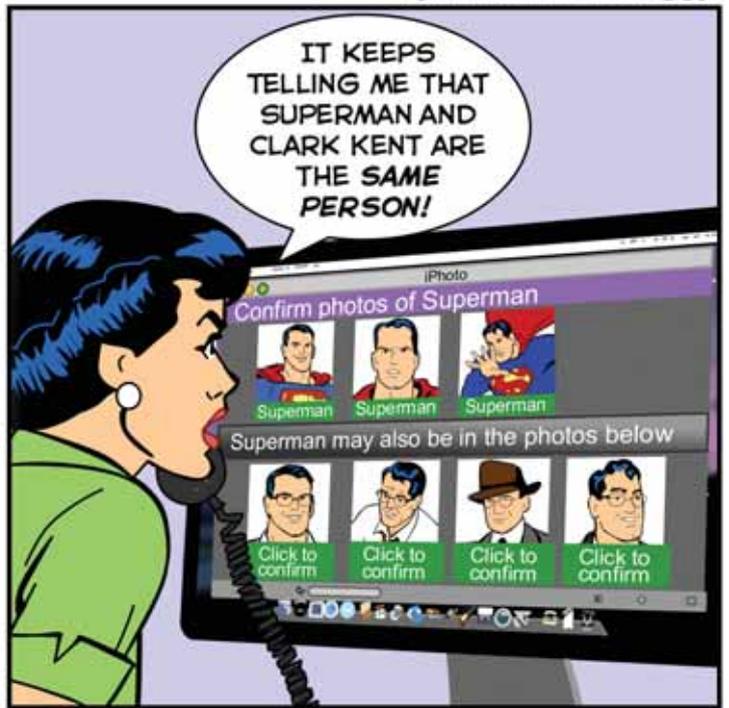
Save your juice

Depending on how you set up and use your iPhone, the amount of time you get out of the battery can vary greatly. For some good tips on how to optimise your battery usage – see www.apple.com/batteries/iphone.html



How?

For technical details on how to setup any of these features – check the online “iPhone User Guide” (in Safari bookmarks), or to find out which features are compatible with your university, talk with your IT department.



CrossWORD Competition



For your chance to win an iPod nano, complete the above crossword (you'll find the answers throughout the articles) and take the letters from the blue boxes then re-arrange them to form a word or phrase. Send this to: crossword@auc.edu.au
Competition closes at 5pm on Friday 1st May 2009.

Across

- 1 Phillip Long presentation 'The Two _____' (p18)
- 6 Producer who mashed the Beatles and Jay Z (p9)
- 8 'Just In Time _____': Carrington's new paradigm (p12)
- 11 AARNET transferred 5 of these last year (p8)
- 12 Claimed hours of usage per MacBook Pro charge (p11)
- 13 Name of Flickr photo repository (p13)
- 14 Scholarship could get you this with Apple (p5)
- 17 Sampled the Stones in 1998 (p9)
- 18 Learn the iPhone in April here (p4)
- 19 Name of Monash Xgrid app (p7)
- 21 Creative Commons tag for Attribution-NonCommercial-ShareAlike license (p13)
- 24 County where Tonkin works (p17)
- 25 iMovie fixes this kind of video (p10)
- 26 QUT-based group promoting jam2jam (p14)

Down

- 2 Carrington's inspiration came returning from this (p12)
- 3 This mode disables iPhone wireless features (p20)
- 4 Does maths only Einstein could love (p2)
- 5 Visitors to this museum got hands-on with jam2jamAV (p14)
- 7 Makes beautiful things with your photos (p2)
- 9 He said "we're all hackers now" (p19)
- 10 Add equations to Pages using this (p11)
- 15 Deciphering the structure of this led Buckle to Xgrid (p6)
- 16 Name of new 800-core cluster (p7)
- 20 Plasq app that Tozer wrote (p16)
- 22 This invention sent art "off the planet" (p15)
- 23 New iPhoto feature knows who's who (p10)

CONGRATULATIONS

Congratulations to Rebecca Jones of the University of New England for winning an iPod nano by correctly completing last issue's crossword to reveal the answer:

GENIUS

An iPod nano is on its way.





AUC

Apple University Consortium Membership Benefits

<p>Conference Scholarships</p> <p>Development Fund Grants</p>		<p>Equipment Seeding Program</p> <p>Wheels for the Mind Magazine</p>
	<p>Providing technology support and networking for better educational outcomes</p>	
<p>Educational Pricing</p> <p>Professional Networking</p>		<p>Technical & Developer Training</p> <p>Seminars & Presentations</p>

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