Wheels for the MIND

AUC

iPads in the Top End

Getting in tune

Film-making relevance

Shaping the new padagogy

WIN AN IPOD NANO

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AUTUMN 2012

Hands-on Photoshop

It took a while, but Adobe's ubiquitous Photoshop image-editing tool has finally made its debut on the iPad as one of what will soon be six iPad 2-only apps (the others include Adobe Collage; Adobe Debut presentation software; Adobe Ideas for vector illustration; Adobe Kuler colour manager and wireframe tool Adobe Proto). It combines the best of Photoshop – layer support, smart selection tools, easy image touchup, paint-over tools and recompositing – with the intuitive touch-based usability of the iPad to produce a painting tool that will be both familiar and new to many.

$9.99 from the iTunes Store

bit.ly/yl0Oy4

Mic up your iPhone

Whether you're toying with the idea of using your iPhone 4 or iPod touch 4G to do movie making, or just like recording sound in high fidelity, you'll want to check out the Belkin LiveAction Mic. This unit clips onto the iPhone's audio jack and offers directional and super-directional modes for recording in a variety of sound situations. Works with Belkin's free LiveAction camera and video-sharing app (**bit.ly/wD7c1C**).

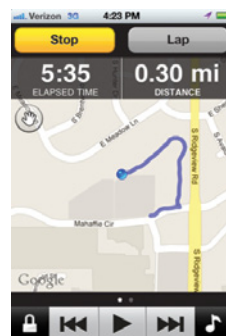$39.95 from Apple Store Australia.

bit.ly/xHNpWi

iStopMotion for iPad

If you're a keen movie maker, you've probably experimented with stop-motion video. Boinx Software's iStopMotion for iPad will let you bring your talent to life on the iPad, where you can easily make stop-motion animations with the help of features like accurate camera overlays to help with positioning; movie timelines; seamless editing in iMovie or publishing to YouTube; and sharing of movie files via Dropbox.

$4.99 from the iTunes Store

bit.ly/u067Wc

One remote to rule them all

It's not the first remote control for the iPhone and iPad, but it may well be the most comprehensive. Rather than forcing you to shove your device into a special case, Griffin's Beacon universal remote combines a standalone infrared unit with WiFi connectivity to let you control anything in your lounge room. Whatever your equipment, a database of over 200,000 components ensures you'll probably find it.

$94.95 from Apple Store Australia

bit.ly/y5rL0g

Get fit with Garmin

Runners and other exercise junkies will want to check out the latest from Garmin, which has launched an iPhone app that will keep track of all your workouts. Garmin Fit uses the iPhone's sensors to track your speed, distance travelled, calories burned and the route you ran. You can also add a Garmin Ant+ Adapter for iPhone that lets you collect data from fitness sensors like a heart rate monitor or speed/cadence biking sensor.

$0.99 from the iTunes Store

bit.ly/yv9LK8

Build your own cloud

You've probably heard about cloud services, but Buffalo has taken it a step further by building cloud capabilities into its CloudStation network-attached storage drive. Single-drive and dual-drive models (the latter featuring RAID 1) offer from 1 TB ($209) to 4TB ($639) of readily accessible storage. Automatic transcoding lets you access your files from iPhone/iPad, Android devices or any Web browser, while UPnP AV, Gigabit Ethernet and Time Machine support mean you can share content and use your drive for backup.
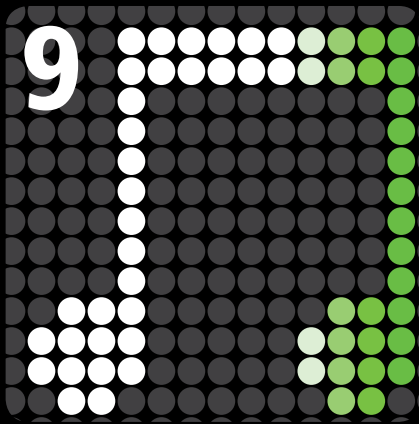
www.buffalo-asia.com/cloudstation

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EDITORIAL

Hi everyone and welcome to our first edition of Wheels for the Mind for 2012. I should say, from the onset, that this issue is unashamedly highlighting the iPad, and it rightly should. Apple recently announced their third generation iPad and once again, they've raised the bar in terms of functionality and power but have kept the prices the same.

The iPad has truly become a remarkable phenomenon. It is the largest and fastest selling tablet device of all time and with the release of the new iPad (3, HD, call it what you will), I can't see that slowing down.

More importantly, the impact on the Education sector from the iPad has been incredible. Schools and institutions have embraced the iPad in both evolutionary and revolutionary ways to create a new paradigm: mLearning (or Mobile Learning). Another term you'll see more and more is 'padagogy': teaching and learning using an iPad!

Now, mLearning has been around for a while but the focus shift and push into this area has been significant. No longer are we hearing about pilot projects for the iPad within both the K-12 and the tertiary sector – we're actually seeing real projects come to fruition. Teachers and students are finding new and innovative uses for the iPad and we've highlighted several of these in this issue.

From our friends in Charles Darwin University and colleagues from CreateWorld, we see the iPad being used in musical ways that push the boundaries of composition, recording and sound manipulation.

Staff at the University of Auckland are engaging students in the classroom to actively participate in teacher feedback. This appears to be helping students to 'virtually' speak up in a class when they don't know something and teaching staff can adjust their lessons, in real time, accordingly.

Curtin University are using iPads in their Screenwriting course to help students 'sell' their ideas to potential film producers and movie houses. Edith Cowan University are pushing even harder to engage their students to take note of comments made in their assignments. By providing almost real time feedback using iPads, the teaching staff can critique student's work electronically and provide not only written feedback, but also links to other resources to help them improve.

La Trobe University is topping the charts with new course offerings in iTunes U and they've now had over 3 million downloads in just over 2 years! There's also an excellent article from Carrie Clarke on how to setup iPad kiosks and all our regulars are here including a thought provoking article from Mark McMahon.

I hope you enjoy this edition and keep an eye open for our next edition which will be a digital version (coming around June/July).

David Yammouni
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AUC Update

WWDC 2012 staff & student scholarships

The AUC's annual trip to the Apple World Wide Developers Conference (WWDC) is an extremely valuable and well-received opportunity to rub shoulders with the many technical experts that have built and continue to maintain the Apple Mac OS X and iOS ecosystems.

This year, the AUC will offer a range of scholarships including allocated staff scholarships to half of the AUC member universities; 15 nationally competitive staff scholarships and 20 nationally competitive student scholarships. Applicants must have a background in programming Mac, Unix or Windows systems.

Successful applicants will receive a financial subsidy that covers the cost of return economy airfare to San Francisco, USA from Australia or New Zealand and twin-share accommodation at the Courtyard Marriott in San Francisco for up to 7 days. Each scholarship provides $3000 towards the total cost of the trip, and the AUC will subsidise domestic flights for regional scholarship winners to their nearest international departure port.

Details of the scholarship and links to application forms are available at **auc.edu.au/wwdc/about/.** Applications close 23 March; recipients of competitive scholarships will be announced on 6 April and allocated scholarships on 14 April.

X-World – call for presenters

The AUC's annual X-World conference offers a wealth of content tailored for OS X and iOS system administrators, and will be held from 4 to 6 July at the University of Technology Sydney.

X-World is the AUC's largest single training exercise every year, and this year's event will comprise a range of keynote presentations, hands-on workshops, lecture presentations and social events for up to 200 attendees.

The organisers are currently accepting submissions from staff and students at AUC member universities who are interested in running a session at the event. Topics suitable for presentation at the conference include, but are not limited to: Apple Remote Desktop, Mac OS X security, virtual machines, SOE & MOE development Exchange integration, cloud computing, App development and more. Case studies are particularly welcome, if you have been working on an interesting project and would like to share it with your peers.

Submissions close on Wednesday 18 April, and registrations for the event will open in May 2012. If you would like more information or want to propose an X-World 2012 session, please visit **bit.ly/zD9NvI** and fill in the form.

Student developer scholarships

Each year, the Student Developer Scholarships (SDS) program is run to support up to two students that have a talent for programming on Mac OS X or iOS, a strong academic record, and an innovative project that doesn't reinvent the wheel.

SDS recipients receive a loaner Apple MacBook Pro for the duration of the scholarship; a one-year Apple Developer Program membership; a standard AUC student scholarship to attend Apple's World Wide Developer Conference; a standard AUC student scholarship to attend AUC's /dev/world Conference; attendance at WWDC and /dev/world in 2013 (subject to acceptable progress).

At Apple's sole discretion, recipients also face the possibility of participating in the Apple USA internship program in Cupertino, USA.

SDS applications close on 23 March, with assessment to run from 26 March to 6 April and recipients notified on 13 April. For more information, visit **auc.edu.au/sds/about/**.

