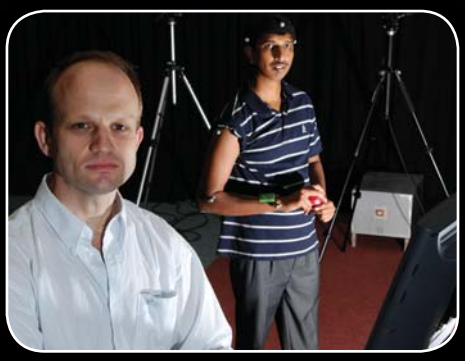
Wheels for the MIND

AUC

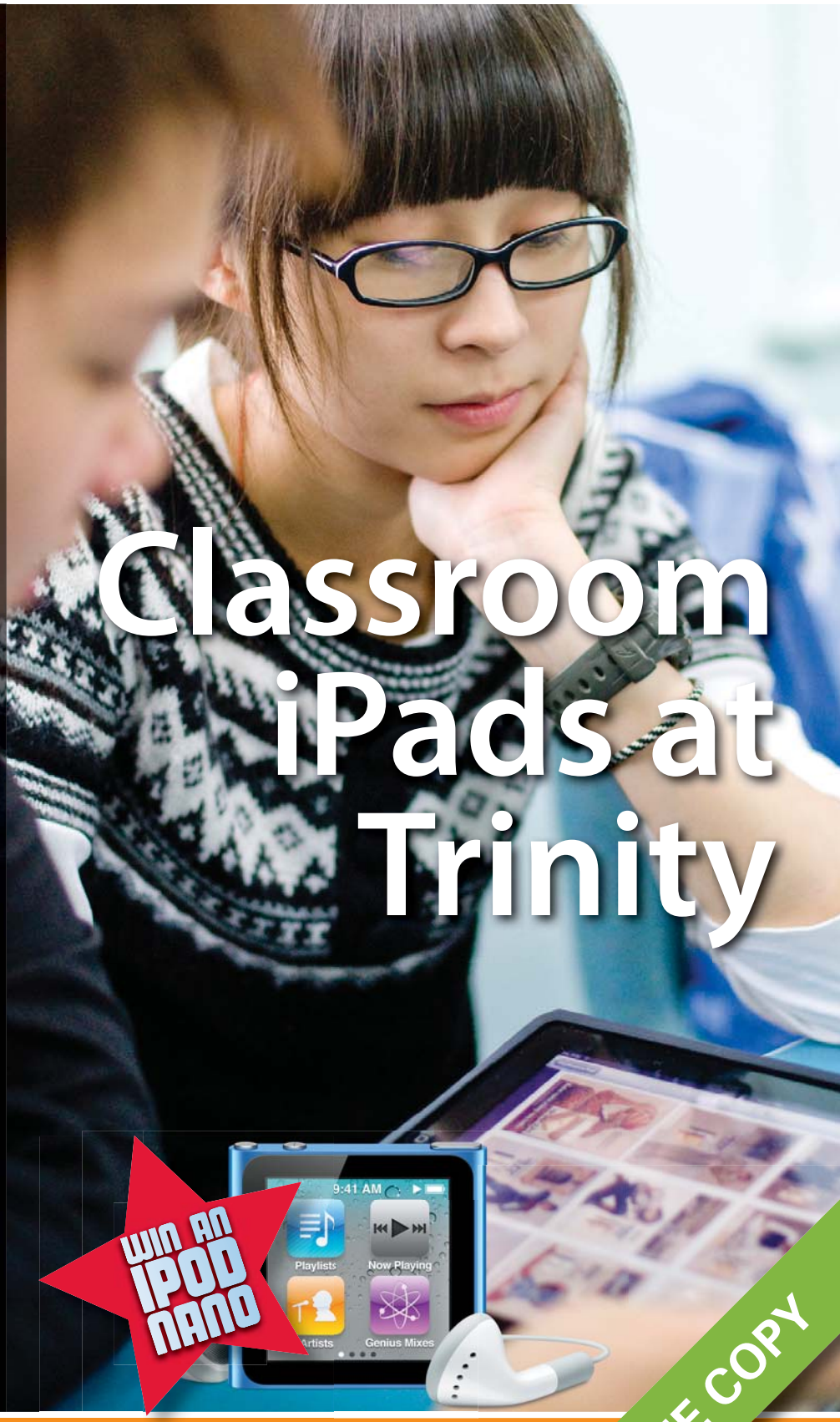
Flying high in NZ

iPhone CAMPUS GUIDES

Athletes on iOS



Classroom iPads at Trinity



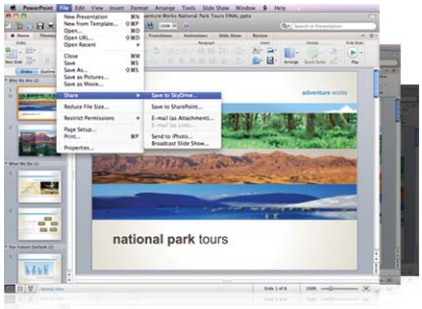
FREE COPY

A magazine for academic staff, students and IT professionals

SUMMER 2010

PRODUCT ROUND-UP

WHAT'S NEW IN THE WORLD OF TECH



Microsoft's latest Office reno

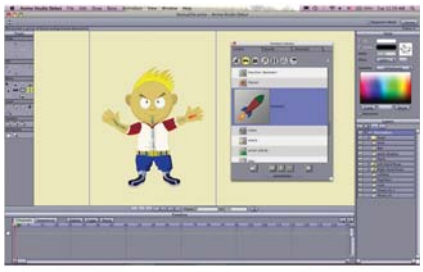
Microsoft's Office for Mac has long been a laggard when it comes to features compared with the Windows version, but a revamped interface and the replacement of much-maligned Entourage with a Mac version of Outlook headline the company's latest Mac effort. Many Windows Office apps of tangential relevance to most people – Project and Publisher among them – are still missing, but this latest update is slicker and more compatible than ever. $169 for Home & Student Edition and $279 for the Home & Business Edition. **www.microsoft.com/mac**.

Sculpting on your screen

Artists of all stripes will find much to like about Pixologic ZBrush, a flexible graphics package that in its latest 4.0 release adds a range of features including hard surface sculpting, flexible light projection and shadow creation, animation and music syncing, and more graphical effects than you can shake a stick at. It's one for the hardcore artists and at $US699 it's priced to match, but if the features look appealing, it may be just the thing for you. **www.pixologic.com/zbrush**.

AutoCAD comes to the Mac

AutoCAD is ubiquitous in engineering, manufacturing, design and other fields, but it has never been available on Macs – until now. Autodesk's latest port plugs one long-yawning gap and puts design power into the hands of the people that need it. You can work through the features at **http://bit.ly/bE7P1P** but if you've been waiting eagerly for its availability, you won't need to. There's also a companion iPhone/iPad app, AutoCAD WS, for remotely viewing, editing and sharing AutoCAD DWG files. The full version is $US3995 but AutoCad offers a free watermarked version or 90%-off $US395 version (which only ships in the US) from **http://bit.ly/bFliW2**.



Easy anime

If you like anime movies and ever thought about making your own, you'll find much to love in Smith Micro Anime Studio Debut 7, an entry-level animation studio from the makers of Poser that simplifies the creation of 2D anime movies. Create your characters using a bone rigging toolset that simplifies animation, then make your movie using the built-in tools. The app also includes royalty-free characters, lip synching, animation of your existing photographs, and more. At $59.95 (or $US49.99 via download from **http://bit.ly/9prKeh**) it won't break the bank, and you may be surprised what you can come up with.

Bring your iPad onstage

The iPad may offer infinite possibilities for music creation, but it's a bit hard to pack onstage in any meaningful way. IK Multimedia has done its part to fix the situation with its iKlip, an iPad holder that clips onto a standard microphone stand adapter to hold the iPad securely in place throughout your performance. Jack up your drum kit, virtual keyboard, sequencer or what-have-you, and the iKlip will make sure it doesn't go flying during an energetic solo. Ships in December for €29.99 plus €35 shipping ($A89 landed) from **www.ikmultimedia.com/iklip**.

NAS without wires

Adding storage is a no-brainer with LaCie's Wireless Space providing 1TB ($289) or 2TB ($369) of NAS storage that's instantly accessible on your network via 802.11n-class WiFi. With a built-in router, UPnP/DLNA/iTunes media streaming, remote access, and Time Machine compatibility, you may not find an easier way to get loads of storage space online – unless you get someone else to do it. **http://bit.ly/boihjs** or **www.lacie.com.au**.

