

# MIND

**Wheels** for the

## Parramatta's History



## LIFE AFTER THE AUC



## La Trobe's First iTunes U million



# Ideas take flight



**FREE COPY**



## Monsters of (iPad) rock

Keen to do some of the iPad-based jamming you've seen in the TV commercials? Grab a Monster iStudioLink Instrument Adapter and you're ready to go. Plug your guitar, keyboard or microphone's 1/8 inch plug into one end, and plug the other end into the headphone jack of your iPad or iPhone. You're all set! Rock on...

Costs \$34.95 from <http://store.apple.com.au> or see <http://bit.ly/gQw6KF>.



## Cisco admin from your iPad

System administrators may be used to dealing with configurations on network equipment, but you probably haven't done it like this. The Redpark RJ-45 Serial Cable is a \$US69 add-on that allows you to connect directly to the serial management port on Cisco network switches, routers and firewalls. The 2m cable is wired to Cisco specifications and works in conjunction with the \$12.99 Get Console app (<http://bit.ly/ePTaIE>) to allow control of the devices straight from your iPad, iPhone or iPod touch.

Costs \$US69 from [www.get-console.com](http://www.get-console.com).



## A real keyboard for your iPhone 4

If you're one of those who loves the iPhone but could do without its onscreen keyboard, consider the NUU MiniKey keyboard add-on. This is an iPhone 4 case that includes a slide-out QWERTY keyboard, which pairs with the iPhone using Bluetooth and automatically powers up and down when you slide it out and back in. The keys click when pressed and there's a backlight to guide your thumbs in the dark of night.

Price: Around \$US70 from [www.nuubrand.com](http://www.nuubrand.com)



## Print from your iPad

Printers may be a dime a dozen, but HP's OfficeJet Pro 8500A Plus e-All-in-One is significant because it's among the first models to support the new AirPrint architecture, which allows printing directly from iPhone and iPad without the need for drivers. It's also a touchscreen-controlled inkjet multi-function device that prints at up to 15ppm (black), incorporates duplex printing and a 50-sheet automatic document feeder and more.

Costs \$499.95 from [www.hp.com.au](http://www.hp.com.au) or <http://store.apple.com.au>.



## A Thunderbolt from the blue

The new Thunderbolt I/O technology built into Apple's latest MacBook Pros really flies – and you'll notice the difference when you hook up a suitable peripheral, such as LaCie's Little Big Disk. With built-in RAID 0 mirroring, this 630g unit will shortly ship in 240GB or 500GB solid-state drive, or 1TB hard drive flavours. [www.lacie.com.au](http://www.lacie.com.au)



## Small speaker, huge sound

You may not think much of small speakers' sound, but the Jawbone JAMBOX wireless speaker is out to change all that. Designed for big sound, the rechargeable unit weighs just 327g and fits into your hand, but offers up to 85dB of music power. Connect it to your devices using Bluetooth or the built-in 3.5mm stereo input, then rock on to your tunes or use it as a handsfree thanks to the built-in microphone. Comes in blue, red, grey or black from [www.jawbone.com/speakers](http://www.jawbone.com/speakers) or buy it for \$249.95 from <http://store.apple.com.au>.



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# EDITORIAL



Welcome to you all for 2011. I'm sure that many of you are busy with the preparations for the coming year, and I have no doubt in my mind that this year will bring many exciting and innovative Apple technologies to the fore.

For example, we have just seen the release of the iPad 2 both here and overseas and I'm sure it will, too, make its mark in the education sector. With a bump in speed and powerful graphics performance, I can only see the iPad 2 increasing both its presence and market share. A big bonus will be the ability to mirror the iPad 2's screen, and I think that will be an excellent tool throughout teaching institutions.

Coming up in this issue, we continue to see wonderfully innovative uses of iOS devices both educationally and in the private sector. Have a look at how the AR.Drone, an iOS controlled flying robot, is being used at Deakin (page 6) to stimulate Communication and Creative Arts students to create innovative games.

Further on, we follow the accomplishments of AUC alumni Louis Cremen and Kieren Eaton (pages 12 and 13). Kieren has been developing software for the vision impaired and I'd met Kieren some years ago when he attended the then AUC Academic and Developers Conference. Kieren presented at the conference and I was amazed at the work he, and his colleagues, were achieving at the time. I'm thrilled to now hear about Kieren's work beyond the AUC.

Louis is an excellent example of a student who has not only taken advantage of the AUC during their studies, but has also given back to the AUC community. Louis has delivered several developer courses for the AUC and the feedback has been very positive. Louis has then continued to shine by making his own company, Guardian Software Development, and developing applications privately.

We also get an insight into last year's Student Developer Scholarship recipient, Sam Dunster. Sam presented at February's AUC General Meeting and I was impressed by the demonstration of his software imaging application called Install Pro (page 18). The simplicity and elegance of his software showed that powerful applications could be developed whilst still having a simple, clean interface that just works.

CreateWorld, held in December 2010, once again proved to be quite a success and we have a visual collage on page 19. La Trobe University shows Australia how a successful iTunes U presence can be created and Martin Tomitsch from the University of Sydney speaks of the benefits of the AUC resources such as the iPod Touch kits and the Classrooms In A Box.

Once again, we have an exciting line up of stories for your reading pleasure and I'd like to thank all the contributors to this issue for sharing their experiences and knowledge. As always, let us know if you're working on an interesting project that you'd like to share.

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# AUC Update

## AUC General Meeting

From February 9-11, 2011, the AUC held its General Meeting for all member universities from Australia and New Zealand. This was the first general meeting held with the new AUC Chair, Tony Gray, and the Executive Committee and there was plenty to talk about.



The most important discussion that took place surrounded the budget. With decreasing returns from Apple, the AUC Executive had to make some very tough financial decisions. As a result, many programs that the AUC developed, when times were more financially buoyant, have now been either drastically reduced or cancelled altogether.

Some of the programs affected were the WWDC Scholarships (both competitive and allocated), technical training and Honours Scholarships. For more information, please speak with your local AUC representative or your AUCDF delegate.

Another major discussion item was the revision of the AUC Strategy document from 2011 to 2015. This document is a crucial component to the future running of the AUC. It is an important foundation for the AUC and shapes our directions responsibly.

A revised calendar for 2011 was presented to the members, and you can see the upcoming events by visiting the AUC website at [www.auc.edu.au](http://www.auc.edu.au). To finish the first day's proceedings, we were given a fascinating talk by Paul Bourke from the University of Western Australia. Paul demonstrated some fantastic high resolution images and videos that he had created for various projects both within Australia and overseas.

The AUCDF Coordinators meeting was held on the Friday and it was the first meeting chaired by Daniel Saffioti, the new AUCDF Chair. The meeting covered recent and future activities as well as further discussions surrounding the budget decrease for the year.

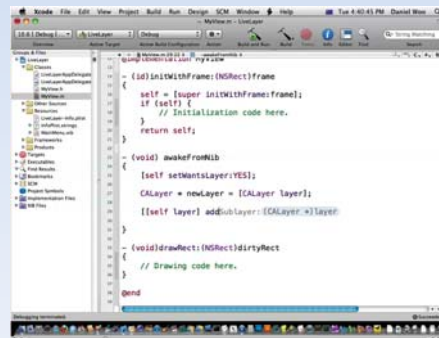
Several presentations were given throughout the day. First, Nicolas Circosta beamed in live from Cupertino to speak of his experience with the AUC and how it helped him to get his job at Apple. We then had an insight from Sam Dunster, the AUC Student Developer Scholarship recipient for 2010, about his software development experiences and reflections of the AUC.



Finally, Louis Cremen, a former student and recipient of AUC scholarships, gave a hands-on demonstration of developing software on the Mac. His aim was to develop an application within 10 minutes with little coding – quite ambitious, but an enjoyable time was had by all. Keep an eye out on the AUC website ([www.auc.edu.au](http://www.auc.edu.au)) for up to date information regarding all things AUC.

## Catch the best of /dev/world

The AUC's /dev/world 2010 conference ([www.auc.edu.au/DevWorld+2010](http://www.auc.edu.au/DevWorld+2010)), held on 28-29 September at the Rydges Hotel in Melbourne, was a great success.



If you were there, it was wonderful to have you join us. If not, you may be interested to check out podcasts of many of the sessions from the conference. The 18 sessions available for video streaming include Paris Buttfield-Addison's talk about usability, Chris Neugebauer talking about

Python programming, Kyle Buttress discussing campus mapping using Core Location, Tim Nugent's talk about using and enhancing Mapkit, and many more. Several sessions also include PDFs of presentation materials.

To access the podcasts, visit [www.auc.edu.au/DevWorld+Sessions](http://www.auc.edu.au/DevWorld+Sessions).

## Get going with iOS

### iOS 4 iOS SDK Workshops

iPhone and iPad development are the hottest skills going these days, and the AUC's iOS SDK Workshops – to be held in Sydney, Melbourne, Brisbane and Perth during April – are a great way to get involved.

The workshops will cover the main tools of the trade and the major components of the iOS SDK, helping attendees get well on their way to writing great applications for these revolutionary devices.

Spaces are limited and will be awarded on a competitive basis based on the information supplied in the application form, which is available – along with more information on the workshops – at [www.auc.edu.au/iOS+SDK+Workshops](http://www.auc.edu.au/iOS+SDK+Workshops).