Cocoa workshop scholarships

The AUC will offer 20 scholarships to the annual AUC Cocoa workshop, which will be held at the UNSW Kensington campus from 11-13 April. This workshop is aimed at students and staff with some C or Java programming experience, and provides the basics of programming Objective-C and Foundation classes to help those who are interested in using Cocoa development technologies to build for Mac OS X or iOS.

Technologies such as Core Data and Bindings will be covered, as will topics ranging from source code management and debugging to widgets, views, window controllers, graphics application programming, mouse event handling, and more.

The workshop costs $150 for students and $300 for staff. Scholarships cover return economy airfares, three nights' accommodation and an allowance to purchase Aaron Hillegas' Cocoa Programming for Mac OS X text and workshop notes.

For more information, see **auc.edu.au/training/cocoa-workshop/**

New AUC site online

After years with a largely similar design, the AUC's new Web site is now online and offers a wealth of content and a fresh design that makes it easier than ever to keep up with the AUC's activities.

Online content includes all the latest AUC updates as well as an archive of Wheels for the Mind issues and individual presentations and videos of sessions from previous AUC conferences including X-World, CreateWorld, and /dev/world. There's information about upcoming AUC training sessions, forms for expense claims and hire of AUC seeding equipment, and more.

Drop by **www.auc.edu.au** to see the new site, and let us know your thoughts at **ajeffrey@auc.edu.au**.

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

AUC GENERAL MEETING
FEBRUARY 9, 2012

BY DAVID YAMMOUNI

One of the positives about being a part of the AUC Executive Council is that I have the great privilege to be a member of a dynamic team, charged with shaping a sustainable future for a unique entity that provides a range of programs and initiatives that are second to none.

As part of the AUC's governance, two meetings are held each year: the Annual General Meeting, usually held around September, and the General Meeting, normally held in early February. At these meetings, delegates from our member universities come together to make decisions on how the AUC is to be run. Issues are raised and discussed and, where possible, resolved with the consultation of all present. It is a challenging and rewarding time for all those involved.

This year's GM was held at the new Hilton Hotel in Surfers Paradise. The meeting commenced with a welcome from AUC Chair Tony Gray and delegate introductions, then moved on to the reading of reports from the Chair, Financial Planning Officer (FPO), Publications Officer, AUCDF Chair, Executive Officer, Apple (in absentia) and the Developer/Technical Training Portfolio owner. These reports, which were circulated earlier as part of the delegate's document pack, give a deeper insight into the machinations of the AUC and provide our members with transparency and due diligence.

It is at this meeting that we determine the way in which the funds that we receive from Apple are used throughout the year, and our first big-ticket item was the annual budget. Naturally this is a detailed, often complex but critically important aspect of the AUC and great care is taken by the FPO and Chair to ensure that our funding is allocated appropriately.

An approximate budget is devised based on the average of the previous 3 years' income. This allows us to be 'conservatively reasonable' – it's a best guess estimate that gives us a pretty good idea of our income for the year. More often than not, we reach our 'best guess' figure and on many occasions, we have exceeded our target due to larger-than-normal sales throughout the year and judicious budget adjustments (which are always performed in accordance with the AUC's spirit, mission and purpose).

Passage of the budget allowed for more solid discussions about this year's programs. Mark Noonan (from Queensland University of Technology) took us through the exercise of naming the top five Apple issues that institutions are facing – areas where universities are having difficulties or issues with Apple's provision of services and support. This year, Mark took a novel approach by splitting delegates into regional groups, then posing scenarios for them to ponder and write their responses; this certainly provided for lively discussions!

The next major item for discussion was the Strategic Perspectives document produced last year. After having more emphasis placed on teaching and learning throughout the document, the finished work was presented once again to the members for their vote, and was passed unanimously.

Tony Gray then took the delegates for a tour of the new AUC website which is now live **(www.auc.edu.au)**. The new site is based upon WordPress, which provides us with a better user experience, both from a back end (in terms of performance and functionality) and from the client facing perspective. Tony has put in substantial effort and it's a welcome refresh from our previous, ailing site. Please make sure you pop over to check it out, and feel free to provide feedback.

There are also changes afoot for *Wheels for the Mind*. It is inevitable that we need to consider and move towards electronic versions and distribution of the magazine. Of course, the print version will not disappear but we do need to explore other ways we can deliver our content in device and Web friendly ways. A decision was made to have the print copies of the magazine this year (this edition and the final edition for 2012), while the mid-year issue will be offered in electronic form. The *Wheels* production team will be working hard to determine the best and most effective electronic delivery method, so watch this space!

Finally, you may have noticed that we have a slight change in branding. From this point onwards, we will simply be know as the AUC. Although we will never forget our historic roots as the Apple University Consortium, we feel that this change in branding will reflect the fact that we are not a part of Apple.

Once again, a very fruitful and positive meeting was held and exciting initiatives were proposed. We look forward to a year of affirmative change and a very bright future.

iPads tops in Top End

By David Braue

The myriad uses for the iPad have made it relevant in all kinds of academic settings – and at the Northern Territory's Charles Darwin University (CDU), eager staff have been exploring all kinds of uses for the tablets in an exploration of a new 'padagogy' that touches everything from better teaching to making new music and as an outlet for artistic creativity.

Peter Houtmeyers, multimedia lecturer and co-ordinator within CDU's School of Creative Arts & Humanities, has been among the academics leading the charge, working with colleagues to explore the new ways that iPads can improve curriculum delivery.

Art in the community.

For example, the end of year School of Creative Arts exhibition for 2011 gave students the chance to see how well iPads could be used as repositories for 'e-portfolios' to promote student work. Houtmeyers and a number of students brought several iPads to Darwin's popular beachside Mindil Beach markets – the last markets of the year, which guaranteed a big turnout – and used them to demonstrate students' recent artwork to the general public.

With bad weather having scratched earlier plans to show the art on 3D TVs, the iPads were the next logical option – but it wasn't all smooth sailing. "The biggest challenge was simply getting content onto the iPad," Houtmeyers recalls. "Being student work, the content had been authored using a plethora of video codecs."

Bill Wade, CDU Associate Professor and Head of CDU's School for Creative Arts, has been exploring the use of iPads for in-the-field recording and music making.

Dr Eric Fassbender has been exploring ways the iPad can be used in a streamlined workflow process that helps researchers manage references and annotate research publications.

Video was imported into iTunes but students then had to use the 'Create iPad version' menu option to try to convert the video; out of eight videos the team wished to show, only five would convert to the iPad version properly. "This became a time-consuming exercise with three different devices that we needed to load with the same content," Houtmeyers says. "Having the iPads all registered through a central iTunes account may have assisted with this but that would then become very restrictive in day-to-day operation."

Technical idiosyncrasies aside, the iPads proved very successful in engaging people with enquiries about what the students were promoting. Students and staff were able to work through the crowd and engage people with student content, which was followed by an invitation to the exhibition that took place the following evening.

New creations.

By simplifying the delivery of content, the iPads helped students restructure their learning around a new form of delivery. But that's only the beginning of the way in which general availability of iPads is changing the curriculum at CDU.

So far, the faculty has bought a half-dozen iPads, two of which are available to students as loaners. "We've been planning to get a bit more in-class and teaching and learning related work done with the iPads," says Houtmeyers. Planned topic areas include the creation of iBooks using Apple's new iBooks Author application, with students to be tasked with a semester-long content creation project that they'll ultimately deliver to their class as a formal presentation.

As a companion to the iPads themselves, the faculty is planning the addition of Apple TV units in projector-equipped computer labs, which will allow iPad-wielding students to easily share their work and presentations with peers using the AirPlay wireless-broadcasting feature. This sort of integrated solution, Houtmeyers explains, puts content manipulation and presentation devices into students' hands and allows them to shape it to the many stages of the creative process.

"Our classrooms and laboratories are potentially very relaxed spaces and it's a very hands-on environment that we work in," Houtmeyers explains. "We sit amongst the students, so this kind of hands-on environment lets us have more interaction and content collaboration with the students. The iPad is a handy unit that helps us explore new technologies."

The new pedagogy.

Enter padagogy, the new style of mobility-enabled learning that the CDU team has been exploring through the past five years of its Mobilizethis symposium event (**mobilizethis.wikispaces.com**). The term grew out of observations by thought leaders such as the New Media Consortium (**www.nmc.org**) – which has regularly flagged the importance of mobile learning in its annual Horizon Report – and academics like Dr. Sue Trinidad (Dean of Teaching & Learning at Edith Cowan University), who previously outlined the historical and logical progression from earlier notions of teaching pedagogy, to the more adult focussed 'androgogy', and on into the online-focussed 'cybergogy'.

"In keeping with this tradition, we coined the term 'padagogy' to reflect what we believe to be a next era in learning and teaching theory," says associate professor Bill Wade, head of CDU's School of Creative Arts and Humanities, "and we have used it to refer to the potential innovative learning and teaching practices that may emerge from well considered instructional strategies using a broad range of mobile devices, including the iPad."

