The *GAB'er*

The Newsletter of the Greater Albany Apple Byters

Mac App Store Now Available with OSX 10.6.6

With the Mac App Store, getting the apps you want on your Mac has never been easier. No more boxes, no more disks, no more time-consuming installation. Click once to download and install any app on your Mac. The Mac App Store is now available as a software update for any Mac running Mac OS X Snow Leopard.

The Mac App Store is just like the App Store for iPhone, iPod touch, and iPad. So it's as easy to find and download Mac apps as it is to add your favorite magazine to iPad or a new game to iPod touch. You can browse Mac apps by category, such as games, productivity, music, and more. Or do a quick search for something specific. Read developer descriptions and user reviews. Flip through screenshots. When you find an app you like, click to buy it.

Since developers are constantly improving their apps, the App Store for Mac keeps track of your apps and tells you when an update is available. Update one app at a time or all of them at once, and you'll always have the latest version.

Coordinator's Corner
by John Buckley

We will start the new calendar year by looking at iPhoto '11, part of iLife '11. We will look at how you can share images using iPhoto in conjunction with MobileMe and other web photo sharing sites. As usual, check our website for the most current GAAB information. You will find a map and aerial photograph showing how to get to the meeting location.

In addition, we will set the schedule for the remaining demonstrations and then take a look at what is now available from Apple including the new Snow Leopard tips. In addition, we will take a closer look at what is available on your Mac without adding any software.

To find out what's happening, GAAB is the place to be. So be sure to be at our January meeting and every meeting to find out the best information about the Mac.

The January meeting will be held at St. Mary's Hospital in the Leonard Board Room on Wednesday, January 12, 2011. The meeting will begin at 7 p.m. St. Mary's Hospital is located at 1300 Massachusetts Avenue in Troy NY.

Next GAAB Meeting
January 12, 2011

iPhoto '11

7:00 p.m.

**St. Mary's Hospital
Troy, NY**

Featured in this Issue

Serving the Apple Computer User Community Since May 1984

Officers & Special Interest Group Leaders

Program Coordinator
John Buckley
272-7128

Membership Director
Cecilia MacDonald
872-0823

Treasurer
Cecilia MacDonald
872-0823

Public Domain Librarian
Bill Shuff
393-9753

Newsletter Editor
Roger Mazula
466-7492

Education SIG
John Buckley
272-7128

Internet SIG
Lou Wozniak
465-2873

Apple Ambassador

by John Buckley

Will we be seeing a processor change in the Mac in the future? These articles from AppleInsider seem to indicate a path Apple may be taking in the near future.

Apple to Expand CPU Design Group Beyond iPad A4 by Daniel Eran Digler, AppleInsider

Apple is seeking to hire engineers to design a new CPU micro-architecture, expanding upon its acquisitions of two fabless chip design companies and the release of its new A4 application processor used in the iPad and iPhone 4.

The company has posted a job description for engineers to "design microarchitecture and […] meet the functionality requirements, performance goals, and physical constraints such as power, area, and timing," indicating the work will focus on producing chips for mobile devices.

The position seeks candidates who will "work with performance modeling engineers to develop design options and select the most suitable one for design," suggesting that the company is aiming to create original works, not just overseeing the production of existing chip technology.

Apple's recent chip history

In the spring of 2008, Apple acquired PA Semi, which at the time was building very fast and efficient PowerPC processors known as PWRficient. That purchased sparked some speculation that the company might be seeking to return back to PowerPC CPUs in its Macs, just two years after its Intel transition.

Internet SIG

Sites Help You Make Money Doing What You Love

by Kim Komando

All across America, people are making arts and crafts, jewelry, music, and more in their homes. Fortunately, specialty Internet sites will help you turn creative projects into cash.

Kickstarter

Kickstarter helps fund creative projects. Projects range from films to books to ice cream clubs. The success of some is astounding. Take the TikTok+LunaTik Multi-Touch Watch Kits. The project sought $15,000 to create watch band kits for the iPod nano. It raised a jaw-dropping $941,718. There are no listing fees. Rather, Kickstarter takes 5 percent of pledges once the goal is met. Amazon, the payment processor, takes 3-5 percent in fees. All projects must reward the donors. Most rewards are tiered, with bigger contributions earning bigger rewards. Some offer a CD or a print. Other artists meet with big donors. You set a financial goal for your project. If it's not met, no money changes hands. You aren't obligated to continue the project. Kickstarter says donations average $68, with $25 being most common. I recommend promoting your project on your social-networking profiles. There are few restrictions on projects. For example, it can't be used to fund businesses or charities. Kickstarter reviews all projects to make sure they meet its guidelines.

Etsy

Etsy is the most popular online marketplace for handmade goods. You can also sell crafting supplies and vintage items. Items range from food to furniture to jewelry. Sellers get their own Etsy store. A four-month listing costs 20 cents. If you list multiple copies, you'll pay that for each. Etsy takes a 3.5-percent cut of final sales.

RedBubble

Art can get lost on Etsy. I recommend a specialized site like RedBubble. Upload digital files of your artwork. Then select the items you would like it to appear on. RedBubble offers prints, cards, shirts and more. RedBubble charges a base price for an item. You set the retail price, keeping the difference. RedBubble does all the work, from creating to shipping items. Tools help you promote your work on Facebook and Twitter.