## New AUC contact details



The AUC office has moved and we have new contact details.

We can now be reached at:

PO Box U194  
University of Wollongong  
NSW 2500 (this is unchanged)

New Phone: 02 8005 7870  
New Fax: 02 4204 1616

Email: [ajeffrey@auc.edu.au](mailto:ajeffrey@auc.edu.au) (this is unchanged)

Something interesting happening within your university's teaching environment? We want to hear about it! Drop us a line at [publications@auc.edu.au](mailto:publications@auc.edu.au) and we'll include the most interesting tidbits in the next issue.



# AUC Update: iPods touch USyd



One of the many benefits of AUC membership is access to all-in-one kits designed to provide access to recent Apple technologies for evaluation and use. Kits including 20 iPod touches or an iPad and accessories ([www.auc.edu.au/Seeding+Equipment](http://www.auc.edu.au/Seeding+Equipment)), as well as two Classroom In A Box setups each having 15 MacBook Pros and accessories ([www.auc.edu.au/Classroom+In+A+Box](http://www.auc.edu.au/Classroom+In+A+Box)), are available to member universities for short loan periods as necessary.

Access to the iPod touches recently proved invaluable for Martin Tomitsch, a lecturer within the University of Sydney's Faculty of Architecture, Design and Planning. A longtime researcher into information-driven access to public transport, Tomitsch recently ran an elective for Bachelor of Design Computing students who were charged with a semester-long project in which they would design, build and implement a transport-related application.

"We were exploring all those kinds of information that are currently not visible to people using public transport, and how you could apply that information in order to increase the customer experience," Tomitsch explains. "The focus was not just on developing a fully functioning application, but on coming up with a really solid design concept and going through several iterations to implement a working prototype."

Students of the course – called Advanced Interaction Design – tended not to be highly technical, with an interest in computing and an even stronger interest in design principles. None of the students had experience using Objective C when the project began, but all learned its syntax and coding as they worked throughout the semester to design and implement their application within Apple's Xcode development environment.

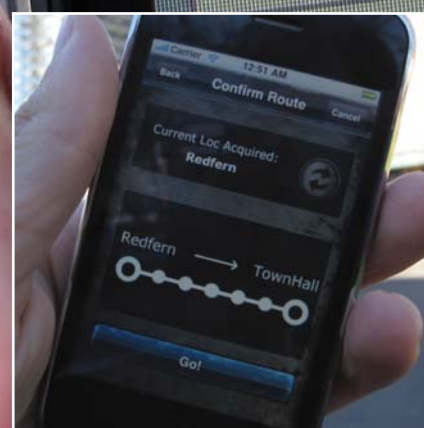
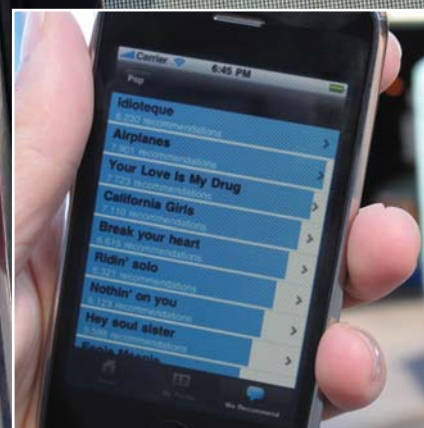
The project brief elicited a broad range of responses from students. Some came up with games, while others focused on the social aspect of travel and still others designed trip planning, tourist information or simple reference apps. Titles included 'Hijack Central', 'Beat the Queue', 'Intelligent Tunnel', and 'Elevated Way'. Students were tasked with keeping blogs throughout the course of their projects, and also with making a video to highlight their thought and development processes.

As the projects neared completion, Tomitsch faced a logistical issue: he needed a way to help the students load and test their applications on a real-world device rather than relying on on-screen emulators. "We needed more devices so every student could work on one," he explains.

This is where the AUC seeding equipment came in handy: by organising delivery of the units for the last three weeks of the class, Tomitsch was able to ensure students could deploy their apps – and do it without having to pay for a formal developer license.

"That structure worked really well for us," he recalls. "Because we have such a design focus, we spent most of the time coming up with concepts, building them, and at the end wanted to test them. Having them in the last three weeks allowed them to really test the app on a device to evaluate the whole experience."

Since the conclusion of the project, Tomitsch has taken a number of steps to preserve the students' projects. Blogs and course notes are archived at <http://bit.ly/dXhqNb> while Tomitsch has also compiled ten of the projects into a book called Infostructure that will be available online and through [Amazon.com](http://Amazon.com).





# IDEAS TAKE FLIGHT AT DEAKIN

One of the ways lecturers can foster creativity in their students is by tasking them with finding new uses for existing technology. But in Adrian Bruch's case, his creative arts and design students' latest burst of creativity has come through an interesting classroom partnership that's helped his students rethink e-book aesthetics and develop an innovative game using an iPhone-controlled flying robot. Bruch, a lecturer in the School of Communications & Creative Arts at Deakin University in Melbourne, is continually looking for new ways to get students to consider elements of design and execution. In a recent project, he paired his interactive media and animation students with games design students from Deakin's Geelong campus on a collaborative effort to design and build a game that utilises the flight capabilities of the Parrot AR.Drone (<http://ardrone.parrot.com>).

The AR.Drone is a so-called 'quadricopter' that's capable of hovering and flying in three dimensions based on control signals and live video feeds transmitted to a companion application running on an iPhone or iPod touch. The handheld device communicates with the drone via direct Wi-Fi connection, giving it a usable range of up to 100m. Parrot's Open Game application programming interface, and open-source code repository, open up a wealth of possibilities for developers keen to build their own apps using the AR.Drone.

In the case of Bruch's team, the app in question is a game called HoverScotch. In HoverScotch, each player navigates the AR.Drone through a series of specially-designed targets placed on the ground around an open space. Players must travel to each target in order, then navigate the drone as close to the target as possible using its onboard

cameras and take a screen capture at each point. The winner is the player who gets the closest to all of the targets, in the shortest amount of time.

Developing for a novel piece of technology offered Bruch's students the chance to consider new rules of engagement, user interface issues, game parameters, and the many other elements that go into creating a successful gaming and design experience – and that, he says, made it an excellent learning opportunity for his students.

"I was interested in ways the students could create something a bit more practical, relevant, and team-oriented," he explains. "Because they have to work in a team, they discover that other people have strengths – and they get the chance to have someone who has skills they don't, to make them look good. Over time, they start to form professional working relationships that go beyond the project they're working on."







The AR.Drone isn't the only new-media experience Bruch is using to get his students to think outside the box. In another recent experiment, he had them design a futuristic e-book for the iPad, considering both design issues and factors such as the user interface, navigation system, and so on.

Bruch, who has recently been configuring a purpose-built design laboratory brimming with several dozen iMacs for student use, has also mandated the use of Apple's iLife suite for media production rather than handing students professional-level tools like Final Cut Studio:

"I want them to deal with what the general consumer has to deal with, and not forget that they're dealing with the general public in their work," he explains.

Ultimately, a core part of Bruch's teaching esthetic stems from considerations of presentation: what

kind of device a media asset will run on, how it looks, and how its form factor affects the way users ultimately interact with it. This relates both to finished products like games, and more broadly about how his students will present their creative selves to the world.

"Because they're digital, they allow us to take the content and repurpose it quickly for other devices," Bruch explains. They're now having to think about what works on a computer screen – most of us have large computer screens – and what works on that is not necessarily the same as what's going to work on an iPad or iPhone."

Or, of course, on an AR.Drone – whose combination of real-world movement and interactive control and video interface makes it a unique delivery platform for students that are more and more concerned with the way their works present themselves. It's also fostered a

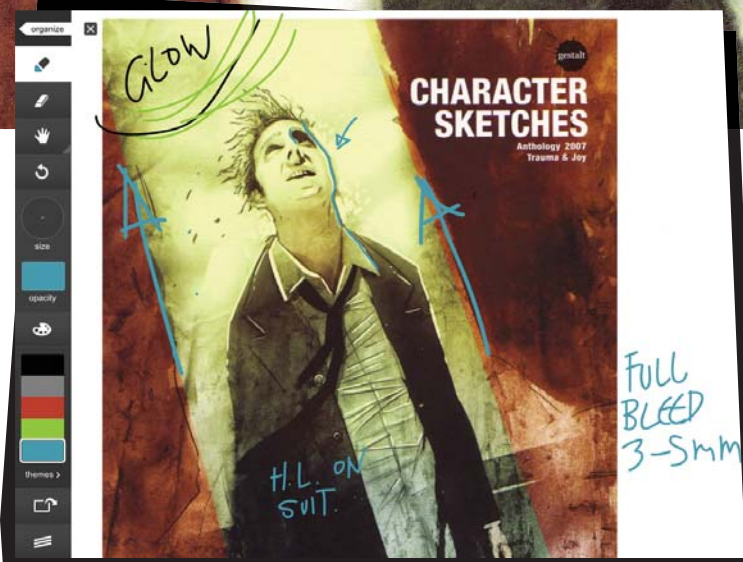
development approach that reflects what Bruch sees as a growing trend towards mash-up code: taking existing elements and reworking them to add new functionality or combine old features in new ways.