Another CDU staffer who has been looking into the value of the new padagogy is Eric Fassbender, a PhD research fellow and lecturer in new media within the School of Creative Arts and Humanities.

Fassbender and his colleagues have found the iPad to be an interactive, intuitive platform for collating and annotating bibliographic and research information, and then using document syncing to build a workflow that also includes speech recognition.

Researchers use Third Street Software's Sente academic reference manager to search for and identify articles relevant to their work, then synchronise their database of references with the companion Sente app for iPad. Working on the iPad, researchers can use the touch screen to easily annotate and highlight important passages within the articles; those annotations are then easily synced back to the host Mac with its master reference database.

Just as the iPad is an ideal device for annotating and working with the references, so too is the desktop an ideal platform for voice-driven annotation: researchers use Nuance Dragon ➡

Bill Wade, New Media student Isaac Phua and Eric Fassbender demonstrated CDU student art to visitors at Darwin's busy Mindil Beach Sunset Market.

iPads tops in Top End
continued

Dictate to dictate their summary of the article into the Notes field of the Sente database.

"Researchers have their entire collection of articles handy at conferences and in meetings, as opposed to being in a dusty filing cabinet back in the office," Fassbender explains. "They have the ability to search for keywords in the digital database and they have an improved reading and comprehension experience when studying articles."

Because it's designed as a content consumption device, the iPad offers researchers a much more comfortable environment for reading, without the distractions that a full desktop system presents – such as a steady flow of emails that must be answered, tweets that must be read and other documents to be worked on.

Ditto the speech recognition, which lets researchers get their thoughts out without having to jump between a number of applications. "The delight of not having to turn one's head from an article, look at the keyboard, then a different screen and then back to the original article when finished with half a sentence, is immense," Fassbender says. "The speech recognition enables a better flow of words as opposed to switching back and forth between applications to read and write. Not only that, but the entire process is entirely digital – so no paper is wasted."

Mobile music.

A third area where iPads are driving the new padagogy is in the creation of music. CDU's broad range of music programs are delivered in both urban and remote locations, with strong participation from indigenous musicians

With Apple claiming that an iPad loaded with GarageBand can deliver professional music-

making results, the music team headed out with iPads in hand to investigate its claims with a Northern Territory road-test at some of the many community-based music festivals in which CDU students participate.

"The primary research question was whether this new mobile application would value-add through the typical music recording, editing and mixing production chain," says Wade. "We were concerned with whether it was accessible from a cost and ease-of-use point of view."

Test equipment included an iPad 2, GarageBand software and Amplitube and Fender plugins. The iPad was taken on the road by a certified audio recording engineer who also used it while songwriting with local NT band The Wade Finnagin Band (**wadefinn.com**); trialled it at the iNTunes music industry conference; and demonstrated it at the Stone Country Festival in Gunbalanya, NT (**bit.ly/zLVDmZ**).

GarageBand's eight-track recording and smart instruments proved to be a catalyst for the songwriting process; "some of the smart piano parts sounded good enough to keep," Wade explains. Although connecting microphones and guitars required the addition of the iRig and Alesis ioDock devices for optimal results, Wade notes that many musicians will do fine without them for capturing their ideas.

Differences between the desktop and iPad versions of GarageBand meant even seasoned users took a little while to learn the new platform, although ample YouTube videos helped with this process. Less intuitive was the process of exporting tracks from the iPad to the Mac: without

the latest operating system and iLife version, incompatibilities make this process impossible.

Even when it works, Wade says, it's a "one-way trip"; without some sneaky workarounds, there's no way to get your music back onto the iPad. But "we found the challenge of getting files in and out of the iPad a hindrance in other efforts to integrate the iPad within our teaching and learning programs," he explains.

Although its workflow could be ironed out a bit, the iPads and GarageBand proved popular with those that tried it at iNTunes 2011 and in musical workshops at the Stone Country Music Festival. Musicians liked its portability and "quick access to reasonable guitar tones suitable enough for jamming," Wade says.

One artist used the iPad guitar tone to write a lead line in a song composed at the festival called 'Beautiful Stone Country', while the Wade Finnagin Band sketched and recorded the song 'While I Can' in a backyard session. "Musicians saw it as a great way of getting a song started, albeit in some cases with a recording engineer on hand," Wade explains.

The jury is still out as to when the faculty will embrace the iPad within its music programs, but – as in other parts of CDU – the experiments have piqued great interest in the ways the new 'padagogy' can transform learning and collaboration. "The iPad holds great promise for a range of music education and training purposes," Wade says. "We will explore it in further depth to tease out the real 'padagogical' possibilities."

The sound of CONCUSSION

By David Braue

Among the many delights at the AUC's recent CreateWorld conference was a performance by a musical ensemble that worked together to produce a polished musical gig for the enjoyment of all present. And they did it without any instruments at all.

Real instruments, that is; rather, the four-member ensemble consisted solely of Queensland Conservatorium staff who fronted the crowd with nothing more than iPads in their hands.

Through deft manipulation of a number of apps, the quartet – which adopted the moniker 'Concussion' – were able to produce a broad range of sounds that ranged from the very recognisable to the very unconventional. All sounds were generated in real time not as straight waveform samples, but as synthesised music of many different types.

"We weren't looking at making music that imitated other instruments," says member Andrew Brown, professor of digital arts at the conservatorium, which is based at Queensland's Griffith University. "The kinds of apps we were using were synthesisers that made noise, and we spent a bit of time experimenting to see what sort of music you could make starting from just a few basic apps."

Those apps included SoundPrism, TopLap, the TonePad mini-sequencer, and Singing Fingers – which lets the musician create and control sounds by drawing different shapes onscreen with their finger. The team has also experimented with GarageBand, using Smart Instruments not for recording but for playing live.

The group held around half a dozen rehearsals to nut out the details of their performances, and to get used to playing the music generation tools in sync. During those times, it became clear that some curious characteristics of the apps required special accommodation: for example, switching apps became complicated because some apps didn't save their state and needed to be reconfigured on the fly.

"It was all about building up this sonic repertoire and looking at ways that could be incorporated into structured improvisations that might be called 'sound art'," Brown explains.

Later experimentation looked at using the iPad as a control surface to interact with music being made on a MacBook running conventional music software: "that gave us a much richer palette of textures and sounds," Brown says. Since the members have extensive training in theory and sound generation, the iPad controllers were also linked to sound-generating algorithms to create other new interactive instruments.

Yet instruments weren't the only consideration in planning for the Createworld gig: even simple things, such as how the members sit, became important. An earlier concert had the members controlling iPads laying on a table, but on reflection the members decided to do the Createworld gig while standing up so that audience members could better see what they were doing.

"It becomes much more engaging for the audience," says Brown, who with his fellow members is building on the CreateWorld experience to plan for a follow-up gig in May. "The whole thing about how to use the iPad as an instrument, and to present the ensemble in as interesting a way as possible, needed to be thought through."

"Our focus on making it all a bit orchestral, and on how we stand up and use the accelerometers and so on, meant it came across as more expressive then they expected. Many people said 'I didn't think you could get that decent-sounding music out of an iPad'. And this is just one of many explorations into the future of music; a lot of the findings we've had through Concussion will come into next semester's teaching."
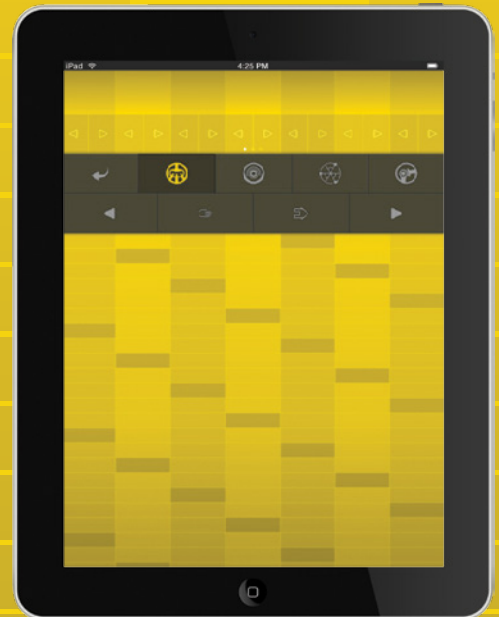
Soundprism

Singing Fingers

Apple Update

New iPad is big on details

Perhaps the most amazing thing about the 'new iPad' – as Apple CEO Tim Cook called it during a highly anticipated launch on March 8 (Australian time) – is the fact that Apple has managed to cram 2048x1536 pixels into a screen that's the same size as that on the previous iPad.

That's double the horizontal and vertical resolution of earlier models, and actually has 1 million pixels more than an HDTV and almost as many pixels as the screen of a 27-inch iMac desktop system. The implications of having such a sharp Retina Display on such a small handheld device are significant and will become clearer as app developers begin coding for it – but a banner feature like that, which Apple is playfully calling 'resolutionary', is sure to drive both new sales and upgrades from earlier models.