Artbreak

Artbreak lets you sell original works like paintings for free. There are no listing fees or commissions. However, a Plus account gives you an ad-free experience for $5 monthly. Not all work on Artbreak is for sale; it is also a sharing site. And it offers tools for promoting your work on Facebook and Twitter. Artbreak may not be appropriate for younger sellers; it contains nude works.

CreateSpace

Amazon's CreateSpace helps you sell books, CDs and DVDs in physical or digital formats. Physical items are created on demand. You pay nothing until an item sells. List your work on CreateSpace or on Amazon. You name your price; CreateSpace takes a cut. For example, you'll pay $5 per CD or DVD. Pay an additional 15 percent for items sold on CreateSpace. The commission jumps to 45 percent for Amazon's site. Book pricing is more complicated. Length, trim size and content affect the price. A Royalty Calculator shows your cut of sales. I priced a 300-page, 6x9-inch, black-and-white book at $25. Royalties ranged between $12.50 and $5.55.

UPLOADnSELL

Maybe your work doesn't fall neatly into these categories. Maybe you want to sell computer wallpapers or Web templates. UPLOADnSELL helps you sell digital downloads. Upload your work and set your price. You'll get a link to share on your site or via Facebook. PayPal processes payments. It takes 2.9 percent plus 30 cents per transaction. UPLOADnSELL sends buyers a download link for your item. There are no guarantees that you'll get rich or even be moderately successful at these sites. But, you'll never know until you at least try.

Education SIG

High-Tech Gadgets for Classroom: Boon or Boondoggle?
by Kevin D. Thompson, Palm Beach Post

Boy, have some classrooms changed.

When most students want to answer a question, they raise their hand. But some now simply press a button on a handheld device, as if they're texting a vote on American Idol.

And for some teachers, technology has ended the days of turning their backs on their students while writing on a blackboard. Instead, these teachers freely roam the classroom as they write on a digital tablet that's about the size of an iPad, while keeping an eye on the kids.

In the past few years, the Palm Beach County school district has spent more than $500,000 on both types of hi-tech instructional tools, which it believes will enhance learning. That spending, however, comes at a time when the district has said there's no money for teacher raises.

It also brings up a question: Is it really better for students to text answers in class rather than simply raising their hands?

Many teachers, however, welcome the technological advances, saying they make their jobs easier.

"I definitely feel I'm a better teacher because of this technology," said James Krumenacker, a math teacher at John I. Leonard High in Greenacres.

Sam Soto, math teacher, Okeeheelee Middle School, uses high-technology in his classroom instruction. He and the students use the Interwrite Learning pad while solving math problems. He also wears a microphone around his neck to save his voice. What he is writing on the tablet appears on a projection screen for all the class to see. Eighth grade student Harlyn Tercero is at right.

One gadget used by the district, called the Classroom Performance Systems, is a hand-held clicker that allows teachers to receive instant feedback from students on tests and lessons plans. The device is a little bigger than a cellphone. When a teacher types a question on the computer, students can respond instantly by pressing a button.

Another hi-tech learning tool is a mobile whiteboard tablet that teachers carry around the classroom, allowing them to write or insert images that are projected on a large screen in the front of the room. Being mobile, teachers say, allows them to be more hands-on with students and take better control of their classrooms.

"They allow teachers to have better eye contact with the kids so they can see their faces when they're perplexed," said Okeeheelee Middle School Principal David Samore. "When you're writing on a board, you can't see students out of the back of your head."

District officials say digital classroom gadgets also serve as a teacher recruitment tool.

"If a teacher has two schools to chose from and one has the new technology and the other doesn't, guess where that teacher is going," said Gary Weidenhamer, the district's director of educational technology.

Krumenacker said the information he's received from students using the clickers has often forced him go back over lessons after discovering his students were struggling.

"Trigonometry isn't an easy topic, and after polling my students on one problem, I had to go back and use another example," he said. "With the clicker, I can see who gets it and who doesn't."

Krumenacker has one complaint about the device - there aren't enough math symbols on it. "Sometimes I just have to improvise," he said.

Eileen Shihadeh, vice president of global marketing for eInstruction, the Columbia, Md.-based company that makes the clickers and tablets, said math symbols have been added to the latest version.

Weidenhamer said the district has purchased educational learning tools from eInstruction for about five years, but budget cuts have drastically reduced the amount it spends. He didn't have exact figures on how much the district spends on the clickers and tablets or how many classrooms have them.

According to eInstruction, the district has at least 5,000 Interwrite pads, the older version of the whiteboard tablet. The company said "many" of the district's 187 schools have the latest version of the tablets. Shihadeh said the clickers and tablets are in more than 500,000 classrooms nationwide.

Weidenhamer said the tablets cost about $300 apiece. eInstruction said it sells the clickers in 24-packs for $1,295.

Teachers marvel at how tech-savvy students don't have any problems adapting to the new technology.

"Kids have iPods, iPads and they play video games," said Samuel Soto, a math teacher at Okeeheelee Middle. "These gadgets in the classroom are just an extension of those."

Beth Bobay, a 28-year teaching veteran who has taught advanced placement calculus at Suncoast High in Riviera Beach for the past six years, said she often needs her students' help with the tablet.