"We're seeing that the traditional students that would have come out of programming courses are getting less and less interested [in low-level work]," he explains. "They're more about what they can do easily, and what existing off-the-shelf stuff they can use. The ability to take an existing game and mod it is far more valuable to students than just getting skills that allow them to develop their own bits and pieces. What they want is the iteration of things to do it again and again – and I tell them if they want to get a high distinction they've got to answer this question: 'knowing what you know now, what would you do differently?'"





# ART OF THE IPAD



When you're teaching design and art, it's crucial to be able to translate thoughts into visual demonstrations that give students an idea of exactly what you're trying to say. Yet for Justin Randall, one major obstacle had made this difficult in the past: it's hardly acceptable to draw straight onto a student's evolving artwork to share your feedback.

In the past, Randall – a lecturer within Curtin University's School of Design and Art (SoDA) – had used workarounds such as sketching the student's idea on a whiteboard, then marking it up and having students take photos of the annotated image. This was a clumsy but unavoidable way of collaborating with students throughout the course of their design and art projects.

"I get students to use Wacom tablets to sketch over their layouts and concepts, which works fine if you're in a studio," he explains. "But when you're in a classroom, you've got to work on the fly a little more. But sketching with whiteboard markers and on tables is only temporary, and you can't really draw over students' layouts."



Randall found a solution in the form of the iPad and Adobe Ideas, a graphics app that allows artists to draw over and annotate photos in a broad range of ways. By annotating the students' images straight on the iPad, he could create a digital master that could be easily marked up to reflect whatever he was trying to say. Annotated images could, he realised, be easily emailed back to students in an iterative loop that would allow him to provide more detailed feedback, faster than ever.

There was only one problem: his first-generation iPad had no camera. To work around this deficiency, Randall got used to photographing each student's work with his iPhone 4, then emailing the image to his iPad and annotating it there.

The extra step may have been inconvenient, he concedes, but it was worth it. "This way we can load student designs onto the iPad without affecting their composition by trying to redraw them," he says. "It's a few extra steps to use the iPhone, but it's very efficient. And when it comes to loading reference images and sending them back, Adobe Ideas works fantastically: it's not to the point where you're emulating the features available on a desktop machine, but it does do enough to accommodate people with design skills."

With around 120 students at any given time, Randall's shift onto the iPad has increased his teaching efficiency and allowed him to speed up his own work, such as his ongoing authoring of a graphic novel that he's able to review, mark up, and archive as work product.

There are limitations, of course: the iPad doesn't offer the pressure-sensitive stylus that's available on Wacom tablets, and the original iPad's lack of a camera made the solution a bit trickier than it had to be. However, these are small obstacles – especially since the newly-announced iPad 2 will incorporate a camera that will completely eliminate the iPhone 4 step.

Although his solution is relatively straightforward, Randall says many of the academics he's shown it to had no idea the iPad could be used in such an interactive way – but immediately saw its promise. "I showed other academics programs like Adobe Ideas," he says. "A lot of people aren't aware of the iPads and how they can be used in education. But we have a lot of courses and electives to choose from; for around 1000 SoDA students going through design course and design and art courses, there's application for this to be utilised by all of them."



Justin Randall



# Back in time in Parramatta

Although it has recently consolidated its position as a centre of government and commerce within metropolitan Sydney, Parramatta has an extensive and often unappreciated history dating back to 1788, when it was established as a large agricultural concern.

Sharing this history with modern visitors has required city historical archivists to consider a broad range of options for managing a range of historical and modern information. It was with great interest, then, that Parramatta City Council observers noted the work of University of New South Wales senior lecturer Dr Daniel Woo, who in 2009 worked with a number of Human-Computer Interaction Lab colleagues to release a walking tour of Sydney called Sydney's Birthplace Book (see *Wheels*, Spring 2009 issue).

Aiming to expand on the ideals of that project, the team spent time thinking about the best way to package the history of Parramatta in an engaging way by combining a variety of multimedia into an iOS application to be used during a walking tour of the city.

"It's the whole question of delivering that in-the-field experience," says Woo. "The council wanted a very different experience, with stories about people; we wanted to bring back heritage history in a way that's palatable for the new generation of device-carrying people. And while one would assume that's the younger generation, many people who are 40-plus and in their 50s are starting to get excited about these things too."

The result was DigiMacq: Parramatta and the Spirit of Lachlan Macquarie (<http://bit.ly/gmpRRt>), an interactive application that bundles a range of historical images, narrations and other content into a graphical interface designed for accessibility and ease of use. Content was added from a range of archival sources with the council's blessing, providing access to invaluable primary sources that would help bring Parramatta's history to life through the eyes of early governor Lachlan Macquarie.

The team – which linked Woo with others including Parramatta City Council's Michelle DeSailly, NSW Heritage Branch's Bill Netherly, and Art of Multimedia's Beata Kade – initially envisioned DigiMacq as using location services to follow

users through the city. However, discussions ultimately settled on an easier alternative: using a variety of symbols that must be entered into the device to access different parts of the application. Differing combinations of three symbols were added to signs near each of the six historical landmarks, and tourists access the relevant content by entering the relevant combination as posted on the sign.

Multimedia assets were digitised and delivered by Art of Multimedia, a commercial design and graphics house, while Woo helped with software design, development, and user interface testing. This included both high-level interface issues and practical issues, such as locking the app in a particular orientation so it didn't detract from the user experience.

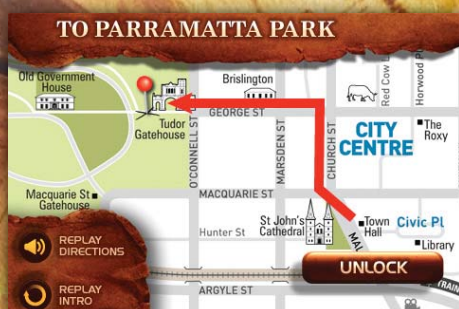
By the time the app was complete, Woo says, it had been polished to a high level of finish. "It was great working with the council and people who are motivated by the heritage and culture of the region," he explains.

"We had many ideas about what would work, but in thinking about the story you're trying to tell you also have to consider the usage habits of the potential audience. We could have gone a lot more complex, but it's about keeping things simple. It all came together to create the story of the region in a really high-quality way."

DigiMacq debuted in mid 2010 and received rave reviews from users, who in comments on the iTunes App Store called it "captivating" and "the most interesting tour I have ever taken". The team presented the app at Interpretation Australia's annual symposium in November, and the app is now available from the Parramatta City Council Visitors Centre, which rents iPod touches – outfitted with cases that cover the home button, lanyards for easy carrying and running the DigiMacq app – to visitors.

"Many are people who discovered Parramatta's history and may have lived there as kids, but said they didn't know this stuff was there," says Woo. "It has been a positive experience. Fundamentally it's storytelling, and just putting a really great user experience around that."

[www.discoverparramatta.com/events/tours/digimacq](http://www.discoverparramatta.com/events/tours/digimacq)





# Apple Update



## iPad 2 has landed

Expectations were high for the successor to Apple's runaway hit, the iPad, and for many the sequel did not disappoint.

Measuring in at 33 percent thinner and up to 15 percent lighter than its predecessor, the iPad 2 packs a punch in every way. Its new dual-core A5 processor boosts graphics and application performance while retaining its 10-hour battery life, while its use of the new iOS 4.3 update adds features such as faster Web browsing; iTunes Home Sharing features; Personal Hotspot (to share an iPhone 4 mobile data connection using Wi-Fi) and HDMI Video Mirroring, which displays whatever's on the iPad on an HDTV using an optional adaptor.

A pair of cameras on the front and back of the unit offer image capture and videoconferencing support, enabled using new innovations such as FaceTime for iPad and an iPad version of Mac OS X stalwart Photo Booth. The rear camera can capture 720p video and allow users to edit it using the optional new iMovie for iPad app, while the newly released GarageBand for iPad offers a broad range of instruments and 8-track recording studio features.

The addition of the cameras alone will make the iPad 2 a compelling purchase for the likes of Curtin University lecturer Justin Randall (p8), but as a whole package – available in black and

white and topped off by the new Smart Cover, with its self-aligning magnetic hinge – the iPad 2 represents a significant step forward for a tablet that has sold over 15 million units and defined an entirely new product category all by itself.

iPad 2 pricing ranges from \$579 with Wi-Fi and 16GB of storage, up to \$949 with Wi-Fi/3G and 64GB of storage.

**[www.apple.com.au/ipad](http://www.apple.com.au/ipad)**

Are you using the iPad 2 in your teaching? Let us know about it; drop us a line at **[publications@auc.edu.au](mailto:publications@auc.edu.au)**.







## New MacBooks, new interface

Apple's family of MacBook Pro laptops got a refresh recently, with faster processors and graphics subsystems, a higher-resolution camera, and a significant new I/O technology, Thunderbolt, that sets the industry speed record for connecting peripherals of all kinds.

The new MacBook Pros ship in a variety of configurations, with 13-inch Intel Core i5 and i7 dual-core systems at up to 2.7GHz featuring Intel's HD Graphics 3000. Larger 15-inch and

17-inch models incorporate quad-core Intel Core i7 processors at up to 2.3GHz and AMD Radeon HD graphics processors with up to 1GB of video memory. Its FaceTime HD camera offers triple the resolution of previous cameras, and facilitates high-definition video conferencing via the new FaceTime video calling software.