Not that the rest of the specs were anything to sneeze at. The new iPad is based around a new processor called the A5X, which has been designed with quad-core graphics capabilities to handle the heavy lifting of such a high-resolution screen. The iPad supports 1080p HD video; has a 5MP rear-facing camera, with backside illumination and a video stabilisation feature claims an equivalent battery life despite the additional drains posed by the screen and will connect to coming 4G networks that will in a few years run in the 700MHz spectrum range (Telstra's current 4G service, which runs in the 1800MHz band, will not support the new iPad).

The announcement also incorporated a number of software upgrades, with an iPad-optimised version of iPhoto – offering fingertip brushes and new multi-touch features – joining updates to iMovie and GarageBand to complete the transition of the iLife suite to the iPad. GarageBand's new Jam Session feature links multiple iPads to let you jam with friends on different "instruments" in real time. iWork applications Pages, Keynote and Numbers have all been rejigged to support the high-resolution Retina Display.

It all runs on the new iOS 5.1 – which includes a redesigned Camera app, the ability to delete Photo Stream pictures; support for dictation in English, French, German and Japanese and Personal Hotspot. Prices for the new iPad range from $539 for the 16GB Wi-Fi model to $899 for the 64GB WiFi + 4G model.

www.apple.com.au/ipad

Not a TV, but an Apple TV

Rumours said Apple was set to launch its own TV, but the truth was rather humbler: an updated Apple TV that drops in price from $129 to $109 but jumps in terms of its quality – which now includes 1080p support for full-resolution support on HDTVs.

The new unit incorporates a range of new features including an iOS-like interface that uses buttons to represent key functions; support for HD Vimeo movies; and full iCloud support that allows access to streamed music libraries like that provided through iTunes Match.

As before, the Apple TV supports 802.11g/n WiFi, wired Ethernet and features like AirPlay, which lets users broadcast the content on their iPad or iPhone 4S straight to their TV.

Users of the previous Apple TV can download a software update that adds the new interface.
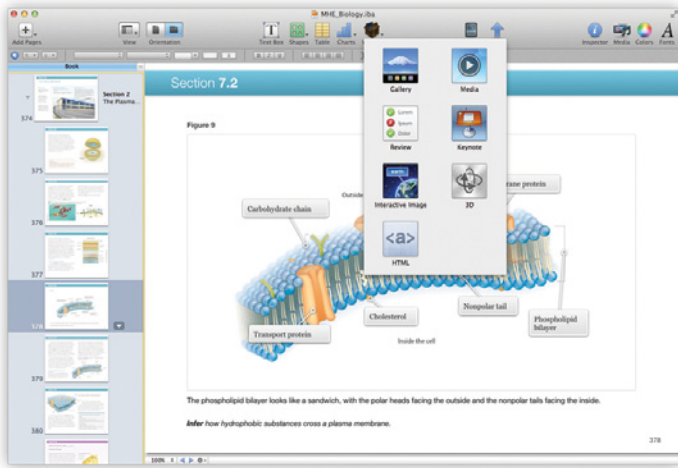
www.apple.com.au/appletv

Mounting excitement over Mountain Lion

February saw the release of a developer preview of 'Mountain Lion', the next iteration of Mac OS X numbered 10.8 with what Apple says is over 100 new features. Mountain Lion has been designed to seamlessly extend many of the innovative services that have made iOS so popular, to the Mac desktop.

A Messages app, for example, lets users send messages to and from iPhones and iPads right from the desktop. Notes, Reminders and Game Center will all get Mac OS X equivalents, as will features such as AirPlay Mirroring, Share Sheets, and Notification Center. Deep integration of Twitter throughout OS features like Quick Look, Safari, Photo Booth and Preview will simplify the sharing of information, while the new Gatekeeper feature will boost security by allowing users to restrict which apps they can install.

Mountain Lion also includes a wealth of new features for developers, ranging from iOS-comparable APIs to a new graphics infrastructure that underpins OpenGL and OpenCL and implements iOS 5's GLKit toolkit. New 64-bit video APIs boost performance of QuickTime video handling, while Kernel ASLR boosts security and a broader range of multi-touch APIs improve interaction with the Mac OS X environment.

A beta version of Messages is available from **bit.ly/wpRCR6** and the final version, along with all the other features, is expected to ship by the Australian spring.

Reinventing education

Apple's education-focused event in January saw the release of a new e-book platform designed to simplify the creation and delivery of interactive textbooks. The new iBooks 2 software (**bit.ly/bVBJ8e**) supports e-books that include animations, diagrams, photos, videos, interactive 3D objects and more – and content can be made by individuals using the new iBooks Author software.

Partnerships with textbook publishers Houghton Mifflin Harcourt, McGraw-Hill and Pearson have allowed Apple to introduce a range of textbooks on the iBookstore with prices generally at or below $US14.99. iBooks 2 textbooks add no weight other than that of the iPad, don't have to be returned, can be regularly updated with almost no effort on the part of the student, and are expected to become widely used as schools increasingly adopt the iPad in their everyday curricula.

iBooks Author (**www.apple.com/ibooks-author/**) runs on Macs and provides drag-and-drop creation of e-books of all kinds. Text and images can be dropped into position on a range of page layouts, with multi-touch capable widgets that allow the addition of interactive capabilities that facilitate creation of interactive photo galleries, movies, Keynote presentations and 3D objects.

Also announced was an iTunes U app (**bit.ly/AxqW5t**) that provides a seamless interface into Apple's extensive library of iTunes U content, which now includes video content from hundreds of universities.

Final Cut Pro X, plus

It may only have jumped to v10.0.3, but Apple's professional-level video editing suite got a major upgrade with the addition of features such as multicam editing; advanced chroma keying including colour sampling, edge adjustment and light wrap; and improved XML to improve the interchange of content with third-party apps and plug-ins.

Multicam editing analyses videos using sound waveforms, time and date, or timecode to synchronise and link up to 64 different shots from different angles, then smoothly cut between them as the movie is being edited. Final Cut Pro X also incorporates broadcast monitoring with Thunderbolt device support, which allows users to connect waveform displays, vectorscopes, and monitors calibrated to broadcast specifications.

www.apple.com.au/finalcutpro

App Store milestones

Apple's two app stores – the Mac App Store for Mac OS X systems, and the iTunes App Store for iOS based devices – recently celebrated two significant milestones.

In mid December, the Mac App Store notched up its 100 millionth download since it was launched at the beginning of the year. The Mac App Store now has thousands of games, graphics, education, lifestyle, productivity and other apps that can be downloaded, installed, and updated with just a few clicks.

In early March, the longer-running iTunes App Store celebrated a much bigger milestone: the download of 25 billion apps for iPhone, iPod touch and iPad. Given that it's been less than four years since the iTunes Store debuted in July 2008, these volumes mean iOS users have been downloading an average of 568 million apps per month – or an average of nearly 19 million apps per day.

www.apple.com.au/mac/app-store

www.apple.com.au/itunes

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 $20; iMacs by $50; MacBook Pro by $120; MacBook Air by $50; 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** for details.

iPads find Auckland voice
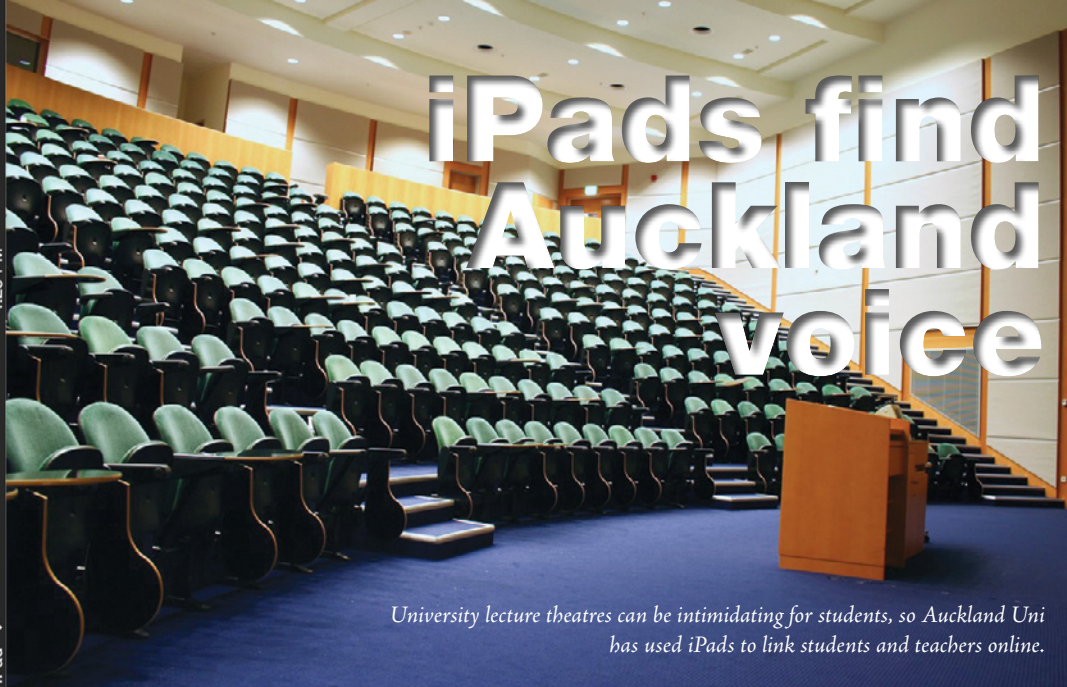
University lecture theatres can be intimidating for students, so Auckland Uni has used iPads to link students and teachers online.