"When I get stuck, I'll ask if they can figure it out and they usually can," Bobay said.

Weidenhamer said "a small percentage" of teachers has a tough time learning and embracing the new technology. He said the district offers several training classes to get teachers up to speed.

Krumenacker said it was hard for him to adapt right away to using the tablets.

"You need good hand-eye coordination because you're looking at the screen and you're not looking at what you're writing," he said. "But once you get it, it becomes intuitive."

But if students can text-message their teachers, does that discourage them from raising their hand and participating the old-fashioned way?

It could, but Shihadeh, a former math teacher, said teachers ultimately engage more students with the clickers.

"A teacher normally picks on one student," Shihadeh said. "But these devices allow teachers to hear from everyone."

Samore points out that technological advancements won't replace the one instruction element students need most: the teacher.

"You're still seeing a human being explain and interpret," Samore said. "The teacher is still front and center."

Mobile Interactive Whiteboard Tablet: Teachers can roam the classroom freely while they insert, draw or write images on the tablet that are projected on a large screen in the front of the classroom. The tablet is about the size of an iPad.

Classroom Performance Systems: A hand-held clicker that allows teachers to receive instant feedback from students on tests and lesson plans. Students respond to a teacher's question by pressing a button -- almost like texting a vote on American Idol.

Directions to GAAB Meeting

The best route to St. Mary's Hospital from the Northway is the following:

1. Merge onto NY-7 East from the Northway.
2. Follow Route 7 to Troy where it becomes Hoosick Street.
3. Turn left on Oakwood Avenue (10 Street/ NY-40) which is the first light after the bridge and bare right.
4. Turn right on Sausse Avenue. Turn left onto Lindenwood Court. When you come to the first entrance to the hospital parking lot, turn left and park.

Tech Lockdown: Keeping your Mac, iPhone and Data Safe
by Jeff Gamet, The Mac Observer

Apple has done a pretty good job of making sure your Mac, iPhone, iPod touch and iPad are safe from remote hackers, and Mac OS X and iOS ships with built-in features to help keep prying eyes away from your personal files. Knowing how to use those tools, and what to do if your gear is lost or stolen, however, is up to you.

The best way to make sure your files and equipment are safe is to never let either slip out of your physical control. Anyone that can get to your computer or iOS device has a much higher likelihood of being able to look at or copy documents, or even walk away with expensive gear.

Leaving your computer, iPhone or iPad unattended even for a minute — like to run back up to the counter at your favorite coffee shop — is plenty of time for your expensive and potentially irreplaceable equipment to walk off never to be seen again.

MacBook Air: Pretty, but no Kensington lock port

If you have to leave your Mac unattended in public consider investing in a cable lock system. If you work where the public has easy access — or can see into — your office, cable locks are a great idea, too. Most Macs ship with a cable lock slot built-in, and securing your computer to a desk is often all it takes to keep honest people free from temptation and push thiefs on to easier targets.

The MacBook Air, both the original model and the new 13-inch and 11-inch ultra light models, are missing the security cable feature, so they can't be locked to tables and other objects. The 11-inch MacBook Air is small enough that it can easily be pocketed and stolen from your coffee shop table with anyone noticing, too.

Passwords

Mac OS X supports multiple user accounts on the same computer, and each account can have its own unique password. While it may be easier to leave your password blank so you don't have to enter it when installing new applications or updates, your Mac is much more secure — both locally and on the Internet — if you use account passwords because they act as a failsafe to keep unauthorized people from installing or removing applications without your approval. Requiring a password to log into your user account helps keep nosy people out of your files, too.

Make sure the passwords you use are difficult figure out because the harder they are to guess, the less likely someone will be to keep trying. "Password," for example, is a really bad password to use. Words that can be found in the dictionary, family member and pet names, and birthdays are bad password choices, too, because they tend to be easy to guess.

The iPhone, iPod touch and iPad support passwords to keep people out of your data and apps, too. By default iOS device pass codes are disabled, but the feature is easy to turn on with a quick visit to Settings > General > Passcode Lock. With the release of iOS 4, Apple added the ability to use phrases instead of just four-digit codes. Phrases have the advantage of using letters, numbers and punctuation symbols, so they can be substantially more difficult to guess.

If you aren't sure how to use four-digit pass codes or pass phrases, check out TMO's Quick Tip and its easy to follow step-by-step instructions.

Bad news: Hackers made off with Gawker Media account passwords

The number of passwords you use can snowball quickly if you spend any time online paying bills, handling banking tasks, buying products, chatting on Twitter or Facebook, or participating in Web forums. Using the same password for all of those online accounts may be easy, but it's also dangerous because once someone guesses your password, they potentially have access to all of your online accounts.

Commenters on Gawker Media Web sites like Gawker, Gizmodo and Lifehacker recently found out the importance of using multiple passwords first hand when a group calling itself Gnosis made off with thousands of usernames and passwords. The group published the list on the Internet and commenters were left scrambling to change their Gawker Media account passwords, along with passwords for other online services that used the same passwords.

People that maintained different passwords for all of their online accounts, however, only had to change their Gawker account.