Thunderbolt I/O technology incorporates two bi-directional channels that each offer up to 10 gigabits per second (Gbps) transfer speeds for

connection of DisplayPort-compatible displays, high-speed RAID storage arrays, and other peripherals. Thunderbolt can connect FireWire, USB and Gigabit Ethernet using optional adapters, and is supported by a growing number of products from third-party vendors.

Pricing for the new models ranges from \$1399 for a 13-inch 2.3GHz dual-core i5-based model, up to \$2899 for a 17-inch 2.2GHz quad-core i7-based model. [www.apple.com.au/macbookpro](http://www.apple.com.au/macbookpro)



## Lion at the gate

The next major release of Mac OS X, 10.7 'Lion', is nearing completion and was recently delivered as a Developer Preview to highlight the broad range of new features that it will integrate when it's finally released this southern winter.

Broadly borrowing from the design of Apple's iPad, Lion incorporates features such as the all-in-one Mission Control activity panel, Launchpad app launcher, full-screen apps that use the Mac's entire display, and a range of new Multi-Touch gestures.

Lion also incorporates a range of file-management tools including Versions, which automatically creates and manages successive versions of documents as they're saved; AirDrop, for wirelessly copying files between Macs; Resume, which freezes an app's state when you quit it and restores it when you resume it; Auto Save, which automatically saves documents in progress while you work; FileVault disk encryption and more.

[www.apple.com/au/macosex/lion/](http://www.apple.com/au/macosex/lion/)



## Mac App Store

With the iTunes App Store having passed the 10 billion downloads mark, there's no question the model has proved to be a massive hit with consumers. The desktop version, launched in January as the Mac App Store, extends the model onto the Mac OS X desktop by providing an easy interface to browse, find, purchase, download and install all kinds of apps.

As in the iTunes App Store, Mac App Store apps are grouped by category, with most-popular lists, user reviews, screenshots and all the other interface conventions with which iPad, iPhone and iPod touch users are already acquainted. Downloaded apps are automatically installed and an icon loaded onto the Dock, ready for use. When apps are updated, the App Store icon shows a counter to indicate the number of available updates, while Mac App Store facilitates the update. [www.apple.com/au/mac/app-store/](http://www.apple.com/au/mac/app-store/)

## Don't forget Apple's education pricing

Apple Australia offers educational pricing for university students on all its iMacs and MacBooks. For example, MacBooks drop by \$60; the Mac Mini, by \$60; iMacs by \$70; MacBook Pro by \$100; MacBook Air by \$60; and Mac Pro by \$250.

Discounts are available to university and TAFE students, teachers, administrators, and staff members as well as parents of current, accepted or applied university students. There's a limit of one discounted desktop and/or notebook per academic year. See [http://store.apple.com/au/browse/home/education\\_routing](http://store.apple.com/au/browse/home/education_routing) for details.



# Life after AUC: Seeing the Light



It's been over a year since Kieren Eaton finished working towards his Bachelor of Computer Science at Curtin University and entered the "real world" – and he's landed on his feet with involvement in a number of projects that have built upon his long-running interest in building systems to assist visually-impaired people.

With the assistance of mentor Dr Iain Murray, Eaton took on a position as a teaching assistant at the Cisco Academy for the Vision Impaired (CAVI, at [www.ciscovision.org](http://www.ciscovision.org)), a project of the Curtin University Centre for Accessible Technology (CUCAT, profiled in *Wheels Spring 2008*). This role saw him involved in maintaining the specialised network environment that helps vision-impaired students pursue Cisco professional certifications. It also got him involved with a project to build an iPhone app that allows users to read Daisy Talking Book (DTB) files – which build on Daisy ([www.daisy.org](http://www.daisy.org)) standards to offer audio books with a range of navigation features to improve their accessibility to vision-impaired listeners.

The resulting app, DaisyWorm, is now available through the iTunes App Store (<http://bit.ly/byHIOT>) and offers "the basic stuff" for now, Eaton says. He'd like to add iOS' VoiceOver support to allow the

reading of text-only books: "it's quite interesting, being such a portable device and getting all these things to work on it is a bit of a mission in itself," he says.

However, Eaton has been struggling to find time for that iPhone development due to the demands on his time from another project he's doing for CAVI – a complete overhaul of its lending library, which has long used a traditional borrowing system called Postal that tracks the movement of books-on-tape and large-print books to and from the library's patrons.

With a large-scale shift to digital recordings, AVI's library is looking for a way to improve the movement of digital-book files, which are produced regularly through five inhouse recording studios and now being loaned to patrons on USB sticks.

When his overhaul of the system is complete, vision-impaired patrons – many of whom are housebound – will be able to record their preferences in Book Loader, an application that will automatically erase the USB stick and copy the appropriate sound files for delivery to the patrons.

"We're trying to get away from books on tape and get into a full digital format," Eaton explains.

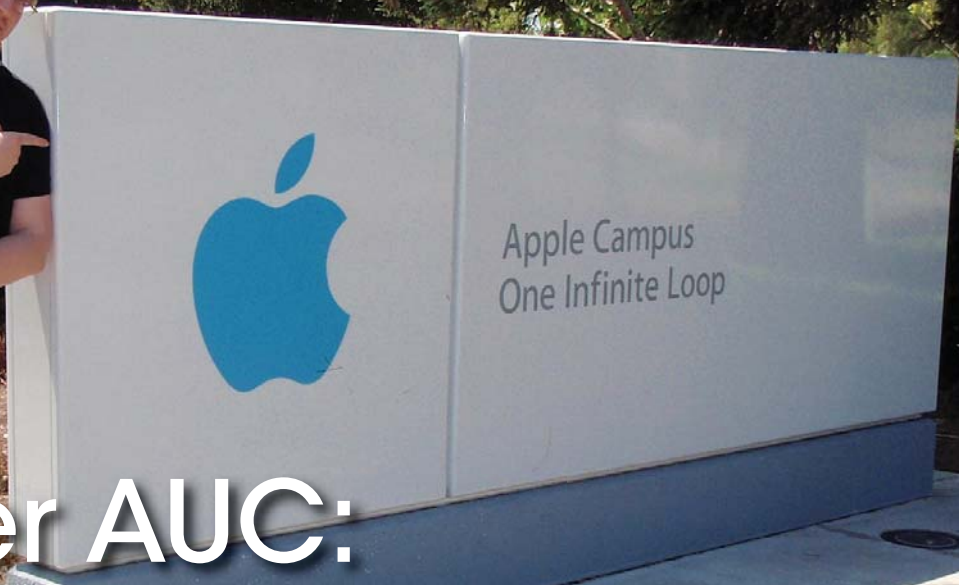
"We're repurposing the library management system, which traditionally only dealt with basic things such as overdue books and user credits, into a fully interactive system that's live on the Net. At the moment staff are spending three to four hours per day processing what's on the tapes, but this system will reduce that downtime by around 90 percent."

The development process has involved a learning curve for Eaton, who has complemented his Cocoa, MySQL and other skills with PHP, CSS, and other Web design knowledge throughout the course of the project. It's a passion that he nurtured during his university days, particularly through extensive involvement with AUC-backed activities such as his scholarships to Apple's World Wide Developers Conference.

"I went to WWDC a couple of times, and the people and contacts I made there were awesome," Eaton says. "The AUC really helped out and moved me along; I knew how to program a bit before, but they gave me a step up into the world of Apple programming. The exposure to it and the people you meet is invaluable; instead of being in your own little sheltered box, they help you get out and point you in the right direction."



# Life after AUC: iOS development



As the iPhone and iPad continue to spark the imagination of mobile developers, many are leaving uni with dreams of starting their own iOS development houses and hitting the big time.

Yet while the overnight-millionaire stories of the iPhone's early days may be few and far between, many students are finding there's strong and continuing demand for development skills that can bring clients into the mobile world. Just ask Louis Cremen, who graduated from the University of Wollongong in 2009 and has since dived deep into the iOS development world through his company, Guardian Software Development ([www.guardiansd.com](http://www.guardiansd.com)).

Cremen was an early enthusiast of the iPhone, having started learning to develop for the platform on the first day the software development kit (SDK) was released back in March 2008. "I had been doing programming before that, mainly on uni assignments," he recalls. "But nothing as graphically impressive as the iPhone."

It was "actually quite hard" at first, he recalls, with little documentation available and a culture of secrecy due to early restrictions on sharing SDK-related information. But he fought his way up the learning curve and happily professes his love for Objective C: "I absolutely love it," he says. "At first it's quite different to other languages, but once you use it, it makes much more sense than other languages."

A big fan of the AUC's /dev/world developer conferences, Cremen attended Apple's World Wide Developers Conference in 2009 courtesy of an AUC scholarship and soon found himself writing and teaching an

iPhone SDK development course to an eager audience of students. Over 130 people applied for that class, but it could accommodate fewer than 30 so there was a fair bit of residual interest.

Cremen's course proved so popular, in fact, that he began running the AUC's iOS training courses and recently joined forces in a deal that will see him teaching iOS development with training provider Dimension Data.