It's never easy to get students to speak up during lectures, whether because they are worried about saying something stupid, don't want to stand out in a crowd, or simply because they have a laconic nature. But that doesn't mean they don't have questions – and several University of Auckland lecturers have enjoyed some success using iPads to encourage greater participation amongst students.

The key has been to give students a way of interacting that doesn't involve public speaking – and distributing iPads within the class has been the enabler, says Warren Patterson, manager of the Centre for Educational Design and Development within Auckland Uni's Faculty of Education.

"In most classrooms, learners are on their own because the teachers are teaching to 30-plus students," Patterson explains. "They are islands."

The team looked into changing this by distributing iPads within a number of classes within the faculty. They initially set up groups on the Google Wave social-networking service that students could access using and share their thoughts within restricted social circles during lectures. Lecturers also have access to the feedback, boosting the interactivity of the classroom sessions.

"It's based on the idea of knowing what's going on in the students' minds," Patterson explains. "We've always talked about feedback from teacher to student being important – but in terms of learning, the most important feedback is student to teacher. Yet teachers did not know what was going on with students, particularly the whispered conversations in which they ask questions to the person next to them because they don't understand something."

Students responded well to the trial, noting that the service allowed them to see what their peers were thinking – which often meant they realised they weren't the only student that was struggling with a particular concept.

Another common response was that the feedback helped students learn at the pace that suits them by connecting with peers who are working at a similar speed. Others felt the improved interaction meant they were learning at a different level, with different conceptual skills and a better understanding of the subject matter.

Teachers also valued the iPad experiment, since the feedback helped them better understand how students were dealing with the content – and adjust their teaching accordingly.

Zenbe Shareflow provides an integrated environment for sharing messages, files and more in real time within a specific group.

"It enabled teachers to be synchronised with the students' learning," says Patterson. "A lecturer can only generally work at the one speed, but given more information they can adjust the quality or quantity of what they're delivering. If a group of students demonstrate online that they understand what's being taught, the lecturer can move on."

The imminent discontinuation of Google Wave on April 30 this year forced the project team to begin exploring alternatives; they eventually migrated to Zenbe's Shareflow collaboration application (**www.zenbe.com**). More recently, the team has been weighing a shift to a free social-networking service called Diaspora (**joindiaspora.com**). Yet no matter the platform, the key to success in this new social teaching has been to ensure accessibility – and the three dozen or so iPads already distributed within the school have delivered that in spades.

As word has spread of the Faculty of Education's trial work, other lecturers have come aboard – as have other parts of the university. Five Faculty of Education lecturers are currently using the iPad feedback system, with a further three teachers within the School of Social Work and Counselling recently also joining the effort.

As numbers increase, the logistical issues around providing iPads get more complicated – although students are also welcome to participate using their laptops. But for Patterson, the success of the project suggests that many university lecturers are still lacking the appropriate feedback mechanisms to ensure they are teaching students in a way that's relevant and responsive to their needs.

"They've been able to build relationships with their students," he says, "and those students have sometimes discovered that other students have discovered things about the content that they haven't already discovered. And that has made it very relevant to both teaching and learning."

SHOW YOUR IPADS IN PUBLIC

By Carrie Clarke

iPad kiosks are easy to use, look great, draw attention and have the potential to deliver a huge range of services on university campuses.

Traditional interactive kiosks have been around for a while now; in fact, they have their roots in universities. The first interactive kiosk was developed by a pre-med student, Murray Lappe, at the University of Illinois at Urbana-Champaign in 1977. Dubbed 'The Plato Hotline', it offered students and visitors self-service access to maps, directories, bus timetables and course information via a plasma touch screen interface.

Kiosks have matured a lot since then, gaining more features and taking advantage of networking in the 80s and Internet connectivity in the 90s. While traditional interactive kiosks often employ specialised hardware, software and cabinetry, iPad kiosks benefit from the large range of existing hardware accessories, kiosk apps and kiosk stands available off-the-shelf. A well-designed iPad kiosk can offer a highly effective solution that not only looks good and functions well, but also improves the overall student experience.

An iPad kiosk does not hide the fact that it is powered by an iPad. It presents a familiar, intuitive screen that is easy to use and allows users to quickly do what they need to do. iPad kiosks offer reliability and lots of capabilities, and when compared with traditional kiosks, they often have the added advantage of lower cost and power consumption.

Solutions

You can easily develop a unique iPad kiosk solution for your university. In order to develop a truly effective solution, it is good to have a clear goal in mind. In some cases, it may be more appropriate to have several units that specialise in single functions than clones of units that try to do everything.

There are a few other things you must consider when planning an iPad kiosk:

- **Location of power:** You may need a longer charging cable, extension cable or new GPO installed
- **Location of lighting:** Incorrect positioning could result in glare and reflections on glossy screen
- **Accessibility:** Stand height, screen angle, text visibility and audio accessibility features
- **Wi-Fi:** You may need to set up an account for Wi-Fi and Internet access
- **Security:** Where is it going to be located, and what level of security is needed?
- **Support:** Who will be responsible for development, support, maintenance, cleaning, staff training, adding paper to the printer, etc.?
- **Use:** How will the kiosk be promoted to users, and how will it be evaluated?
- **Energy savings:** Does your app have a power saving mode, who will turn it on/off and when?

There is a wealth of information and products available to help you design your iPad kiosk solution. On the page opposite, we offer a few options to consider.

Show your iPads
in public continued

Apps.

There are a variety of iPad apps that make it simple to set up a kiosk for most common scenarios. If you are after a more unique experience, you could leverage the existing skill sets of your student and staff iOS developers to create a custom app.
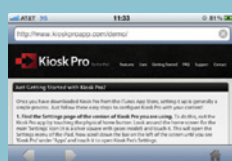
Kiosk apps

eCrisper Kiosk (Yves Mailhot), $9.99.

Custom logo display, 3 restriction modes, idle timeout, customise navigation bar, print, bookmarks, supports 4 languages, reset button, offline website, email alerts when battery is low.

ecrisper.com/ipad.htm

Kiosk Pro (Kiosk Group, Inc), $2.99.

Idle timer, domain restriction, time limit, run website files stored locally, full screen mode, navigation bar & bookmark customisation, digital sign mode, remotely update settings, print option, save user data and forms, email alert if iPad loses power. For more advanced features including advanced remote management, signature capture, camera capture and night mode, see Kiosk Pro Plus ($29.99).

bit.ly/AzNR2B
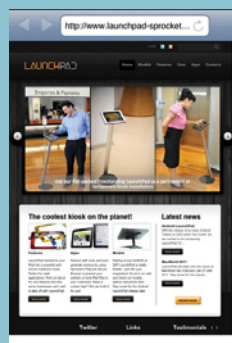
PadLock (HotMagna Pty Ltd), $0.99.

Lockdown to a live website or site whitelist, inactivity timeout, timed limit, local HTML presentation files, full screen mode, customise navigation bar, digital signage mode. Introductory pricing.

bit.ly/kEHF2b

Menus

Titbit (Titbit Inc), Free.

Dynamic item availability, descriptions and price updates. Customers can place orders. Facebook and POS system integration.

bit.ly/Av7VJb

Digital Signage

iScreenPro Lite (proNestor), Free

Integrates with Microsoft Exchange Server. Displays time, room name, bookings and current status (busy/available) for one room. proNestor also offers a kit with aluminium frame, 5m iPad power cord and wall mount.

www.iscreenpro.com

Presenter Player for iPad (~sedna), Free.

One content layer (pictures, movies, web pages) plus one text ticker layer; Multiscreen feature; Can only be used with ~sedna Presenter Scheduler software.

bit.ly/wCjZ2p

VideoLoop Player (B1VisualEffects Co., Ltd), $2.99.

Slideshows and video, Import videos from iPad photos or iTunes file sharing then play them using a playlist or at random.
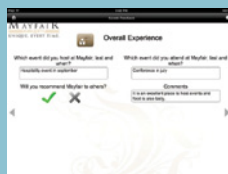
bit.ly/xWNmHj

Surveys
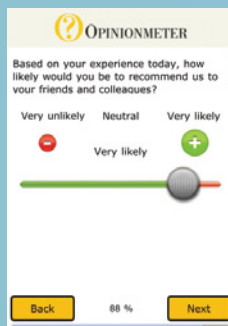
Touchpoint Mobile (Opinionmeter), Free.