CONTENTS

2 Product Round-up

4 AUC Updates

5 AUC AGM 2010 : Wrap-Up

6 Hanging in there at Otago

8 From iPhone to Campus Guide

10 Apple Updates: all the latest

12 Munki-ing around at St Vincent's

13 iPhones in Motion

14 A World of Dev

16 Trinity's classroom iPads

18 Everything changes – even change

19 Planting Apple seeds in India

20 My head is in the clouds...

22 The Joy of Tech

23 Crossword Competition

Wheels for the Mind is published by the Apple University Consortium, PO Box U194, Wollongong NSW 2500.
Apple University Consortium: www.auc.edu.au register online for a free subscription.
Editor: David Yammouni **Editorial:** David Braue, www.braue.com
Production: Allegro Graphics **Design:** Meehan Design Pty Ltd

AUC MEMBER UNIVERSITIES AUSTRALIA & NEW ZEALAND:

- Australian Catholic University
- Australian National University
- AUT University
- Central Queensland University
- Charles Sturt University
- Curtin University of Technology
- Deakin University
- Edith Cowan University
- Flinders University of SA
- Griffith University
- James Cook University
- La Trobe University
- Macquarie University
- Monash University
- Murdoch University
- Queensland University of Technology
- RMIT University
- Southern Cross University
- Swinburne University of Technology
- University of Adelaide
- University of Auckland
- University of Melbourne
- University of Newcastle
- University of New England
- University of New South Wales
- University of Queensland
- University of Otago
- University of South Australia
- University of Southern Queensland
- University of Sydney
- University of Tasmania
- University of Technology, Sydney
- University of Western Australia
- University of Western Sydney
- University of Wollongong
- Victoria University

AFFILIATED UNIVERSITIES

- Australian Defence Force Academy
- University of Canberra
- SAE Byron Bay
- Bond University
- Dr Mahalingam College of Engineering & Technology, India

EDITORIAL

Welcome, everyone, to our final issue of Wheels for the Mind for 2010. This year has provided us with an exciting feast of articles covering a broad and diverse range of topics. I've been absolutely thrilled with the response from all of our contributors this year and I'm indebted to all the people who've given of their time, expertise and knowledge to help enrich our publication time and time again.

In this issue, we see more innovative uses of iPads in the classroom. It's amazing to see the impact the iPad has had within the education sector and I believe we're only scratching the surface of its potential. The iPhone, too, is making a mark, as we see an increase in university produced iOS apps that provide useful resources to students and staff. Numerous AUC universities have apps that provide access to useful information as well as teaching and learning environments to all iOS based devices.

We also fly to the University of Otago, where Thomas Verbeek has created a virtual hang gliding experience that harnesses video projection and graphics technologies to simulate hang gliding mechanics.

Deploying standardised Mac OS computer environments has always been a challenge and our colleagues at the University of Melbourne's affiliate, St. Vincent's Institute, talk of their experience managing Macs with the open source Munki deployment environment. We then take a look at the innovative way in which Dr. David Rowlands, from Griffith University, uses the iPhone 4's sensor technologies to record and track movement of athletes.

We have a wrapup of the recent /dev/world conference which continuously grows from strength to strength, reinforcing the fact that our developer community is growing and encompassing more staff and students every year.

And of course, we have our regular contributors Carrie Clarke and Mark McMahon providing us with their insights and wisdom. We round out this issue with more humour from our wonderful friends at Geek Culture and once again give you the opportunity to win an iPod Nano just in time for Christmas.

Finally, I want to thank everyone who has worked hard and contributed to making this publication possible throughout the year. I am humbled and honoured by the amazing outpouring of support and generosity of knowledge that so many have provided to make each and every issue engaging, interesting and rewarding. I wish you all the very best for the holiday season and I look forward to sharing with you again in 2011.

David Yammouni
Editor, Wheels for the Mind
publications@auc.edu.au

AUC Update

CreateWorld 2010 is here

The AUC's final major event for the year, CreateWorld 2010, will roll into Brisbane from November 29 to December 1 and bring hundreds of attendees to Griffith University's South Bank Campus.

As always, the event is aimed at digital arts practitioners, academics, research teams, and technical staff across the digital arts. In line with this year's theme – Working on the Edge: Creativity, Technology, and Innovation – the AUC has lined up an engaging and exciting roster including presentations of new media work, performance, techniques and approaches in practice-led research fields including photography, cyber-arts, music, e-learning, film, animation and design.

Registrations close November 24; for more information on the conference, visit **www.auc.edu.au/Create+World+2010**.

Vale Brock Woolf

It is with great sadness that I inform you about the recent tragic passing of a dedicated and enthusiastic member of our community, and an amazing friend.

As an Honours student at Murdoch University and an active member of the AUC, Brock Woolf will be sadly missed by staff, students, and colleagues for his innovative ideas, perseverance and friendship.

Computers played a major part in his life and through the AUC his drive and ambitions were encouraged and developed.

I will always remember the wonderful adventures we and our friends had at the AUC conferences and presentations held in Australia and overseas. We will all miss those memorable late night programming discussions and the great satisfaction when a simple idea became a reality. – Nicholas Circosta

iOS SDK Workshops

The AUC will be hosting workshops about iOS development at Sydney's Saxons Training Centre from December 6-8 and 9-11. Topics include an introduction to Cocoa and tools like Xcode; iOS app building blocks and a hands-on component in which attendees will build a real app from scratch.

The workshop is aimed at students who study computing science, computer engineering, information technology, mathematics, creative arts/design or related disciplines, and have an interest in developing for the iPad, iPhone and iPod touch. Attendees are expected to have basic experience programming in C++, C, and/or Java, and have an understanding of object-oriented programming concepts. Staff are also welcome to attend, although places were extremely limited at press time.

For more information, See **www.auc.edu.au/iOS+SDK+Workshops**.

AUC Chair Retires

Many of you will have known Denis Antonellie, and would have interacted with him as either the Chair of the AUC Executive Committee or in his role as AUC/AUCDF delegate. Denis has been a fiercely loyal and staunch supporter of the AUC for many years. His almost single-minded determination has helped the AUC continue to be a highly successful organisation.

Denis has been a member of the AUC fraternity for over 13 years, and was elected as Chair in 2006. His infectious passion and love for Apple technologies, specifically within the university environment, has been his greatest attribute. On July 2, 2010, Denis stood down as AUC Chair and retired from his position at UQ, where he'd worked since 1982.

It has been an honour and a pleasure to have worked alongside Denis. We all thank him for his efforts in keeping the AUC in good health, and wish him all the best for his future endeavours.

Last chance: free copies of Picturesque, Soulver

Throughout 2010, NSW-based students and frequent AUC contributors Zac Cohan and Nik Youdale have generously offered AUC members free copies of their award-winning Picturesque image editor and Soulver calculator applications. With the year rolling to a close, this is your last chance to avail yourself of the offer.

You'll need a .edu.au email address to redeem the offer. For Picturesque, visit **http://bit.ly/i0x3Mv**; for Soulver, visit **http://bit.ly/fv68sY**.

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 AGM 2010: Wrap-up

By David Yammouni

Once again we've come to the end of another year for the Apple University Consortium – and what a year it has been! The AUC has been through lean times as well as periods of abundance, and the past 12 months has seen more opportunities and challenges come our way.

The AUC Annual General Meeting is an important event in the AUC calendar. It is an opportunity for members to put forward their issues and to not only contribute to the decision making process but also to be a part of the governance of the AUC itself.

The format of this year's AGM was broken up, with some excellent presentations given by various members of the community. First up was Adam Reed from ANU. Adam spoke of his experience developing his first iOS app for ANU – an orientation app that he created in only a matter of days.

This was a fascinating insight into the world of rapid development, often with little or no assistance. The final fruits of Adam's labour were well received, lot of valuable lessons were learned and I believe we all picked up many morsels of useful information regarding the perils and pleasures of developing an iPhone app.

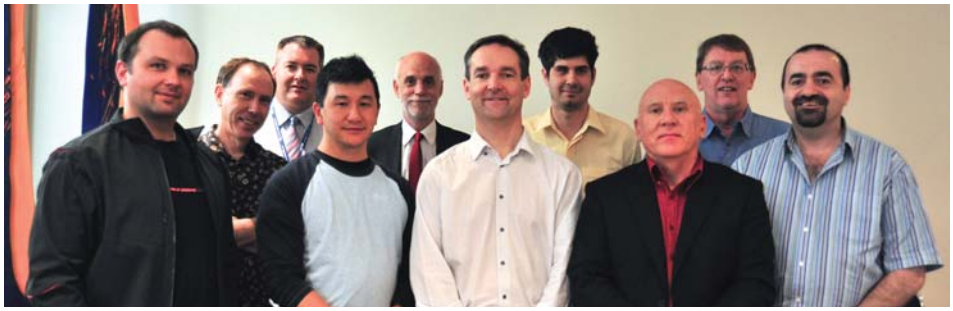
Next was the humorous presentation from the boys of The Secret Lab. Apart from making many funny references to Tony Gray (our new AUC Chair) throughout their talk, the boys spoke of their experiences making iPhone apps with the gusto and irreverence that only true hardcore developers can.