Training is just one part of Cremen's life, however: his efforts with Guardian have propelled his efforts from early apps like the UoW-produced flashcard app Quiz-Pod to the commercially-available Ninja Sweeper and Anagramz games, UoW FindMySpot parking-spot finder, and a growing number of commercial projects. These projects have forced him to build business skills to match his technical acumen, and he has already learned a few lessons about how to approach a market that's been saturated with new entrants in the year since Guardian began operations.

Good design, for example, is critical: "Probably 60 percent of your time should be spent in designing the user interface and user experience," he explains. "If you're coming from another programming environment you may not focus on the user experience that much – but if you spend that time, it really shows; you can really tell the difference between apps that are really nice, and those that haven't been thought out well."

More broadly, Cremen is working to build up the Guardian brand, with extensive networking to make new contacts at networking events, conferences and the like. He's also planning to focus the business on a particular niche – which he is yet to identify.

"We spent a lot of the past year working out what we wanted to do, and trying out small projects," he explains. "We had to find out what we like doing, and we're still finding our niche as a company. That may be education, or something else: the market changes so quickly that you've just got to keep an eye on it. But it's really helpful to let people know what you're passionate about so they can tell other people."

[louis@guardiansd.com](mailto:louis@guardiansd.com)



# La Trobe joins iTunes U's 1 million club



Universities questioning the potential interest in an investment in iTunes U content will be relieved to note that La Trobe University recently marked its one millionth podcast download, and is averaging around 60,000 downloads per month as the effort enters its second full academic year.

Launched in October 2009, La Trobe's iTunes U minisite (<http://bit.ly/hv10qf>) has become "an important platform for engaging current and prospective students", Deputy Vice-Chancellor (International and Development) Professor John Rosenberg says. "It provides an excellent environment for reaching a large Australian and international audience who would otherwise miss the opportunity of accessing the teaching of some of the best minds this country has to offer. It's also the ideal place for us to show our academic knowledge and research to the world."

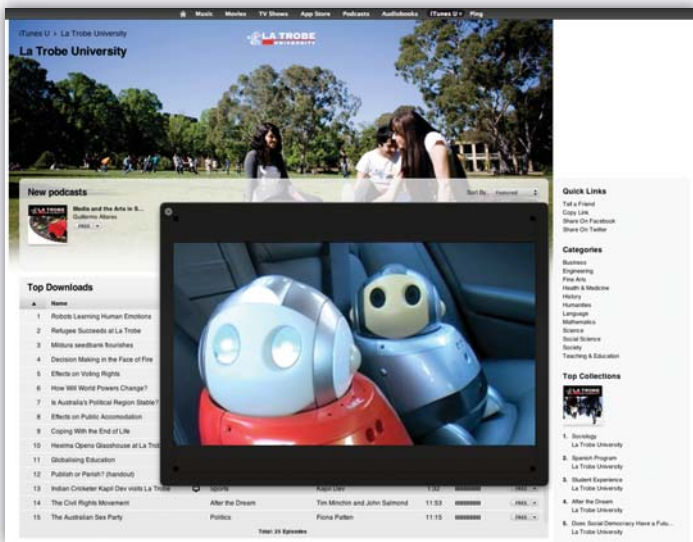
Yet students aren't the only audience for the university's iTunes U content, which now features over 450 podcasts – including five that have ranked on iTunes U's top 100 list. Past subjects including former PM Malcolm Fraser, Australian of the Year Professor Patrick McGorry, Nobel Prize winner in medicine Professor Harald zur Hausen, and others.

By presenting this content to the world via iTunes U, La Trobe has been able to boost its public profile in ways it could never have done on its own. "We wanted to give people who may never have heard of La Trobe University a chance to see the great things we do here," explains digital media officer Matt Smith.

"We also wanted to encourage academics to promote their findings through a media that we could control and develop. The service is now seen as a great asset and a strategic tool for promotion. We make a big effort to interview not only our own academics but also visiting scholars as experts in their fields, as well as politicians and other significant individuals."

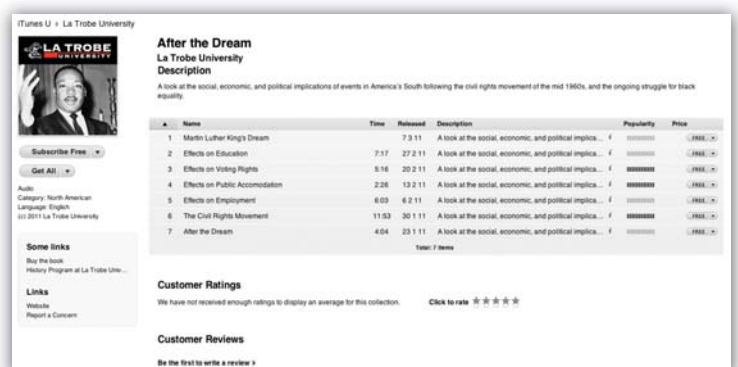
New content for the site is created by a "small but dedicated" team that records public events and converts the content into iTunes U format. And, despite recent University of Melbourne research (<http://bit.ly/dN6e3T>) that found one-third of students consider online learning materials a substitute for attending lectures, Smith says La Trobe's promotional focus has only helped increase university attendance by attracting the attention of more students.

"Potential students are able to better see the different opportunities that are available to them," he says.

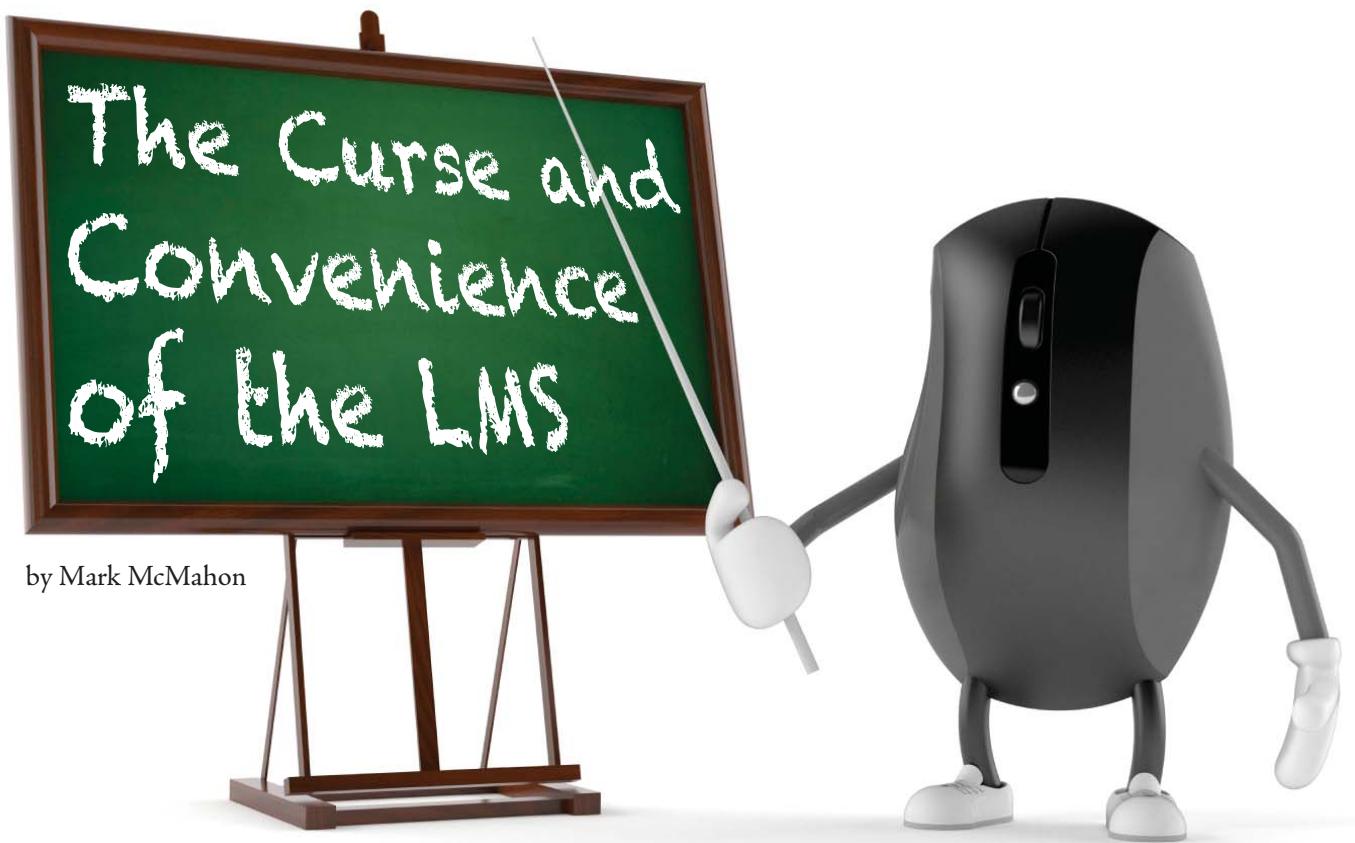


## The top 10 podcasts on La Trobe University on iTunes U are:

1. How Islamic banking works – Dr Hayat Khan
2. Climate Change 101 (audio documentary)
3. The Science of Climate Change Skepticism – Dr Andrew Glikson
4. Water Management in Australia – Professor Lin Crase
5. Russian History – Dr Adrian Jones
6. The Evolution of Language – Dr David Bradley
7. The Politics of Climate Change Skepticism – Professor Clive Hamilton
8. Darwin and Social Darwinism – Tony Barta
9. Gay Rights – Professor Dennis Altman
10. In Defence of Dan Brown – Dr Chris Scanlon







by Mark McMahon

In 1994 Richard E. Clark claimed that media has no influence on learning any more than a grocery truck influences our nutrition (Clark, 1994). This claim continues to resonate in educational technology circles and is a pointed critique of some of the expansive claims of various media evangelists.