Online or offline (range of question formats), capture text, photos, videos, GPS location, sync when online. Integrates with Opinionmeter's SurveyManager.
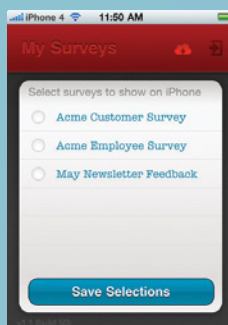
bit.ly/Am4umK

Konekt:Feedback (Mobikon Technologies Pvt. Ltd), Free.

Online or offline, custom branding, questionnaires and ratings system, analytics reports, data capture, social media integration.

bit.ly/wAKHKz

Polldaddy (Automattic), Free.

Polldaddy account required, Online or offline (checkboxes, drop down menus and text fields), sync when online.

bit.ly/z1H3T2

Vote Kiosk (Lone Star Aps, LLC), Free.

Voting for elections and surveys, voter verification and instant results. Integrates with a web based content management system.

bit.ly/zku1Ju

Accessories

For more sophisticated solutions, there are a range of accessories can be incorporated into iPad kiosks, including external displays and speakers, Bluetooth barcode scanners, stylus (for signature capture), credit card readers, NFC / RFID readers and printers.

Stands

Many iPad kiosk scenarios rely on a single app; however, there is no software setting in iOS to disable the home button (to prevent access to other apps). To address this, some iPad kiosk stands cover the home and power buttons but still allow support access via a special tool.

There is a range of iPad kiosks available in various freestanding, wall mounted and desktop mounted options. iPad kiosk stand features include security (anti-theft and anti-tamper); landscape, portrait or rotatable options; fixed angle or tilt options; screen bezel incorporating custom logo and text; integrated power (concealing the charging cable).

Australian iPad kiosk stand suppliers include Launchpad Sprocket, Atdec Spacepole, Mobile Muse and iPad Kiosk Stand Sales.

Library catalogue kiosks

A number of iPad kiosks were installed in key locations around the library collection space at Griffith University's Nathan, Queensland campus in late 2011 for quick catalogue searches. The Kiosk Pro app is used to limit browsing time and restrict access to the library catalogue website (settings are centrally managed via an XML file on a Web server). The Sprocket Launchpad Kiosk stand is used to prevent access to the home button; it is mounted on custom joinery that conceals the power adapter and extension cable. Replacing traditional PCs, these iPad kiosks have been very successful as they look great, take up a lot less space and provide a quick and easy user experience.

Here are some ideas on how iPad kiosks can be used at universities:

Where	What
Events, conferences, open days, expos, art exhibitions and museum displays	Registration, information, sign-up forms, email lists, promotional media, feedback
Waiting areas, building entrances, school spaces, service counters, foyers	Digital signage, videos, photos, information, promotional media
Restaurants, coffee carts, gym, retail, medical centre, memorabilia, cashier, point-of-sale areas	Product or service menus, registration, e-ticketing, account management, payment processing
Key locations around campus	Campus information, way-finding, directories, what's on, public transport info
Library	Catalogue search, concierge (browse services), quick internet access, log help desk job
Student admin	FAQs, timetables, submit forms, photo kiosk, surveys, polls
Outside classrooms, meeting rooms, conference rooms	Daily timetable / Current session info, evaluations

Re-imagining the art of film

One of the major benefits of doing filmmaking at university is that students get access to high-end equipment such as HD cameras and sophisticated editing suites. Yet that access can also be their downfall, insulating them from the far more lowbrow processes involved in scoping, summarising and presenting concepts to potential backers.

Such are the concerns of Howard Worth, head of Curtin University's Department of Film & Television, who has been working of late to get students thinking more about the big-picture issues around film making. For example, while many screenwriting and production students have great concepts, when it comes time to demonstrate those concepts, or their proposals around costs or other logistics, they often blow it – and their chances at making the movie.

"The ideas are often better than the presentation of the ideas," Worth explains. "Often the ones that try to be the most inventive and professional are the ones that fall over; they tend to try to integrate film footage or animation into their pitches, but then their camera doesn't work, or their projector doesn't work, or they have codec problems. They only get 5 to 10 minutes, and it really affects the professionalism of their presentation."

Aiming to take the guesswork out of his students' presentations, Worth recently decided the iPad might offer a more consistent and easy-to-use solution. He broke the screenwriting students into groups of four or five people, gave each of them one of 13 Faculty iPads loaded with Keynote, and set them loose.

Over the course of the term, Worth watched as the students found ways to develop their content together, within the consistent presentation environment that the iPad provides. They used Keynote to develop a portfolio of content within the device, the Dropbox app to share content amongst team members, and other apps as the requirement came up. At the end of the proposal project, the teams simply turned in their iPads to Worth, who was able to see all their work and the finished projects in the one place.

"Instead of stapling together a loose-bound proposal, they just handed in the iPads," he recalls. "It gave me the opportunity to look back through their documentation, see the thoroughness of their idea, see their strengths and weaknesses, and to measure who had made appropriate contributions to the group. It was not only a presentation device, but gave them the opportunity of putting the presentation in soft documentation that was far more effective."

iPads weren't the only thing being introduced to screenwriting students: although the faculty's budding filmmakers had access to the latest-and-greatest cameras – not to mention a pair of new computer labs loaded with 21-inch iMacs and 100TB of shared networked storage – Worth forced the students to step away from all that gear and consider the use of the iPad and iPhone as on-the-spot data collection devices.

A massive amount of important video is today captured and edited using these devices, Worth explains, arguing that students should appreciate that fact as they develop their film-production sensibilities.

"There's a danger of a divide being created between the university and the real world," he says. "There, they use phones to shoot things and take pictures; this year, we're telling students 'if you want to shoot things, here's an iPad and an iPhone'. We want them to see they can use domestic devices that they're used to, to create their content. Students need to be sensing and using all the technologies that are available to them, which are no longer just the television screens and cinemas."

Flexible video production, however, isn't Worth's only goal: in the longer term, he wants film students to think of their projects in far more multi-modal ways – because that's how the real world sees them. A student might pitch a film to producers, for example, but without a companion video-game and Web-site promotional strategy those producers aren't likely to be interested.

"Our film students do a major project that goes throughout the year," Worth explains. "They've been good with that and many have won awards, but I'd really like to see some of those major projects not just ticking to the traditional formats. I'm quite happy to see integrated gaming or Web-based productions coming out of that final project, just as something else. If they pitch an idea for a documentary, the producers are going to look at them and say 'what else?' That is their future; they need to be flexible."

La Trobe lectures

GO ONLINE

It started several years ago as an experiment, but Melbourne's La Trobe University has jumped into its iTunes U commitment with both feet – recently becoming the first Australian university to join Apple's updated iTunes U service with an onslaught of online lectures.

The ability to run full lectures through iTunes U, rather than simply offering haphazard collections of content, was introduced during Apple's big education launch in January. For La Trobe, the announcement offered a great option to expand the reach of some of its signature course material – and that, says digital media officer Matt Smith, made the decision an easy one.

"The opportunity was there so we thought 'why not?'" he explains. "We've got this material that's new and an exciting way to access it, and it's a good way to expose students to a new kind of material and a good way to get our courses and lectures out there to show what we're teaching."

So far, Smith – who is responsible for managing the content on iTunes U – has been kept busy recording and posting six subjects offered in the current semester, along with three subjects repurposed from audio recordings made last year.

Subjects online include Australian Aboriginal History, Press and Society, and a new course called Ancient Greece: Myth, Art, and War. Some also include links to relevant content such as complementary URLs, slideshows, and PDF documents that fill out the value of the lecture material.

The actual process of collecting the lecture content has proved relatively straightforward, since most of the relevant lecture theatres are already wired for sound. To capture the one course that isn't – Principles of Physics – Smith ends up running to the relevant lecture theatre every time the lecture is on, and recording the audio manually.

Although it's still early days to talk download numbers, Smith is confident the university's investment in iTunes U continues to pay off: in February, the content site passed 3 million downloads after just over two years of operation.

"Generally on iTunes, I think La Trobe is getting a lot of attention," Smith says. "Whether or not iTunes U will be a success will depend on how universities use it – but we're definitely giving it our best shot."

UNNATURAL LANGUAGE

By Mark McMahon

Creative Labs' Dr. Sbaitso combined 1992-era word parsing and then-nascent text-to-speech technology to produce a synthetic 'doctor' with all the empathy of a real one.

Computer interfaces are, by definition, clumsy beasts. Anything that gets between you and what you want to achieve is as much a barrier to be overcome as a tool to be used.

If you look at computer interfaces over the years they have been dominated by keyboards and mice. They work well in their own way, but are still an awkward analogue for fingers that have evolved over millennia to peel bananas and wield clubs rather than type e-mails all day.