Agile Web Solution's 1Password

Keeping track of multiple passwords can be such a pain, which makes applications like 1Password amazingly handy. 1Password stores all of your passwords, enters your login information on Web sites, and can auto-generate strong passwords for you. It's available for Mac OS X and Windows, as well as the iPhone, iPod touch and iPad, and can auto-sync your password database between devices so your logins are available wherever you go.

Mac OS X includes its own password and account login manager called Keychain. The application keeps track of login information for wireless networks, email accounts, network servers, and more. Safari users can keep Web site login information in Keychain, too, and the application even sports a tool for showing how secure your passwords really are.

Keychain is a great tool, but isn't as robust as 1Password at creating and maintaining passwords. 1Password also has the added benefit of running natively on Mac and iOS devices, so it's easy to use your passwords wherever you go.

Disk Encryption

If someone manages to get their hands on your Mac without your permission, there's a chance they could get into your personal files even if you rely on a password to keep people out of your user account. You can, however, keep all but the most sophisticated hackers out of your data thanks to Apple's Disk Encryption feature in Mac OS X.

Disk Encryption locks down the contents in your Home directory so that your personal files stay private even if someone takes the hard drive out of your computer.

In the past, Disk Encryption took a pretty big hit on your Mac's performance because the files you access are decrypted on the fly as they are used. More recent Mac models, however, can handle the decryption process much more efficiently, so most users won't notice much of a change in how fast their computer runs. Despite the performance improvements in modern Macs, video and audio editors, along with hardcore Photoshop users, may want to consider staying away from Disk Encryption because disk intensive tasks can still slow you down noticeably.

Encrypting removable storage devices is a good idea if you want to protect that data from access should your external hard drives and flash memory sticks be stolen or lost. PGP's Whole Disk Encryption handles that task well, although it often breaks — and leaves your data inaccessible — when Apple releases Mac OS X software updates. If Symantec's PGP offerings are too expensive for you, GNU Privacy Guard is a free and open source alternative for encrypting files and folders.

Interested in learning more about protecting your Apple gear and your data? Check out part 2 of TMO's Tech Lockdown series where we take a look at backing up your data, dealing with loss and theft, Find My iPhone, and other device tracking services.

Bad Times: Gear on the Run

Despite your best efforts, there's always a chance that your Mac, iPhone, iPod touch or iPad could be lost or stolen. Assuming you back up your important files regularly, your data will be safe and ready to go once your gear has been replaced. Apple's Time Machine is a good start for Mac users, but applications like Data Backup from Prosoft Engineering, SuperDuper! from Shirt Pocket, or Roxio's Retrospect give you more control over what gets backed up and when.

Time Machine can be a great part of a backup strategy, but it shouldn't be your only line of defense against data loss. Applications like Data Backup, SuperDuper!, and Retrospect all offer more control over backups and can perform their duties without any action on your part.

Apple's Time Machine sports easy setup

Unlike Time Machine, these applications support user defined backup schedules, backing up data to multiple storage devices, and backups to local and Internet-based servers. Backing up data to offsite locations, or at least occasionally swapping out your back drives and storing them somewhere else is a good idea, too, because backups that are kept with your computer can be stolen or lost in a disaster along with your Mac.

Syncing your iOS devices with your computer backs up their contents. To back up your iPhone, iPod touch or iPad, just launch iTunes and connect the device to your computer with its USB Dock cable.

Keeping track of your product serial numbers is important, too, since the police and your insurance company will need them if you file a theft report. 1Password includes a software management feature that works great for keeping all of your application keys and serial numbers organized, and Bento fans can keep track of serial numbers along with property photos thanks to the database's built-in inventory template.

Find My iPhone

MobileMe subscribers can track down where their lost or stolen iOS devices are thanks to the service's Find My iPhone feature. Find My iPhone can also remotely lock your device, display a message on the device's screen, sound audible alarm, and remotely delete your data.

Find My iPhone also supports the iPod touch and iPad

Users can access Find My iPhone by using a Web browser to log into their MobileMe account, and there's a free Find My iPhone app available for the iPhone, iPod touch and iPad at Apple's iTunes-based App Store. It's a good idea to install the app on your iOS devices even if you don't have a MobileMe subscription because you can still use it to help friends find their lost or stolen devices.

MobileMe costs US$99 a year, but it a quick Web search can usually turn up deals for substantially less. With the release of iOS 4.2, iPhone 4, iPad and fourth generation iPod touch owners can use Apple's Find My iPhone service for free even if they don't subscribe to MobileMe.

Device Tracking Services

Apple's Find My iPhone is a great feature, but it can't track your Mac. If you want to locate a lost or stolen computer, you'll need to turn to services like GadgetTrak. This service, like other third-party tracking services, has the added benefit of being able to track your iOS devices as well as Macs, PCs, and BlackBerry and Android smartphones.

GadgetTrak for laptop and desktop computers runs in the background, so you have to install the company's software before it keep tabs on your location. Once the software is up and running, you can track your computer's location via a Web browser, receive email updates detailing where your computer is, and if your computer includes a built-in camera — like the MacBook, MacBook Pro, MacBook Air and iMac — you can snap photos and potentially catch a nice headshot showing who is using your computer.

Services like GadgetTrak can be especially handy in theft recovery, and the location data and photos they collect can be invaluable in criminal investigations.