This is particularly true for the Learning Management System (LMS). Any system that purports to 'deliver' learning is inevitably operating from a flawed model, where learning is a commodity – something that can be quantified and then metaphorically poured into the learner's brain like you would fill a car up with petrol.

In the early days of multimedia, prevalent around the time Clark was writing, this was manifested in a plethora of educational CD ROMs that provided navigation through hyperlinking and 'rich' media in the form of grainy postage-stamp sized MPEG-1 videos.

We have all seen them, and many of us still have boxes of them sitting in a cupboard somewhere gathering dust. They seemed remarkable at the time, if only because of the use of media to show content in new and interesting ways.

Such multimedia textbooks may be a great resource, but it is the process of reading them where the meaning is made. The problem with most LMSes is that they follow the same resource-based approach. To be fair, the systems themselves are only partly to blame. Most online learning in higher education is essentially correspondence courses supplemented by a discussion board.

As someone who has been involved in eLearning for decades, I have actively avoided teaching online just because I know how important the human factor is, and how inadequate the level of support given to online teachers in the university sector. Per student, online learning can be much more demanding on teachers' time than face-to-face learning.

At least, that is, if you do it properly. In this commoditised approach to learning, early instantiations of LMSes almost became synonymous with the word 'shovelware'. This was made worse by the terminology used within them. 'Learning paths' and 'learning objects' essentially supported the uploading and sequential presentation of content.

Over a decade ago and in a previous professional life, I was required to review the most appropriate LMS solutions for TAFE in WA. At that time there were a few players that branded themselves as such, but the one I recommended was an early object-oriented one that was essentially a content management system. It had all the features of the others, but a cleaner interface – and an inherent honesty in the way it treated learning materials as content objects.

When I moved into university, I solved the problem even more effectively. I got together with a number of my colleagues and we built our own. It was simple, highly functional and allowed us to integrate new features as we went. Fast-forward eight years and the venerable system has lived through several changes in school name and structure, but is still going strong.

Sadly I can see the end of its life coming as it is jostled around like a creaky dinghy, bobbing in wake of the multimillion dollar cruise ship that is the university's 'enterprise' system. I do love our own LMS. It is leaner, more stable and equally as powerful as the more corporate solutions. If we're talking cruise ships, at least the Titanic only went down once. With products like Blackboard bringing in mobile access with version 9 of their software and the big vibrant community behind Moodle, though, it is hard to justify a niche product like ours. While I have hated the earlier versions of Blackboard with a passion, many out there are trying to convince me that the latest iteration will allay all of my fears.

If I am to be optimistic, there is certainly some compelling evidence that the current loose baggy leviathans are starting to become useful. In any case, the idea of being able to provide mobile access for learners on the go, secure transactions for studio fees in design and visual arts, and sophisticated collaboration tools is an appealing one.

So the future for Learning Management Systems is a bright one, at least in terms of their capacity to interact with university databases, deliver content and track student use. In that sense they are enterprise ready – but giving me statistics on student use is not the same as tracking their learning. Linking to student records is not the same as integrating the whole student experience. Similarly, there are now a plethora of tools and technologies that can be brought to bear to enhance learning. I'm not talking about podcasted lectures here. No-one needs to listen to my nasal whine for 45 minutes online. I pity those that bother to turn up and experience it face-to-face.

I'm talking about the learning experience. I don't accept the argument that media does not influence learning. Photos show things as they are, illustrations show things at a higher level of abstraction, while animations show processes over time. Each of these media has specific communication affordances. The issue is focusing solely on the medium itself at the expense of more important aspects. LMSes are the trucks that deliver the content and the tools to work with it. But it is how we use those tools and what we do with the content that has the greatest impact on learning. As grocery trucks, LMSes cannot drive themselves. Good courses take good design, and good learning means providing opportunities to work with media in meaningful ways.

*Clark, R. (1994). Media Will Never Influence Learning. Educational Technology Research and Development, 42 (2), 21-29.*



# Game on at Macquarie

By Adrian Anthony, Macquarie University

On 16 October, the Macquarie University Computing Society (MUCS) held a LAN gaming event they called LANTaco.

The event was a means to promote the society on the Macquarie campus and at other campuses around Sydney, and the name was chosen because it was a memorable but silly title. MUCS hosted servers for Quake 3, Counter Strike 1.6, Unreal Tournament 2004, and Battlefield 2. However, gamers were required to bring along their own computer and their own copies of the games to be played, as they could not be provided; each entrant only got two power points, a chair, space at a desk and a LAN port.

In order to entice gamers to come to the event, MUCS contacted AUC and a few other organisations to help support the event. The AUC provided MUCS with two 6th generation iPod Nanos, each with the engraving "Compliments of AUC & MUCS". Other prizes included a Razer gaming pad, night vision goggles from Activision and an Xbox 360 copy of Modern Warfare 2 from Microsoft.

More than 50 people made it to the event, surpassing the expectations of the event organisers – who had never arranged an event of that scale before.

The LAN was running from 10am to 7pm. In that time, games like Counter Strike Source, Defense of the Ancients, Team Fortress 2 and Call of Duty 4 were played. Competitions began toward the end of the day, and at around 6:45pm the prizes were handed out.

MUCS hopes to make LANTaco an annual event, hopefully with continued support from the AUC and the other organizations that helped make the event a success. [www.lantaco.com](http://www.lantaco.com)







# QUT PLANS BIG FOR THE IPHONE

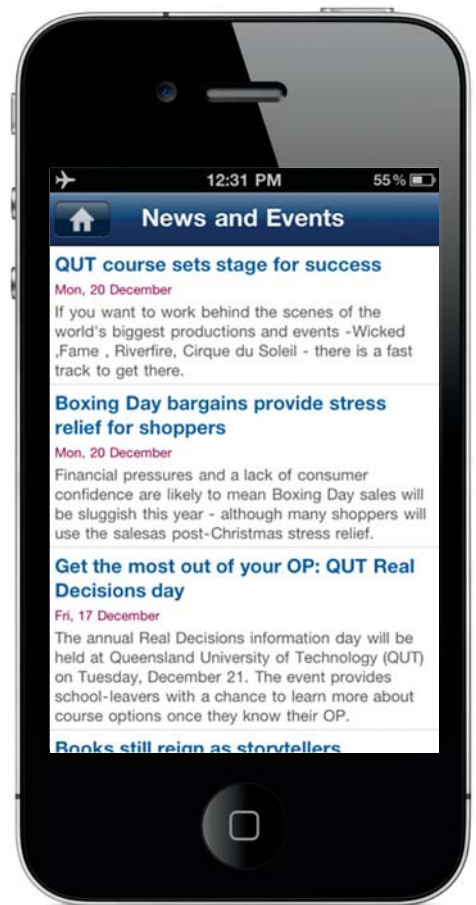
The trend towards offering purpose-built iPhone applications at AUC member universities has continued unabated, with Queensland University of Technology (QUT) the latest to offer staff, students and visitors an app that raises the bar for functionality.

Designed late last year and released at the end of December, the app, called QUTMobile (<http://bit.ly/eFxoRC>), has been downloaded over 9000 times and offers users a range of features ranging from GPS-powered campus maps

Gladwin worked as part of a team that included a designer and a usability tester, doing all the coding for the initial app and a number of updates that will eventually expand to include at least three major new features he's working on.

Unlike some university apps, QUTMobile has been built as a platform that can be added to over time to add new features as they're requested by users, administrators or other QUT faculties. This approach is reflected in Gladwin's efforts to make the app draw off of real-time information

"We really thought about the best way to present the data," Gladwin explains. "With the library app, we didn't just shove a whole lot of data on the screen, which would have made it too hard to read; we thought about the best way to present the data, and made it easy for people to navigate across an entire day of room bookings. And with the maps, the app pulls down the same data as is used by the Web site – so the maps were updated without users having to do anything." This sort of design reflects the



and a staff directory to news updates, the ability to book library study rooms, and direct views of the user's current library borrowings and due dates.

The app came about after QUT marketing staff picked up on prototype work being done by Neil Gladwin, now contracted as a web systems developer within QUT's Marketing and Communication arm. iPhone apps are "a very visible area," says Gladwin, "and have a lot of hype around them. A lot of staff members and executives have iPhones, and they can see the importance of having these apps to deliver content to student, staff and visitors. Also, many new students often bring iPod touches with them, and building an iOS app expanded the number of devices we could target."

feeds rather than static databases: library information, for example, is pulled down in real time and students are directly interfacing with the library's own information systems. Abstracting the content in the app means it can be easily updated with changes that are instantly available to all users. This came in handy during January's floods, when entire parts of the QUT campus were rendered inaccessible due to flood waters: campus maps were instantly updated to reflect the impassable zones, helping users plan their route more quickly and easily than would have been otherwise possible. Use of the iPhone's GPS helps the app pinpoint the user's current location in relation to their destination.

growing importance of iPhone apps – and, to a lesser extent, apps on other platforms – to helping universities deliver relevant and timely information about their campuses and activities. As initial efforts (like those catalogued in *Wheels Summer 2010*) continue to mature, new features are expected to make them regular companions for people on campus – offering additional functionality even as QUT and others work to build more generally-accessible mobile Web sites.