Alternative approaches have emerged over the years, largely to overcome the limitations of smaller and smaller devices. The touchscreen now dominates, ditching the fiddly stylus of traditional PDAs and relying on fat-fingered imprecision. This is not a fix. My own phone screen is a greasy fingerprint magnet that offers nothing in the way of tactile feedback.

The holy grail of interfaces is natural language. Being able to interact by speaking in our own words is the most intuitive form of communication. You could argue that language is what separates us from the rest of the animals. Yes, you can train a chimp to do sign language, but you can't sit down with it over a coffee and discuss last week's episode of X Factor.

We understand the world through language. It mediates our thought processes, develops social connections and allows us to work as teams. It is obvious then, that in a Utopian society such as Star Trek: The Next Generation you can talk to your computer and it answers back (albeit in the singular voice of Majel Barrett-Rodenberry). It just works. Tell your computer what you want and the machine 'makes it so' – at least it does in the 24th century.

Back in the 21st, things are still a little more complicated; just try turning on autocorrect to see the strange grammatical assumptions that your phone makes.

The problem is that language itself is inherently ambiguous. They say that Eskimos have 50 words for snow (they don't but they do in northern Scandinavia) and that's only part of the problem. You can always add more words to a database. It's where vocabulary is more limited that ambiguity sets in. Think of the word 'pitch' and its

You can train a chimp to do sign language, but how would it go using a mouse?

multiple meanings and the issue is obvious. It can be a verb or noun, relate to sport, advertising, road laying. Without a context you just don't know.

Syntax is just as bad. The sentence 'the boy hit the man with the stick' does not put the boy in the good light but we still do not know who has the stick.

We are at a point, though where these technologies are beginning to become useful. You can dictate to your phone, if you train it well enough and articulate clearly. It does not always work. Having had my baggage disappear on me when I landed in Canada one time, I had a polite but formal conversation with a fembot over the phone that insisted she had never heard of me. After phonetically saying 'Mark Mac Marrrn' several times I remembered that she was Canadian and – lo and behold – they did have a 'Muck Mann' on that flight.

The much-hyped Siri brings a further level of intelligence to that, where you can try to ask it questions. It will admit to not knowing the meaning of life, but can quite happily find you an escort service if you are feeling frustrated.

Of course it is all trickery. Language recognition software combines with artificial intelligence to query databases like Wolfram Alpha all to give the illusion that you're talking to a responsive human being.

This kind of thing has been around for a long time, albeit showcasing voice synthesis rather than voice recognition. My first computer had Doctor Sbaitso try and diagnose my ills. It would offer generalised sympathy or sometimes a complete lack of it, claiming 'that's not my problem'. At least in that way, it had the bedside manner of most surgeons. Repeatedly swearing at it would cause it to break down and have a 'Parity Error'. And yes, I know that because I tried.

I'm often amazed by the amount of information online, as much as I am also amazed by the lack of intelligence. It would be great to have a phone that I can talk to – a phone that knows my tastes, can recommend a movie I might like and tell me where to get the cheapest petrol or beer. The real intelligence of natural language is not just in the language itself but the system's ability to develop a data model of your needs, hopes and dreams as you interact with it.

No, despite the impressive abilities of Siri, I still can't sit down with it and discuss the finer points of philosophy. Twenty-first century voice recognition, and language interpretation, and artificial intelligence just aren't there yet.

While they may have had talking computers in The Next Generation, the ones in the original Star Trek series were not much more advanced than Doctor Sbaitso. Most interaction was done with flip switches and push-buttons, with wobbly theramin effects for feedback. That's hardly surprising when you think they couldn't even make the doors close quietly.

Forget that they could transport matter down to planets; speech recognition seemed to elude them. Maybe that's why there were so many unnatural pauses in Captain Kirk's speech when he was recording his captain's log. They weren't for dramatic effect but to make sure that the voice recognition software… could… properly distinguish… individual words… within a… sentence. Just goes to show: the more things change, the more they stay the same.

iPADS ON THE MARK AT ECU

One of the more frustrating aspects of teaching for many university lecturers is the students' habit to focus exclusively on marks, and not on the comments that lecturers painstakingly consider and write in the margins.

In many classes, half of all final papers may not even be collected – and with typically poor follow-up from course to course, it's possible for students to get through their university years without lecturers ever knowing whether they had changed their approach to learning at all.

Dr Alistair Campbell, a post doctoral research fellow within the School of Education at Perth's Edith Cowan University (ECU), had had enough.

"We find that a lot of students don't engage with the feedback," he explains. "The only time they engage with it is if they want to argue for a better mark. It used to be that you had students for an entire year and could engage with them, but now students can make the same mistakes for four years – and as long as they have a pass, nobody would know."

Throughout his PhD research, Campbell began exploring the disconnect between teaching modalities and learning – and found that a lack of institutional memory was compromising desired learning outcomes. Motivated learners were interested and engaged, but disinterested students were struggling to care about continuous improvement and, ultimately, ended up improving their learning less than their peers.

One of the endemic problems that Campbell identified was the underutilisation of technologies such as iPads, and even chronically poor capabilities in using technologies such as spreadsheets. Students would do their work on a computer then print it out for handing in; this effectively broke the cognitive chain of action, and it was hard for lecturers to get their handwritten comments back into that chain so the students would heed them.

The iPad solution.

Campbell envisioned iPads as a way of helping bring the marking process back into touch with the digital world where students were engaged. He began working to create an application based on the Filemaker Pro database, which he used to design a data structure that would keep track of assignments and the comments lecturers made on them.

Campbell then published this to an iPad using the companion Filemaker Go application, which extends Filemaker databases to iPhones and iPads to facilitate remote data collection.

Using standard Filemaker elements, Campbell designed data-entry forms that allowed markers to do their on-screen assessment using a variety of forms, radio buttons and checkboxes. Comments can be typed onscreen, and a highly granular points system can be clearly delineated to assist the lecturer in adding up scores as the assessment is done. The app allows markers to take photos during the process, making it easier to remember specific points they want to make – or just to put the student's face to their name.

When the whole assessment is complete it can be emailed to students as a PDF for their perusal – rather than being printed or written in the hope that they'll take the time to read it.

"At the moment, a lot of this is done on paper," Campbell explains, "and not very sophisticated. All administration wants at the end of the semester is a mark – but those marks don't inform you very much about the students, and what they were doing well with. Now, because it's digital, lecturers can easily look at previous feedback and monitor progress."

For example, a student that consistently used the wrong referencing style, despite repeated marks pointing this out, could be held to account because there would be a consistent record of similar comments. "Lecturers can look back on previous comments and say 'I'm not going to pass you because you're not engaging in feedback about your work'," he says.

Student feedback.

Throughout its development, Campbell and his colleagues have extensively tested the platform and tweaked features accordingly.

One major test of the application came when Campbell, colleague Julia Wren and another lecturer sat down with iPads to watch third-year primary education unit in which students, in groups of five, had been tasked with creating and delivering drama, music and visual-art performances suitable for a primary-school audience.

Throughout the course of the presentations, markers were able to not only record their thoughts, but to share them with the students to provide instant feedback. This improved the visibility of the overall performance and marking process, while encouraging dialogue between markers and students.

By the time the assessments were complete, emailed reports were well received and student feedback was, overall, extremely positive.

"It was good how it had the tutors' comments and where they marked us on the rubric for each section," one student replied. "It was also good to see how the tutors had marked us compared to the peer marking."

"It was good to be able to see the video and make the connection with the comment," said another. "It was also great to keep for future reference, and to include in an e-folio."

"It was good to see what we looked like from the audience's perspective as it is so different when you are up on the stage," said yet another student. "The provision of the video will aid the ability of our group to assess ourselves and to reflect on our performance in more detail."

One other comment went to the heart of Campbell's conviction that students were looking for more productive feedback than simple comments on paper: "Being shown how you have done something is far more effective then being told you have done something," the student wrote. "It has a greater impact on encouraging and promoting improvements where they are most needed, and enabled us to effectively reflect on and justify the comments made by our peer assessors and our tutors."

Continuous improvement.

With a number of successful trials under his belt, Campbell is encouraged by the positive response to the application, and is working to encourage its adoption within other parts of ECU's curriculum.

The platform can be easily adapted to doing interactive surveys, for example, or for marking different types of activities delivered by students as part of their coursework. Campbell also envisions it becoming mandatory – so students would be required to read and react to the assessor's feedback in order to progress in the course.

"We could make them engage in the feedback by saying 'here are a few things you need to do to get to the next grade level'," Campbell says. "We could attach that to the next assignment, so they're aware of what they're lacking and what they should do. It's all about making them engage."

Although he has the foundation of an application in place, he says the structure can be modified with relative ease using Filemaker Pro's mature forms capabilities. A more assignment-based application might, for example, have students emailing their essays to the lecturer and the lecturer able to make comments directly

onto the document using the iPad; many lecturers currently do marking by hand even when documents are submitted online.