Our last presentation of the day was given by James Harper from Auckland University. Entitled "What's Up Bro?", James gave us a wonderful overview of the happenings, including the recent earthquakes in Christchurch, throughout the land of the long white cloud.

Finally, we now have a new AUC Executive and AUCDF Committee. Even though there are still familiar faces, we have new members joining the Executive committee and here's the new line up:

- AUC Chair: Tony Gray, University of Tasmania
- Financial Planning Officer: Stephen Young, University of Melbourne
- Publications Editor: David Yammouni, Swinburne University of Technology
- Technical Training Portfolio: Mark Noonan, Queensland University of Technology
- Committee members: Michael Docherty, Queensland University of Technology and James Harper, Auckland University
- AUC Executive Officer: Andrew Jeffrey
- AUCDF Chair: Daniel Saffioti, University of Wollongong
- AUCDF Committee: Alan Cody, University of Queensland; Daniel Woo, University of New South Wales; Stephen Atherton, Apple

With decreasing revenue and budget constraints ahead, I believe we are in good hands to see us through these challenging times. We also thank Denis Antonellie for his time as Chair and Stephen Young as acting Chair up until this year's AGM, for their tireless efforts keeping the AUC in great shape. We wish the new committees all the very best for the future.



The new AUC Executive includes (left to right): James Harper, Alan Cody, Andrew Jeffrey, Daniel Woo, Stephen Young, Tony Gray, Daniel Saffioti, Michael Docherty, Mark Noonan, David Yammouni.

The Secret Lab boys shared their experiences building iPhone apps.

Hanging in there at Otago

Users lie on a bed and steer the virtual hang-glider by shifting their weight against a guide bar.

If you've never tried hang-gliding, don't worry: you're not alone. Thomas Verbeek hadn't tried it either – but that didn't stop him and a team of fellow students from recently picking up an ongoing postgraduate development project and producing an interactive flight simulator that uses an iMac and some carefully-honed graphical programming to simulate the experience of hang-gliding with immersive 180-degree projections.

A Master's student at the University of Otago in New Zealand, Verbeek (**www.thomasverbeek.com**) – who has an abiding interest in computer graphics and completed his honours year last year before commencing his Master's, an exploration into the mathematics of texture generation, a critical part of 3D graphics programming – stumbled upon the work-in-progress while looking around for topics to investigate. An earlier student had started working on the simulator, building a frame, canvas, and proof-of-concept simulator that showed little more than a horizon line.

The project offered an excellent opportunity to put his emerging OpenGL graphics skills to use on an unusual real-life application, Verbeek says. "I had dabbled in 3D graphics before, but usually more ray-tracing," he recalls. "There was no requirement of having done hang-gliding before, but you did have to have some sort of understanding of how the flight model works."

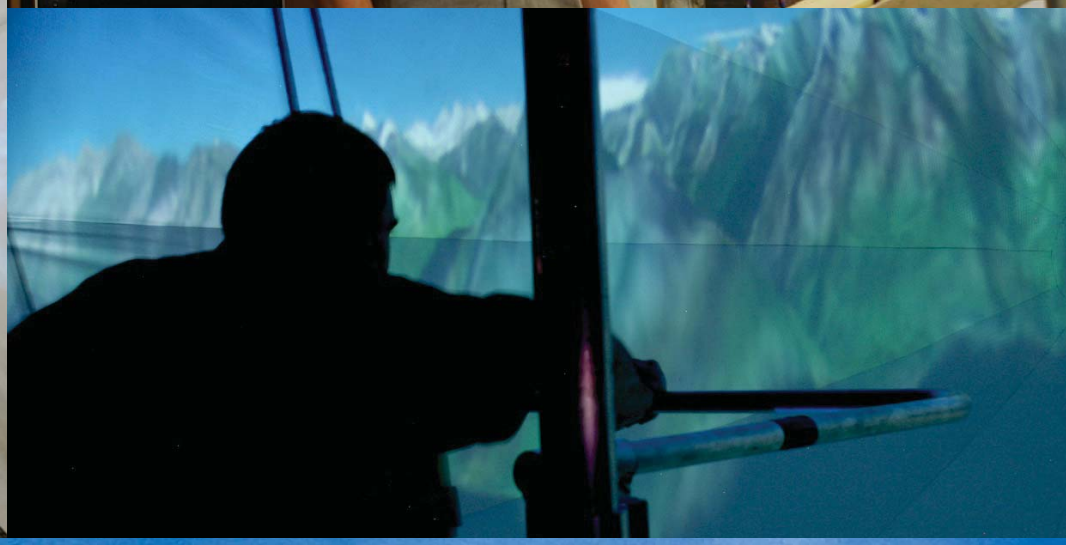
The physical gear is based around projection of the simulator's imagery on a large hemispherical dome of the type developed by University of Western Australia's Paul Bourke and covered previously in Wheels. A carefully aligned mirror projects the image onto the dome, correcting for distortion to produce an immersive experience that suits the design of the simulated environment.

Although the mechanism for projecting the images was understood, refining the user interaction component of the project was one of Verbeek's first challenges. A previous approach had been based on the user sitting in a harness of sorts, but it proved difficult to get into and out of. The students tried a number of different options for holding the user, and eventually settled on a 'bed' of sorts – a wooden frame with thin mattress on it – suspended from the hang-glider's frame.

The bed was easier to get into and out of, and also allowed users' legs to stick out a bit to simulate the experience of being suspended. It also provided an easy way to track movement: a FireWire-connected camera was installed underneath the bed and pointed upwards, tracking the movement of a mark made on the underside of the bed. Any movement of the bed would be picked up by the camera, with some computing algorithms deriving the effective pitch, yaw and roll of the user at any given time. Since each person has a different centre of gravity, it was necessary to calibrate the bed each time a new user got onto it; this is accomplished by moving the camera.

The projection system uses a special mirror system to project the iMac's image in a 180-degree immersive view.

Thomas Verbeek significantly enhanced an interactive hang-glider simulator that takes users on a tour of New Zealand's Remarkables mountain range.



"The beauty of the camera approach is that it gives the user a more realistic sense of control," says Verbeek. "They're working with their own mass, and pushing and pulling against the bar. This really makes it a natural interface."

Real-world maps

With the user interface addressed, Verbeek set himself to the challenge of building the actual simulator. The simulator was still in early stages, with bugs and very little graphical detail; Verbeek addressed this by using Google Earth to source detailed maps of the Remarkables mountain range, near Queenstown in New Zealand. Map data is stored in RGB format, with altitude stored inside the alpha channel of the images and extruded to produce the actual mountains.

"Ideally you should be able to connect to Google Earth and retrieve this information on the fly so you could hang-glide anywhere in the world," says Verbeek. "But that will be up to the next person who picks up the project."

What he did implement, however, has significantly improved the polish and presentation of the application. For example, collision detection has been implement so that it's now possible for users to fly into mountainsides or the ground. The virtual sky has clouds and a sun in it.

Verbeek also developed an image calibration function to enable precise tweaking of the projected image: "interface design was quite important for me," he explains, "so I built a proper interface so we could debug this thing and get it working correctly."

The project this year netted him an AUC Student Developer Scholarship that included a trip to Apple's WorldWide Developer Conference (WWDC) 2010. Completed after an intensive six-week programming stint to meet a looming conference deadline, the project also proved to be a hit with visitors to a University of Otago-hosted conference and involving the Department of Computer Science. The project met a similar reaction at the later International Science Festival in Dunedin, and is likely to get a further airing when it's picked up by another student in the future.

In the meantime, Verbeek has resumed his Master's project and is working to bring it to a conclusion. Working to refine his skills in the OpenCL code for tapping into the power of graphics processing units (GPUs), he's passionate about improving the accessibility of complex graphics capabilities to developers.

"I'm hoping to come up with a new method of generating textures on the fly," he says. "3D artists shouldn't have to learn about frequencies and amplitudes and so on; they need to be concerned with getting their job done. If I can come up with a new method and build functions around it, I can give them an intuitive way to interact with this in a way that's natural to them. Graphics really is my passion; I can't get enough of it."