"The apps coming on the market are raising the bar – especially with the iPad – as to what you can do with these devices," says Gladwin. "People have seen the benefits of it now."



# It's all about image

Sam Dunster is still working through his university degree, but he's already well on the way to completing and distributing a large-scale Mac administration tool thanks to an AUC Student Developer Scholarship he received last year.

The tool, whose working title is Install Pro, is designed to help simplify the process of wiping and reinstalling a clean Mac OS X image when a system runs into problems. It's a problem for which there are many solutions, but Dunster is keen to reinvent the process to make it easy enough for users to do with just a few clicks.

"I want users to be able to use it directly when they've got problems," explains Dunster, who is currently in his third year of a Bachelor of Computer Science course at the University of Wollongong. "I'll get them to hold down a key and follow prompts onscreen, and they should be able to pick which apps they want installed."

The technology will also be aimed at system administrators within school libraries, for whom the process of keeping Macs running smoothly can be a massive effort. The ability to help them quickly roll out new standard operating environment (SOE) images across a large number of Macs, with as

little manual effort as possible, should differentiate his application from other popular options like DeployStudio ([www.deploystudio.com](http://www.deploystudio.com)) and NetRestore, which do the trick but can, he says, be hard to manage.

"In lab environments I'd like to be able to send a command to reboot all the computers," he says. "They'll boot Install Pro, download a configuration from the server, notice they're in a Mac lab, and figure out by themselves which software they should install. At the moment, there's a fair bit of time wasted doing this: restoring 20GB images to 200 computers in a school network that's only running on 100Mbps connections takes a while. So I'm hoping to use technologies like BitTorrent, and maybe multicast IP or other technologies, to try and speed up the process."

He knows well how big a problem reimaging can be: as well as pursuing his university studies, he has a gig managing the network at his high school, where he's used to installing a new SOE every three months and spending a day to reimagine each computer lab. He's also running tests of his application-in-progress on the network, and refining it for what he hopes will eventually become an open-source release.

Working through the development process has been a massive educational effort for Dunster, who prefers developing in Mac OS X to iOS but still found much to love when his scholarship brought him to Apple's World Wide Developers Conference in 2010. Queueing for the iPhone 4 keynote was "pretty great", he recalls, and the



technical sessions gave him great exposure to some lesser-known Mac OS X features including things like OpenCL and Launch Services, which is relevant to his project.

"Getting access to Apple engineers is awesome," he says, "and everything Apple does at WWDC is just so perfect in terms of sessions and people lecturing. I've also enjoyed the AUC events themselves; /dev/world 2010, for example, was great. I learned almost as much there as I did at WWDC."

As he works towards the end of his course, Dunster is thinking about his future career – which he envisions will involve "some kind of development". The possibility for scholarship recipients to gain an internship with Apple holds great appeal but in the short term, he says, "I've got to finish my degree and get out there to see what I can do."



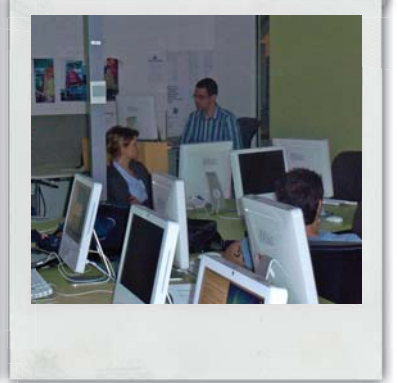
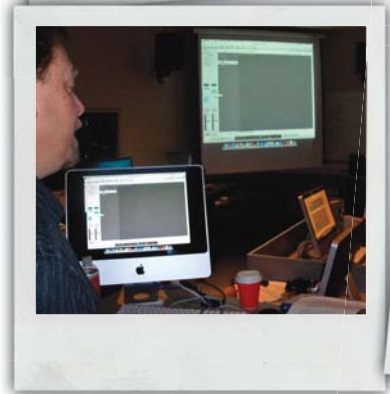


# CreateWorld 2010

CreateWorld has become a staple of the AUC's conference schedule, with creative types from around the country converging on Brisbane's Griffith University for three days of meeting, sharing, exploring and learning.

Run from 29 November to 1 December, the 2010 event included an eclectic mix of topics, ranging from a presentation from the University of Tasmania's PhD-pursuing Secret Lab duo, Paris Butterfield-Addison and Jon Manning; Robert Davidson's audience-participation animated music creation extravaganza; and Andrew Brown's keynote on digital creativity to sessions on topics including virtual worlds, music scoring, motion sensors, Xgrid-based population genetics experiments, and more.

<http://bit.ly/abDNck>





# There's an App for that App

By Carrie Clarke



**The new Mac App Store started appearing on Docks earlier this year.**

So, what is it all about?

## The basics.

The Mac App Store itself is an app; it does not live in iTunes like the iOS App Store. It arrived with the OS X 10.6.6 update and will be included with Lion (10.7) when it is released. When you upgrade to 10.6.6, you will see the App Store appear in your dock, as well as your Apple menu. Like the iOS App Store, it is easy to use and all purchases go through your iTunes account. When you purchase an app, you will see the icon fly down to your dock and display a progress bar as it installs.

## Why?

All of the best things about the Mac App Store come down to convenience. It's really easy to find apps, whether by searching for keywords, browsing through categories or checking out the top charts. When you want to find out more, it is simple to check features, read reviews and compare ratings with other apps. This makes software purchasing really accessible for non tech-savvy people and will help them to realise the potential of their Mac and make it their own. With so many apps in one place, it will enable everyone to discover apps that they might never have known about or have never gone looking for. Maintenance becomes a whole lot simpler too: with automatic updates you can

update all of your software with one click. With a convenient software distribution model like this, more people are likely to purchase more software, particularly if it is inexpensive; this may well help lessen illegal software copying too. The bonus for consumers is that software prices may lower due to increased competition and higher sales. Another advantage is that you won't need to worry about physical media (getting it, using it, storing it, etc): all purchases are instant and can be re-downloaded when required. This will be especially attractive to people with MacBook Airs, which do not have a built-in optical drive. Developers will also be attracted to the App Store as it allows them to focus on developing their apps rather than all the administrative stuff like billing, serial numbers, distribution and hosting. Their apps will likely be more visible to the masses, which can only help with marketing and sales. We'll probably see a lot more small apps and little utilities emerge, as well as apps that are available on both Mac and iOS - that connect and sync across all of your devices and Macs (great for productivity apps).

## What if you already have the app?

If you already have the software installed, you will only be able to use the Mac App Store auto

update feature if you re-install the app through the store. So if you have Evernote (which is free), you can easily replace your current version with the App Store version; all of your existing data and settings should be preserved, then you can use the auto update feature. However, if you have already purchased an app, like SketchBook Pro, then unfortunately you won't be able to use the App Store auto update feature unless you re-purchase it through the App Store. In this case, it is best to stick with the existing update mechanism, wait until the next version is released and purchase it through the App Store.

## Not the only way.

The Mac App Store is not going to have all the software in the world. There are some apps that won't be suited to the Mac App Store, which does have some restrictions in place to protect customers (all software is vetted before approval). The store is just another avenue for developers to distribute their apps, and it's up to them whether they choose to use it or not. It has already been embraced by many developers - most of which are continuing to use their existing distribution methods too. When Apple CEO Steve Jobs introduced the Mac App Store, he said it "won't be the only place, but we think it will be the best place" to discover and purchase apps.