"Laptop theft is rampant. In fact, one in ten laptops purchased today will be stolen within the next year," GadgetTrak product manager Ian Shray told TMO. "Add in the fact that only three percent of unprotected laptops are recovered, and it's clear that people need to protect themselves."

GadgetTrak recently released an app for the iPhone, iPod touch and iPad that lets users track their tech gear on the go, and it's especially handy if your laptop was lost or stolen since you'll still have a way to track where your computer ended up. iHound, another company in the electronics tracking business, offers an iPhone app for its service, too.
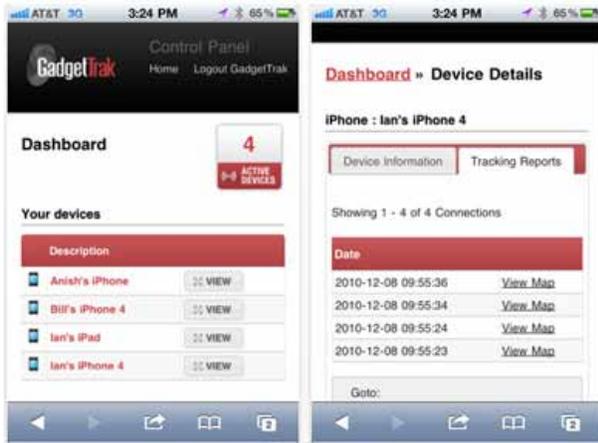
GadgetTrak's iPhone app

Device tracking services require annual subscriptions, but the cost is well below what you would spend to replace your gear, assuming it's recovered. The downside to these services, as well as MobileMe, is that they work only when the device you want to track is turned on, and if you aren't tracking an iPhone or iPad with 3G wireless data support, the devices need an available Wi-Fi network to do their magic.

Despite those limitations, gear tracking can be surprisingly effective for recovering lost or stolen equipment. Handing over the location of a stolen iPhone for example, can lead to a quick recovery by authorities. According to Mr. Shray, device tracking data has led to a 97 percent recovery rate for GadgetTrak subscribers.

Since it's better to read the news instead of becoming part of it, always let local authorities recover your stolen equipment instead of trying to handle the job yourself. Police are trained to deal with criminals and potentially dangerous situations so you don't have to.

Losing your computer, smartphone, or any piece of tech gear can be stressful, but with a little planning ahead, you can take away some of the sting that goes along with the situation. If all goes well, you'll get your gear back, or even better, keep it from disappearing in the first place.

Apple Ambassador

Instead, Apple was motivated to design its own custom mobile processors for future iOS devices based on the ARM Architecture. The company had been evaluating Intel's Atom line, then known as Silverthorne, and found it to not be competitive with the ARM processors it had been using in the iPhone and the company's iPods before it.

Apple had originally worked with Acorn Computer in the late 80s to develop a mobile ARM processor suitable for use in the Newton Message Pad. Throughout the 90s, ARM greatly expanded, licensing its technology to other firms that created unique designs around it, including DEC's StrongARM used in the last Newton models. ARM is now by far the world's largest and most successful mobile processor design.

Core beats PowerPC, ARM beats Atom

Apple stopped using ARM processors when it discontinued the Newton in 1998, spending most of the 90s working to migrate its Mac line to PowerPC chips. However, ARM was the logical choice to use in the iPod in 2001, when Apple got back into producing mobile devices.

Intel had acquired DEC's StrongARM operation in 1997, and invested billions building it into Intel XScale line of ARM CPUs before selling it off at a huge loss to partner Marvell in 2006. Since then, Intel has focused on selling its new Atom-branded x86-compatible mobile chips, but has had a hard time matching the performance and efficiency of ARM.

Meanwhile, Apple had worked with PowerPC licensee Exponential in the mid 90s to develop a blazing fast version of the chip for use in its Mac line. That effort failed, leaving Apple tied to PowerPC partners Motorola and IBM, who were both focusing on embedded and server applications. By 2005, Apple decided to shift its Macs to use Intel's new Core CPUs.

Apple continued to use ARM processors in its iPods and AirPort base stations as well as the new iPhone in 2007. However, the company used a low power Intel chip to run the original Apple TV, and began evaluating Intel's Atom for its upcoming tablet and smartphones. However, Intel's inability to perform as well as ARM designs in mobile applications sent Apple back to the drawing board.

Apple builds its own drawing board

After acquiring PA Semi expressly to develop new chips for iPods and iPhones, Apple also began working with Intrinsity, a firm that had grown up from the ashes of the old Exponential a decade earlier. Intrinsity had been working with Samsung to greatly accelerate the performance of its ARM chip, known as Hummingbird.

Apple developed its own version of a high speed ARM processor with Intrinsity, and then acquired the company this April, releasing the new chip as the Apple-branded A4. The company uses the new A4 chip in the iPad, iPhone 4, the new iPod touch, and also built the revised Apple TV around it, erasing much hope that company would return to Intel for its low power chip designs.

Going forward, the company's efforts to recruit additional engineers to "lead the microarchitecture design of a CPU," strongly indicates that Apple will continue to design optimized ARM processors for future iOS devices itself using custom application processors.

The following article published last February shows how much Apple is investing in designing their own CPU's.