From iPhone to campus guide

Melbourne University staff and students wanting to look up information about the uni now have to look no further than their iPad or iPhone, since the June launch of a dedicated iPhone app that has proved to be a hit on campus.

The idea for the app came about as campus developers were brainstorming about ways to put everyday information into the hands of their staff. The iPhone seemed like an obvious target from the start, says Andrew Harris, an interface designer with University of Melbourne's ITS Web Services division.

"When they order new phones, 9 times out of 10 staff will choose an iPhone," Harris explains. "Building an app was seen as a kind of reward for staff so they could have a bit more information – things like a contact directory, our mapping Web site, news updates and more – to hand on their iPhones."

A heavy investment in back-end systems meant that most of that information was already available – but the prospect of a purpose-built iPhone app proved tempting for designers who were keen to explore the popularity of a dedicated iPhone app.

"We have those services already, and in readily available formats, and we have a mobile web site that exposes the same information so people without iPhones can still get it," Harris explains. "But the iPhone app just packaged this all up in a nice, useful way. It was seen as a relatively easy starting point to use those existing data sources to help us build an app and acquire the skills needed to build more in the future."

The ITS Web Services team worked with an outside contractor, who helped clarify the iPhone development process and get the team up to speed with building an iPhone interface into their information services. The project didn't last for long, says Harris, but planning for it proved both complex and illuminating: staff were forced to consider which services would be most useful for users, and gained enough skills to keep maintaining and improving the app on their own once the contractor's work was complete.

"The whole thing runs off of feeds, basically," says Harris: news updates and photo-sharing feeds, for example, are standard RSS feeds while a mapping layer uses Google Earth's KML format to provide a searchable campus map searchable by fields such as building names. The contact directory is a custom-built XML interface into the university's centralised contacts database, and the app supports the university's internal email system.

There were limits to what the app could do in its first incarnation, however: many students have asked for the app to provide access to the university's student portal, for example, but "you simply can't provide data out of those because the tools don't make it easy," Harris explains. "Unfortunately, most vendor-based back-end systems have very poor support for standards, and that makes it difficult to get information out. Whereas where we've built our own systems like a contact directory, that just runs off an LDAP tool."

The app has proved popular on campus, with staff and students downloading over 3000 copies and feedback rolling into the development team within days of the app's release. Many users offered feedback that will be considered for the next version.

Melbourne Uni is only one of numerous local institutions that are working the iPhone into their strategies: ANU, Curtin University, the University of Otago, University of Auckland and University of Western Australia are all represented in the App Store, and there are more apps to come.

The University of Auckland, which already offers an app for its library users, is building a more-comprehensive iPhone app that will be available early in 2011. With functionality including building maps, locations and directions; a staff directory; news and events updates; and, potentially, a personalised "Where Am I Supposed to Be?" feature powered by the university's enrolments system. ITS strategy and design manager James Harper believes the app will be appreciated by staff, students and even visitors trying to orient themselves on the university's expansive campus.

"We're seeing around 3000 concurrent connections from Apple devices to our wireless network at any given time," says Harper. "By 2014 we expect this will increase to around 10,000. So the iPhone and iPad are logical targets for our first foray into these apps. We're still testing various components, but there is involvement from communications, marketing, IT, graduate students, our Web team, and even the vice chancellor that have contributed to make this a fairly high-profile app with broad backing across the organisation."

Yet at Melbourne Uni at least, the popularity of the app is really a side benefit for the development team's primary goal: to improve iPhone development skills on campus in support of future projects. And in this respect, Harris says, the project has been a resounding success.

"The business goal was never going to be measured in the success of the application," he explains. "That's icing on the cake. The goal was to acquire skills in our development team, and understand the process of developing an app and releasing it through the App Store. From that point of view, the goals have been achieved."

AUC MEMBER IPHONE APPS

ANU Open Day
http://bit.ly/9CYz3K

Melbourne Uni
http://bit.ly/aPkGhc

Curtin University iPortfolio
http://bit.ly/9Nevnh

Otago Maps
http://bit.ly/bGyhAD

Uni of Auckland Library
http://bit.ly/d8u0x2

UWA Map
http://bit.ly/aqC8ey

Victoria University
http://bit.ly/9FSYLJ

Apple Update

All the latest from Cupertino

Apple has been hard at work in the months leading up to Christmas, starting with a significant iPod and iTunes refresh in September and following up with iLife '11, a sneak peek of the next-generation operating system, a MacBook Air refresh, and more. Here's a rundown of the latest in Apple innovation:

iLife '11

Apple skipped the '10 nomenclature altogether, but the '11 version of iLife packs in a bunch of new features designed to make your media life easier and more productive.

iPhoto gets a makeover that includes full-screen editing and viewing of images, new sharing options, a redesigned book-making engine, and new letterpress cards. iMovie gets features including easy creation of theatrical trailers in 15 different genres, new effects, better audio control, People Finder feature to pick faces out of your clips, and new themes; and GarageBand adds features like Flex Time – which lets you move, stretch or shorten individual notes without affecting the rest of the music – and Groove Matching, which adjusts tracks to the rhythm of any track you select. There are also new guitar amps, five new stompbox effects, 22 new lessons and a new 'How Did I Play?' feature to check your progress.

iLife '11 costs $69 or $99 in a five-user family pack. **www.apple.com.au/ilife**.

Thinnest MacBook yet

Apple isn't calling it a 'netbook', but it doesn't have to: lovers of thin and lightweight notebooks are eager to get their hands on the updated MacBook Air, which takes significant steps forward by doing away with a hard drive altogether.

The new design comes in 1.06kg 11-inch and 1.32kg 13-inch designs that offer seven hours' battery life and up to 30 days' standby time. The notebooks are 1.7cm thick at their thickest point, and 0.3cm at their thinnest, yet pack a full array of features including NVIDIA GeForce 320M graphics, LED backlight, Mini DisplayPort, 802.11n WiFi connectivity, Bluetooth 2.1+EDR, two USB ports, and (in the 13-inch model) an SD card slot. The built-in solid-state disk (SSD) drives come in 64GB, 128GB or 256GB capacities.

Pricing starts at $1199 for a 1.4GHz 11-inch model with 2GB RAM and $1599 for the 1.86GHz 13-inch model with 2GB RAM and 128GB of storage. **www.apple.com.au/macbookair**.

From the snow to the Kalahari

Apple's next-generation Mac OS X 10.7 operating system, code-named 'Lion', was recently shown in an early form to give users an idea of how it's going to change the current Snow Leopard environment.

Among the new enhancements are an iPhone and iPad-inspired Mac App Store, which will provide a totally new option for sourcing and installing Mac applications; a new iPad-like 'Launchpad' to organise the applications on your Mac; system-wide support for full screen applications; and a new 'Mission Control' feature that shows you every app, document and window running on your Mac so you can easily jump between anything you need to access.

More details will become available as 'Lion' nears its expected launch in mid-2011.

Give your Mac some FaceTime, too

It debuted as a part of iOS 4.0 and has so far been limited to users of the iPhone 4 and new iPod touches, but FaceTime will get a big boost with the release of FaceTime for Mac, a next-generation videoconferencing app that will allow users of MacBooks, iMacs and Apple LED Cinema displays (all of which have built-in cameras and microphones) to participate in live videoconferencing links that can be initiated using existing details in Address Book.

FaceTime for Mac is available in beta form from **www.apple.com/mac/facetime**.

iPod touch can see at last

Hot on the heels of the hugely popular iPhone 4, Apple has finally brought the phone's camera-filled design down to its iPod line with the release of a significantly upgraded family of iPod touch models.

The new models borrow heavily from the iPhone 4, with the same 960x640-pixel Retina display, front-facing camera and mic, HD video recording, A4 processor, 3-axis gyro, iOS 4.1 and Game Center features that have helped make the phone such a big hit. As on the iPhone 4, video editing is possible within the device by downloading the $4.99 iMovie app.

iPod touch wasn't the only iPod getting a makeover: Apple dramatically changed the design of the iPod nano, cutting its weight and size in half to provide a new square-shaped model with a Multi-Touch capable front panel that lets users navigate through their music collections with their fingers. A built-in clip makes it simple to attach to clothing, while features like a customisable home screen and built-in FM radio increase its credentials as an exercise companion.

Finally, Apple redesigned its iPod shuffle, which has a clothing clip and no screen, instead using Apple's VoiceOver feature to speak the name of the currently playing song, playlist or Genius Mix.