That's a much easier solution than those adopted by many lecturers, who are often unaware that there's an alternative to simply reproducing paper methods in digital format. Even those who approach the task of digital marking often end up wasting time creating standardised marking forms using Microsoft Word.

By contrast, Filemaker Pro has for years been all about data collection. And, thanks to the relatively-new Filemaker Go add-on, extending it to the intuitive and well-liked iPad has been a breeze. Whatever the application, Campbell is confident the approach can be productively applied to a broad range of settings.

"It gives the marker a lot better usage of their time," he says. "As soon as you bring in the touch capabilities, it gives you so much more time to mark."
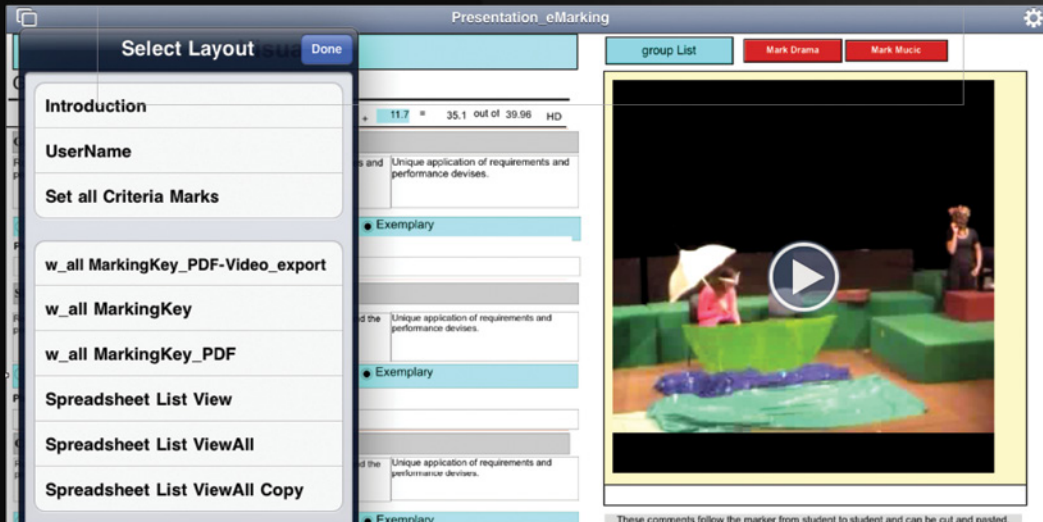
Forms, delivered to the iPad using Filemaker Go, allow recording of a range of marking criteria.

Used here to assess a musical performance, the application allowed the marker to capture pictures along with textual notes.

On-screen marking lets assessors provide instant feedback to students while the experience is still fresh in their minds.

Even when lecturers spend large amounts of time to provide meaningful feedback, many students have little interest in anything more than their mark.

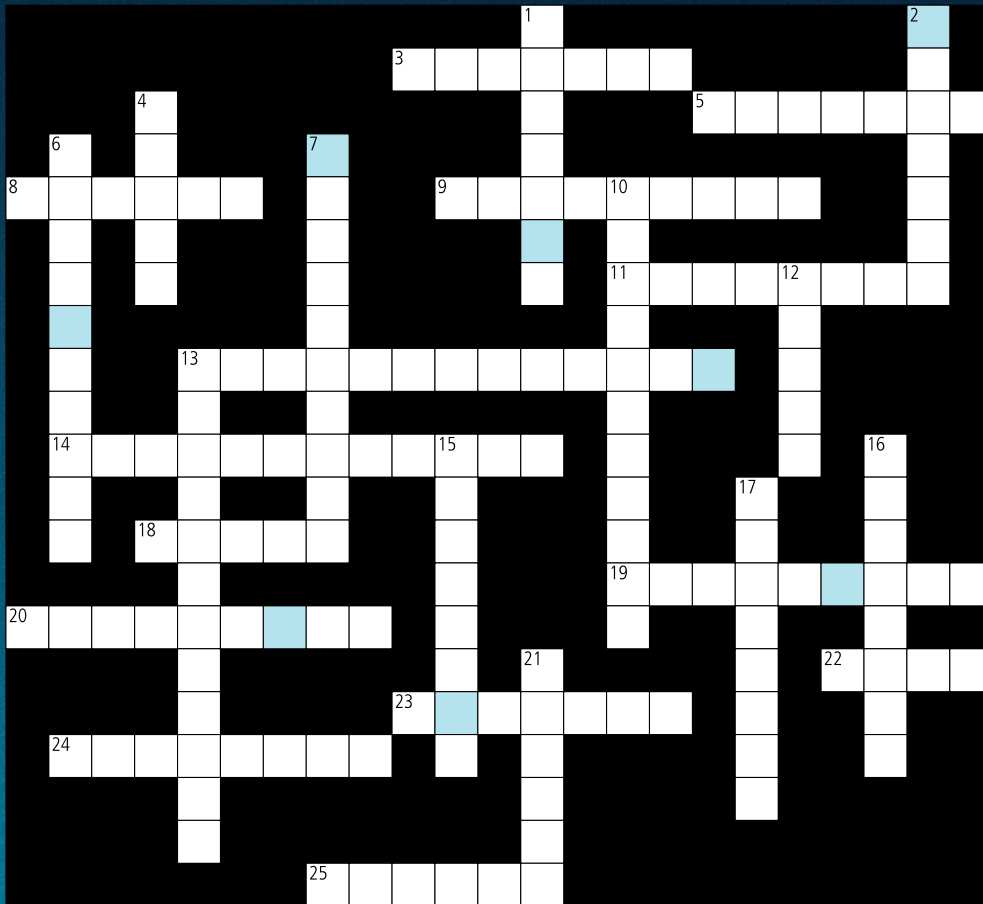*Summary form views are emailed to students, giving them a précis of their performance alongside their mark.*
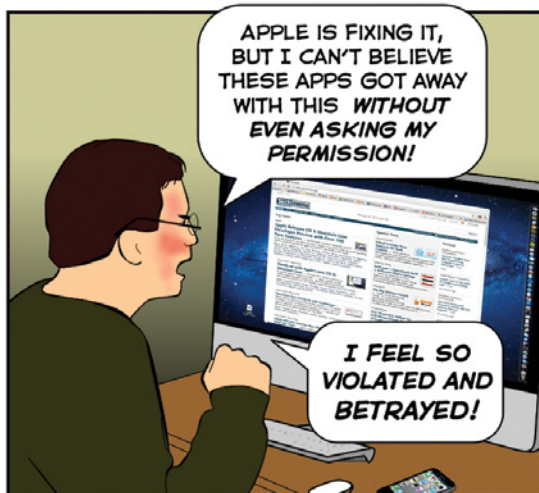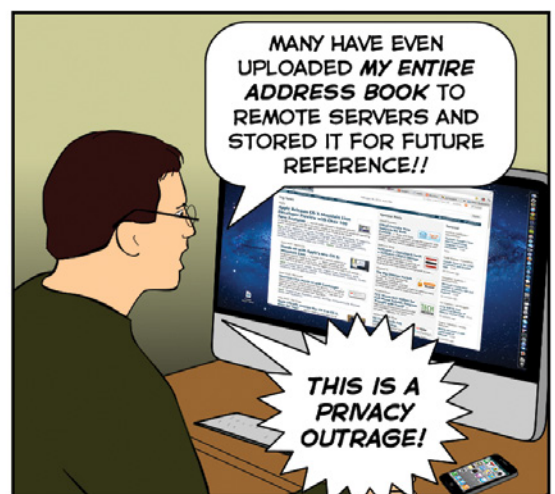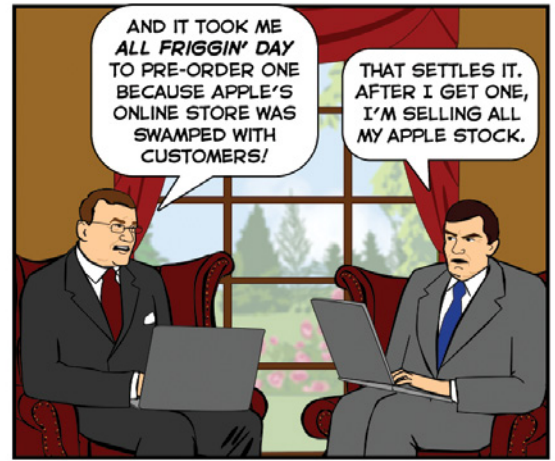
CrossWORD Competition

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, May 5, 2012.

WIN AN IPOD NANO

CONGRATULATIONS

Congratulations to Jim Dangaris from the University of Melbourne for winning an iPod nano by correctly completing last issue's crossword to reveal the answer:

TERRITORY   An iPod nano is on its way!
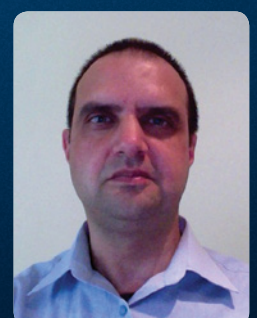
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