Custom Apple A4 iPad Chip Estimated to be $1 Billion Investment
by Sam Oliver

In bypassing a traditional chip maker like Intel and creating its own custom ARM-based processor for the iPad, Apple has likely incurred an investment of about $1 billion, a new report suggests.

Profiling the rise of competitors to Intel, The New York Times noted the costly investments technology companies have made to create advanced mobile processors for smartphones. But in the race to build smaller and more efficient chips for mobile devices, overseas foundries have proven to be formidable rivals against Intel, the industry leader.

"Apple, Nvidia and Qualcomm are designing their own takes on ARM-based mobile chips that will be made by the contract foundries," the report said. "Even without the direct investment of a factory, it can cost these companies about $1 billion to create a smartphone chip from scratch."

Building a factory, the report said, would cost a company about $3 billion. And as chip makers prepare to fight over who will supply processors for the next generation of devices, "the chip wars," the report noted, "are about to become even more bloody."

Intel is pushing its low-power, low-cost Atom processor for mobile devices, including smartphones, but the chips still cost more and use more power than their ARM competitors. The Atom was even pegged to be coming to Apple products in 2008, though it never came to be.

The forthcoming iPad includes a 1GHz Apple A4 processor, based on the ARM architecture, which includes an integrated CPU and graphics processing. Based on the Cortex-A9 MPCore, the processor is much faster than the ARM-based CPU that powers the iPhone 3GS.

In addition to the iPad, processors based on the ARM design will find their way into new laptops coming from HP and Lenovo.

Reference designs for the Cortex-A9 call for either two or four cores. The architecture is the successor to the ARM Cortex-A8 upon which the 600MHz iPhone 3GS is based.

As first reported by AppleInsider in 2008, Apple has been a licensee of the ARM architecture for years, but the company became invested in the chip-making business when it purchased P.A. Semi for $278 million.

But Monday's $1 billion estimate from the Times would suggest that Apple's investment went well beyond the purchase of P.A. Semi. Apple has more cash on-hand than any U.S. technology company, with an announced $39.8 billion at the end of the December quarter.

Apple claims the power efficiency of its custom-built chip will allow the iPad to offer users 10 hours of battery life in use, and over a month of standby.

"iPad is powered by our own custom silicon. We have an incredible group that does custom silicon at Apple," company co-founder Steve Jobs said when he unveiled the device. "We have a chip called A4, which is our most advanced chip we've ever done that powers the iPad. It's got the processor, the graphics, the I/O, the memory controller -- everything in this one chip, and it screams."

Macworld's Annual Forecast of the Year Ahead

From tech publishers to mythical beats, Macworld contributors read their crystal balls

by Macworld Staff, Macworld.com

It's been another banner year for Apple and Apple products. But what's in store for the year ahead? As we said goodbye to 2010, we asked a number of Macworld contributors and friends—as we have in years past—for their predictions for 2011. But unlike past predictions articles, where we gave our prognosticators carte blanche to opine on any topic Apple-related, this year we asked for forecasts in three specific areas—Mac OS X, iOS, and Apple hardware—as well as for each person's pie-in-the-sky wish for the world of Apple.

Jacqui Cheng, Senior Apple Editor, Ars Technica

Mac OS X: I think we'll see a continued merging of cloud/Internet services with the desktop—which, depending on your personal experience with Apple's current services, may or may not be a good thing. Still, while Apple won't be rolling out its OS just yet, I like to believe that the next version of Mac OS X will take advantage of that massive North Carolina data center in some way or another, whether it involves cloud-based backups, better syncing across machines via MobileMe, or something else that us plebes haven't even thought of yet.

iOS: iOS has been making serious inroads lately when it comes to the business sector, but there's still plenty of room left to grow. I think in 2011, Apple will continue to make the iPhone and the iPad appealing to enterprise users by offering more and better tools for IT folks to manage the devices for employees. People already want to use these things in a work environment, but offering the tools to support even more enterprise services will be what wins over corporations.

Hardware: The most obvious hardware prediction is the next iteration of the iPad, but what's not obvious is exactly which parts of it will get an update. In an ideal world, the iPad would get the iPhone 4's retina display (cost be damned!), and at least a front-facing camera for FaceTime. I'm also hoping for more RAM so the iPad can perform better with all those fancy apps we've all been downloading.

Pie-in-the-sky wish: I want every TV network to get in on the Apple TV's 99-cent-rental structure—especially the cable networks. The current lack of access to lots of TV programming is one of the Apple TV's weaknesses, so it would thrill me to get more shows. (Please, networks, let me give you more of my hard-earned money!) I'm also hoping Apple will open up the Apple TV platform to native apps—or at least provide more "channels" like the current Netflix and Internet-radio options—instead of requiring people to use AirPlay for streaming audio and video.

Adam Engst, Publisher, TidBITS

iOS: The main area where iOS suffers badly is in file management and syncing. Core data types, such as music and photos, are ably handled by iTunes and are made available to multiple apps on your iOS device. But moving other types of files—such as PDFs and word-processing docs—to and from the device, and especially between apps, is so poorly done that it's clear iTunes' File Sharing feature and interface are merely placeholders while Apple finishes the real solution.