The new iPod touch costs $289 (8GB), $378 (32GB) or $499 (64GB); the new iPod nano costs $199 for an 8GB and $229 for a 16GB model; and the new iPod shuffle costs $69. **www.apple.com.au/ipod**

iTunes turns 10

iTunes also got a major boost with a full-version release and Ping, a headlining new feature that provides social-networking capabilities around your music library.

Ping lets you follow artists and friends to see what they're listening to, what events they're going to, and so on. A consolidated Top 10 list lets you keep up with the latest changes in your social network, while lists can be synced to iPhones or iPod touches to keep you informed on the go.

iTunes 10 also features a new look and feel, and incorporates AirPlay wireless music playback, which is being built into Apple's AirPort Express as well as third-party speakers, receivers and hi-fi systems from Bowers & Wilkins, JBL, Denon and iHome.

Download iTunes 10 from **www.itunes.com**.

A new Apple TV

In a season marked by dramatic makeovers, the Apple TV was no exception. Ditching its long-running hard drive-based design, Apple completely reinvented the device Steve Jobs has called its "hobby", slashing its price (to $129) and removing local memory in a device that is now intended merely for streaming local content from iTunes, iPhoto, wireless content via iPhone, iPod touch – and internet-hosted podcasts and other content from Flickr, YouTube, and MobileMe – straight to your TV.

There's built-in HDMI, WiFi, Ethernet, and an internal power supply packed into a silent, fanless device that measures around 5cm on a side. The Apple TV can be controlled with an Apple Remote or with an iPhone or iPod touch via Apple's Remote app. **www.apple.com.au/appletv**

Wireless printing for iPad

It's one of the most-requested features for the iPad, and Apple is finally delivering it with the development of AirPrint – a wireless printing engine that allows apps on iPads, iPhones and iPod touches to automatically find local printers and print text, photos and graphics on them without drivers.

AirPrint is shipping in the new iOS 4.2 update, and will allow printing either to existing shared printers or directly to purpose-built printers such as HP's ePrint-compatible Photosmart, Officejet and LaserJet models.

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** for details.

Munki-ing around at St Vincent's

With the number of Macs in computer labs and in students' hands steadily increasing, IT managers are finding it ever more important to find ways to keep those Macs running smoothly. At the University of Melbourne-affiliated St Vincent's Institute, where Macs comprise 70% of personal machines, this challenge has been met with Munki, an open-source application deployment platform that has made it much easier to keep the fleet of Macs running smoothly.

St Vincent's Institute – which incorporates the university's Departments of Medicine, Surgery and Clinical School, St Vincent's Institute and O'Brien Institute – has nearly 200 Macs in total, with a 50/50 split between laptops and desktops. In the past, these systems were being managed using Remote Desktop – which had proved to be a somewhat effective but less than ideal solution.

"The Mac doesn't really have a great software deployment mechanism," says Jon Rhoades, the institute's IT officer for research information systems, who along with the other members of his five-person team had been looking for ways to speed the delivery of security patches and other updates to the institute's Macs.

"We have been using Remote Desktop in the past, but not in a particularly clever way," he explains. "When somebody needed something done, we would jump onto their machines. We had started making some packages we were pushing out to the desktop, but it was still a painful process."

Some time ago, the five-strong team had started using WPKG (**www.wpkg.org**), a free and open-source Windows-based tool, to roll out applications to its fleet of Windows desktops. But with the growing need to support Mac OS X, the team recently began looking for an equally useful analogue for Macs.

It soon found a solution in Munki (**http://code.google.com/p/munki/**), a free and open-source set of tools for managing applications using Adobe, Apple and other deployment formats. Munki lets IT administrators interact with remote desktops via an installed client application, pushing out updates as necessary.

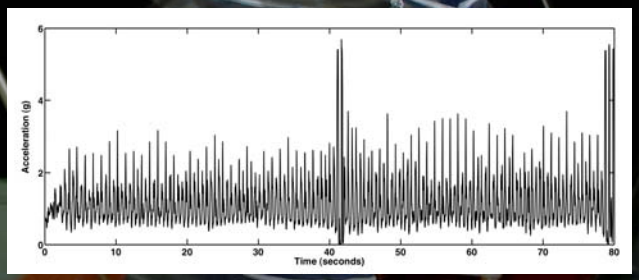
This has proved invaluable for applications like Firefox, which is updated quite regularly by the Mozilla team and is particularly important in protecting against errant malware. It has also enabled the team to push out customised builds of applications like Microsoft Office – removing unnecessary applications like Entourage. And when new applications need to be delivered to all users – for example, the newly-release Microsoft Office 2011 and an updated version of the heavily-used Endnote citation manager – they can be rolled out to all users with a few clicks.

There are issues: Munki is still under development, and its interface could do with some improvements. But its core functionality has proved both capable and useful, and the development team is actively interested enough in customer feedback that the Institute team has been able to escalate issues or feature requests directly to them.

"It's been a pretty low impact on our environment," Rhoades says. "We didn't need to buy any other servers, and the only thing it struggles with are applications with weird and wacky activations. And it has hugely changed things for us: it allows us to be really proactive with our application updates, and if we had 150-odd managed machines there's no other way we could keep them up to date with a fortnightly release cycle. Munki fills that gap for us, and it has definitely been making a difference in our workload."

iPhones in motion

Dr David Rowlands sees great potential in using the iPhone's motion sensors to analyse sports performance.



Accelerometer data taken during exercise shows unique characteristics of that exercise – here, a person walking for 100m and jumping at 50m and 100m. Each of the steps taken can be seen.

If you've ever played a game like Rolando or used the Maps function of your iPhone, you already know all about the way its directional and inertial sensors allow it to track its movement through space. Yet at Griffith University, those capabilities – further enhanced by the six degrees-of-freedom gyroscope-driven measurement that the iPhone 4 has delivered – are opening up entirely new ways to precisely monitor and analyse the movement of athletes during training.

Sensitive motion sensors have long been stock tools of the trade for researchers like Dr David Rowlands, a lecturer in the Griffith University Centre for Wireless Monitoring and Applications. Using those sensors, Rowlands and his colleagues are able to carefully monitor and plot the movement of athletes' arms, legs and related equipment such as bats or racquets. For example, measuring variables such as chest rotation, upper arm rotation, and hand flexion can give a good indication of the power and accuracy of a tennis player's serve.

"When they play a sport, every person has a different movement signature," Rowlands explains. "For example, by monitoring a sword swing in martial arts we're able to compare the swing of a beginner with an elite practitioner of the sport. The rates, speeds and impact involved meant we used our own solution in the past, but now we have a good solution in the iPhone – particularly with the latest iOS and iPhone 4, which means we can measure movement in all directions."

Putting these sensors into action has become a significant focus for Rowlands and his team, who regularly work with specialists at the nearby Queensland Academy of Sport to refine athletes' training programs. Using a custom-designed app running on an iPhone attached to an athlete, researchers are able to continually record all readings of the phone's sensors throughout the duration. Data taken from the sensors is fed via WiFi to a nearby laptop, then fed into MATLAB analytical software to give a detailed map of the athlete's physical movement.

Research work in this area has proven the iPhone 4 to be an excellent data collection device, and Rowlands is now considering ways that the paradigm can be extended. For example, coaches could use iPhones or iPads to get instant analysis and feedback on the athlete's performance, as it's happening. Rowlands calls it "a coach in every pocket", and he believes it could be invaluable for sports like snowboarding – in which an iPhone could be used to measure every spin and jump and reproduce every second of a snowboarder's run.

"It's very good at picking up things like hang time and rotations," he explains. "What you can do from this is to determine the type of manoeuvre that was performed. They want to try and remove the subjectivity from [judges]. And when it's married with a video, you can see exactly what athletes are doing. Coaches' whole business is watching – and when you put this in there, it gives them that extra bit of information."

For more information, visit **www.sportsbioengineering.com**.

A world of dev

Record attendance and a broader range of content than ever has cemented the dev/world conference as the AUC's third major "world" event and confirmed a growing appetite for relevant information amongst developers.

The conference, which ran from 28-29 September at Rydges Melbourne, attracted 120 delegates – a one-third increase over last year's Canberra event – who met to learn about, share their experiences with, and plan strategies for developing across the range of Apple devices and platforms including Mac OS X and iOS 4.

Sessions were aligned along three key streams: Mostly Mac, Intensely iOS, and Bigger Picture – for related technologies such as version control, Python scripting, and the like. Sessions included "Awesome things you've missed in Python", "Campus navigation using custom maps", "Introduction to Core Data on iOS", "Incorporating video in iOS applications", "Not Lego: Doing everything with Blocks and Grand Central Dispatch", and dozens more.