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|  <p><b>1. FaceTime</b><br/>Social Networking<br/>★★★★☆ 10 Ratings<br/>\$1.19 BUY</p>            |  <p><b>2. Xcode</b><br/>Developer Tools<br/>★★★★☆ 15 Ratings<br/>\$5.99 BUY</p>     |  <p><b>3. Pages</b><br/>Productivity<br/>★★★★☆ 12 Ratings<br/>\$23.99 BUY</p> |
|  <p><b>4. Angry Birds</b><br/>Games<br/>★★★★☆ 173 Ratings<br/>\$5.99 BUY</p>                    |  <p><b>5. iPhoto</b><br/>Photography<br/>★★★★☆ 29 Ratings<br/>\$12.99 BUY</p>       |  <p><b>6. NinJump Deluxe</b><br/>Games<br/>\$1.19 BUY</p>                     |
|  <p><b>7. iStudiez Pro</b><br/>Productivity<br/>★★★★☆ 18 Ratings<br/>\$12.99 BUY</p>            |  <p><b>8. Keynote</b><br/>Productivity<br/>★★★★☆ 5 Ratings<br/>\$23.99 BUY</p>      |  <p><b>9. Flare</b><br/>Photography<br/>\$12.99 BUY</p>                       |
|  <p><b>10. Facebook Pro for...</b><br/>Social Networking<br/>★★★★☆ 6 Ratings<br/>\$5.99 BUY</p> |  <p><b>11. Asphalt 6: Adre...</b><br/>Games<br/>★★★★☆ 33 Ratings<br/>\$8.99 BUY</p> |  <p><b>12. iMovie</b><br/>Video<br/>★★★★☆ 7 Ratings<br/>\$17.99 BUY</p>       |

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|  <p><b>1. VirtualDJ Home</b><br/>Music<br/>★★★★☆ 34 Ratings<br/>FREE</p>    |  <p><b>2. Ninja Chicken for...</b><br/>Games<br/>FREE</p>                       |  <p><b>3. Facebook for Face...</b><br/>Social Networking<br/>★★★★☆ 11 Ratings<br/>FREE</p> |
|  <p><b>4. MPlayerX</b><br/>Entertainment<br/>★★★★☆ 22 Ratings<br/>FREE</p>  |  <p><b>5. iProcrastinate</b><br/>Productivity<br/>★★★★☆ 23 Ratings<br/>FREE</p> |  <p><b>6. McSolitaire</b><br/>Games<br/>★★★★☆ 15 Ratings<br/>FREE</p>                      |
|  <p><b>7. Caffeine</b><br/>Utilities<br/>★★★★☆ 107 Ratings<br/>FREE</p>     |  <p><b>8. Bubble</b><br/>Games<br/>FREE</p>                                     |  <p><b>9. Doodle Hangman...</b><br/>Games<br/>★★★★☆ 28 Ratings<br/>FREE</p>                |
|  <p><b>10. Virtual City Free</b><br/>Games<br/>★★★★☆ 6 Ratings<br/>FREE</p> |  <p><b>11. Twitter</b><br/>Social Networking<br/>★★★★☆ 44 Ratings<br/>FREE</p>  |  <p><b>12. Stand O'Food® ...</b><br/>Games<br/>FREE</p>                                    |

**Top Grossing** See All >

|  |  |  |
|--|--|--|
|  <p><b>1. Aperture</b><br/>Photography<br/>★★★★☆ 33 Ratings<br/>\$99.99 BUY</p>      |  <p><b>2. Pages</b><br/>Productivity<br/>★★★★☆ 12 Ratings<br/>\$23.99 BUY</p>         |  <p><b>3. Xcode</b><br/>Developer Tools<br/>★★★★☆ 15 Ratings<br/>\$5.99 BUY</p> |
|  <p><b>4. Keynote</b><br/>Productivity<br/>★★★★☆ 5 Ratings<br/>\$23.99 BUY</p>       |  <p><b>5. iPhoto</b><br/>Photography<br/>★★★★☆ 29 Ratings<br/>\$12.99 BUY</p>         |  <p><b>6. OmniGraffle Pro f...</b><br/>Business<br/>\$248.99 BUY</p>            |
|  <p><b>7. iStudiez Pro</b><br/>Productivity<br/>★★★★☆ 18 Ratings<br/>\$12.99 BUY</p> |  <p><b>8. Numbers</b><br/>Productivity<br/>\$23.99 BUY</p>                            |  <p><b>9. Flare</b><br/>Photography<br/>\$12.99 BUY</p>                         |
|  <p><b>10. iMovie</b><br/>Video<br/>★★★★☆ 7 Ratings<br/>\$17.99 BUY</p>              |  <p><b>11. Call of Duty® 4:...</b><br/>Games<br/>★★★★☆ 15 Ratings<br/>\$59.99 BUY</p> |  <p><b>12. Home Design St...</b><br/>Graphics &amp; Design<br/>\$188.99 BUY</p> |

**Quick Links**

- Welcome Matthew
- Account
- Redeem
- Support

**Top Charts Categories**

- All Categories
- Business
- Developer Tools
- Education
- Entertainment
- Finance
- Games
- Graphics & Design
- Health & Fitness
- Lifestyle
- Medical
- Music
- News
- Photography
- Productivity
- Reference
- Social Networking
- Sports
- Travel
- Utilities
- Video
- Weather

Store is really aimed more towards personal use – it does not have any volume licensing options, and your software purchasers cannot buy multiple copies of an app with one account.

Apple's terms and conditions indicate that apps are usable in commercial enterprise and educational institutions. The rules for this are different to those for personal use, so check the Apple website for more information.

## Client Management.

Purchased apps are installed in the /Applications directory. As a result, non-admin users can view the store but they cannot install apps. Admin users can install apps and they are not prompted for authentication (other than their Apple ID). Essentially, the Mac App Store is not giving your users any new capabilities – admin users can already install apps from other sources so this is not really any different. If there are licensing, legal or other reasons that your users should not be doing this, make sure they are well informed of their responsibilities. If the Mac App Store raises concerns, there are various options for blocking it – via MCX, keyserver, removing from image or restricting network access to the store.

This is not too much of an issue at the moment whilst software is still available through all the usual channels, but will become more of a challenge if some developers choose to start using the Mac App Store as their only distribution channel. The main software vendors that educational environments deal with are unlikely to do this, but smaller developers may start doing this to cut overheads. In the US, Apple have started an iOS App Store Volume Purchase Program for educational institutions to purchase iOS apps in volume and distribute to users. If this was to extend to the Mac App Store (and into Australia), it would help with some of our challenges.

Other features on the wishlist for Mac App Store management would be some sort of admin console, internal distribution server, license management and filtering. For now, universities are likely to stick with their current methods for software purchasing, distribution and client management.

The Mac experience is sure to change as the Mac App Store evolves, more iOS-like features creep into OS X and more cloud based services appear. But with Apple exploring new ways to make software distribution easier and smoother, in a few years we may end up using and managing Macs in very new and different ways.

## What if you have several Macs?

After you've purchased an app (for personal, non-commercial use), you can use it on all of your personal Macs (Macs that you personally own or control). So if you have two iMacs and a MacBook, you can purchase Angry Birds on one of them, then log on to the Mac App Store on the others and install it at no additional cost. The same applies if you buy a new Mac: simply log on to the Mac App Store and install all of the apps you have previously purchased in one hit. There's no need for hunting around for old install discs or license codes. This is largely based on an honour system: if you were to install one of your apps on your friend's Mac, you would be violating the usage rules.

## Use at educational institutions?

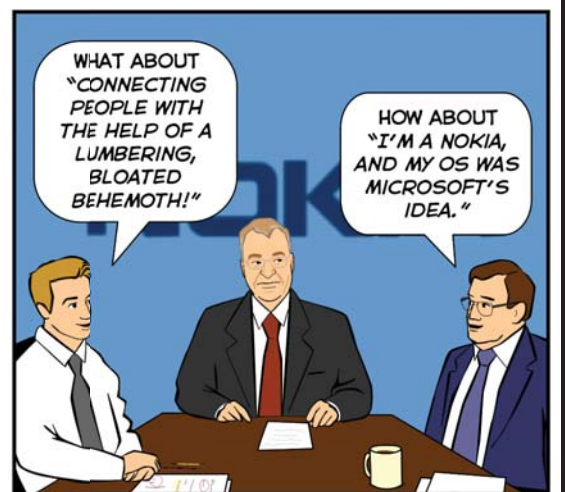
The Mac App Store will present some challenges in educational environments – mainly to those who deal with software licensing and management. If you are interested in using the Mac App Store on a Mac owned by your university, it is best to first check with your university to find out its stance on this. Your university will already have its own methods for managing software licensing and distribution, so using the Mac App Store will probably not be the preferred option at this stage. Currently the Mac App



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# CrossWORD Competition



## Across

4. Governor Macquarie's first name (p9)
7. Name of QUT iPhone app (p17)
9. This country's history is the subject of the fifth most-popular iTunes U podcast (p14)
10. Where Eaton works (p12)
14. Powers CreateWorld genetics experiments (p19)
15. Design firm Art of \_\_\_\_\_ (p9)
16. Number of /dev/world sessions available online (p4)
18. iPhone 4 feature for sharing Net (p10)
19. One challenge of Mac App Store (p21)
23. Closed off first day's proceedings (p4)
25. Spend this percent of our time on the UI and UX (p13)

## Down

1. iPad lacks sensitivity of this tablet (p8)
2. Topic Dunster enjoyed at WWDC (p18)
3. Talking book standard (p12)
5. App launcher built into Lion (p11)
6. Academic quoted by McMahon (p15)
8. Free app used as example (p20)
11. Use this to plug your guitar into your iPad (p2)
12. Advanced \_\_\_\_\_ Design, Tomitsch's course (p5)
13. Former PM on La Trobe's iTunes U (p14)
17. Parrot application programming interface (p6)
20. Adobe app for annotating images (p8)
21. Jawbone speaker with a big sound (p2)
22. Editing suite Bruch prefers (p7)
24. Gaming pad offered as Macquarie prize (p16)

WIN AN  
IPOD  
NANO



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](mailto:crossword@auc.edu.au)

Competition closes at 5pm on Friday, 13th May 2011.

## CONGRATULATIONS

Congratulations to Robin Belford for winning an iPod nano by correctly completing last issue's crossword to reveal the answer:

**CLASSROOM IPADS** An iPod nano is on its way!







# AUC

## Apple University Consortium Membership Benefits

|   |   |   |
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| <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 &amp; Developer Training</p> <p>Seminars &amp; Presentations</p>         |

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