That solution, which I'll call AppleSync until Apple debuts it with a better name, will be mediated through Apple's massive new data center in North Carolina and will rely on sub-file updating (which syncs just the differences in files as they change—it's how Dropbox and CrashPlan sync so efficiently) to ensure that files are accurately and reliably synchronized across all the devices you use. With sub-file updating, the amount of data moved around is relatively small, enabling high-priority/small-size updates over 3G data connections, while restricting low-priority/large-size updates and device backups to 802.11n Wi-Fi connections. USB connections will be necessary only for full-device restores.

Mac OS X: The fact that Mac OS X and iOS share the same OS underpinnings is key to my prediction that Lion will replace HFS+, the filesystem Macs have used since 1998, with a ZFS-based filesystem. This new filesystem will play a central role in enabling AppleSync (above), which will work not just with iOS devices, but with all Macs running Lion. Time Machine will also rely on AppleSync, instead of hard links, and will offer the capability to recover lost data from a local backup disk, any device in the AppleSync pool, or from online storage.

Hardware: In 2011, Steve Jobs is going to turn his attention to the fact that the clean industrial designs of the iPad, iPhone, and iPod touch are sullied by not one, but two cables in regular use: the USB dock-connector cable and the headphone cable. First, Apple will look to reinvent the Bluetooth headphone to make it smaller and more comfortable—while still obvious enough to provide the free marketing the company gets from its current white-cabled earbuds, of course. In fact, the next iPod shuffle will actually be integrated into headphones. Second, while Apple's proprietary dock connector will remain for use with existing accessories, you'll be able to charge your new iOS devices—yes, you'll need to buy new ones—through a new hardware innovation: induction charging. Instead of plugging in your iPhone or iPod at night, you just set it down on a special Apple Charging Pad. But how will these devices sync? Why, AppleSync (above), of course.

Pie-in-the-sky wish: If I'm right on any of the above, that's plenty of pie for my sky!

John Gruber, Daring Fireball

Mac OS X: By the time Lion ships, Apple's going to unveil many more user-interface changes that are inspired by the iPad, with the prime targets being Mail and iCal. Last year, Apple revamped the interfaces for MobileMe's Mail and Calendar Web apps; the new versions very strongly resemble their iPad counterparts. I think we'll see Mac OS X's versions of Mail and iCal go the same way.

iOS: We'll see an iOS 5.0 release on the usual schedule: WWDC in June. Topping my list of important new features will be a revamping of the notification system. The only good thing you can say about the current system—which is essentially limited to those blue modal alerts—is that it's simple. But I think there's nearly unanimous consent that they're too simple. For example, there's no way to view multiple notifications at once, and once you've dismissed a notification on your lock screen, there's no way to go back and re-read it. (I've lost count of how many notifications I've missed because I've finished the swipe-to-unlock gesture before I even realized I had a notification showing.) It's also undeniable that iOS is behind Android and WebOS in this regard.

Hardware: The second-generation iPad is going to be a major upgrade, not a minor one like the update from the original iPhone to the iPhone 3G. We'll see better performance, more RAM, a better display, and a thinner and lighter hardware design.

Pie-in-the-sky wish: I'd love to see a HyperCard-like development system for iOS, perhaps using JavaScript as the programming language.

John Moltz, Editor In Chief, Crazy Apple Rumors Site

Mac OS X: Lion's adoption of iOS features will rub many dyed-in-the-wool Mac users the wrong way. So much, in fact, that many will find they have an actual rash. Idle threats to switch to Windows and Linux will fly furiously, but in the end they'll choose to apply a topical ointment and keep using the Mac.

iOS: As Mac OS X starts taking its cues from iOS, iOS will become arrogant and aloof, believing itself to be "all that." It will increasingly forget who its friends are and choose to instead to hang out with that obnoxious rich guy who drives the BMW. This will culminate around prom time when iOS will finally see what it has become and learn the true meaning of friendship, as Orchestral Manoeuvres in the Dark reunites to play "If You Leave."

Hardware: Four years ago I correctly predicted that the one-button iPhone would be the biggest Apple hardware release of 2007, and I'm still milking that completely accidental bit of foresight. Which is why this year I'm predicting that Apple will release a one-button Mac, as well. Sounds crazy, amiright? Yeah, well, a one-button phone seemed perfectly crazy in 2006 and it turned out to be right, so I'm sticking to my guns.

Pie-in-the-sky wish: Around summer 2011, Apple's cash on hand (currently $25.62 billion) eclipses Dell's market cap (currently $26.61 billion). Apple then buys Dell, shuts it down, and gives the money back to the shareholders. Just because it can.

Arnold Kim, founder and Senior Editor, MacRumors.com

Mac OS X: In October 2010, Apple showed off some of Mac OS X Lion's upcoming iOS-inspired features, such as the Mac App Store and full-screen apps. But that was only a small peek. Ultimately, Mac OS X's adoption of iOS features will

be more dramatic and will redefine the out-of-the-box experience for novice users. Apple tried this approach before—for example, back in System 7 with the Launcher and in the original version of OS X with single-application mode—but there was too much baggage to overcome. This time the company can leverage its familiar iOS interface and, thanks to the Mac App Store, even retain tight control over the process of installing third-party software. For non-savvy computer users, Mac OS X Lion will feel very much like iOS on a computer—and that's a good thing.

iOS: In 2011, Apple will finally deliver wireless sync in a big way. Especially with the introduction of the iPad, many people are using their iOS devices as standalone units, so the need to physically connect to a computer to sync data seems dated. Beyond that, we're also sure to see the capability to stream your media, music, and video from the iTunes cloud.