This busy roster of sessions was complemented by featured speakers including former UNSW student, AUC participant and AppWeaver lead developer Andre Pang, who gave an engaging and interesting talk about his current role at animation studio Pixar. Andre had the audience enthralled with his story of the seven-year journey that took him from development-interested uni student to a role in one what is arguably the world's leading computer-based animation studio.

"Students and staff benefit from their affiliations with the AUC and it's wonderful when they come to give something back to the people that follow them," says AUC Chair Tony Gray, technical services manager within the University of Tasmania's School of Computing & Information Systems and the event's key organiser.

The second speaker for the conference was **www.cocoawithlove.com** writer Matt Gallagher – a Melbourne developer whose deeply relevant and useful tutorials have given him worldwide renown in Mac development circles – who shared his fascinating journey of development and self-discovery with the audience.

Importantly, this year saw a 50/50 mix of students and staff, compared with a predominance of students last year; this change, says Gray, is important because students represent a more transient population than staff, who can take the lessons of the event home and incorporate them into long-term teaching and support strategies.

Strong positive feedback from the event has ensured its long-term position on the AUC's roster; the event will return in 2011, staying in Melbourne to complement CreateWorld (in Brisbane) and X-World (in Sydney). "With the feedback we're getting," Gray says, "it points to what's going to become a very successful conference in our series of conferences."

Photo Credit: Christoper Neugebauer, CC3.0 BY-SA

Trinity's classroom iPads

While many schools are talking about the iPad's potential for improving classroom learning, University of Melbourne-affiliated Trinity College is already preparing to significantly ramp up its iPad investment after a successful pilot program that has shown strong benefits for 50 students and 20 staff.

A residential college of the University of Melbourne and the university's oldest, Trinity College offers academic and extracurricular programs for 1500 students, with an extensive body of international students and individual mentoring for students from senior secondary school to postgraduate levels.

Trinity wanted a way to improve the availability of personal technology to support its students' learning. "We didn't really have anything close to a 1:1 program or readily available technology for students to use in class," says Mark Dorset, educational technology manager with Trinity. "Lecturers have been keen on getting real-time access to statistics, online surveys, online applications and more. We thought the iPad had significant potential to introduce technology into the classroom."

The college's pilot program started mid-year to explore the use of the iPads across a range of subjects including English, literature, drama, maths, chemistry, physics, environment and developmental studies. Dispersed iPads were loaded with programs like AudioNote, Pages and Keynote to enable students to take notes and prepare documents in-class, as well as being used for access to the Net and YouTube videos related to the subject at hand.

From the onset, it was clear the iPads offered a much different educational experience than the laptop-based computer learning that has become ubiquitous at Trinity and elsewhere. Their portability and ease of use made them easy to integrate into the classroom, with even simple changes – students were no longer hidden behind laptop lids, but could see and interact with the teacher – changing the dynamics of the classrooms. And because the iPads are easy to pass around, students can easily share information and collaborate on documents during lectures.

"One of the things we like about the iPads is that it's a nonintrusive technology", says Associate Dean Glenn Jennings. "They can be passed around and don't put up a barrier between student and teacher. It's easy to do peer writing, and it allows access to information in real time. In the past, if teachers didn't come to class with materials already prepared, the students couldn't access the information and the teacher would have to get them to research it at home. Now, a discussion can lead to Google, YouTube and elsewhere in a dynamic way."

Teacher surveys revealed that the iPads had proved extremely easy to use, with all teachers quickly coming up to speed with the devices. As the pilot continued throughout the year,

teachers reported four major areas where they think the devices offer significant improvements over conventional learning techniques. These include their ability to encourage active learning techniques; the way students can access or create individualised content; the ability to access information during classes in real time and the iPads' ability to facilitate collaborative learning, with students able to easily divide up tasks and work together to complete tasks.

Although they've proved a hit in the classroom, the iPads are also showing promise in simplifying the burden of managing student devices. "From an IT perspective there's a lot less to maintain," says Dorset. "You can give everyone full access to their device without the fear that they're going to accidentally erase half of it."

iPads also offer more battery life than laptops, which allows students to use them throughout an academic day without having to find a power point to plug them in. They also offer support for features like motion sensing, which can enable a different level of interactivity and experimentation than is possible with conventional laptops.

Yet there are some deficiencies: Pages, for example, doesn't support commonly used features like Track Changes. And while the iPads can be used with external Bluetooth keyboards, students' comfort with laptops means they are still likely to fall back on the full-featured computers outside the classroom.

As learning tools, however, the iPads have proved to be invaluable. With the initial pilot test deemed a success, Trinity is ramping up its investment in the iPads: in 2011 it will roll out the devices to all of its nearly 100 academic staff, and Jennings expects that Trinity will have 750 students using iPads for everyday classroom work by 2012.

Yet it took more than simply handing out the devices for Trinity to make the most of them, however: to get the most from the iPads, the college had to invest in supporting infrastructure. This meant installing another nine or ten wireless access points to fill in blackspots and accommodate increasing demand for simultaneous Internet access. As student numbers increase next year, more access points will be installed to keep up with increasing usage.

There is one more benefit for Trinity in pushing the iPads for its students: with competition for university spaces as intense as ever, Trinity's international student focus means its ability to demonstrate commitment to technology-driven learning can be seen as a competitive differentiator.

"We're doing it because it's easy to use, intuitive, and opens up creativity and opportunities," says Jennings. "If we can show effective, well-thought use of technology in our classrooms, it will be a market differentiator. And if students can do these mechanical things easily, they can move on to the much more advanced, complex, interesting, exciting and fun things. That's the kind of dynamic process where we want education to be."

Every-thing changes – even change

by Carrie Clarke, Griffith University

A scholar who cherishes the love of comfort is not fit to be deemed a scholar.

Confucius,The Analects

Photo credit: Monarch butterfly chrysalis by Armon, CC BY-SA 3.0

Photo credit: Actias luna cocoons. Shawn Hanrahan, CC BY-SA 2.5

Working in a higher-ed IT department, you are surrounded by change. On any given day, you may well find yourself deploying changes, assisting clients with change, dealing with changes imposed on you, troubleshooting something that broke due to change and learning about upcoming technical changes. When you think about it, a significant part of our job is about dealing with change. And some people assume that working in IT is boring!

On top of that, it is not uncommon for us to move around a lot – between different teams, projects and locations. Personally, I have worked in five different roles on three campuses in the last year – mainly filling in for people away on leave or secondments.

There are the obvious changes in these situations when adapting to a new job, like learning new skills and processes and working with different equipment and resources. However, there are also a host of little changes that we need to adapt to: new colleagues and clients, a different team culture, what happens at lunch time, how will you travel to work, and general changes in your daily routine. Whilst this is all happening, we are often expected to hit the ground running and keep the operational work going smoothly, particularly if the team has been short staffed before your arrival.

We all deal with change in different ways. Often this is referred to as "coping with change", hinting at the notion that change is some sort of traumatic event. Sometimes it can be. In some instances, the sheer amount of change reaches a saturation point, often labelled "change fatigue" – indicating that the person or group is just too tired of change to change, and plans to introduce further changes need to be carefully considered.

On the other hand, a complete lack of change can also bring with it unique challenges. Tucked away behind some closed doors at universities, you may well find some very ancient computers gingerly hooked up to scientific instruments in order to run some very specific task that cannot be trusted to run on newer operating systems or hardware.

One change that is always certain to spark interest with many people is the release of new Apple gear. The rapid uptake of iPhones and iPads soon after they are released shows that lots of people (who aren't necessarily tech-minded) embrace new technology when it is done right. I've assisted many first-time iPhone and iPad users; they are often really excited by the interface and prospect of being able to work on the go.

Most of them find these devices very intuitive and easy to use. As a result, any fears they might have about adapting to these devices are often not really about using the new technology itself – but more about the inherent lifestyle change, mostly the idea that from now on there is no escape from their inbox!

As more academics start using iOS devices, they are also starting to show more interest in using Macs. Having assisted many people transition from Windows to Mac OS X, I have heard a lot of concerns about this change – but it is amazing how quickly the fear of the unknown disappears once they start using a Mac. The same applies for techs that are new to Mac support: once they jump in and try it, they are often a lot more interested in building on their Mac skills.

Unfortunately, not all changes are straightforward; it can be quite challenging helping clients through major change. Students and staff are often dealing with many changes of their own and can view updates to technology as unnecessary or disrupting. One of the more challenging aspects of this is that change is inherently emotional. Fear of the unknown, risks or failure can establish negative attitudes that result in the whole change experience feeling similar to the stages of grief (denial, anger, bargaining, depression, acceptance).

Of course, this isn't healthy for anyone involved. However, with good change management, communication and consultation - we can help changes have a positive impact, creating meaningful opportunities for our clients and if all goes well the change might even be met with trust and enthusiasm.

With the rapid pace of technological change, there is often a struggle to find the right balance between the cautious "if it ain't broke, don't fix it", the cowboy "screw it, let's do it" and the impatient "I want it now" when looking at implementing new technology. In educational environments, as technology becomes more accessible - it will likely become more embedded in the whole teaching and learning process.

Often technology is used to automate the way things have been done in the past, but we are starting to see a shift towards using it in more flexible and learner-centric ways that were not possible with older technology. This could dramatically change both teaching methods and technology support requirements in the future.

planting apple seeds in india

by dr. a. rathinavelu

Just as the arrival of spring is heralded by blooming of flowers and sweet songs of birds, at the Dr. Mahalingam College of Engineering and Technology (MCET) in Pollachi, southern India the beginning of summer is marked by children queuing up to attend classes. This marvel is possible due to the unique summer programme offered by the Apple Distinguished School (ADS) to train school going children aged 8 to 15 in Apple technologies.

Ever since its establishment, the college has been a pioneer in deploying Apple Technologies. At present there are more than 200 Mac systems in the college including the iMac, Mac Mini and Mac Pro models. The Apple Distinguished School (ADS), the first of its kind in South Asian countries, was set up in April 2000 with the objective of training people in Apple technologies. It is the first of the many Value Added Centres established in the college to train the students in emerging technologies and trends, thereby equipping them to meet industry expectations. MCET is also an affiliated member of the AUC.

From the inception of the ADS, more than 600 students have undergone various courses such as Diploma in Web and Multimedia, Audio and Video Editing, Web Designing – in addition to the summer camp, which has been conducted in the college for the past eight years. A one-of-a-kind programme, the summer camp was initiated with the aim of providing school children exposure to Apple technologies. The Summer Camp also ensures resource utilisation during the summer vacation period when the regular courses of the college have concluded and the faculty as well as laboratory facilities are available.

During the summer camp, short term courses on Mac OS Fundamentals, Digital Drawing and Painting, 2D/3D Animation, Photo and Video editing, Office applications and Web designing are taught by well qualified college faculty.

The novel learning experience provided by Apple products boosts the creativity of students and enables effective learning. "Children as young as eight have been found to develop proficiency within a few days," explains Professor Dr. A. Rathinavelu, Coordinator of the programme. "Participants step into the world of photo and video editing using iPhoto and iMovie. They create animated presentations and charts by employing Keynote and Numbers. On the whole, children give flight to their imagination and design innovative applications using iLife and iWork product suites."

The programme has elicited enthusiastic response from the children in and around Pollachi town. To date, around 650 children have undergone various courses during the summer camp, which benefits about 100 children from predominantly rural backgrounds every year. For these children, the summer camp acts as an eye opener to computing and gives them an exciting chance to work with Apple technologies.

Each year when the summer camp draws to a close many of the children exhibit eagerness to return the following year and enrol in the next level course. "A common pattern observed is that more than half of the students enrolled during a year register during the subsequent year also," says education secretary Prof. C. Ramasamy. "This stands as testimony to the outstanding success of this unique initiative. We motivate our faculty and students to get experience in Apple technologies, which in turn have been used to train young children during our annual summer camp for the past decade."

My head is in the clouds but n

Something happened in the early 1980s where the traditional model of mainframe computing evolved into the Personal Computer. Advertisements featuring moustachioed celebrities emerged, promising a new era of productivity through a chunky beige box that matched their beige turtleneck sweaters.

These were not dumb terminals to a central server but full self-contained computers with floppy disk storage and masses (640k) of memory. This was a fundamental shift away from the traditional hub and spoke model of computing architecture. The power was wrested away from the lab technicians and for better or worse put into the hands of the end users.

This age didn't last, though. The Internet reconnected the beige box to the outside world and as bandwidth grew it became apparent that rather than being a self-contained device, computing technology may be more of a window to a broader information space.

The resultant devolution of computing into netbooks, phones and tablets means that we can now perform many computing tasks on the go using multiple devices. The problem, though, means that multiple devices mean multiple interfaces and multiple ways to store, and commensurately, lose data.

Enter the age of 'Cloud Computing'. You will have heard about the cloud by now but in many ways the concept is still as nebulous as the name suggests. Far less of a revolution than an evolution, cloud computing allows us to use online services to store and manage data rather than our own machines.

In a sense that is what most of us have been doing with e-mail for years. And why not? It makes total sense to have all of your information stored in one location that is readily accessible via a range of thin clients.

Extend the e-mail approach to other standard applications like word processing, spreadsheets, databases and suddenly those gigabytes of office software that we are used to installing start to look like bloated leviathans. Services like Google Docs and Mobile Me have freed us from the tyranny of single-device computing and data backup but it is not just the end users that are benefitting.

Think about the potential of the cloud to organisations like universities. We are already seeing a move away from university-based e-mail services to providers such as Microsoft and Google. It is cheaper to let them run the service because of the economies of scale inherent in having multiple clients use the same online product.

This also allows for redundancy, scalability and ease of maintenance. Applications do not need to be installed on end user machines. Update the web service and that immediately updates the desktop experience.

Will this herald the death of the 'SOE'? I certainly hope so. As a literate computer user I resent having my machine tied down to a standard operating environment. Platform independence should allow me to access my university services on any machine wherever I am. Then I can use my computer for more diverse tasks without fear of screwing up core systems.

my feet are stuck in concrete

By Mark McMahon, Edith Cowan University

There are legitimate concerns about the cloud, of course. If you place your trust in a service provider to store and manage your data remotely then you need to be sure that that data is secure and will not be used for nefarious purposes.

Hopefully strong service level agreements will supplement the 'don't be evil' rhetoric to ensure that does not happen. Certainly there is no shortage of universities keen to sign up to the cloud. Will such trust trickle down to the end users, though?

The combination of single point access enterprise with flexibility in terms of hardware and operating systems should be liberating; and for some organisations that does appear to be the case. The University of Adelaide, for example, recently announced they will be giving every first year student an Apple iPad.

Not every university is following suit, though. In my own context, when the iPad was released it was followed by a missive from Central IT forbidding staff to use university funds to purchase one under threat of having to reimburse the cost. It took six months to become an approved device

In the mean time, just down the road at Curtin University, the CIO points to 200 existing staff using iPads expecting that grow to a third of university staff within 18 months, making particular mention of their role as 'conduits to the cloud'.

While it is certainly true that in many ways iPads are not 'enterprise ready', let us remember that universities are not typical enterprises but by their very nature have a mandate to progress innovation, particularly in the development and use of technology.

Whether those that hold the IT purse strings think like that, I am not sure. But soon they may not have a choice. Google is keen to extend its Chrome browser into becoming an operating system and even Microsoft are making noises about a cloud-based version of Windows 8.

The fears around this may justifiable to a certain extent. What if the Internet falls over? Will the cloud mean that people will place too much reliance on it to manage their virtual lives? These are reasonable questions if it weren't for the fact that most university student e-mail systems have already been outsourced.