(If I can sneak in another iOS prediction, I'm certain Apple is working on something big with location/mapping services. The company's acquisition of Placebase, its recruitment of navigation-skilled engineers, and the fact that Apple openly has a "Geo Team" make it clear the company is devoting some massive resources to a yet-unknown location-based service. Is Apple replacing Google Maps with an in-house offering? Working on Apple Navigation? I don't claim to know, but whatever it is, I think we'll see it in 2011.)

Hardware: The MacBook Air (Late 2010) is a roadmap for 2011. Apple's MacBook Pro models will follow the Air's example by featuring SSD storage and a thinner design while dropping the optical drive. Apple will continue to offer high-end models for professionals, but when it comes to consumer laptops, the writing has been on the wall. One upside for pros: Apple will be one of the first companies to adopt Light Peak, which promises to consolidate many data connections into a single mega-connector, replacing USB, FireWire, DVI, and more. And if that comes to pass, let me be the first to suggest a reincarnation of a (Duo-)dock system.

Pie-in-the-sky wish: In a perfect world, Apple would release a new Apple TV set-top box—perhaps even one built into an LCD display. In order to wrest control from the local cable providers, this new device would support CableCARD (or equivalent) for a viable "go-to-market" strategy. (The inability to infiltrate these tightly controlled local markets has been one reason Cupertino has kept its distance in this area, but the company can't let Google have all the fun.) Apple might even be able to convince a cable provider that an Apple TV exclusive would bring a huge boost in subscriber numbers.

The Macalope, pundit-skewering mythical beast

First, a caveat: The Macalope has no special knowledge and his "predictions" are worth nothing more than the bits that comprise them. As always, and with apologies to David Letterman, NO WAGERING—remember, this is for charity (The Mythical Beasts' Post Holiday Credit Card Reduction Fund).

Mac OS X: The Mac App Store will be a huge success, albeit with the same problems present in the iTunes App Store. The market will be flooded with new Mac applications, some good and some bad, but prices will be pushed down and the oft-repeated complaint that there's no software for the Mac will be a thing of the past. Microsoft will like this idea so much it will take a(nother) stab at it and ship an app store with Windows 8. This time it'll work moderately better because, you know, Apple will have already figured it out for them.

iOS: Working with studios and other content providers, Apple will announce a more-limited version of the App Store for the Apple TV, which will lead to the expected griping about a lack of openness. Expect to see on-your-TV versions of the ABC and PBS iPad apps, as well as many others. There's a chance the "Apple TV App Store" could be more open, á la the iTunes App Store, but Apple may be worried about how input will work and doesn't want people dissatisfied with the user experience. Still, that 30 percent cut is pretty sweet…

Hardware: The iPad 2 will be sexy and slim and have two cameras. OK, that's not much of a prediction, but Android and Windows-based tablets will continue to fall in the iPad's shadow until they're able to undercut it on price. The RIM PlayBook will be delayed and, when it ships, it will fail to find a constituency amongst RIM's traditional corporate customer base. What's French-Canadian for "sad trombone"?

Pie-in-the-sky wish: The Macalope hates the term "online strategy," so he'll just say he hopes Apple fixes MobileMe, Game Center, and Ping. All of these services are outclassed by other competing services and it's unbecoming for Apple to provide such second-rate user experiences. Come on, Apple! This sense of elitism doesn't build itself!

GAAB Internet Addresses

Names	E-Mail Addresses
Aaron Ambrosino	aambrosi@mac.com
Gary Blizzard	gmblizzard@aol.com
Mark Bogossian	mark@castlecomp.com
Steve Bradley	ssbradley@adelphia.net
John Buckley	jbuckley@nycap.rr.com
Sheldon Carnes	sheldoncarnes@hotmail.com
Tina Cook	twonotrump@nycap.rr.com
Anthony Eldering	tonye11@verizon.net
Trudy Ellis	TE52@earthlink.net
Lilajane Frascarelli	afrascar@nycap.rr.com
Les Goldstein	lgoldst1@nycap.rr.com
Richard Hester	hesterfp@capital.net
Ottmar Klaas	ottmar.klaas@gmail.com
Michael LaFrank	mlafrank@nycap.rr.com
Thomas Levanduski	msglevnduski@aol.com
Cecilia MacDonald	cecilia@midtel.net
Mike Mannarino	rfd230@nycap.rr.com
Roger Mazula	aluzam@aol.com
Brendan O'Hara	bohara1@nycap.rr.com
Eric/Lee Rieker	Erieker@aol.com
AbdurRahman Rozell	aryr100@gmail.com
Judith Schwartz	jfschwartz2@earthlink.net
Saul Seinberg	saul.seinberg@gmail.com
Bill Shuff	wjshuff@earthlink.net
Shelly Weiner	olliedawg@yahoo.com
Lou Wozniak	louw@nycap.rr.com

To start or renew your GAAB membership, see Cecilia MacDonald or send your fees payable to her at the following address:

Cecilia MacDonald
260 Sever Road
Delanson, NY 12053

Visit GAAB on the Internet at http://www.applebyters.com