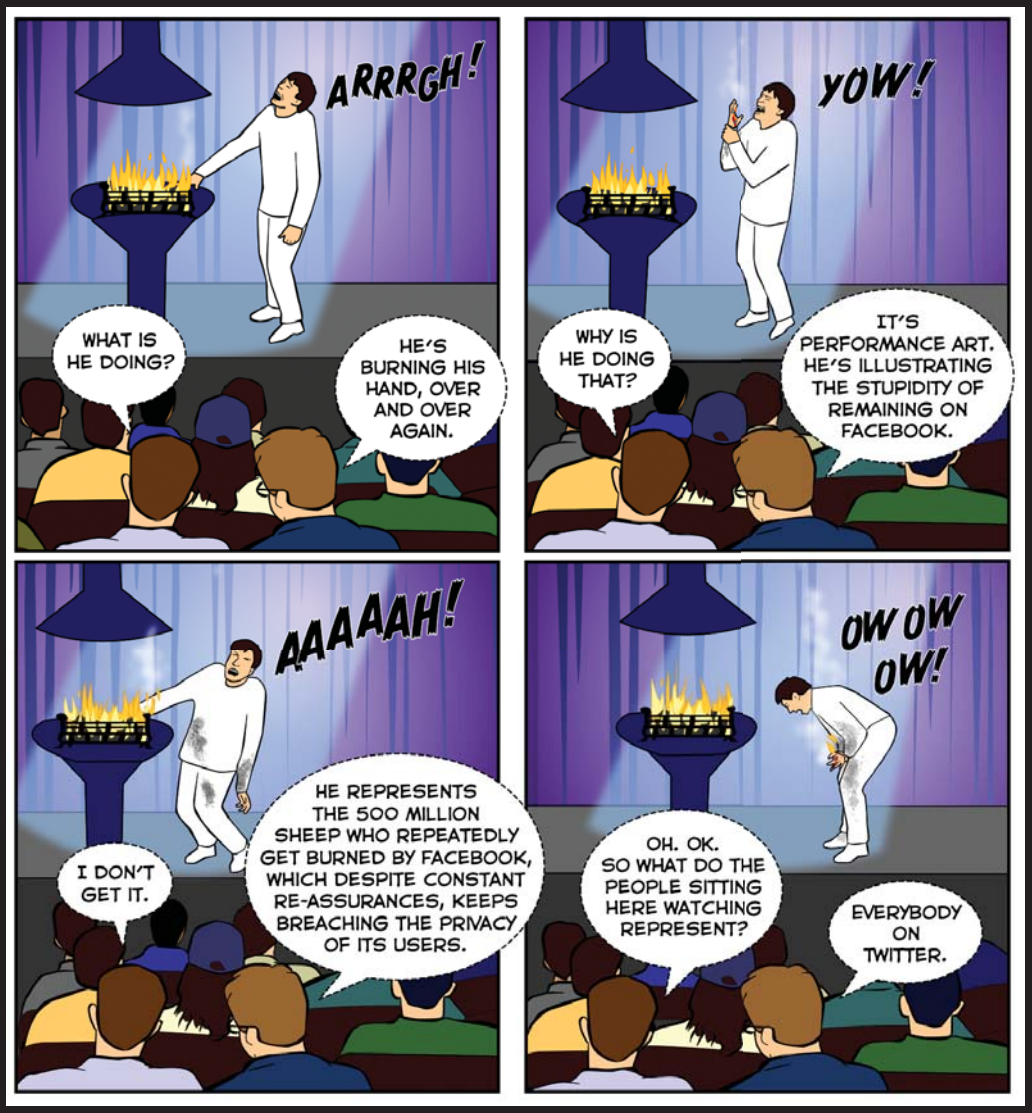
The fact that in my university the SOE page has not been updated since 2008 and Windows Vista is still the standard operating system makes me skeptical about the pace of change. I do wonder if some university IT departments see their role as controlling the use of technology rather than supporting it. These are the people that would like to child-proof IT.

I, however, am a grown up and I think I know how to use my own technology. I will let the cloud manage my day-to-day university tasks but only to free up the machine itself to be used as a sandbox for research and innovation.

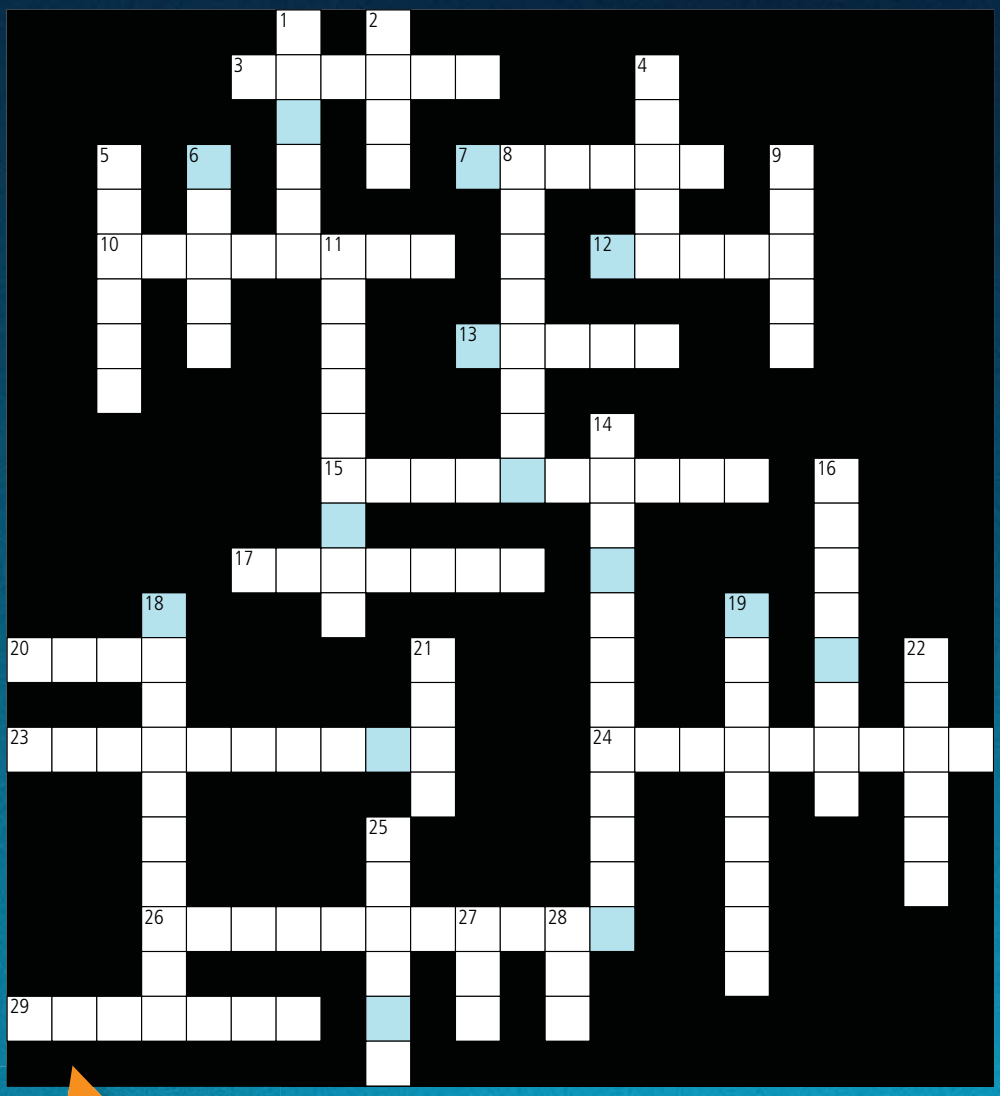
The Joy of Tech™

by
Nitrozac & Snaggy

www.geekculture.com



CrossWORD Competition



Across

3. Auckland's James, who spoke about the earthquake (p5)
7. Training centre hosting iOS4 SDK workshops (p4)
10. Town where MCET is based (p19)
12. Company where dev/world speaker Pang works (p14)
13. Altitude data is stored in this channel (p7)
15. Some IT teams trying to do this (p21)
17. Developer who brought hang-glider to fruition (p6)
20. Nickname of Mac OS X 10.7 (p10)
23. This means we can perform many tasks using many devices (p20)
24. Useful app loaded on Trinity iPads (p16)
26. Type of cards added to iPhoto '11 (p10)
29. Hang-glider was demonstrated at science fair here (p7)

Down

1. Bed movement tracked using this (p6)
2. Windows tool used at St Vincent's (p12)
4. Mac OS X Deployment tool used at St Vincent's (p12)
5. Way we often deal with change (p18)
6. Name of music-stand iPad holder (p2)
8. University that will launch iPhone app in 2011 (p9)
9. Number of thousands of times Melbourne app downloaded (p8)
11. iPhone doesn't need more of this (p22)
14. Useful feature iPad Pages is missing (p17)
16. In-demand new iOS 4.2 feature (p11)
18. Retiring AUC Chair (p4)
19. What big office software is starting to look like (p20)
21. New social-music iTunes feature (p11)
22. Analytical software used for sports analysis (p13)
25. On-screen sculpting tool (p2)
27. ANU's Adam, who spoke about his iPhone app (p5)
28. Number of iPhone 4 degrees of freedom (p13)

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, 28th January 2011.

CONGRATULATIONS

Congratulations to Karin Barac of Griffith University for winning an iPod nano by correctly completing last issue's crossword to reveal the answer:

MAPPING

An iPod nano is on its way!

AUC

Apple University Consortium
Membership Benefits

Conference Scholarships

Development Fund Grants

Equipment Seeding Program

Wheels for the Mind Magazine

Providing technology support and networking for better educational outcomes

Educational Pricing

Professional Networking

Technical & Developer Training

Seminars & Presentations

Visit our website for the latest news, activities & events

www.auc.edu.au